CR 99/008

Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ) and Enhanced Design Alternative (EDA) II

Volume 1

Copy of Approved Change Request

YMP-216-R5
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
EVALUATION SUMMARY, DIRECTIVE, AND DISPOSITION

CR No.:	CR Title:
CR 99/008	Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ) and Enhanced Design Alternative (EDA) 11

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. EVALUATION SUMMARY OF CCB MEMBERS AND EVALUATORS

CCB Members:

Name	Organization	Approve	Approve w/Conditions	Disapprove	No Recommendation
Jerri Adams	AMAAM	☐	☑	☐	☐
Richard E. Spence	AML	☐	☑	☐	☐
Stephan Brocoum	AMVASP	☐	☑	☐	☐
Mark E. Van Der Puy	AMESH	☐	☑	☐	☐
	SPEA	☐	☐	☐	☐
Victor W. Trebules	OPC	☐	☐	☑	☐
Robert W. Clark	OQA	☐	☑	☐	☐
Additional Evaluators:					
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐

CCB Secretary: Wayne W. Kozai (Print Name) — Wayne N Kozai (Signature) — 6/10/99 (Date)

SECTION II. CHANGE DIRECTIVE AND IMPLEMENTATION INSTRUCTIONS

- Revision to the Project cost and Schedule Baseline, YMP/CM-0015 is approved with conditions.
- Within three (3) working days from the next PACS upload, M&O PP&C shall submit the PACS printout of the SPPS consistent with this Change Request to the CCB Secretary.
- The Document Custodian shall submit a print ready copy of the Project Cost and Schedule Baseline document revision pages to the CCB Secretary in accordance with this directive.

☒ See Documentation Continuation Page

SECTION III. DISPOSITION

☐ Approve ☑ Approved with Conditions ☐ Disapprove ☐ Elevate to next CCB Level

Comments: Evaluation Method: _____

This change request is approved with the following conditions provided on the attached continuation page.

J. Russel Dyer (Print Name) — J R Dyer (Signature) — 6/11/99 (Date)

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

Continuation Of:
- ☐ Change Request
- ☐ Impact Analysis Record/CCB Evaluation
- ☐ Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- ☑ Evaluation Summary, Directive and Disposition

CR Title:
Revise Baseline Workscope, Budget and Milestones to Address Process Model and Data Qualification Initiatives and LADS EDA II

Block No.	Continuation Information

II. *Change Directive and Implementation Instructions:*

- The CCB Secretary shall:
—ensure the document is prepared in accordance with this directive.
—ensure the Configuration Information System (CIS) and the CCB Register are updated to reflect this revision.
—prepare a Document Control Action Request (DCAR) form to transmit this directive and the revision pages to the Project Cost and Schedule Baseline document, YMP/CM-0015 to the Document Control Center in accordance with AP-6.1Q.

-Upon release of the Project Cost and Schedule Baseline document, YMP/0015 all project participants will be required to use it in performing applicable tasks.

III. *Disposition:*

Conditions:

1. Delete deliverable SS12BM3 as a requirement.

2. Do not implement M&O recommendation to add Level 2 Milestone, "YMSCO Approve SR Distribution and Public Information Plan" (referred to as M2DP in CR) to the Project Baseline. The need for a milestone (Level 2 or Level 3) to be addressed as part of FY00 annual planning update.

3. As part of CR implementation revise the Integrated Project Schedule activities to address the deletion of work scope in FY99 associated with Chapters 3 and 8 of the WDLA.

4. The M&O shall provide with the initial FY00 planning submittal (Deliverable BM9500M3 - July 1, 1999) the following:
· A listing of specific data sets (M&O and USGS) that potentially require verification/qualification mapped to AMRs
· A listing of specific personnel responsible for verification/qualification
· The schedule associated with this CR merged with the current Integrated Project Schedule
· A complete set of science and engineering activities tied to PMRs/AMRs in the Integrated Project Schedule
· Update and resubmit crosswalk to VA Volume 4.

5. The M&O shall provide with the final FY00 planning CR submittal (Deliverable BM9560M3 - August 9, 1999) the following:
· An updated logic/activities for revised set of AMRs incorporated into the Integrated Project Schedule to reflect the re-prioritization of principle factors
· Updated activity durations for verifying and qualifying, as appropriate, all data sets, software, and models incorporated into the Integrated Project Schedule.

6. By July1, 1999, compile listing of added and changed deliverables.

YMP-215-R3
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
IMPACT ANALYSIS RECORD/CCB EVALUATION

1. CR No.: / d: 99/008	1a. CR Title: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA) 2	1b. Priority: ☐ Immediate ☐ Urgent ☑ Routine

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. CR TECHNICAL COST AND SCHEDULE IMPACT ANALYSIS

2. Impact on Work Scope? ☑ Yes ☐ No

2a. Work Scope Impacts-If the Yes box in field (2) is checked, identify the level of Impact Occurrence:

	Yes	No	N/A
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐

2b. Work Scope Impact Description:

See Continuation Page: 2

☐ N/A

3. Impact on Schedule? (Attach schedule print-out) ☑ Yes ☐ No

3a. Schedule Impacts-If the Yes box in field (3) is checked, identify the level of Impact Occurrence:

	Yes	No	N/A
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐

3b. Schedule Impact Description:

See Continuation Page: 2

☐ N/A

4. Impact on Cost? ☑ Yes ☐ No

4a. Cost Impacts-If the Yes box in field (4) is checked, identify the level of Impact Occurrence:

	Yes	No
Level 0	☐	☑
Level 1	☐	☑
Level 2	☑	☐
Level 3	☑	☐

Budget Baseline	☑
TPC	☐
TSLCC	☐

See Continuation Page ☐

5. Impact on Other Scope? ☑ Yes ☐ No

5a. Other Impacts-If the Yes box in field (5) is checked, identify the level of Impact Occurrence:

	Yes	No	N/A
Level 0	☐	☑	
Level 1	☑	☐	
Level 2	☐	☑	
Level 3	☐	☑	☐

5b. Other Impact Description:

Technical Scope, Institutional, Programmatic, and/or Contractual Impacts on Continuation Page: 2

☐ N/A

6. Other Documents Affected? (List other documents potentially affected by approval of this change, but not changed by this change.)

☐ Yes ☐ See Continuation Page ____ ☑ No

Doc ID.: _____ Title: _____

7. Originator: (Print Name)	7a. Signature:	7b. Org.:	7c. Phone:	7d. Date:
W.A. Gregory	Wayne Gregory	M&O/PP&C	5-5673	5/17/99

SECTION II. CCB EVALUATION AND RECOMMENDATION

8. Evaluation Start Date:	8a. Due Date:	8b. Evaluator's Title:

9. Recommendations:

☐ Approved ☑ Approved with Conditions ☐ Disapproved ☐ No Recommendation

Comments:

☐ See Documentation Continuation Page

10. Print Name:	10a. Signature:	10b. Org.:	10c. Phone:	10d. Date:
Marc E. VanDerPry		AMES/I		6/10/99

YMP-218-R2
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

CR No. 99/008
Page 2 of 2

Continuation Of:
- [x] Change Request
- [ ] Impact Analysis Record/CCB Evaluation
- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
2b	**Work Scope Impacts (continuted)** This CR affects Level 2 and Level 3 work scope by adding new work scope, deleting work scope, and revising work scope as delineated in the CR narrative.
3b	**Impact on Schedule (continued)** Level 1, Level 2, and Level 3 milestones are affected as described in the CR narrative.
5b	**Other Impacts (continued)** Work authorization will be required to complete the work scope. This CR affects key PEMP deliverables as described in the CR narrative. The PEMP will require revision to address these changes.

YMP-215-R3
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
IMPACT ANALYSIS RECORD/CCB EVALUATION

CR No.: 99/008
Rev: d:

1a. CR Title: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA) 2

1b. Priority: ☐ Immediate ☐ Urgent ☑ Routine

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. CR TECHNICAL COST AND SCHEDULE IMPACT ANALYSIS

2. Impact on Work Scope? ☑ Yes ☐ No

3. Impact on Schedule? (Attach schedule print-out) ☑ Yes ☐ No

2a. Work Scope Impacts-If the Yes box in field (2) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

2b. Work Scope Impact Description:

See Continuation Page: 2

☐ N/A

3a. Schedule Impacts-If the Yes box in field (3) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

3b. Schedule Impact Description:

See Continuation Page: 2

☐ N/A

4. Impact on Cost? ☑ Yes ☐ No

4a. Cost Impacts-If the Yes box in field (4) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	Budget Baseline ☑
Level 1	☐	☑	TPC ☐
Level 2	☑	☐	TSLCC ☐
Level 3	☑	☐	

See Continuation Page ☐

5. Impact on Other Scope? ☑ Yes ☐ No

5a. Other Impacts-If the Yes box in field (5) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☑	☐	
Level 2	☐	☑	
Level 3	☐	☑	☐ N/A

5b. Other Impact Description:

Technical Scope, Institutional, Programmatic, and/or Contractual Impacts on Continuation Page: 2

☐ N/A

6. Other Documents Affected? (List other documents potentially affected by approval of this change, but not changed by this change.)

☐ Yes ☐ See Continuation Page ____ ☑ No

Doc ID.: _____ Title: _____

7. Originator: (Print Name)	7a. Signature:	7b. Org.:	7c. Phone:	7d. Date:
W.A. Gregory	Wayne Gregory	M&O/PP&C	5-6673	5/17/99

SECTION II. CCB EVALUATION AND RECOMMENDATION

8. Evaluation Start Date:	8a. Due Date:	8b. Evaluator's Title:

9. Recommendations:

☐ Approved ☑ Approved with Conditions ☐ Disapproved ☐ No Recommendation

Comments:

☐ See Documentation Continuation Page

10. Print Name:	10a. Signature:	10b. Org.:	10c. Phone:	10d. Date:
R.E. Spence	R.E. Spence	OPE	4-1455	6/10/99

YMP-218-R2
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

CR No. 99/008
Page 2 of 2

Continuation Of:
- [x] Change Request
- [ ] Impact Analysis Record/CCB Evaluation
- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
2b	**Work Scope Impacts (continuted)** **This CR affects Level 2 and Level 3 work scope by adding new work scope, deleting work scope, and revising work scope as delineated in the CR narrative.**
3b	**Impact on Schedule (continued)** **Level 1, Level 2, and Level 3 milestones are affected as described in the CR narrative.**
5b	**Other Impacts (continued)** **Work authorization will be required to complete the work scope.** **This CR affects key PEMP deliverables as described in the CR narrative. The PEMP will require revision to address these changes.**

YMP-216-R5
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
EVALUATION SUMMARY, DIRECTIVE, AND DISPOSITION

CR No.: CR 99/008

CR Title: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ) and Enhanced Design Alternative (EDA) 11

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. EVALUATION SUMMARY OF CCB MEMBERS AND EVALUATORS

CCB Members:

Name	Organization	Approve	Approve w/Conditions	Disapprove	No Recommendation
Jerri Adams	AMAAM	☐	☑	☐	☐
Richard E. Spence	AML	☐	☑	☐	☐
Stephan Brocoum	AMVASP	☐	☑	☐	☐
Mark E. Van Der Puy	AMESH	☐	☑	☐	☐
	SPEA	☐	☐	☐	☐
Victor W. Trebules	OPC	☐	☐	☑	☐
Robert W. Clark	OQA	☐	☑	☐	☐
Additional Evaluators:					
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐

CCB Secretary: Wayne W. Kozai (Print Name) — Wayne N Kozai (Signature) — 6/10/99 (Date)

SECTION II. CHANGE DIRECTIVE AND IMPLEMENTATION INSTRUCTIONS

- Revision to the Project cost and Schedule Baseline, YMP/CM-0015 is approved with conditions.
- Within three (3) working days from the next PACS upload, M&O PP&C shall submit the PACS printout of the SPPS consistent with this Change Request to the CCB Secretary.
- The Document Custodian shall submit a print ready copy of the Project Cost and Schedule Baseline document revision pages to the CCB Secretary in accordance with this directive.

☒ See Documentation Continuation Page

SECTION III. DISPOSITION

☐ Approve ☑ Approved with Conditions ☐ Disapprove ☐ Elevate to next CCB Level

Comments: Evaluation Method: _____

This change request is approved with the following conditions provided on the attached continuation page.

J. Russel Dyer (Print Name) — (Signature) — 6/11/99 (Date)

Exhibit YAP-30.6

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

Continuation Of:
- ☐ Change Request
- ☐ Impact Analysis Record/CCB Evaluation
- ☐ Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- ☑ Evaluation Summary, Directive and Disposition

CR Title:
Revise Baseline Workscope, Budget and Milestones to Address Process Model and Data Qualification Initiatives and LADS EDA II

Block No.	Continuation Information

II. *Change Directive and Implementation Instructions:*

- The CCB Secretary shall:
—ensure the document is prepared in accordance with this directive.
—ensure the Configuration Information System (CIS) and the CCB Register are updated to reflect this revision.
—prepare a Document Control Action Request (DCAR) form to transmit this directive and the revision pages to the Project Cost and Schedule Baseline document, YMP/CM-0015 to the Document Control Center in accordance with AP-6.1Q.

-Upon release of the Project Cost and Schedule Baseline document, YMP/0015 all project participants will be required to use it in performing applicable tasks.

III. *Disposition:*

Conditions:

1. Delete deliverable SS[illegible]BM3 as a requirement.

2. Do not implement M&O recommendation to add Level 2 Milestone, "YMSCO Approve SR Distribution and Public Information Plan" (referred to as M2DP in CR) to the Project Baseline. The need for a milestone (Level 2 or Level 3) to be addressed as part of FY00 annual planning update.

3. As part of CR implementation revise the Integrated Project Schedule activities to address the deletion of work scope in FY99 associated with Chapters 3 and 8 of the WDLA.

4. The M&O shall provide with the initial FY00 planning submittal (Deliverable BM9500M3 - July 1, 1999) the following:
· A listing of specific data sets (M&O and USGS) that potentially require verification/qualification mapped to AMRs
· A listing of specific personnel responsible for verification/qualification
· The schedule associated with this CR merged with the current Integrated Project Schedule
· A complete set of science and engineering activities tied to PMRs/AMRs in the Integrated Project Schedule
· Update and resubmit crosswalk to VA Volume 4.

5. The M&O shall provide with the final FY00 planning CR submittal (Deliverable BM9560M3 - August 9, 1999) the following:
· An updated logic/activities for revised set of AMRs incorporated into the Integrated Project Schedule to reflect the re-prioritization of principle factors
· Updated activity durations for verifying and qualifying, as appropriate, all data sets, software, and models incorporated into the Integrated Project Schedule.

6. By July1, 1999, compile listing of added and changed deliverables.

YMP-215-R3
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
IMPACT ANALYSIS RECORD/CCB EVALUATION

CR No.: d: 99/008

1a. CR Title: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA) 2

1b. Priority: ☐ Immediate ☐ Urgent ☑ Routine

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. CR TECHNICAL COST AND SCHEDULE IMPACT ANALYSIS

2. Impact on Work Scope? ☑ Yes ☐ No

2a. Work Scope Impacts-If the Yes box in field (2) is checked, identify the level of Impact Occurrence:

	Yes	No	N/A
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐

2b. Work Scope Impact Description:

See Continuation Page: 2

☐ N/A

3. Impact on Schedule? (Attach schedule print-out) ☑ Yes ☐ No

3a. Schedule Impacts-If the Yes box in field (3) is checked, identify the level of Impact Occurrence:

	Yes	No	N/A
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐

3b. Schedule Impact Description:

See Continuation Page: 2

☐ N/A

4. Impact on Cost? ☑ Yes ☐ No

4a. Cost Impacts-If the Yes box in field (4) is checked, identify the level of Impact Occurrence:

	Yes	No
Level 0	☐	☑
Level 1	☐	☑
Level 2	☑	☐
Level 3	☑	☐

Budget Baseline ☑
TPC ☐
TSLCC ☐

See Continuation Page ☐

5. Impact on Other Scope? ☑ Yes ☐ No

5a. Other Impacts-If the Yes box in field (5) is checked, identify the level of Impact Occurrence:

	Yes	No	N/A
Level 0	☐	☑	
Level 1	☑	☐	
Level 2	☐	☑	
Level 3	☐	☑	☐

5b. Other Impact Description:

Technical Scope, Institutional, Programmatic, and/or Contractual Impacts on Continuation Page: 2

☐ N/A

6. Other Documents Affected? (List other documents potentially affected by approval of this change, but not changed by this change.)
☐ Yes ☐ See Continuation Page ____ ☑ No

Doc ID.: _____ Title: _____

7. Originator: (Print Name)	7a. Signature:	7b. Org.:	7c. Phone:	7d. Date:
W.A. Gregory	Wayne Gregory	M&O/PP&C	5-5673	5/17/99

SECTION II. CCB EVALUATION AND RECOMMENDATION

8. Evaluation Start Date:	8a. Due Date:	8b. Evaluator's Title:

9. Recommendations:
☐ Approved ☑ Approved with Conditions ☐ Disapproved ☐ No Recommendation

Comments:

☐ See Documentation Continuation Page

10. Print Name:	10a. Signature:	10b. Org.:	10c. Phone:	10d. Date:
Mark E. VanDeKamp		AMES/I		6/10/99

YMP-218-R2
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

CR No. 99/008
Page 2 of 2

Continuation Of:
- [x] Change Request
- [ ] Impact Analysis Record/CCB Evaluation
- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
2b	**Work Scope Impacts (continued)** **This CR affects Level 2 and Level 3 work scope by adding new work scope, deleting work scope, and revising work scope as delineated in the CR narrative.**
3b	**Impact on Schedule (continued)** **Level 1, Level 2, and Level 3 milestones are affected as described in the CR narrative.**
5b	**Other Impacts (continued)** **Work authorization will be required to complete the work scope.** **This CR affects key PEMP deliverables as described in the CR narrative. The PEMP will require revision to address these changes.**

YMP-215-R3
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
IMPACT ANALYSIS RECORD/CCB EVALUATION

CR No.: 99/008
Rev.:

1a. CR Title: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA) 2

1b. Priority: ☐ Immediate ☐ Urgent ☑ Routine

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. CR TECHNICAL COST AND SCHEDULE IMPACT ANALYSIS

2. Impact on Work Scope? ☑ Yes ☐ No

2a. Work Scope Impacts-If the Yes box in field (2) is checked, identify the level of Impact Occurrence:

	Yes	No	N/A
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐

2b. Work Scope Impact Description:

See Continuation Page: 2

☐ N/A

3. Impact on Schedule? (Attach schedule print-out) ☑ Yes ☐ No

3a. Schedule Impacts-If the Yes box in field (3) is checked, identify the level of Impact Occurrence:

	Yes	No	N/A
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐

3b. Schedule Impact Description:

See Continuation Page: 2

☐ N/A

4. Impact on Cost? ☑ Yes ☐ No

4a. Cost Impacts-If the Yes box in field (4) is checked, identify the level of Impact Occurrence:

	Yes	No
Level 0	☐	☑
Level 1	☐	☑
Level 2	☑	☐
Level 3	☑	☐

Budget Baseline ☑
TPC ☐
TSLCC ☐

See Continuation Page ☐

5. Impact on Other Scope? ☑ Yes ☐ No

5a. Other Impacts-If the Yes box in field (5) is checked, identify the level of Impact Occurrence:

	Yes	No	N/A
Level 0	☐	☑	
Level 1	☑	☐	
Level 2	☐	☑	
Level 3	☐	☑	☐

5b. Other Impact Description:

Technical Scope, Institutional, Programmatic, and/or Contractual Impacts on Continuation Page: 2

☐ N/A

6. Other Documents Affected? (List other documents potentially affected by approval of this change, but not changed by this change.)
☐ Yes ☐ See Continuation Page ____ ☑ No

Doc ID.: _____ Title: _____

7. Originator: (Print Name)	7a. Signature:	7b. Org.:	7c. Phone:	7d. Date:
W.A. Gregory	Wayne D. Gregory	M&O/PP&C	5-5673	5/17/99

SECTION II. CCB EVALUATION AND RECOMMENDATION

8. Evaluation Start Date:	8a. Due Date:	8b. Evaluator's Title:

9. Recommendations:
☐ Approved ☑ Approved with Conditions ☐ Disapproved ☐ No Recommendation

Comments:

☐ See Documentation Continuation Page

10. Print Name:	10a. Signature:	10b. Org.:	10c. Phone:	10d. Date:
R.E. SPENCE	R.C. Spence	OPE	4-1455	6/10/99

YMP-218-R2
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

CR No. 99/008
Page 2 of 2

Continuation Of:
- [x] Change Request
- [ ] Impact Analysis Record/CCB Evaluation
- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
2b	**Work Scope Impacts (continuted)** **This CR affects Level 2 and Level 3 work scope by adding new work scope, deleting work scope, and revising work scope as delineated in the CR narrative.**
3b	**Impact on Schedule (continued)** **Level 1, Level 2, and Level 3 milestones are affected as described in the CR narrative.**
5b	**Other Impacts (continued)** **Work authorization will be required to complete the work scope.** **This CR affects key PEMP deliverables as described in the CR narrative. The PEMP will require revision to address these changes.**

YMP-215-R3
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
IMPACT ANALYSIS RECORD/CCB EVALUATION

CR No.:	1a. CR Title:	1b. Priority:
99/008	Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA) 2	☐ Immediate ☐ Urgent ☑ Routine

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. CR TECHNICAL COST AND SCHEDULE IMPACT ANALYSIS

2. Impact on Work Scope? ☑ Yes ☐ No

3. Impact on Schedule? (Attach schedule print-out) ☑ Yes ☐ No

2a. Work Scope Impacts-If the Yes box in field (2) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

2b. Work Scope Impact Description:

See Continuation Page: 2

☐ N/A

3a. Schedule Impacts-If the Yes box in field (3) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

3b. Schedule Impact Description:

See Continuation Page: 2

☐ N/A

4. Impact on Cost? ☑ Yes ☐ No

4a. Cost Impacts-If the Yes box in field (4) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	Budget Baseline ☑
Level 1	☐	☑	TPC ☐
Level 2	☑	☐	TSLCC ☐
Level 3	☑	☐	

See Continuation Page ☐

5. Impact on Other Scope? ☑ Yes ☐ No

5a. Other Impacts-If the Yes box in field (5) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☑	☐	
Level 2	☐	☑	
Level 3	☐	☑	☐ N/A

5b. Other Impact Description:

Technical Scope, Institutional, Programmatic, and/or Contractual Impacts on Continuation Page: 2

☐ N/A

6. Other Documents Affected? (List other documents potentially affected by approval of this change, but not changed by this change.)

☐ Yes ☐ See Continuation Page ____ ☑ No

Doc ID.: _____ Title: _____

7. Originator: (Print Name)	7a. Signature:	7b. Org.:	7c, Phone:	7d. Date:
W.A. Gregory	Wayne Gregory	M&O/PP&C	5-5673	5/17/99

SECTION II. CCB EVALUATION AND RECOMMENDATION

8. Evaluation Start Date:	8a. Due Date:	8b. Evaluator's Title:

9. Recommendations:

☐ Approved ☑ Approved with Conditions ☐ Disapproved ☐ No Recommendation

Comments:

☐ See Documentation Continuation Page

10. Print Name:	10a. Signature:	10b. Org.:	10c. Phone:	10d. Date:
Robert W. Clark	R.W. Clark	OQA RW-3	702-794-5583	6/10/99

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09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

CR No 99/008
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Continuation Of:
- [x] Change Request
- [ ] Impact Analysis Record/CCB Evaluation
- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
2b	**Work Scope Impacts (continued)** **This CR affects Level 2 and Level 3 work scope by adding new work scope, deleting work scope, and revising work scope as delineated in the CR narrative.**
3b	**Impact on Schedule (continued)** **Level 1, Level 2, and Level 3 milestones are affected as described in the CR narrative.**
5b	**Other Impacts (continued)** **Work authorization will be required to complete the work scope.** **This CR affects key PEMP deliverables as described in the CR narrative. The PEMP will require revision to address these changes.**

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09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
IMPACT ANALYSIS RECORD/CCB EVALUATION

CR No.: 99/008

1a. CR Title: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA) 2

1b. Priority: ☐ Immediate ☐ Urgent ☑ Routine

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. CR TECHNICAL COST AND SCHEDULE IMPACT ANALYSIS

2. Impact on Work Scope? ☑ Yes ☐ No

2a. Work Scope Impacts-If the Yes box in field (2) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

2b. Work Scope Impact Description:

See Continuation Page: 2

☐ N/A

3. Impact on Schedule? (Attach schedule print-out) ☑ Yes ☐ No

3a. Schedule Impacts-If the Yes box in field (3) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

3b. Schedule Impact Description:

See Continuation Page: 2

☐ N/A

4. Impact on Cost? ☑ Yes ☐ No

4a. Cost Impacts-If the Yes box in field (4) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	Budget Baseline ☑
Level 1	☐	☑	TPC ☐
Level 2	☑	☐	TSLCC ☐
Level 3	☑	☐	

See Continuation Page ☐

5. Impact on Other Scope? ☑ Yes ☐ No

5a. Other Impacts-If the Yes box in field (5) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☑	☐	
Level 2	☐	☑	
Level 3	☐	☑	☐ N/A

5b. Other Impact Description:

Technical Scope, Institutional, Programmatic, and/or Contractual Impacts on Continuation Page: 2

☐ N/A

6. Other Documents Affected? (List other documents potentially affected by approval of this change, but not changed by this change.)
☐ Yes ☐ See Continuation Page ____ ☑ No

Doc ID.: _____ Title: _____

7. Originator: (Print Name)	7a. Signature:	7b. Org.:	7c. Phone:	7d. Date:
W.A. Gregory	Wayne Gregory	M&O/PP&C	5-5673	5/17/99

SECTION II. CCB EVALUATION AND RECOMMENDATION

8. Evaluation Start Date:	8a. Due Date:	8b. Evaluator's Title:

9. Recommendations:
☐ Approved ☒ Approved with Conditions ☐ Disapproved ☐ No Recommendation

Comments:

☐ See Documentation Continuation Page

10. Print Name:	10a. Signature:	10b. Org.:	10c. Phone:	10d. Date:
Stephen Brocum	Stephen Brocum	OLRC	5-1359	6/10/99

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09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
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Continuation Of:
- [x] Change Request
- [ ] Impact Analysis Record/CCB Evaluation
- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
2b	**Work Scope Impacts (continuted)** **This CR affects Level 2 and Level 3 work scope by adding new work scope, deleting work scope, and revising work scope as delineated in the CR narrative.**
3b	**Impact on Schedule (continued)** **Level 1, Level 2, and Level 3 milestones are affected as described in the CR narrative.**
5b	**Other Impacts (continued)** **Work authorization will be required to complete the work scope.** **This CR affects key PEMP deliverables as described in the CR narrative. The PEMP will require revision to address these changes.**

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09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
IMPACT ANALYSIS RECORD/CCB EVALUATION

CR No.: 99/008

1a. CR Title: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA) 2

1b. Priority: ☐ Immediate ☐ Urgent ☑ Routine

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. CR TECHNICAL COST AND SCHEDULE IMPACT ANALYSIS

2. Impact on Work Scope? ☑ Yes ☐ No

3. Impact on Schedule? (Attach schedule print-out) ☑ Yes ☐ No

2a. Work Scope Impacts-If the Yes box in field (2) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

2b. Work Scope Impact Description:

See Continuation Page: 2

☐ N/A

3a. Schedule Impacts-If the Yes box in field (3) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

3b. Schedule Impact Description:

See Continuation Page: 2

☐ N/A

4. Impact on Cost? ☑ Yes ☐ No

4a. Cost Impacts-If the Yes box in field (4) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	Budget Baseline ☑
Level 1	☐	☑	TPC ☐
Level 2	☑	☐	TSLCC ☐
Level 3	☑	☐	

See Continuation Page ☐

5. Impact on Other Scope? ☑ Yes ☐ No

5a. Other Impacts-If the Yes box in field (5) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☑	☐	
Level 2	☐	☑	
Level 3	☐	☑	☐ N/A

5b. Other Impact Description:

Technical Scope, Institutional, Programmatic, and/or Contractual Impacts on Continuation Page: 2

☐ N/A

6. Other Documents Affected? (List other documents potentially affected by approval of this change, but not changed by this change.)

☐ Yes ☐ See Continuation Page ____ ☑ No

Doc ID.: _____ Title: _____

7. Originator: (Print Name)	7a. Signature:	7b. Org.:	7c, Phone:	7d. Date:
W.A. Gregory	Wayne Gregory	MEO/PP&C	5-5673	5/17/99

SECTION II. CCB EVALUATION AND RECOMMENDATION

8. Evaluation Start Date:	8a. Due Date:	8b. Evaluator's Title:

9. Recommendations:

☐ Approved ☐ Approved with Conditions ☑ Disapproved ☐ No Recommendation

Comments:

☐ See Documentation Continuation Page

10. Print Name:	10a. Signature:	10b. Org.:	10c. Phone:	10d. Date:
VICTOR TREBULES	Victor Trebules	OPC	5068	6-10-99

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09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
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Continuation Of:
- [7] Change Request
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- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
2b	**Work Scope Impacts (continuted)** **This CR affects Level 2 and Level 3 work scope by adding new work scope, deleting work scope, and revising work scope as delineated in the CR narrative.**
3b	**Impact on Schedule (continued)** **Level 1, Level 2, and Level 3 milestones are affected as described in the CR narrative.**
5b	**Other Impacts (continued)** **Work authorization will be required to complete the work scope.** **This CR affects key PEMP deliverables as described in the CR narrative. The PEMP will require revision to address these changes.**

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09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
IMPACT ANALYSIS RECORD/CCB EVALUATION

CR No.: d: 99/008

1a. CR Title: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA) 2

1b. Priority: ☐ Immediate ☐ Urgent ☑ Routine

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. CR TECHNICAL COST AND SCHEDULE IMPACT ANALYSIS

2. Impact on Work Scope? ☑ Yes ☐ No

3. Impact on Schedule? (Attach schedule print-out) ☑ Yes ☐ No

2a. Work Scope Impacts-If the Yes box in field (2) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

2b. Work Scope Impact Description:

See Continuation Page: 2

☐ N/A

3a. Schedule Impacts-If the Yes box in field (3) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

3b. Schedule Impact Description:

See Continuation Page: 2

☐ N/A

4. Impact on Cost? ☑ Yes ☐ No

4a. Cost Impacts-If the Yes box in field (4) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	Budget Baseline ☑
Level 1	☐	☑	TPC ☐
Level 2	☑	☐	TSLCC ☐
Level 3	☑	☐	

See Continuation Page ☐

5. Impact on Other Scope? ☑ Yes ☐ No

5a. Other Impacts-If the Yes box in field (5) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☑	☐	
Level 2	☐	☑	
Level 3	☐	☑	☐ N/A

5b. Other Impact Description:

Technical Scope, Institutional, Programmatic, and/or Contractual Impacts on Continuation Page: 2

☐ N/A

6. Other Documents Affected? (List other documents potentially affected by approval of this change, but not changed by this change.)

☐ Yes ☐ See Continuation Page ____ ☑ No

Doc ID.: _____ Title: _____

7. Originator: (Print Name)	7a. Signature:	7b. Org.:	7c. Phone:	7d. Date:
W.A. Gregory	Wayne Gregory	MEO/PP&C	5-5673	5/17/99

SECTION II. CCB EVALUATION AND RECOMMENDATION

8. Evaluation Start Date:	8a. Due Date:	8b. Evaluator's Title:

9. Recommendations:

☐ Approved ☑ Approved with Conditions ☐ Disapproved ☐ No Recommendation

Comments:

see YMP-216-R5 for CR 99/008

☐ See Documentation Continuation Page

10. Print Name:	10a. Signature:	10b. Org.:	10c. Phone:	10d. Date:
Birdie Hamilton-Ray	Birdie Hamilton-Ray		794-5586	6/10/99

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09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

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Continuation Of:
- [7] Change Request
- [ ] Impact Analysis Record/CCB Evaluation
- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
2b	**Work Scope Impacts (continuted)** **This CR affects Level 2 and Level 3 work scope by adding new work scope, deleting work scope, and revising work scope as delineated in the CR narrative.**
3b	**Impact on Schedule (continued)** **Level 1, Level 2, and Level 3 milestones are affected as described in the CR narrative.**
5b	**Other Impacts (continued)** **Work authorization will be required to complete the work scope.** **This CR affects key PEMP deliverables as described in the CR narrative. The PEMP will require revision to address these changes.**

M&O-99-008:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA2)

Executive Summary

A series of communications, briefings, and Project Operations Review Board (PORB) decisions during February, March, and April 1999 culminated in the Yucca Mountain Site Characterization Office (YMSCO) directing the Civilian Radioactive Waste Management System (CRWMS) Management and Operating Contractor (M&O) to initiate a Change Request (CR) to (1) refocus work efforts on high-priority quality assurance initiatives that are essential for developing the documentation and traceability for the Yucca Mountain Site Recommendation (SR) report and License Application (LA) and (2) begin implementing the License Application Design Selection (LADS) Enhanced Design Alternative 2 (EDA2) as the recommended repository design.

This CR presents a plan and logic for how site characterization and project design work performed over the years can be assembled into Process Model Reports (PMRs) and System Description Documents (SDDs) to support the SR report and the LA. A detailed, logic-driven schedule to LA (FY99 – FY02) has been developed that (1) supports development of credible and defensible pre- and post-closure safety cases and (2) details work needed to begin implementing LADS EDA2. The contents and structure of nine PMRs and their supporting analyses and model reports have been delineated. Work activities to compile the PMRs and SDDs have been integrated with Tiger Team, data qualification, and Process Validation and Reengineering (PVAR) efforts and logically tied to the Total System Performance Assessment (TSPA), Environmental Impact Statement (EIS), SR, and LA activities to create a comprehensive schedule. One of the benefits from assembling the integrated logic and schedule is that suppliers and customers of data/models/codes recognized and began to resolve imbalances between schedule deadlines, costs, and the definition/attainment of requirements. The increase in FY99 budget to accommodate these changes is just under $11.7 million.

The schedule included in this CR does contain issues that still need to be addressed. These are listed in the sections of the CR where the schedule is presented. Plans for resolving these issues are outlined in the CR. In addition, the plan presented with this CR is yet to benefit from the results of several ongoing initiatives, including the reallocation of principal factors affecting post-closure performance, TSPA Peer Review comment resolution, Tiger Team findings, LA schedule revisions, and an updated assessment of pre-closure design products required to support SR/LA. These initiatives are expected to help (1) prioritize the work efforts by better defining which work is absolutely necessary and (2) resolve expected budget problems that have been pushed into out-years. Again, plans for incorporating the results of these initiatives (many of which are to be resolved in the FY00 planning exercise) are included in the CR.

This CR also implements process improvements authorized during April PORB meetings. The YMP Baseline controlled by YMSCO are Level 2 and 3 milestones, deliverable criteria, and budgets at the Subproduct level; Affected Organizations, in coordination with M&O Project Planning and Control, will now control Control Accounts, Work Packages, and Integrated Project Schedule activities.

M&O-99-008: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA2)

Table of Contents

YMP-214-R4
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
CHANGE REQUEST

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

1. CR No.: 99/008 Mod.:

2. Original's Control No.: M&O-99-008

3. Change Type:
☑ Scope ☐ Project WBS ☐ Technical
☑ Cost ☑ Schedule ☐ Other

4. Change Control Level:
☐ Level 1 PBCCB ☑ Level 2 CCB Baseline ☐ Level 2 CCB Controlled

5. Priority:
☐ Immediate
☐ Urgent
☑ Routine

6. Title of Change Request:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ) and Enhanced Design Alternative 2 (EDA 2)

7. Identify the Documents Affected by this CR: ☐ See Documentation Continuation

Document Number/Title	Current Rev/ICN	A/R/D	Quality Affecting (Y/N)	Resulting Rev/ICN	Design Package	Job Package	Configuration Item Identifier
YMP/CM-0015 Project Cost and Schedule Baseline	N/A	R	N/A	N/A	N/A	N/A	N/A

8. List Attachments *(page number(s) and page count(s))*
See continuation sheet.

9. Identify Related CR, CAR, BCP, DAR, etc.:
See continuation sheet.

10. Identify Project WBS No.(s) at the Level Affected by the Change:
Various

11. Description of the Change Request:
See continuation sheet.

12. Justification for Change and Priority Type; Summarize the Impact if Change is not Approved:
See continuation sheet.

☑ See Documentation Continuation Page

13. CR Point of Contact:

Print Name	Organization	Phone	Date
W. A. Gregory	M&O/PP&C	295-6673	05/14/99

14. Requesting Manager:

Print Name	Signature	Organization	Date
C. J. Nesbitt		M&O	5/17/99

15. This CR has been Accepted or Rejected by the CCB Secretary as indicated below:

☑ Accepted ☐ Rejected CCB Secretary: _____ (Initials) 6/10/99 (Date)

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09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

CR No 99/008
Page 2 of 2

Continuation Of:
- [x] Change Request
- [ ] Impact Analysis Record/CCB Evaluation
- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ) and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
8	**List Attachments (continued)** **Concurrence Signature Sheet (2 page)** **Impact Analysis Record/CCB Evaluation (2 pages)** **Change Request Narrative (8 pages)** **References: Letter LV.NS.JKC.02/99-003, Wilkins to Dyer, dated February 9, 1999 (31 pages)** **Letter OPS:NSG-0814, Adams to Wilkins, dated February 12, 1999 (5 pages)** **Letter LV.PP&C.CJN.2/99-02, Nesbitt to Dyer, dated March 4, 1999 (43 pages)** **Letter OPC:JRS-1012, Dyer to Wilkins, dated March 25, 1999 (5 pages)** **Briefing 1999-043cjn Rev. 1, prepared by C. J. Nesbitt, III, dated April 13, 1999 (17 pages)** **Management Plan and Response to Corrective Action Requests (CARs) LVMO-98-002 (CAR-002), LVMO-98-005 (CAR-005), LVMO-98-006 (CAR-006), and LVMO-98-010 (CAR-010), Revision 2, dated November 30, 1998 (22 pages)** **Data, Model and Code Qualification/Validation and Control Plan, dated December 1998 (10 pages)** **Project Operations and Review Board (PORB) Minutes & Actions, dated April 15, 1999 (2 pages)** **SPS Mark-ups (110 pages)** **Schedule (502 ages)** **Cost Back-up (7 pages)** **Responses to 3/25/99 Guidance Letter (273 pages)**
9	**Identify Related CR, CAR, BCP, DAR, etc. (continued)** **CARs: LVMO-98-C-002, VAMO-98-C-005, LVMO-98-C-006, LVMO-98-C-010** **CR 99/003, Revision to the Project Cost and Schedule Baseline Document to Incorporate the Detailed Re-planning for FY1999 - FY2002 in the YMP Multiyear Cost and Schedule Baseline** **M&O-99-005, Add Workscope and Budget to Project Baseline for Cross Drift Excavation and Testing and CL-36 Validation Study** **M&O-99-007, Revise Project Baseline Workscope and Budget to Bypass Stuck Drill in Borehole SD-6**
11	**Description of the Change Request (continued)** **The purpose of this change is to revise (for FY99 only) work scope, budget, and milestones associated with qualification of data and process modeling issues identified in the referenced Corrective Action Reports (CARs) and to make changes associated with the License Application Design Selection (LADS) Enhanced Design Alternative (EDA) 2. The CR revises work scope, budget and milestones related to Process Model Reports, Tiger Teams, Process Validation and Reenginerring (PVAR). Additionally, two Level 2 milestones are deleted (M2MP Initial Licensing Case Selection and M2MR Poposed SR/LA Licensing Case Selection) which are part of close out activities for CR 99/004 (M&O-99-004), "Revision to the Project Cost and Schedule Baseline Document to Incorporate the Detailed Re-planning for FY1999 - FY2002 in the YMP Multiyear Cost and Schedule Baseline."** **Justification for the Change (continued)**
12	**The changes addressed in this CR are required to support data qualification and process modeling work that is essential in preparing defensible documents for SR. The refocus on LADS EDA 2 work is required to support SR.**

YMP-219-R2
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
COST/SCHEDULE BASELINE CHANGE PROPOSAL
CONCURRENCE SIGNATURE SHEET

1 CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

2 CR No.: 99/008

3 Originator's Control No.: **M&O-99-008**

4 AO Manager's Concurrence:

CRWMS M&O
Organization

D. R. Wilkins | **AGM, MGR**
Print Name | Print Title

D R Wilkins | 5-17-99
Signature | Date

5 Other Impacted AO Manager's Concurrence:

USGS
Organization

R. W. Craig | **Technical Project Officer**
Print Name | Print Title

Robert W. Craig | 5/17/99
Signature | Date

6 AMAAM Concurrence: Is Contract/WAD Revision Required? ☐ Yes ☐ No

Is Contract Modification Required? ☐ Yes ☐ No Is AFP Change Required? ☐ Yes ☐ No

Jerri J. Adams | **Director, OPS**
Print Name | Print Title

Signature | Date

7 Affected AM/Director Concurrence:

Print Name | Print Title

Signature | Date

8 Responsible AM/Director Concurrence:

Victor W. Trebules | **Director, OPC**
Print Name | Print Title

Signature | Date

9 OPC Concurrence:

Victor W. Trebules | **Director, OPC**
Print Name | Print Title

Signature | Date

YMP-215-R3
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
IMPACT ANALYSIS RECORD/CCB EVALUATION

1. CR No.: 99/008. Mod:

1a. CR Title: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA) 2

1b. Priority: ☐ Immediate ☐ Urgent ☑ Routine

Signatures on this document represent signers' knowledge that the applicable procedures have been read, understood, and complied with.

SECTION I. CR TECHNICAL COST AND SCHEDULE IMPACT ANALYSIS

2. Impact on Work Scope? ☑ Yes ☐ No

3. Impact on Schedule? (Attach schedule print-out) ☑ Yes ☐ No

2a. Work Scope Impacts-If the Yes box in field (2) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

2b. Work Scope Impact Description:

See Continuation Page: 2

☐ N/A

3a. Schedule Impacts-If the Yes box in field (3) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☐	☑	
Level 2	☑	☐	
Level 3	☑	☐	☐ N/A

3b. Schedule Impact Description:

See Continuation Page: 2

☐ N/A

4. Impact on Cost? ☑ Yes ☐ No

5. Impact on Other Scope? ☑ Yes ☐ No

4a. Cost Impacts-If the Yes box in field (4) is checked, identify the level of Impact Occurrence:

	Yes	No		
Level 0	☐	☑	Budget Baseline	☑
Level 1	☐	☑	TPC	☐
Level 2	☑	☐	TSLCC	☐
Level 3	☑	☐		

See Continuation Page ☐

5a. Other Impacts-If the Yes box in field (5) is checked, identify the level of Impact Occurrence:

	Yes	No	
Level 0	☐	☑	
Level 1	☑	☐	
Level 2	☐	☑	
Level 3	☐	☑	☐ N/A

5b. Other Impact Description:

Technical Scope, Institutional, Programmatic, and/or Contractual Impacts on Continuation Page: 2

☐ N/A

6. Other Documents Affected? (List other documents potentially affected by approval of this change, but not changed by this change.)

☐ Yes ☐ See Continuation Page ____ ☑ No

Doc ID.: _____ Title: _____

7. Originator: (Print Name)	7a. Signature:	7b. Org.:	7c, Phone:	7d. Date:
W.A. Gregory	Wayne Gregory	M&O/PP&C	5-5673	5/17/99

SECTION II. CCB EVALUATION AND RECOMMENDATION

8. Evaluation Start Date:	8a. Due Date:	8b. Evaluator's Title:

9. Recommendations:

☐ Approved ☐ Approved with Conditions ☐ Disapproved ☐ No Recommendation

Comments:

☐ See Documentation Continuation Page

10. Print Name:	10a. Signature:	10b. Org.:	10c. Phone:	10d. Date:

YMP-218-R2
09/14/98

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
DOCUMENTATION CONTINUATION PAGE

CR No 99/008
Page 2 of 2

Continuation Of:
- [x] Change Request
- [ ] Impact Analysis Record/CCB Evaluation
- [ ] Cost/Schedule Baseline Change Proposal Concurrence Signature Sheet
- [ ] Evaluation Summary, Directive and Disposition

CR Title:
Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA 2)

Block No.	Continuation Information
2b	**Work Scope Impacts (continued)** **This CR affects Level 2 and Level 3 work scope by adding new work scope, deleting work scope, and revising work scope as delineated in the CR narrative.**
3b	**Impact on Schedule (continued)** **Level 1, Level 2, and Level 3 milestones are affected as described in the CR narrative.**
5b	**Other Impacts (continued)** **Work authorization will be required to complete the work scope.** **This CR affects key PEMP deliverables as described in the CR narrative. The PEMP will require revision to address these changes.**

M&O-99-008: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA2)

Narrative

1. Background

On February 9, 1999, the Civilian Radioactive Waste Management System (CRWMS) Management and Operating Contractor (M&O) presented an approach to integrate and focus ongoing work efforts to address quality assurance (QA) deficiencies and process validation and reengineering (PVAR) activities (Reference 1). The letter also presented an approach to enhancing the traceability and the transparency of process models that support Site Recommendation (SR) and License Application (LA) by using the Process Model Report (PMR) concept. A list of recommendations for immediate action was proposed including refocusing and augmenting resources for supporting PVAR, Corrective Action Request (CARs), technical reviews, and process model validation. A revised approach to Level 3 deliverables was proposed where requirements for certain Level 3 reports would be revised and other Level 3 deliverables would be deleted.

The Yucca Mountain Site Characterization Office (YMSCO) responded on February 12, 1999 (Reference 2), approving the M&O to proceed with refocusing work efforts. However, YMSCO did not approve changes or deletions of Level 3 deliverables. YMSCO approved the start of interim work identified in Reference 1 and requested the M&O to prepare a plan for a change request (CR) that provides justification for each Level 3 deliverable deletion. The February 12 letter also contained a number of comments for the M&O to resolve/address.

On March 4, 1999, the M&O informed YMSCO that interim work reflecting the February 12 direction from YMSCO had been initiated (Reference 3). Several attachments were submitted, including responses to the comments outlined in YMSCO's February 12 letter. Additional attachments provided impacts to work scope and deliverables resulting from the refocus on high priority tasks, schedule activity descriptions, cost estimates, and a description of the PMR concept.

The YMSCO directed the M&O on March 25, 1999 (Reference 4) to initiate a CR to address process model and data qualification (PMDQ) issues. The CR is to upgrade plans that address high priority tasks in order to (1) put in place full traceability of models, software, and qualified data, (2) implement improved work control processes, and (3) ensure a credible and defensible basis for SR and LA. In addition, the YMSCO outlined a series of requirements and directives that the M&O work refocus CR must address. These requirements are outlined in a "Requirements/Products Matrix" presented in the "Responses to 3/25/99 Requirements" section of this CR along with the documentation the M&O has produced to assure closure of actions to respond to each of the YMSCO requirements. It should be noted that some requirements are addressed as part of this CR while others will be addressed after CR submittal or during CR implementation.

On April 15, 1999, the first meeting of the Project Operations Review Board (PORB) was held. This session resulted in direction from YMSCO to include planning for the License Application Design

Selection (LADS) Enhanced Design Alternative 2 (EDA2) into the PMDQ CR. In addition, the YMSCO approved implementation of the revised annual planning process (as briefed at the April 6-8, 1999, Colorado Springs Off-Site Meeting) for the PMDQ/LADS EDA2 CR (References 5 and 8). As a result, the following changes are being made in the CR/planning process:

- Cost estimates are made at the subproduct level as opposed to control account or work package levels.
- Planning occurs at the subproduct level, with detailed control account and work packages to follow after CR approval as part of CR implementation.
- The M&O continues reporting to the current baseline until the PMDQ/LADS EDA2 CR is approved.
- The M&O reports to the new schedule once the PMDQ/LADS EDA2 CR is approved.
- The M&O continues to report earned value at Inception to Date (ITD) by subproduct for the balance of the Fiscal Year (FY) once the CR is approved.
- The M&O will modify work packages and control accounts only to the degree necessary to control and report work for the balance of the 1999 Fiscal Year.

To implement this new process, Subproduct Plan Sheets (SPSs) have been created for this CR for the 16 existing FY99 subproducts. The SPS structure is to replace the control account structure in the current Performance Measurement Baseline. The SPSs are structured as follows:

- The SPSs are similar in style and structure to the Control Account Plan (CAP) Sheet used to date in FY99.
- The SPSs present cost data by fiscal year and do not show monthly spreads.
- The Statements of Work for the SPSs are based on the Product Guidance Documents and are presented in a broad, general manner.
- The SPSs used in the CR are produced in an off-line Excel file. (SPSs presented in the FY00 planning will be electronically produced using PACS (or other) software application.)
- Deliverables (Level 3 Milestones) are listed on the SPS. A note is included in the SPS deliverable section stating that the deliverables <u>are</u> considered baseline items, with deliverable details to be included in an appendix for each SPS.
- For the Baseline document, an appendix for each SPS will be attached identifying all deliverables associated with the subproduct, including deliverable ID, title, description, completion criteria, evaluation criteria, and deliverable finish date. For this CR, only those deliverables that are new or revised are included in the appendices. The appendices present deliverable data similar to that shown in the Multi-Year Planning System (MYPS) database.

2. Assessment of the Strengths, Risks, and Issues Associated with the Plan Represented by this CR

This Change Request is intended to capture the remaining FY99 high priority revisions to the plans to refocus project activities to finish the Site Recommendation (SR) and License Application milestones. Many of the revised approaches represent deviations from those contained in the Viability Assessment (VA) document. This Change Request submittal will be followed next week by a preliminary comparison of the changes from the VA as a result of the work that is detailed in this CR.

Strengths

In this Change Request, a plan and logic for how the wealth of site characterization and project design work conducted over the years can be assembled into a defensible and credible SR/LA are presented. The backbones of the construct are PMRs, which document the technical information used to develop and justify the post-closure safety case for the Yucca Mountain repository, and System Description Documents (SDDs), which outline the design for ensuring pre-closure safety. This Change Request also details FY99 work needed to begin implementing the LADS EDA2 repository design.

A detailed, multi-year schedule to LA has been developed that (1) supports development of a defensible and credible SR report/LA and (2) implements the LADS EDA2 design. The schedule captures the tasks needed to produce PMRs and SDDs. These activities include the efforts of the Tiger Teams, data qualification, analysis and modeling, and PMR/SDD compilation. Logic ties have been made to the TSPA, EIS, SR, and LA activities to create a comprehensive schedule. The network will be placed under baseline control following CR approval.

Annotated outlines for each of the nine PMRs, as well as scope statements for each of the supporting analyses and model reports generated using Administrative Procedure (AP)-3.10Q, Analyses and Models, have also been developed. Preliminary software and data qualification tasks have been identified to reflect the efforts needed to ensure that qualified software and data are available to support the SR and LA. Work plans to close the major open Corrective Action Requests (CARs) have been incorporated in the schedule. PVAR efforts, as modified by this CR, have also been logically linked into the schedule. One of the chief benefits from assembling the integrated logic and schedule is that suppliers and customers of data/models/codes recognized and began to resolve imbalances between schedule deadlines, costs, and definition/attainment of requirements.

The existing YMP schedule has been modified to reflect the LADS results. Some activities are no longer needed to support the recommended design and have been or will be stopped following an orderly shutdown. Other activities are being initiated to support the recommended design option (EDA2). The associated FY99 budget credits and debits have been identified.

Risks and Issues

Improvements in the project plan and schedule are still needed and will be made both while this CR is being approved and implemented and during the FY00 planning exercise. The Schedule Section of the CR lists weaknesses associated with the schedule and the plans for improving it.

The principal factors affecting post-closure performance of the repository system are being carefully reviewed in light of the attributes of the recommended enhanced system design. The M&O has established a team to prioritize these factors and the associated technical work to ensure that those most important to the SR/LA safety case are addressed. The output of this review will ensure that the PMRs adequately address these factors and that the forthcoming information is consistent with the needs of the PMRs. This prioritization could result in some changes in emphasis in Project activities, especially in

light of expected FY00 budget limitations. The team's recommendations are expected to be available by the end of May 1999.

As noted in the March 25 guidance letter (Reference 4), specific software and data qualification activities in support of each of the PMRs cannot be fully identified at this time. As such, the data qualification effort represents one of the biggest risks to completing a draft SR report that is defensible for the Consideration Hearing by November 2000. The strategy for qualifying the technical data, models, and software needed for SR/LA is contained in the M&O's Data, Model and Code Qualification/Validation and Control Plan, developed in December 1998 (Reference 7). As part of the resolution of CARs 98-002, 98-006, and 98-010, verification of the "Q" status of the Data Tracking Numbers (DTNs) and Codes used for the Viability Assessment (VA) that were likely to go forward to the SR/LA was initiated. Tiger Teams are tasked with reviewing the status of all software and data necessary to support each individual PMR. The Tiger Teams will also identify the actions needed to qualify the software and the portions of the data that can be qualified. Of the data used in the VA, 372 DTNs were identified as likely to be used in the SR/LA. Of these 372 DTNs, 56 are in the process of being verified. One DTN has been taken through the entire verification checklist process. Of the 136 codes identified as likely to be used in the SR/LA, 28 are in the process of being verified. Eleven have completed the verification process, have had their deficiencies corrected, and have been placed under baseline control. The output of the prioritization being done by the M&O's principal factors reallocation team will be used to guide the efforts of the Tiger Teams. The Tiger Teams are currently scheduled to complete these reviews by the end of October. As each Tiger Team completes its assigned review, the affected data qualification schedule of activities, including logic ties to the SR, will be updated.

Total System Performance Assessment (TSPA) Peer Review comment responses are to be completed by the end of May 1999. The actions identified in the response will be incorporated in the FY00 update to the YMP Multi-Year Plan.

A revised, more detailed, LA schedule is being coordinated and developed by the M&O Regulatory and Licensing Organization. This effort will incorporate the schedules for production of the PMRs (and associated products), the SR, the SDDs the Design Basis Events (DBEs) and the TSPA. In addition, the schedule will establish the production process for the development of the individual Chapters of the LA and will eventually include the production of the sections and their supporting products. The schedule outlines a new team approach to the production and review of the LA in that it includes participation from the M&O, MTS and DOE. Through this integrated schedule, we will have developed an overarching strategy for submittal of the LA. The expectation is that this effort will redefine deliverables, milestones and budgetary considerations by focusing on only those things that are important and sufficient to SR and LA production. It is anticipated that the integrated schedule can be completed by mid-June 1999 and updated in the FY00 planning.

A task team consisting of the M&O Regulatory and Licensing, Systems Engineering, and the Design organizations is performing a revised markup of the Technical Guidance Document (TGD) and the corresponding products list that detail the required level of detail for the LA. To perform this effort, thi team is using the latest DBE analysis/assumptions, the level of detail white paper, and the draft graded quality assurance classification procedure. The findings of this team will then be incorporated into the

planning and budgetary considerations to support the SR/LA integrated schedules. This effort is expected to be finished by mid-June and will be updated in the FY00 planning.

This CR provides budget for FY99 only, and provides a rough order of magnitude estimate for the PMRs and analyses and model reports for FY00 and FY01. FY00 budget requirements will be identified as part of the FY00 update to the YMP Multi-Year Plan.

3. Change Description/Justification

3.1 Process Validation and Reengineering (PVAR), Tiger Teams, CARs

Summary

Guidance for work scope addressed in this CR is provided, in part, by the Data, Model and Code Qualification/Validation and Control Plan (Reference 7). This plan (Reference 7) provides an outline for identifying the minimum set of data that needs to be qualified for SR/LA and the method and timetable for qualification. The plan identifies the relationship between the CAR management plan (Reference 6), Tiger Teams, PVAR effort, and data qualification activities.

The guidance for actions associated with the CARs is provided in the Management Plan and Response to Corrective Action Requests (Reference 6). Actions that are addressed in this CR respond to CARs LVMO-98-C-002 (CAR-002), VAMO-98-C-005 (CAR-005), LVMO-98-C-006 (CAR-006), and LVMO-98-C-010 (CAR-010). These CARs relate to deficiencies found in technical data, procurement, software, and model development and use, respectively.

Work Scope Change Description

Process Validation and Re-engineering (PVAR) – Initiated to accomplish the following objectives:

1. Standardize procedures for all program participants
2. Eliminate procedure redundancy
3. Provide clear, concise guidance to end-users
4. Establish ownership of processes and procedures, and
5. Establish effective, formal training program.

Additional work scope includes:

1. PVAR management associated with additional integration reviews and resources to plan, coordinate and conduct validation reviews of selected PVAR procedures according to accepted nuclear industry standards.
2. Additional resources required compensating for full-time dedication of Subject Matter Experts to the PVAR effort.
3. Conduct full regimen of formal training on the PVAR procedures.
4. Support the implementation of the new PVAR procedures.

Tiger Teams (Data and Model Qualification) – Initiated to ensure traceability and defensibility of data used to support the SR.

Additional work scope includes:

1. Identification of models and data sets requiring qualification.
2. Prioritization of models and data sets for qualification based on support to AP-3.10Q analyses and PMR development.
3. Qualification of prioritized models and data sets according to approved program procedures.

CAR Closure – Initiated project approach to CAR closure for focusing resources and integrating across all deficiency closures.

Additional work scope includes:

1. Additional resources to compensate for focusing existing resources full-time on CAR and deficiency closure.
2. Establishing and maintaining a Corrective Action Board (CAB) to monitor and integrate all deficiency related efforts.
3. Integration of CAR closure activities with PVAR and data and model qualification.

Justification

Justification for work scope includes:

1. Closure of CARs and other deficiencies in a timely manner while integrating and incorporating lessons learned into the PVAR development effort.
2. Implementing an approach for data and model qualification based and prioritized on specific data needs for SR and LA, e.g. AP-3.10Q analyses and PMRs.
3. Development and implementation of an integrated program infrastructure for science and engineering processes that fully support the requirements of the Quality Assurance Requirements Document.

3.2 Process Model Reports (PMR)

Summary

The purpose of a PMR is to document a synthesis of the necessary and sufficient technical information that the Project will be relying upon to support its site suitability evaluation and the licensing safety case pertaining to a particular process model. The technical information consists of data, analyses, models, software, and supporting documentation used to defend the applicability of the model for its intended purpose of evaluating the post-closure performance of the Yucca Mountain repository system.

The following nine (9) topics have been identified for PMR development:

1. Integrated Site Model
2. Unsaturated Zone Flow and Transport
3. Saturated Zone Flow and Transport

4. Near Field Environment
5. Waste Package Degradation
6. Waste Form Degradation
7. Engineered Barrier System Degradation and Flow/Transport
8. Biosphere
9. Tectonic Hazards

The development of the PMRs is integrated with the data, model, and code validation / qualification and traceability efforts described in section 3.1 of this Narrative. The PMR references supporting analyses and modeling documentation produced through Administrative Procedure (AP)-3.10Q, Analyses and Models, the Technical Data Management System (TDMS), the Software Library, documents developed outside the Project, and other regulatory documents (e.g., Topical Reports and other PMRs). This documentation is summarized in the PMR, but is not physically part of the report.

Work Scope Change Description

The work scope change associated with the PMRs is related to the higher level of rigor that will be applied to the documentation of the basis for the process models that support the total system performance assessment for the SR and LA.

Additional work scope includes:

1. Preparation, reviews, and control of each of the analyses and model reports supporting the PMRs.
2. Systematic evaluation of existing Project documentation to determine how these documents can be used in the PMR development process.
3. Preparation, reviews, and control of the nine PMRs.
4. Establishment of a PMR management structure to ensure integration and control of the PMR effort.

To accommodate this refocus, several Level 3 deliverables that are in the current baseline are proposed to be deleted, with the information in those deliverables to be directly captured in the analyses and model reports, and the data submitted to the TDMS. This is primarily the case for the deliverables in the Natural Environment Program Operations area. Other deliverables would be deferred or revised (e.g., deletion of Chapters 3 and 8 of the Working Draft LA).

The disposition of each of the affected deliverables is identified in Table 11 c) ix).

The work scope associated with development of the PMRs and supporting analyses and model reports is not all new work. Much of the technical work is already part of the existing baseline and would be performed with already-budgeted resources. As indicated above, the key change is the emphasis placed on the documentation process to ensure traceability and transparency.

Justification

The reprioritization of work scope to focus on the development of PMRs will strengthen the traceability and transparency of the technical basis for the process models that form the building blocks of the total system performance assessment for the SR and LA.

3.3 License Application Design Selection (LADS) Enhanced Design Alternative 2 (EDA2)

Summary

The recommended repository concept (EDA2) can be characterized as a low thermal impact design, a significant contrast to the current Viability Assessment (VA) Repository Reference Design. This design uses more extensive thermal management techniques than the VA design to limit the impacts of the heat released by the waste. These thermal techniques include thermal blending of spent nuclear fuel assemblies, closer spacing of the waste packages, wider spacing of the waste emplacement tunnels (drifts), and pre-closure ventilation. While the recommended design and the VA design both use a two-layer waste package, the recommended design places the corrosion-resistant material on the outside rather than the inside to provide long-term protection to more corrosive-susceptible structural material. The recommended design also adds defense-in-depth with a drip shield, potentially covered by backfill, to protect the waste packages from dripping water while they are hot enough to be susceptible to localized corrosion. Finally, the recommended design uses steel materials in the drift for ground support instead of the concrete evaluated in the VA design in order to avoid the possible impacts of the chemicals in the concrete on mobilization and movement of radionuclides.

In focusing on the remainder of FY99, the LADS Team has recommended work stoppage / redirection of activities that do not support the recommended design, and commencement of work that directly influences the characteristics described in the previous paragraph.

Work Scope Change Description

Work Scope Stoppage/Reduction

Ceramics: The LADS study determined that no further work is required in the near term on Ceramics for the recommended design.

Getter Testing: The LADS study determined that no further work is required on Getter Testing for the recommended design.

Waste Package Optimization: The number of designs, and their level of detail, that will be prepared for SR will be reduced.

New Work Scope and Redirection of Existing Work

Short Term Testing for Titanium and Alloy 22: Additional testing aimed at providing data to support long-term protection of the waste package and drip shield.

Short Term Corrosion Testing: Additional testing aimed at addressing long-term key corrosion mechanism issues to help confirm materials performance.

Waste Acceptance and Storage Requirements Document (WASRD): Updates the WASRD to reflect EDA2 as the reference design after approval by the Director, Office of Civilian Radioactive Waste (OCRWM).

Update SR/LA Product List: Provides a comprehensive design products list that will support first the design necessary for Site Recommendation and provide continuity towards the design necessary to support the License Application.

SR/LA Interface Control Documents (ICDs): Provides the necessary ICDs to support SR and provide continuity towards the ICDs necessary to support the LA.

Reference Design Description (RDD): Updates the RDD to reflect EDA2 as the reference design after approval by the Director, OCRWM.

Invert Diffusion Test: Commences the necessary testing for the invert diffusion data needed early for process models to support Site Recommendation.

Drip Shield Design: Commences the necessary design of the drip shield in order to support Site Recommendation.

Justification

Per direction of the PORB, we are revising work to encompass LADS EDA2. The current official reference design is the VA based on existing design control documents. OCRWM management recognizes that design efforts continue to evolve and it is prudent to shift from the VA reference design high thermal approach to a cooler design. The PORB directed the M&O to process a project CR to accommodate the current recommended design (EDA2). The CR directs the M&O to 1) incorporate EDA2 design into the current planning baseline; 2) prepare work packages and plans consistent with EDA2 design guidelines; and 3) prepare a Level 1 Baseline Change Proposal for the Director's approval in July.

3.4 Revision of Milestones Related to Replan CR 99/003 (M&O-99-004)

This CR includes the deletion of Level 2 Milestones and revision of a Level 3 Milestone related to CR 99/003 Revision to the Project Cost and Schedule Baseline Document to Incorporate the Detailed Re-planning for FY1999 - FY2002 in the YMP Multiyear Cost and Schedule Baseline (M&O-99-004). Two Level 2 milestones, M2MP Initial Licensing Case Selection and M2MR Proposed SR/LA Licensing Case Selection are deleted. Deletion of these milestones was originally intended for CR 99/003, but were inadvertently omitted.

This CR also includes a change in the due date of Level 3 Milestone BM205OM3 Year 2000 Business Continuity Plan. This revision is in response to changes in DOE plans and concerns associated with the

timing of Y2K end-to-end testing, and the development of a quality Plan that integrates all issues relating to the information architecture, and incorporates current DOE mission goals and objectives for this area.

4. Reference Summary

1. Letter LV.NS.JKC.02/99-003, D. R. Wilkins to J. R. Dyer, Request for Approval to Upgrade Plans for Addressing High Priority Tasks, dated February 9, 1999.

2. Letter OPS:NSG-0814, J. J. Adams to D. R. Wilkins, Request for Approval to Upgrade Plans for Addressing High Priority Tasks, dated February 12, 1999.

3. Letter LV.PP&C.CJN.2/99-021, C. J. Nesbitt to J. R. Dyer, Response to U. S. Department of Energy (DOE) Letter, dated February 12, 1999, Request for Approval to Upgrade Plans for Addressing High Priority Tasks, dated March 4, 1999.

4. Letter OPC:JRS-1012, J. R. Dyer to D. R. Wilkins, U. S. Department of Energy (DOE) Guidance for Refocus Change Request (CR), dated March 25, 1999.

5. Briefing 1999-043cjn Rev. 1, prepared by C. J. Nesbitt, III, PMR, Data Qualification and LADS Change Request Status, dated April 13, 1999.

6. Management Plan and Response to Corrective Action Requests (CARs) LVMO-98-002 (CAR-002), LVMO-98-005 (CAR-005), LVMO-98-006 (CAR-006), and LVMO-98-010 (CAR-010), Revision 2, dated November 30, 1998.

7. Data, Model and Code Qualification/Validation and Control Plan, dated December 1998.

8. Project Operations and Review Board (PORB) Minutes & Actions, dated April 15, 1999.

5. Budget

A total Project budget increase in the amount of $11,681K in FY99 is proposed in this CR. Table A below itemizes the budget changes by Subproduct. These budget changes are shown on the affected Subproduct Plan Sheets (SPSs) in a later section. A more detailed cost breakout, estimated at the control account and categorized (CAR, DQ, PMR, PVAR, LADS), is provided in the cost backup section of this CR package. In addition, the cost backup outlines $12,471K of existing budget associated with refocused work scope. Total Budget for increased and refocused work scope affected by this CR is $24,152K.

Table A Performance Measurement Budget (PMB) Table (Thousands $)				
Subproduct ID	**Subproduct Title**	**FY 99 Approved Budget**	**FY99 Proposed Budget**	**FY99 Delta**
AMJX	Documentary Record for SR	$27,900	$31,916	$4,016
AMMQ	SR Design Alternatives	$20,864	$21,198	$334
AMNL	Site Recommendation Report	$6,855	$7,455	$600
AMNT	Repository Design and Waste Form Revision - SR	$36,096	$40,064	$3,968
AMNW	TSPA-SR Document	$41,803	$43,846	$2,043
AMPP	Technical Support for SR/Designation	$78,698	$79,899	$1,201
AMCW	EIS	$8,258	$8,258	$0
AMPS	Post EIS Completion Activities	$0	$0	$0
AMPU	DOE SNF and Fissile Materials	$5,684	$5,684	$0
AMMW	LA Design and Verification	$2,611	$2,730	$119
AMNE	Draft LA	$1,612	$1,612	$0
AMNN	Working Draft LA	$5,224	$4,424	($800)
AMNS	Documentary Record for LA	$0	$0	$0
AMPT	Technical Support for LA	$0	$0	$0
AMRF	Construction Authorization	$2,138	$2,138	$0
AMPW	Project Support for SR/LA	$25,915	$26,115	$200
	TOTAL	**$263,658**	**$275,339**	**$11,681**

6. Funding

New funding of $11,366K for the M&O and $315K for the United States Geologic Survey (USGS) is required to accomplish the tasks identified in this CR. Note that the current site staffing study and ensuing scope and staffing actions are not accounted for in this CR. DOE will need to identify the source of funding and provide an Approved Funding Program change.

7. Milestones

This CR does not impact Level 0 Milestones.

The following are recommended changes to Level 1 and Level 2 Milestones:

Level 2 Milestones YMSCO Requested Changes - (Inadvertent Omissions from Replan CR)						
Recommended Action	**Milestone ID**	**Current Title**	**Current Completion Date**	**Recommended Title**	**Recommended Completion Date**	**Comments**
Delete	M2MP	Initial Licensing Case Selection		N/A	N/A	Delete per YMSCO request. Omitted from Replan CR.
Delete	M2MR	Proposed SR/LA Licensing Case Selection		N/A	N/A	Delete per YMSCO request. Omitted from Replan CR.

Level 2 Milestones Recommended Changes Resulting from PMDQ/LADS						
Recommended Action	**Milestone ID**	**Current Title**	**Current Completion Date**	**Recommended Title**	**Recommended Completion Date**	**Comments**
Delete	M2JE	Drift Scale Test Report to SR	15 Oct 99			Delete milestone. DST Report will be an AP-3.10Q in NF PMR
Revision	M2HC	Decide UZ Flow & Transport Models for SR	15 Feb 00	UZ PMR for SR	26 May 00	
Revision	M2HD	Decide SZ Flow & Transport Models for SR	29 Feb 00	SZ PMR for SR	07 Jul 00	
Revision	M2JC	Decide Near Field Models for SR		NF PMR for SR	09 Jun 00	
Revision	M2GH	Waste Form Characteristics Report Rev 2	1 Aug 00	Waste Form Process Model Report. Change criteria accordingly.	No Change	Title change only.
Revision	M2GY	Engineered Materials Characteristics Rep. Rev 2	1 Aug 00	Waste Package Degradation Process Model Report. Change criteria accordingly.	No Change	Title change only.
New	N/A	N/A	N/A	Tec PMR for SR	26 Jun 00	
New	N/A	N/A	N/A	ISM PMR for SR	17 Jan 00	
New	N/A	N/A	N/A	YM Site Description for SR	29 May 00	

The following Level 1 and 2 milestones appear in the SR Detail Production Schedule, and are recommended for addition to the baseline:

Level 2 Milestones Recommended Changes Resulting from Integration of SR Strategy into Schedule						
Recommended Action	**Milestone ID (See Note)**	**Current Title**	**Current Completion Date**	**Recommended Title**	**Recommended Completion Date**	**Comments**
New	P1CH	N/A	N/A	RW-1 Forward Consideration Hearings FR Notice	01 Nov 00	Preceding Milestone SLCH01M3 (M&O Provide Draft SR Hearing Notice to YMSCO) on 04 Oct 00.
New	SLBR50M 1	N/A	N/A	DOE Concur on Revised Final 10CFR960	05 Oct 99	Preceding Milestone M1AD OCRWM Pub .Supp Not .Prop. Rulemaking on 28 Dec 98. Note: M1AD is already past overdue. The entire string of Upper level milestones for the 10CFR960 / 10CFR963 need to be revisited subsequent to RW-1 formal decision on the proposed rule to go forward with.
New	M2DP	N/A	N/A	YMSCO Approve SR Distribution and Public Information Plan	25 Sep 00	Similar to the EIS process, the above document needs to be developed for SR. This has been discussed with OCRWM senior staff in numerous meetings held for the development of the SR detailed schedule. The Plan will have to be developed by the Institutional and External Affairs Department, under Support Operations.
New	M2CR	N/A	N/A	Submit Consideration Hearings Comment Summary Document for HQ Approval	25 May 01	While the DOE proposes that no formal response to the Hearings comments will be provided to the Public, a Comment Summary Document will be developed to facilitate the decision making process.

Note: The Milestone IDs are not final but are simply placeholders in the schedule. Correct milestone IDs to be assigned later upon DOE acceptance of the recommendations.

New FY99 Level 3 Milestones associated with PMPQ/LADS EDA2 are shown in Table B1 below. Revised and deleted Level 3 Milestones associated with the PMDQ portion of this CR are shown in the table of Section 11 c) ix) Deliverable Deletion Rationale Matrix.

Table B1
New PMDQ Level 3 Milestones

Status	Milestone ID	Title (may be abbreviated)	Date
New	SLSR7FM3	Submit Draft SR V1S1 to DOE	30 Sep 99
New	SE1930M3	Submit SR/LA Products List to DOE for Approval	30 Sep 99
New	SLDI05M3	Submit Level of Design Detail Paper for LA to DOE	10 Jun 99

Other affected FY99 Level 3 Milestones are shown in Table B2 at the end of this section.

Table B2
Other Level 3 Milestones

Status	Milestone ID	Title	Date
Revised	BM2050M3	Year 2000 Business Continuity Plan	30 Jun 99

8. Performance Evaluation and Measurement Plan (PEMP)

This CR affects the following key PEMP deliverables:

PEMP Deliverables

Status	Milestone ID	Title	Date
Deleted	SLWD02M3	M&O Provide WDLA QAP6.2 Draft to DOE	N/A
Revised	SP399CM3	NF/AZ Environ Rpt, Rev 2	03/03/00
Revised	BM205OM3	Year 2000 Business Continuity Plan	08/13/99

No other impacts to the PEMP have been ide. .ified, nor the ability of the M&O to meet the PEMP criteria is affected. The PEMP will require revision to address the changes identified above.

9. QA Support

The M&O and the Quality Assurance Technical Support Services contractor (QATSS) identified the need for additional support in FY 1999 for procedure integration and procurement engineering which resulted from the PVAR initiative.

In March 1999, QATSS estimated the resources to be in excess of their plan for the current fiscal year. QA .S developed an estimate for additional resources and provided the information to both the M&O and OCRWM for consideration. OCRWM provided guidance that the QATSS support contract would

not be increased. The M&O and QATSS evaluated an alternative solution whereby the M&O would provide QA engineers for the tasks. The resources would take direction from the assigned QATSS line manager.

The alternative was presented to the M&O contract office and was found to be contractually viable. The M&O contract has, within its contract, scope for QA tasks. The QA Program oversight role performed by QATSS is not compromised as the QA engineering and inspection function is separated from the oversight function.

The M&O has included in this CR the necessary QA engineering staffing for the balance of FY99. This arrangement is a short-term solution and is expected to end on September 30, 1999.

10. Implementation

Resource Implementation

There are no significant new staffing requirements as a result of this CR. A combination of Home Office, Laboratory, TDY, consultant, and Manpower temporary services are to be utilized to implement the majority of the increased work scope. Onsite staff will be utilized in a combination of delaying potential layoffs and utilization of Extended Work Weeks (EWWs). The M&O will implement the onsite portion of the work utilizing existing office facilities, information technology, and telecommunications that exist or are covered under current and proposed budgets.

Baseline Implementation into the Planning and Control System (PACS)

May PACS Update (due June 19, 1999): PACS will be updated with May actuals only, no earned value will be taken or reported.

- Complete integration of the PMDQ/LADS EDA2 CR schedule into the Integrated Project Schedule (IPS) for milestone/deliverable reporting.
- PACS will reflect the old Performance Measurement Baseline (PMB) and updated with actuals only.

June PACS Update (due July 19, 1999): Detailed control account and work package planning will be completed and data available in PACS.

- Revised IPS will be updated.
- Earned value will be updated using revised PMB.
- Reconciliation will be made to insure cumulative performance to date is as accurate as possible.
- PACS will reflect the new PMB and new schedule.

The control accounts, work packages, and IPS activities are to be maintained and controlled by the Affected Organization in coordination with the M&O Project Planning and Control organization. The Subproduct Plan Sheets (SPSs) and Level 2 and Level 3 Milestones are maintained and controlled by the Yucca Mountain Site Characterization Office (through the PORB) in coordination with Office of Project Control.

M&O-99-008: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative (EDA) II

Reference Summary

1. Letter LV.NS.JKC.02/99-003, D. R. Wilkins to J. R. Dyer, Request for Approval to Upgrade Plans for Addressing High Priority Tasks, dated February 9, 1999.

2. Letter OPS:NSG-0814, J. J. Adams to D. R. Wilkins, Request for Approval to Upgrade Plans for Addressing High Priority Tasks, dated February 12, 1999.

3. Letter LV.PP&C.CJN.2/99-021, D. R. Wilkins to J. R. Dyer, Response to U. S. Department of Energy (DOE) Letter, dtd. February 12, 1999, Request for Approval to Upgrade Plans for Addressing High Priority Tasks, dated March 4, 1999.

4. Letter OPC:JRS-1012, J. R. Dyer to D. R. Wilkins, U. S. Department of Energy (DOE) Guidance for Refocus Change Request (CR), dated March 25, 1999.

5. Briefing 1999-043cjn Rev. 1, prepared by C. J. Nesbitt, III, PMR, Data Qualification and LADS Change Request Status, dated April 13, 1999.

6. Management Plan and Response to Corrective Action Requests (CARs) LVMO-98-002 (CAR-002), LVMO-98-005 (CAR-005), LVMO-98-006 (CAR-006), and LVMO-98-010 (CAR-010), Revision 2, dated November 30, 1998.

7. Data, Model and Code Qualification/Validation and Control Plan, dated December 1998.

8. Project Operations and Review Board (PORB) Minutes & Actions, dated April 15, 1999.

Reference 1

Letter LV. NS. JCK.02/99-003, D.R. Wilkins to J.R. Dyer, Request for Approval to Upgrade Plans for Addressing High Priority Tasks, dated February 9, 1999.

ENCLOSUP

Proposal for Redefining and Focusing Work Efforts for SR/LA

2-4-99

Topics for Discussion

- Aggressive attention to QA deficiencies
- Maintain focus on meeting PVAR goals
- Place highest priority on documenting traceability for TSPA Process Models
- Focus new work on "Process Model Reports"
- Next steps

QA Deficiencies: Focus on Accountability

- Staff assigned to work deficiencies should be relieved of other responsibilities
  - Full time commitment to resolving deficiencies
- Biweekly status to DOE senior management should expand to cover ALL deficiencies
  - Status: Require DOE & M&O responsible line managers to personally explain any slippage
  - New deficiencies: Require DOE & M&O responsible line managers to discuss problem

Meet PVAR Goals: Simplified and Streamlined Processes

- Full time commitment needed for Subject Matter Experts and key support staff to complete analyses and develop draft procedures
- Substantial commitment needed from OQA to work with PVAR teams as needs for process revisions are identified
- Continue SME involvement, as "process owners", to expedite review, approval and training to new processes
- Plan for surveillances/audits of revised processes

Traceability for TSPA Process Models

Traceability defined by Tiger Team to include:

- Links between records and data base entries
- Parameter input values used to develop process models and codes
  - Identify data that are "directly relied upon" vs. corroborative
  - Determine Q pedigree of acquired data
- Documentation of "developed data" that shows steps from acquired data to inputs to process models

Note: traceability will need to be established for design products supporting SR/LA

Data Qualification Tied to Tiger Team Products

- Pedigree of input values/source data/ models documented by Tiger Team review
  - Apply data qualification strategy to determine if data need to be qualified
- Initiate actions as soon as non-Q data sets that need qualification are identified
- Validation status for models also established by Tiger Team documentation
  - Actions needed to validate models also can be identified and scheduled

Reducing Risks for SR/LA

Redefine and Focus our Key Licensing Products

- Develop Process Model Reports (PMR)
  - Stand alone reports containing relevant information to make licensing arguments
    - » These are end products of model validation and traceability efforts
  - PMRs would reference
    - » Technical Data Base
    - » Software Library
    - » Model Warehouse
    - » Other regulatory products
    - » External publications

Contents of Process Model Reports

- Description of Model
- Verification of QA status of codes
- Data supporting codes/models
- Abstraction of model into TSPA
- Uncertainties related to model parameters
- Model validation information
- Opposing views
- Assumptions and basis

Preliminary List of Proposed Process Model Reports

- Integrated Site Model
- Unsaturated Zone Flow and Transport
- Saturated Zone Flow and Transport
- Near Field Environment
- Waste Package Degradation
- Waste Form Degradation
- Engineered Barrier Degradation and Flow/Transport Model
- Biosphere

Will Need Limited Number of Non-Process Model Reports

Potential for short-list of supporting documents

- Site Description Document (abridged)
- Disruptive Events
  - Volcanic Hazard Assessment
  - Seismic Hazard Assessment
  - Criticality Assessment
- Natural Analogues

What About Existing Internal and External Documents?

Three potential categories are proposed:

1. Information in document is relevant and needed to support argument for a specific process model
   - Include information in PMR and ensure data/models/codes are documented & traceable

2. Information in document is not relevant or superceded - do not include information in report and document in memo to file (?)

3. Information in document provides differing view that does not support licensing argument
   - Include in PMR and explain why this view is not supported - ensure data/models/codes adequately documented for internal work

Recommended Plan for Development of PMRs

- Develop draft PMRs as soon as possible and use TBVs for data/models/codes as necessary
  - Establish baseline for process models
- Focus future work on addressing these TBVs
  - Ensure data gets into TDMS and is traceable
  - Aggressively validate models
  - Conduct V&V on codes
- Consider peer reviews for each PMR
- Determine if candidates for Topical Reports

Next Steps

- Scrub existing plans for Level 3 work products to determine if content can be directly captured in TDMS, Software Library, and/or Model Warehouse
  - If yes, reevaluate need for separate report
- Develop modified approach for DOE review and acceptance
  - Draft PMRs
  - Transmittals to TDMS
  - Software V&V record packages
  - Model Validation record packages
- Rethink SR strategy to determine impact of relying directly on TDMS/Software Library/Model Warehouse and PMRs

Next Steps (continued)

- Identify selected scientific and engineering topics where journal articles should be prepared
  - Gain credibility in broader scientific and engineering community

Status of Cost Impact Information

Area	Status
Qualification & CAR's	
Data Identification (CAR 2)	ROM Estimate
Data Qualification (CAR 2)	TBD
Remediation of References (CAR 99-01)	Current Plan
Remediation of Notebooks	Current Plan
Process Software & Models (CAR 6 & 10)	ROM Estimate
TSPA Abstracted Software & Models	ROM Estimate
CAR 5, Procurement	Current Plan
Process Model Reports	TBD (adder)
PVAR	
Procedures	TBD
Upgrades to TDMS	TBD (adder)
Impacts on Deliverables	
Hold SR dates w/less detail	Current Plan
Delay/Delete Level 3's	TBD (credit)

Schedule Status

Qualification & CAR's	
Data Identification (CAR 2)	Yes
Data Qualification (CAR 2)	TBD
Remediation of References (CAR 99-01)	Yes
Remediation of Notebooks	Yes
Process Software & Models (CAR 6&10)	Yes
TSPA Abstracted Software & Models	Yes
CAR 5, Procurement	Yes
Process Model Reports	TBD
PVAR	
Procedures & Training	Yes
Upgrades to TDMS	TBD
Impacts on Deliverables	
Hold SR dates w/less detail	Yes
Delay/Delete Level 3's	TBD

Proposed Level 3s to be Reviewed

- 6 supporting ISM
- 4 supporting UZ Flow and Transport
- 10 supporting SZ Flow and Transport
- 7 supporting Near Field Environment
- 4 supporting Disruptive Events

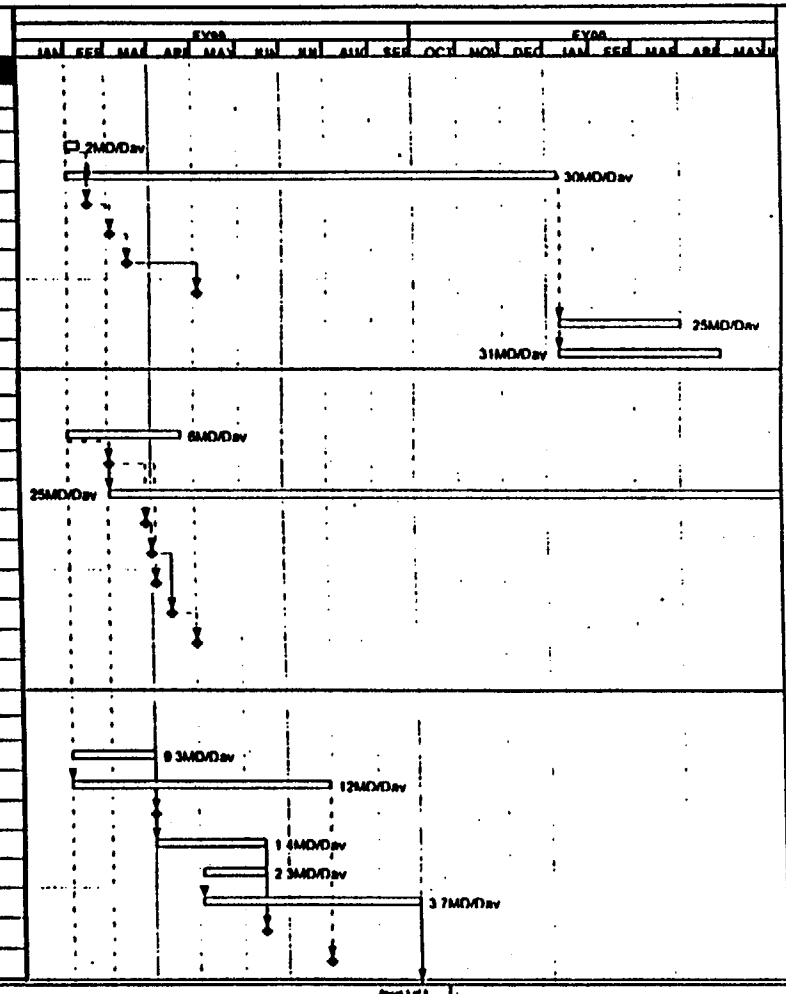
Additional work in FY00 is $10MM
Additional work in FY01 is $1MM

FY99 ROM Funding Analysis

Area	(A) Total Required Funding	(B) Covered from Exist Resources	(C) New Funding Required (A - B)	(D) Current Baseline	(E) Deferred/ Delayed (B - D)
Qualification & CARS					
Science	$15MM	$12MM	$3MM	$4MM	$8MM
TSPA	$ 5MM	$ 4MM	$1MM	$1MM	$3MM
WP	$ .8MM	$ .2MM	$ .6MM	$.2MM	$ 0MM
EBS			$ 0MM		$ 0MM
CAR Closure	$ 4.2MM	$ 4.2MM	$ 0MM	$ 4.2MM	$ 0MM
Process Model Reports					
Reg.	$ .7MM	$.4MM	$ .3MM	$ 0MM	$ .4MM
MGR	TBD				
Support	$ .8MM	$ .3MM	$ .5MM	$ .3MM	$ 0MM
PVAR					
Procedures	$ .4MM	$.4MM	$ 0MM	$ .4MM	$ 0MM
TDMS	TBD				
Contingency	$7.1MM(25%)	$ 5.5MM(25%)	$ 1.6MM	$ 0MM	$ 5.5MM
R.O.M. Total	$ 34MM	$ 27MM	$ 7MM	$10.1MM	$ 16.9MM

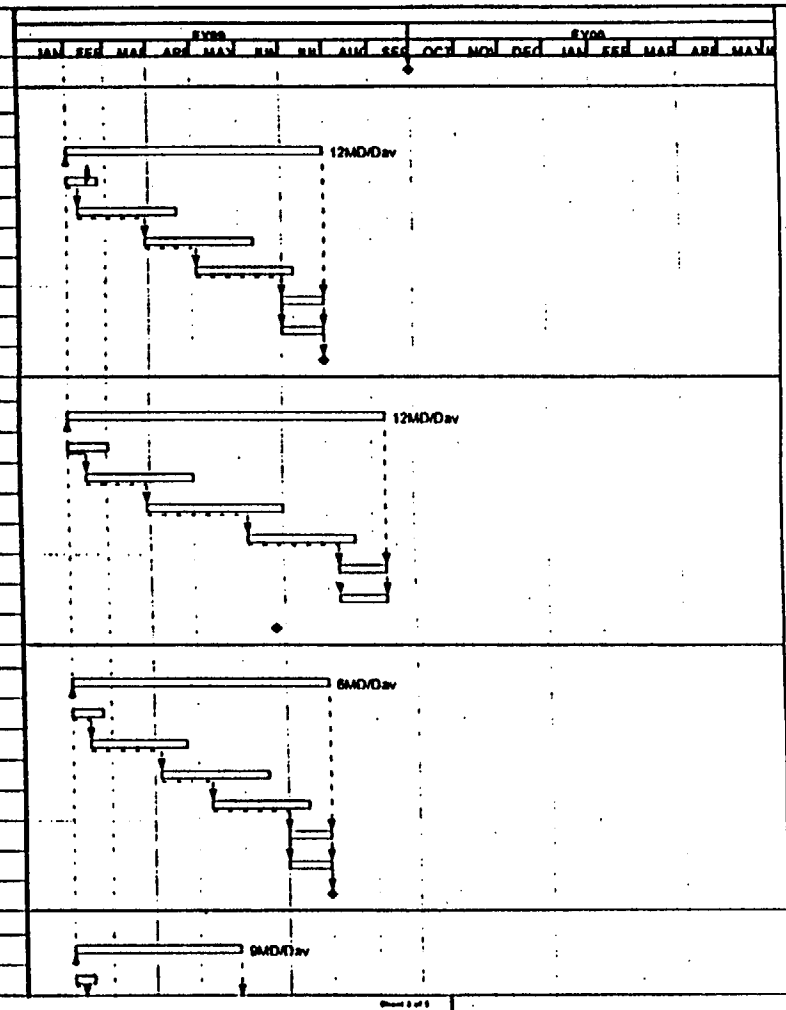
ENCLOSURE 2 DRAFT--Subject to DOE Direction and M&O Integration

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Budgeted Cost	EX
Remediation						
M&O CAR 98-002 (Incl. USGS) STEP 1						
00035	Identify data Sets for Verification (TBD)	8	01FEB99*	10FEB99	12,800.00	1
00050	Review and Correct as Needed (TBD Data)	245	01FEB99*	07JAN00	8,002,010.00	1
00040	Revise YAP SIII 3Q	0		15FEB99*	0.00	1
00060	Root Cause Determination Complete	0		03MAR99*	0.00	1
00065	Actions to Preclude Complete	0		15MAR99*	0.00	1
00045	TBV Numbers Assigned to Data Sets	0		03MAY99*	0.00	1
00055	Review TDMS to ID other LA DTN's	60	10JAN00	31MAR00*	12,000.00	1
00070	Rev & Correct Remaining DTN's	80	10JAN00*	26APR00	832,000.00	1
M&O CAR 99-001 (Incl. USGS) STEP 2						
00001	Extent of Conditions and Preclude Recurrence	57	01FEB99*	20APR99	273,600.00	1
00005	List of Reports Supporting VA	0		01MAR99*	0.00	1
00025	Review and Revise Old Documents	479	02MAR99*	29DEC00	8,613,800.00	1
00008	Complete Revision of Drill Seepage Report	0		26MAR99*	0.00	1
00010	Revise Procedures	0		30MAR99*	0.00	1
00007	System for Tracking Users and Evaluations Compl.	0		02APR99*	0.00	1
00015	Training to Revised Procedures Completed	0		13APR99	0.00	1
00020	Root Cause Determination Complete	0		30APR99*	0.00	1
00030	Review Complete to Support TSPA/SR	0		29DEC00	0.00	1
M&O Scientific Notebooks (Incl USGS) STEP 3						
00075	Review Open Notebooks	43	01FEB99*	31MAR99	320,000.00	1
00085	Correct Open Notebooks (530)	130	01FEB99*	30JUL99	1,271,400.00	1
00080	All Active Notebooks Reviewed (530)	0		31MAR99*	0.00	1
00090	Review Inactive Notebooks (100)	54	01APR99*	15JUN99	80,800.00	1
00103	Review Selected Closed Notebooks (100)	32	03MAY99*	15JUN99	80,000.00	1
00105	Corrective Action on Inactive/Selected Nbks(200)	108	03MAY99	30SEP99	320,460.00	1
00100	Inactive Notebooks Reviewed	0		15JUN99	0.00	1
00095	Open Notebooks Corrected	0		30JUL99	0.00	1



Proposed QA Compliance Schedule
as of 27 Jan99 @ 8:00am
Attachment 4

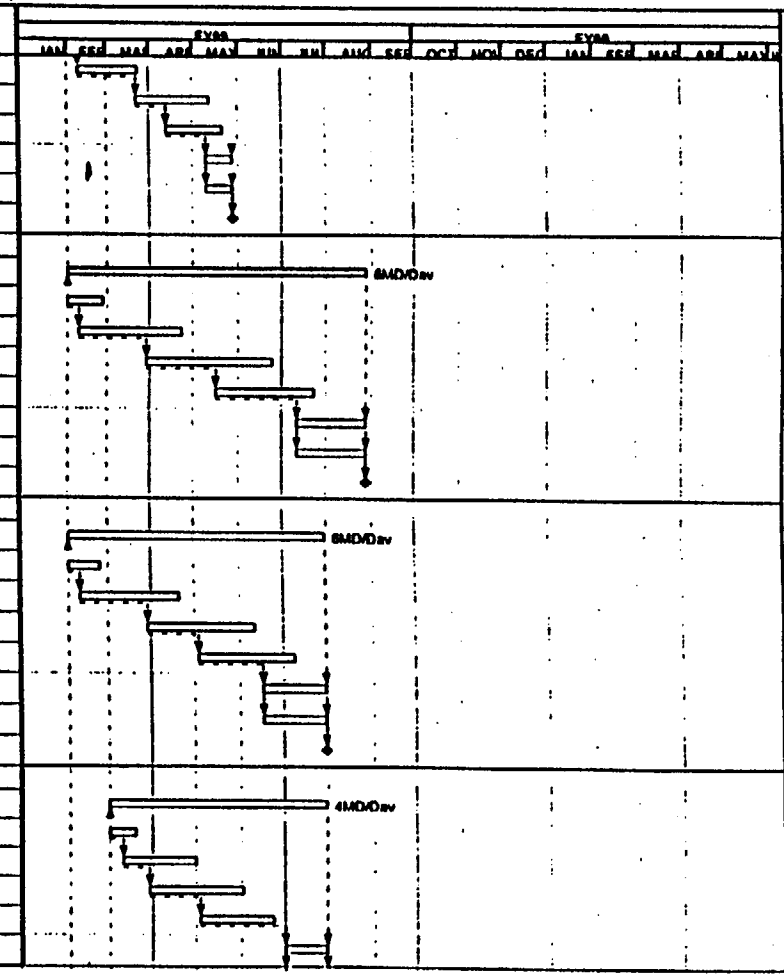
Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Budgeted Cost	EX
00110	Inactive Notebooks Corrected	0		30SEP99	0.00	1
Process Model Verification and Traceability						
UZ Site Scale Flow and Transport Model STEP 4						
00115	UZ Site Scale Flow & Transport Model	130	01FEB99*	30JUL99	1,248,000.00	1
00120	Prep Wrins Disp/ID Data Flow/Train Pers	17	01FEB99*	23FEB99	0.00	2
00125	ID Params/Values/Define Sources/Derive Values	49	10FEB99*	19APR99	0.00	2
00130	Prepare Metadata Package	55	29MAR99*	11JUN99	0.00	2
00135	Review and Concurrence	49	03MAY99*	06JUL99	0.00	2
00140	Prepare Database Entry for TDMS	22	01JUL99*	30JUL99	0.00	2
00145	Entry in Run Controlled SMS	22	01JUL99	30JUL99	0.00	2
00148	Process Verified and Compliant	0		30JUL99	0.00	2
Integrated Site Model STEP 5						
00150	Integrated Site Model	180	01FEB99*	10SEP99	1,536,000.00	1
00155	Prep Wrins Disp/ID Data Flow/Train Pers	21	01FEB99*	01MAR99	0.00	2
00160	ID Params/Values/Define Sources/Derive Values	55	15FEB99*	30APR99	0.00	2
00165	Prepare Metadata Package	66	29MAR99*	30JUN99	0.00	2
00170	Review and Concurrence	55	07JUN99*	20AUG99	0.00	2
00175	Prepare Database Entry for TDMS	25	09AUG99*	10SEP99	0.00	2
00180	Entry in Run Controlled SMS	25	09AUG99*	10SEP99	0.00	2
00182	Process Verified and Compliant	0		24JUN99	0.00	2
Net Infiltration/Surface Infiltration STEP 6						
00185	Net Infiltration/Surface Infiltration	130	01FEB99*	30JUL99	624,000.00	1
00190	Prep Wrins Disp/ID Data Flow/Train Pers	17	01FEB99*	23FEB99	0.00	2
00195	ID Params/Values/Define Sources/Derive Values	49	15FEB99*	22APR99	0.00	2
00200	Prepare Metadata Package	55	05APR99*	18JUN99	0.00	2
00205	Review and Concurrence	49	10MAY99*	15JUL99	0.00	2
00210	Prepare Database Entry for TDMS	22	01JUL99*	30JUL99	0.00	2
00215	Entry in Run Controlled SMS	22	01JUL99*	30JUL99	0.00	2
00217	Process Verified and Compliant	0		30JUL99	0.00	2
UZ Drift Scale Flow/Seepage Model STEP 7						
00220	UZ Drift Scale Flow/Seepage Model	85	01FEB99*	28MAY99	612,000.00	1
00225	Prep Wrins Disp/ID Data Flow/Train Pers	11	01FEB99*	15FEB99	0.00	2



Early Bar
Progress Bar
Critical Activity

Proposed QA Compliance Schedule
as of 27 Jan99 @ 8:00am
Attachment 4

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Budgeted Cost	EX
00230	ID Params/Values/Define Sources/Deriv of Values	30	10FEB99*	23MAR99	0.00	2
00235	Prepare Metadata Package	37	22MAR99*	11MAY99	0.00	2
00240	Review and Concurrence	30	12APR99*	21MAY99	0.00	2
00245	Prepare Database Entry for TDMS	15	10MAY99*	28MAY99	0.00	2
00250	Entry to Run Controlled SMS	15	10MAY99	28MAY99	0.00	2
00252	Process Verified and Compliant	0		28MAY99	0.00	2
SZ Site Scale Flow & Transport Model STEP 8						
00255	SZ Site Scale Flow & Transport Model	150	01FEB99*	27AUG99	720,000.00	1
00260	Prep Wrtng Disc/ID Data Flow/Train Pars	20	01FEB99*	26FEB99	0.00	2
00265	ID Params/Values/Define Sources/Deriv of Values	52	10FEB99*	22APR99	0.00	2
00270	Prepare Metadata Package	64	29MAR99*	24JUN99	0.00	2
00275	Review and Concurrence	50	17MAY99*	23JUL99	0.00	2
00280	Prepare Database Entry for TDMS	35	12JUL99*	27AUG99	0.00	2
00285	Entry to Run Controlled SMS	35	12JUL99	27AUG99	0.00	2
00287	Process Verified and Compliant	0		27AUG99	0.00	2
UZ Drift Scale Thermo Hydrology Model STEP 9						
00290	UZ Drift Scale Thermo Hydrology Model	130	01FEB99*	30JUL99	624,000.00	1
00295	Prep Wrtng Disc/ID Data Flow/Train Pars	17	01FEB99*	23FEB99	0.00	2
00300	ID Params/Values/Define Sources/Deriv of Values	49	10FEB99*	19APR99	0.00	2
00305	Prepare Metadata Package	55	29MAR99*	11JUN99	0.00	2
00310	Review and Concurrence	49	03MAY99*	08JUL99	0.00	2
00315	Prepare Database Entry for TDMS	32	17JUN99*	30JUL99	0.00	2
00320	Entry to Run Controlled SMS	32	17JUN99	30JUL99	0.00	2
00322	Process Verified and Compliant	0		30JUL99	0.00	2
NF Chemical Water Composition Model STEP 10						
00325	NF Chemical Water Composition Model	110	01MAR99*	30JUL99	352,000.00	1
00330	Prep Wrtng Disc/ID Data Flow/Train Pars	15	01MAR99*	19MAR99	0.00	2
00335	ID Params/Values/Define Sources/Deriv of Values	36	10MAR99*	30APR99	0.00	2
00340	Prepare Metadata Package	47	29MAR99*	01JUN99	0.00	2
00345	Review and Concurrence	38	03MAY99*	23JUN99	0.00	2
00350	Prepare Database Entry for TDMS	22	01JUL99*	30JUL99	0.00	2



Project Start 01JAN98
Project Finish 06JUL01
Data Date 01OCT98
Run Date 27JAN99

Early Bar
Progress Bar
Critical Activity

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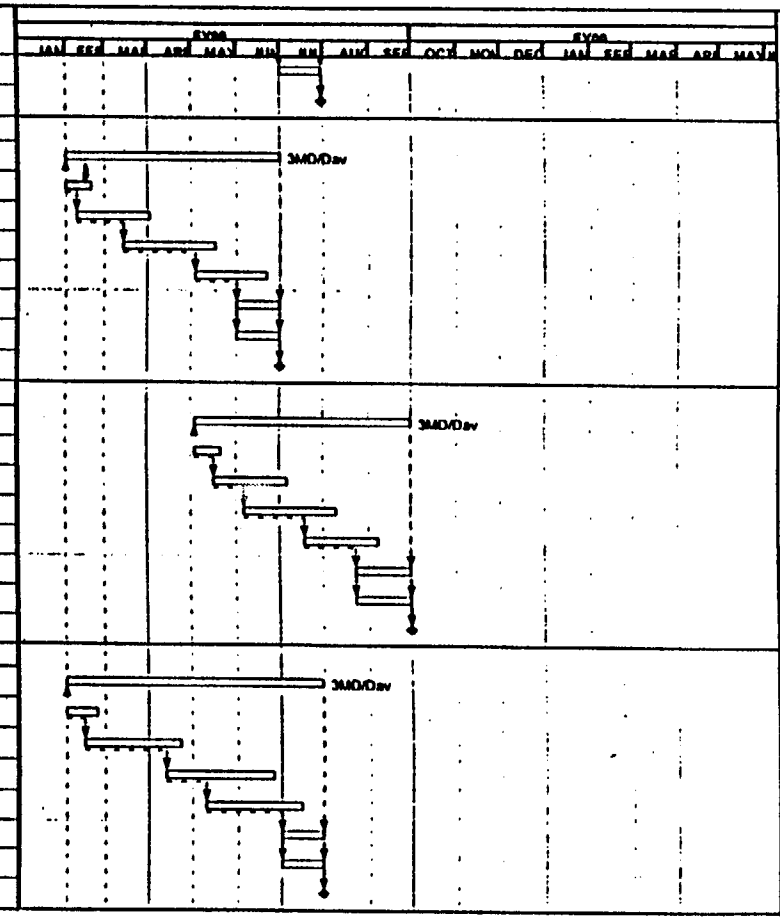
Proposed QA Compliance Schedule
as of 27 Jan99 @ 8:00am
Attachment 4

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Budgeted Cost	EX
00355	Entry to Run Controlled SMS	22	01JUL99	30JUL99	0.00	2
00357	Process Verified and Compliant	0		30JUL99	0.00	2
NFIAZ Radionuclide Retardation Solu Model	STEP 11					
00360	NFIAZ Radionuclide Retardation/ASB Solu Model	108	01FEB99*	30JUN99	258,200.00	1
00365	Prep Wrine Disc/ID Data Flow/Train Pers	15	01FEB99*	19FEB99	0.00	2
00370	ID Params/Values/Define Sources/Deriv of Values	37	10FEB99*	01APR99	0.00	2
00375	Prepare Metadata Package	46	15MAR99*	17MAY99	0.00	2
00380	Review and Concurrence	37	03MAY99*	22JUN99	0.00	2
00385	Prepare Database Entry for TDMS	22	01JUN99*	30JUN99	0.00	2
00390	Entry to Run Controlled SMS	22	01JUN99	30JUN99	0.00	2
00392	Process Verified and Compliant	0		30JUN99	0.00	2
Coupled THM Model	STEP 12					
00400	THM Coupled Model	109	03MAY99*	30SEP99	261,600.00	1
00405	Prep Wrine Disc/ID Data Flow/Train Pers	15	03MAY99*	21MAY99	0.00	2
00410	ID Params/Values/Define Sources/Deriv of Values	37	17MAY99*	08JUL99	0.00	2
00415	Prepare Metadata Package	46	07JUN99*	09AUG99	0.00	2
00420	Review and Concurrence	37	19JUL99*	07SEP99	0.00	2
00425	Prepare Database Entry for TDMS	29	23AUG99*	30SEP99	0.00	2
00430	Entry to Run Controlled SMS	29	23AUG99	30SEP99	0.00	2
00432	Process Verified and Compliant	0		30SEP99	0.00	2
GEMBOCHs & EQ3/6	STEP 13					
00437	GEMBOCH & EQ3/6	130	01FEB99*	30JUL99	312,000.00	1
00450	Prep Wrine Disc/ID Data Flow/Train Pers	17	01FEB99*	23FEB99	0.00	2
00455	ID Params/Values/Define Sources/Deriv of Values	49	15FEB99*	22APR99	0.00	2
00460	Prepare Metadata Package	55	12APR99*	25JUL99	0.00	2
00465	Review and Concurrence	49	10MAY99*	17JUL99	0.00	2
00470	Prepare Database Entry for TDMS	22	01JUL99*	30JUL99	0.00	2
00475	Entry to Run Controlled SMS	22	01JUL99	30JUL99	0.00	2
00480	Process Verified and Compliant	0		30JUL99	0.00	2



Early Bar
Progress Bar
Critical Activity

Proposed QA Compliance Schedule
as of 27 Jan99 @ 8:00am
Attachment 4

DRAFT- Enclosure 3: Crosswalk from CR 99-00 to Proposed Licensing Support Reports-DRAFT

	Existing CR99-003 M3 Milestones				Proposed New Reports							
	ID No.	Ti	Due Date	Status / Work Package	Int. Site Model July 1999	UZ F&T Model March 2000	SZ F&T Model April 2000	NFE Models March 2000	Site Description February 2000	Disrupt. Events* June 2001	Natrl Resources June 2001	Comments / Recommended Action
FY98	SP23GM3	Natural Resources Final Report	02-Jun-97	rejected							1	A
	SP39B2M3	Predictive Report for USW SD-6 Borehole	29-Aug-97	rejected								A
	SP24IM3	Seismic Design Inputs for a Geol. Repos. At YM	25-Feb-98	in review DOE						1		A
	SPG28LM3	Deterministic Evals for Type 1 faults at YM	19-Dec-97	in review DOE						1		A
	SP39B3M3	Analysis of Predictions for USW WT-24 Borehole	14-Aug-98	Incomplete								A
	SPG720M3	Report: Geodetic Network Survey	18-Sep-98	in review DOE								Will complete
	SP3CKJM3	Update UZ Hydrologic Flow Model	30-Sep-98	Relief Ltr pending		0						A
	SP33PBM3	Fracture Flow & Seepage testing in ESF	31-Mar-99	Relief Ltr pending		0						A
FY99	SPQ301M3	Rpt: R1 Draft EBF Geology/Hydrology	23-Dec-98	14016105M2								Completed
	SP3515M3	Ghost Dance Fault Data Pkg and Testing Report	30-Mar-99	81912025U1								In USGS review, will complete
	SPG258M3	Preliminary Geologic Map for SZ Site Area	05-Mar-99	81912210U1								In USGS review, will complete
	SPG630M3	Submit UZ-7a & UZ-14 Rpt for Director's Approval	15-Mar-99	81912210U1	0							A
	SPQ303M3	Rpt: R1 EBF Geology/Hydrology	23-Mar-99	14016105M2								Will be completed to support EIS
	SP32K5M3	Rpt: Integrated Site Model 3 0 Report	31-Mar-99	14012210M1								A
	SPG42GM3	Geo/Geotech Data Im X-Block Drift Project	31-Mar-99	81912050U2	0				0			A
	SP32E1M3	Rpt: Prow Pass Reactive Tracer Test	01-Apr-99	14012029M1			0					A
	SP3120M3	Rpt: Single Heater Test Final Report (L3)	14-Apr-99	14012270M1				0				A
	SP32P4M3	Rpt: ISM3.1 Addendum to ISM3.0 report	28-May-99	14012210M1	0							A
	SP327KM3	Rpt: Prelim WHB Geotechnical Rpt	28-May-99	14012210M3								A
	SP9904M3	Rpt: Final LBT Report	12-Aug-99	14012033M1				0				Will complete to support SFO
	SP399CM3	Rpt: NF/AZ Environment Rpt Volume 1, Rev 2	30-Aug-99	14012035M2				0				A
	SPQ224M3	Rpt: R1 Seismic Design Basis Inputs	31-Aug-99	14016105M2						1		A
	SP3880M3	Rpt: Drift Scale Test Progress Report #2	29-Sep-99	14016107M2				0				A
	SPG452M3	Report: Geometry & Chars of Fault Zones at YM	30-Sep-99	81912210U1	1				0			A
	SPG640M3	Report. Correlation of Litho & Geophysical Data	30-Sep-99	81912210U1	1							A
FY00	SPB183M3	Rpt: Natural Analogue Synthesis report for LA	19-Oct-99	14016105M4		0	0	0				A
	SP33K2M3	Rpt: Subsurf Dist of Natural, Bomb-Pulse Radion	15-Dec-99	14012052ZP		0						A
	SP243M3	Rpt: NF/AZ Models Rpt Rev 1	19-Jan-00	14012253ZL				0				A
	SP33K3M3	Rpt; Ambient Drift Scale Model for SR	31-Jan-00	14012027ZP		0						A
	SP3538M3	UZ F&T Model for SR	18-Jan-00	14012027ZM		0						A
	SPB310M3	Rpt: Natural Analogues for Perform Confirm	31-Mar-00	14016105ZP		1	1	1				A
	SPQ317M3	Rpt: R1 YMSD	03-Apr-00	14016105ZM					0			A
	SPV248M3	Rpt: SZ F&T Model for SR	28-Jan-00	14012031ZL			0					A
	SP33T9M3	Rpt: Moisture Monitoring & Plume Evaluation	31-Aug-00	14012052ZP		1						A
	SPC315M3	Rpt: Dyn/Static Testing for FF Seepage & Pondage	29-Sep-00	14012052ZP		1						A
	SP3882M3	Rpt: Drift Scale Test Report to LA	29-Sep-00	14016107ZM				1				A
	SP45JM3	UZ Update Model for LA	29-Sep-00	14018607ZM								A
FY01	SPU80M3	Rpt: Summ/Synth Geochem Lab & Transport Tst	06-Oct-00	1401860SZ2					1			A
	SP3489M3	Rpt: Busted Butte LA Results	12-Dec-00	1401860SZ2		1						A
	SPL505M3	NF/AZ Models Report Rev 2	28-Feb-01	1401861SZ1				1				A
	SP3883M3	Rpt: Drift Scale Test Progress Report #4	28-Sep-01	1401612OZ2				1				A
	SP45KM3	UZ Site Flow & Transp.Model	28-Sep-01	1401860TZ2		1						A

* NEPO responsibilities for disruptive events includes PVHA & PSHA only.

0 - Indicates data and analyses will be incorporated into one or more of the proposed new reports in time to support TSPA-SR r0. Existing M3 (CR99-003) will be deleted.

1 - Indicates data and analyses will be incorporated into one or more of the updated proposed new reports in time to support TSPA-LA r2. Existing M3 (CR99-003) will be deleted.

A. Discontinue work on these reports; submit existing data as appropriate to DMS; refocus future work on preparation of the PMRs; delete Level 3 deliverable requirements from ba

Reference 2

Letter OPS:NSG-0814, J.J. Adams to D.R.Wilkins, Request for Approval to Upgrade Plans for Addressing High Priority Tasks, dated February 12, 1999.

Department of Energy
Office of Civilian Radioactive Waste Management
Yucca Mountain Site Characterization Office
P.O. Box 30307
North Las Vegas, NV 89036-0307

FEB 12 1999

QA: N/A

D. R. Wilkins
Acting President and General Manager
TRW Environmental Safety Systems, Inc.
1261 Town Center Drive, M/S 423
Las Vegas, NV 89134-6352

REQUEST FOR APPROVAL TO UPGRADE PLANS FOR ADDRESSING HIGH PRIORITY TASKS

Your letter of February 9, 1999 requested approval to implement changes to address redefining and focusing your work efforts including quality assurance deficiencies and improve process validation and reengineering activities at the Civilian Radioactive Waste Management System Management and Operating Contractor. In general, we believe the proposed approach will benefit the program, but we are not yet prepared to approve deletion of Level 3 deliverables. Instead, you are hereby granted a two-week extension for the specific Level 3 deliverables that are proposed for deletion. You are also authorized to begin the interim work identified in your February 9, 1999 letter on condition that you also provide Yucca Mountain Site Characterization Office (YMSCO) with a detailed plan, including final cost and schedule, for the proposed Change Request, no later than February 26, 1999. The plan must also include a justification for the proposed deletion of each Level 3 deliverable. In addition, your plan should provide how you would propose to provide assurance to YMSCO as to the progress and adequacy of Process Model Reports being developed.

In addition, we wish to provide the enclosed comments. These comments need to be discussed and resolved with YMSCO staff between now and February 26, 1999, such that your plan incorporates resolution of these concerns.

No decisions regarding additional funding will be made until YMSCO has evaluated the plan requested above.

Jerri J. Adams
Contracting Officer

OPS:NSG-0814

YMP-5

Enclosures:
1. Comments on Wilkins to Dyer letter, dated February 9, 1999
2. Agreements Reached

cc w/encls:
Richard Toft, MTS, Las Vegas, NV
J. N. Bailey, M&O, Las Vegas, NV
J. K. Clark, M&O, Las Vegas, NV, Room 407
E. J. McDonnell, M&O, Las Vegas, NV
C. J. Nesbitt III, M&O, Las Vegas, NV
R. G. Vawter, M&O, Las Vegas, NV
J. L. Younker, M&O, Las Vegas, NV
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J. M. Replogle, DOE/YMSCO, Las Vegas, NV
S. L. Rives, DOE/YMSCO, Las Vegas, NV
R. E. Spence, DOE/YMSCO, Las Vegas, NV
V. W. Trebules, Jr., DOE/YMSCO, Las Vegas, NV
M. E. Van Der Puy, DOE/YMSCO, Las Vegas, NV
D. R. Williams, DOE/YMSCO, Las Vegas, NV
Records Processing Center = "3"

COMMENTS ON WILKINS TO DYER LETTER DATED FEBRUARY 9, 1999

1. We agree in principal to the concept of development of the Process Model Reports (PMR). The government needs assurance that the data originally intended to be contained in the proposed canceled deliverables is in fact included in the PMRs with appropriate quality and traceability pedigrees or if not included, the reason for not including. However, you should develop a strategy and schedule that includes periodic reporting on the progress of putting the Technical Data directly into the TDMS. This could be in the form of draft PMR chapters or sets of chapters for DOE's review.

2. The proposed incorporation of technical data directly into the Technical Data Management System, Model Warehouse and Software Library without benefit of level three deliverables is not objectionable. No direct prerequisite for a Level 3 to do this was ever intended. The level three's were intended to provide rollups of data and analyses such that other labs and team mates could use them, the government could measure progress and our constituencies could see early results of our work.

3. The proposed work at the ECRB and SD-6 should be pursued only if data collection and analysis continues and does not impact other major field projects. (Since we have authorized early starts on both of these activities, this determination needs to be made quickly.) This includes Busted Butte, SZ testing in support of Nye County, and the thermal testing program. The detailed scope and schedules should provide these assurances.

4. The proposed time line for creating this effort appears to be appropriate. The scope and schedules will need to be prepared to an appropriate level of detail to provide confidence in the execution and completion of this planned approach.

5. Past fiscal year deliverables should be submitted with acceptable content in accordance with the deliverable acceptance criteria.

6. Current fiscal year reports, such as borehole reports (i.e., SPG 630M0), should be completed because they contain basic geologic and operational information that is not conducive to incorporation into PMRs.

7. No specific deliverable can be deleted until we have detailed assurances that the scope and schedule of the PMRs is complete and will satisfy the requirements of the site recommendation and License Application.

8. We would need rationale prior to considering deletion of RPA 256M3. Based on the highly prioritized principal factors, specifically seepage into drifts and corrosion of the waste package, this deliverable should be very important.

9. Without Chapter 3 and Chapter 8 of the Working Draft License Application (WDLA), how can you consider the document a working draft of the LA? It is suggested you rename the deliverable so as not to imply that a working draft of the LA is being prepared.

10. Under Support Operations, there were three deliverables identified for deletion. You will need to have discussions and provide rationale for deletion of these deliverables.

11. Under Support Operations, there were five deliverables identified to review to determine if alternate documentation methods improve efficiency. Without appropriate and adequate justification, we recommend these deliverables remain as they are. Some of these have been directed either by the Department or by law to be implemented.

12. You indicated using a draft Table of Contents (TOC) for the proposed PMRs to allow you to further focus attention on the data, models and codes that need to be fully traceable and transparent to support the Site recommendation and License Application. When would you propose sharing these draft TOCs with YMSCO?

13. The proposed changes must fully document and support the deletion or delay of work and refocus of other efforts in scope, schedule and cost.

14. In addition to working with the YMSCO staff, you should include the OQA in appropriate discussions and meetings.

15. Included is a brief set of questions and concerns dated February 8, 1999, from the Office of Licensing and Regulatory Compliance. Please assure these items, if not included specifically above, are addressed during the next two weeks.

February 8, 1999 Q.A. Discussion: OLRC

Agreements Reached

1. It is of utmost importance to fix the problem.

2. Presentation Sufficiency Questions.

Unknown: How long?
How much?
QA criteria/process.
PMR process.
What work is deferred?
Data needs SR/LA.
Crosswalk on commitments.

Concerns: Concern on sufficiency of resources.
~Won't be done this year.
~Interpretation question—May need level 3 deliverables.
~Impact on current LA strategy unknown. Implies a different strategy. Topical Reports—2 years start to finish.
~Need more QA assistance.
~Concern on whether the M&O has knowledge and commitment and will provide the oversight to preclude recurrence.
~Need to inform lower levels of the problem.
~Public Affairs need to provide support to deal with external issues.
~Some new work is an essential and should not be deferred, i.e., Calico Hills and SZ models are not sufficient—need new data rather than fix old models.
~Perhaps we should focus on new models with the right vigor rather than a top to bottom review of VA models which may be out-dated.

Reference 3

Letter L.V.PP&C.CJN.2/99-021, C.J. Nesbitt to J.R. Dyer, Response to U.S. Department of Energy (DOE) Letter, dated February 12, 1999, Request for Approval to Upgrade Plans for Addressing High Priority Task, dated March 4, 1999.

W Environmental
sty Systems Inc.

1261 Town Center Drive
Las Vegas, NV 89134
702.295.5400

QA: N/A

Contract #: DE-AC08-91RW00134
LV.PP&C.CJN.2/99-021

March 4, 1999

J. R. Dyer, Project Manager
U.S. Department of Energy
Yucca Mountain Site
Characterization Office
P.O. Box 30307
North Las Vegas, Nevada 89036-0307

Dear Dr. Dyer:

Subject: Response to U.S. Department of Energy (DOE) Letter, dtd. February 12, 1999, Request for Approval to Upgrade Plans for Addressing High Priority Tasks

As directed in the referenced letter, the Civilian Radioactive Waste Management System (CRWMS) Management and Operating Contractor (M&O) has initiated interim work that will be reflected in a future Change Request, pursuant to Yucca Mountain Site Characterization Office (YMSCO) guidance.

This letter provides information that we hope will be useful as you develop guidance for our replanning effort. The M&O is committed to developing the Baseline Change Request and submitting the necessary paperwork four weeks after receipt of your guidance. In the same time frame, we also plan to develop Change Requests for SD-6, for new work in the cross-drift, and for additional waste package materials testing.

Included in this letter are updated, yet still preliminary, schedules and estimates of the costs to refocus the Fiscal Year 1999 (FY99) M&O work plan on high priority tasks that are essential for developing the documentation and traceability for the Site Recommendation (SR) and License Application (LA). Although you requested that we provide final cost and schedule by February 26, 1999, we are unable to do so at this time because Tiger Team and Process Model Report activities, which will ultimately define the full scope of our efforts, have not been completed. We have, however, been able to refine our FY99 cost estimates and anticipate narrowing the uncertainties by the time the formal Change Request is submitted.

You will note that our earlier claims that we would gain substantial "credits" for deletion of Level 3 Deliverables, deferral of work, and other efficiencies has not been supported after more detailed analyses. The reason for this appears to be three-fold: 1) reluctance to eliminate or defer work scope due to potential impacts on major milestones; 2) recognition that preparation of the AP-3.10Q Analyses and Models documents that are the building blocks for the Process Model Reports will require substantially more effort than in our original concepts for these Reports; and, 3) inadequate definition of upgrades to the Technical Information Management System that are needed to place controls on data, models and codes that are used for SR and LA.

The enclosure to this letter contains the M&O's responses to the comments in your February 12, 1999, letter. Additional information is provided in eight attachments to the enclosure.

The goal of this replanning effort is to focus our work activities on resolving important quality deficiencies and developing and implementing a more efficient set of work control processes. The ultimate objective is to ensure that we have a credible, defensible technical basis for SR/LA. You will note in Attachment 1 that impacts of this reprioritization include delays in analysis of data and upgrades to some process models. In some cases, bounding analyses will replace more uncertain aspects of process models. We recognize that concerns have been raised that deviations from the work scope defined in Volume 4 (License Application Plan) of the Viability Assessment will be viewed as weakening the basis for the SR/LA. While this is a valid concern, we believe the value of strengthening the traceability and transparency of the technical basis for the SR/LA far outweighs the risks of proceeding with uncertainties in some aspects of site and engineering performance. The safety case that is developed for SR/LA will need to explicitly address these uncertainties.

We look forward to your guidance and are ready to begin work on the Change Request immediately. In an effort to ensure good communications and timely disposition, we propose that our key managers brief you and your designated staff at the soonest available opportunity on the details of this letter.

If you have further questions, please call me at 295-5143.

Sincerely,

Jean L Younker for

Daniel R. Wilkins, Assistant General Manager
Monitored Geologic Repository
Management and Operating Contractor

DRW/cw

Enclosure:
Responses to Comments
- Attachment #1 - Deliverable Table and Impact Assessment Summary
- Attachment #2 - Schedule
- Attachment #3 - Schedule Activity Descriptions
- Attachment #4 - Cost Estimate
- Attachment #5 - Description of Process Model Report Concept
- Attachment #6 - Annotated Table of Contents/Outline, Process Model Report (Typical)
- Attachment #7 - Model and Analysis Hierarchy Example
- Attachment #8 - Response to Questions and Concerns from Office of Licensing and Regulatory Compliance

cc w/encls:
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cc e/encls: (continued)
M. D. Voegele, M&O, Las Vegas, NV, M/S 423
H. C. White, DOE/YMSCO, Las Vegas, NV, M/S 523
C. A. Willard, M&O, Las Vegas, NV, M/S 423
J. L. Younker, M&O, Las Vegas, NV, M/S 423
RPC = 43 pages

Enclosure to March 4, 1999 ltr., Wilkins to Dyer

RESPONSES TO COMMENTS IN DOE'S LETTER OF FEBRUARY 12, 1999

COMMENT #1 (Main body of DOE letter)
"The plan must also include a justification for the proposed deletion of each deliverable "

RESPONSE: The M&O has prepared a detailed response covering each deliverable. Attachment #1 contains the matrix of affected deliverables and workscope and our recommended disposition.

COMMENT #2 (Main body of DOE letter)
"In addition, your plan should provide how you would propose to provide assurance to YMSCO as to the progress and adequacy of Process Model Reports (PMRs) being developed "

RESPONSE: Preparation of Process Model Reports will require a significant amount of integration among the M&O Operations and between the M&O and DOE. In order to assure visibility and timely reporting of progress, we have established a reporting structure that aligns with our Product/Sub-Product configuration. Process Model Reports will be managed as one of the Sub-Products to the License Application, with each Process Model Report produced as a specific Sub-Product Element, as shown below.* This process will also be coordinated with the Site Recommendation schedule.

Product	Sub-Product	Sub-Product Element *
LA	Process Model Reports	1. Integrated Site Model (ISM 3.1) 2. Unsaturated Zone Flow and Transport 3. Saturated Zone Flow and Transport 4. Near Field Environment 5. Waste Package Degradation 6. Waste Form Degradation 7. Engineered Barrier System Degradation and Flow/Transport Model 8. Biosphere

We propose to conduct joint DOE/M&O status meetings every two weeks to assist in the integration and resolution of issues. These meetings, which will be initiated after DOE approves the Change Request, will be conducted by the M&O LA Product Manager and the Process Model Report Sub-Product Manager. The frequency of these status meetings will be adjusted depending on the progress of the efforts.

COMMENT #3 (DOE Enclosure item #1)
"The government needs assurance that the data originally intended to be contained in the proposed cancelled deliverables is in fact included in the PMRs with the appropriate quality and traceability pedigrees or, if not included, the reason for not including. However, you should develop a strategy and schedule that includes periodic reporting on the progress of putting the

* These Sub-Product Elements will be at the same level for reporting purposes as the current PSS activities.

technical data directly into the Technical Data Management System (TDMS). This could be in the form of draft PMR chapters or sets of chapters for DOE's review "

RESPONSE: A tabulation of the deliverables that have been proposed for cancellation with correlations to PMRs is provided in Attachment #1. The strategy for developing PMRs is embedded in the schedule logic for each of the eight (8) proposed PMRs and is provided in Attachment #2; an explanation for each of the scheduled activities is provided in Attachment #3. A concept for tracking and reporting progress was described in our response to comment #2 above.

COMMENT #4 (DOE Enclosure item #2)
"The proposed incorporation of technical data directly into the Technical Data Management System, Model Warehouse and Software Library without benefit of level 3 deliverables is not objectionable. No direct prerequisite for a level 3 to do this was ever intended. The level three's were intended to provide rollups of data and analyses such that other labs and teammates could use them, the government could measure progress and our constituents could see early results of our work "

RESPONSE: We expect data, models and codes to be obtained from controlled sources to ensure traceability and revision control for all documents supporting the Site Recommendation and License Application. The current concept for the "Model Warehouse" is a compilation of AP-3.10Q Analyses and Models. These analyses and models are documented and controlled according to the AP-3.10Q procedure.

COMMENT #5 (DOE Enclosure item #3)
"The proposed work at the ECRB and SD-6 should be pursued only if data collection and analysis continues and does not impact other major field projects. (Since we have authorized early starts on both of these activities, this determination needs to be made quickly). This includes Busted Butte, SZ testing in support of Nye County, and the thermal-testing program. The detailed scope and schedules should provide these assurances "

RESPONSE: Field schedules for ECRB construction/drilling/testing and surface-based drilling/testing have been coordinated, and these activities will have no impact on other field construction or data collection activities during the remainder of FY99 and FY00. Working schedules for the ECRB and SD-6 are being developed and can be shared with your staff. Integration in FY01 and beyond would be a part of the annual update of the program in those out-years.

During preparation of more detailed working schedules, a window of opportunity was identified on the schedule for aquifer testing at SD-6. While aquifer testing is conducted, the drilling crew could be used for a month to breakdown the test bed at the c-wells complex. This will allow recovery of downhole instrumentation and allow for closing calibrations. We propose that this extra, minimal effort be added to the SD-6 CR. If the breakdown at c-wells was not approved, we would have to locate work elsewhere for the drillers during the active aquifer testing at SD-6. During this period, we still need full time availability in case a need arises, but normally, minimal labor support is necessary.

Data collection activities in the ECRB and SD-6 will have minimal impact on other ongoing activities, including the focused work on quality assurance deficiencies and PVAR. For the USGS, subcontractors and technicians would collect the data. USGS staff would not analyze the data collected until they are released from the higher priority activities. Staff from LBNL would also delay any analysis until the tiger team traceability efforts are complete.

The M&O has initiated preparation of Change Requests for SD-6 and ECRB testing and will be coordinating them with the Quality Assurance refocus effort during the month of March 1999.

COMMENT #6 (DOE Enclosure item #4)
"The proposed time line for creating this effort appears to be appropriate. The scope and schedules will need to be prepared to an appropriate level of detail to provide confidence in the execution and completion of this planned approach "

RESPONSE: We have prepared schedules for this effort as identified in the response to Comment #3. When guidance to proceed is received, we will further develop the logic to show discrete activities, such as individual 3.10Q analyses, feeding each PMR. This schedule will be part of the CR submission.

COMMENT #7 (DOE Enclosure item #5)
"Past fiscal year deliverables should be submitted with acceptable content in accordance with the deliverable acceptance criteria "

RESPONSE: We concur with this comment and will submit deliverables per prescribed acceptance criteria. Any exceptions are addressed in Attachment #1.

COMMENT #8 (DOE Enclosure item #6)
"Current fiscal year reports, such as borehole reports (i.e. SPG 630M0), should be completed because they contain basic geologic and operational information that is not conducive to incorporation into PMRs "

RESPONSE: The report in question is mislabeled as SPG630M0 - it should be labeled as SPG630M3. This deliverable does not appear in Attachment #1 and USGS will complete this deliverable as planned.

COMMENT #9 (DOE Enclosure item #7)
"No specific deliverable can be deleted until we have detailed assurances that the scope and schedule of the PMRs is complete and will satisfy the requirements of the Site Recommendation and License Application "

RESPONSE: The table in Attachment #1 and schedule in Attachment #2 provide the general logic from data verification and traceability through PMR development with links to SR and LA.

COMMENT #10 (DOE Enclosure item #8)
"We would need rationale prior to considering deletion of RPA256M3. Based on the highly prioritized principal factors specifically seepage into drifts and corrosion of the waste package, this deliverable should be very important."

RESPONSE: The scope for this deliverable RPA256M3 was to prepare a report that documented the results of laboratory tests and the tests performed in the EBS test facility for the determination of water movement through emplacement drifts at Yucca Mountain. The tests are being performed in accordance with appropriate quality assurance procedures. The conduct of the tests is being documented in scientific notebooks. The data generated by these tests are being submitted, following data submittal procedures, to the Technical Database Management System (TDMS) where they can be traced using their data tracking number (DTN).

This deliverable would have compiled test results (already transmitted to the TDMS) into a single document. A deliverable report would contain no new information beyond that previously submitted to the TDMS. All analyses and modeling that uses these data will be conducted under AP-3.10Q. Upon completion of testing, a letter documenting that test results have been transmitted to the TDMS will be sent to DOE in lieu of RPA256M3.

COMMENT #11 (DOE Enclosure item #9)
"Without Chapter 3 and Chapter 8 of the Working Draft License application (WDLA), how can you consider the document a working draft of the LA? It is suggested that you rename the deliverable so as not to imply that a working draft of the LA is being prepared."

RESPONSE: The new name for the deliverable will be Working Draft License Application Outline (WDLAO). This has been discussed with and agreed to by the YMSCO Assistant Manager for Licensing and Regulatory Compliance and the LA Team Lead.

COMMENT #12 (DOE Enclosure item #10)
"Under Support Operations, there were three deliverables identified for deletion. You will have to have discussions and provide rationale for deletion of these deliverables."

RESPONSE: Deliverable BM205IM3 (CRWM Internet/Intranet Guidelines) was completed and accepted by the Document Control Center on February 23, 1999. Deliverable BM203AM3 (Complete Implementation of Public Access) is a certification letter not subject to YAP-30.12 review. Deliverable BM207BM3 (Update and Re-Issue the Computer Protection Program Plan) is required by DOE Order 1360.2B and is not subject to YAP-30.12 review. Upon further analysis, including discussions with the client, it has been determined that no cost savings would be achieved by changing the status of these deliverables. They are recommended to remain as Level 3 Deliverables.

COMMENT #13 (DOE Enclosure item #11)
"Under Support Operations, there were five deliverables identified to review to determine if alternate documentation methods improve efficiency. Without appropriate and adequate justification, we recommend these deliverables remain as they are. Some of these have been directed either by the Department or by law to be implemented."

RESPONSE: Deliverable BM205NM3 (Y2K Certification Letter for OCRWM Systems) is a simple certification letter not subject to YAP-30.12 review. Similarly, Deliverables BM207CM3 (Planning Procedure for IT Capital Investments); BM207DM3 (IT Architecture Baseline Document); and BM205OM3 (Year 2000 Business Continuity Plan) are not subject to YAP-30.12 reviews. Finally, deliverable BM2071M3 (IT Investment Portfolio for FY 2000) is required by the Clinger-Cohen Act and is not subject to YAP 30.12 review. Upon further

analysis, including discussions with the client, it has been determined that no cost savings would be achieved by changing the status of these deliverables. They are recommended to remain as Level 3 Deliverables.

COMMENT #14 (DOE Enclosure item #12)
"You indicated using a draft Table of Contents (TOC) for the proposed PMRs to allow you to further focus attention on the data, models and code that need to be fully traceable and transparent to support the Site Recommendation and License Application. When would you propose sharing these TOCs with YMSCO?"

RESPONSE: A generic annotated TOC is provided in Attachment #6. All Process Model Reports will have a similar format, and as the schedules in Attachment #2 show, a more detailed TOC will be developed for each Process Model Report as one of the first activities. These TOCs will provide format and content information that is specific to each Process Model Report.

COMMENT #15 (DOE Enclosure item #13)
"The proposed changes must fully document and support the deletion or delay of work and refocus on other efforts in scope, schedule and cost."

RESPONSE: We have provided information in Attachments #1 through #3 documenting the deletion, delay or modification of baseline work scope; general schedules for data verification and traceability; PVAR; corrective actions; and PMR development. We have provided additional fidelity in the preliminary cost estimate that will be further refined in the upcoming CR. The current estimate for this effort is provided in Attachment #4.

COMMENT #16 (DOE Enclosure item #14)
"In addition to working with the YMSCO staff, you should include the OQA in appropriate discussions and meetings."

RESPONSE: We have included OQA in this replanning effort. As part of the ongoing coordination and integration, OQA has evaluated its internal support requirements to meet the milestones and commitments being developed by the M&O. OQA's evaluation indicates that an estimated $550 K of additional funding for FY99 is needed to support the M&O in the remediation and PVAR efforts. We will include more detailed backup as an attachment to our proposed CR to be submitted after receipt of your guidance. The backup will provide a definition of the additional scope and rationale for increased resource needs. For purposes of providing you with a total estimate of the costs of this replanning effort, the $550 K has been identified as a line item in Attachment #4.

COMMENT #17 (DOE Enclosure 2, dated February 8, 1999 titled: <u>Agreements Reached</u>)

RESPONSE: Enclosure 2 presents several questions and concerns that have already been addressed in one or more of our responses to comments #1 through #16 above, as well as some new ones. Attachment #8 provides a response to each of the questions and concerns raised. Where these questions or concerns have been addressed elsewhere in this transmittal, Attachment #8 directs the reader to that location.

ADDITIONAL INFORMATION, NOT DIRECTLY MAPPED TO DOE LETTER

1. PVAR:

We conducted an assessment of PVAR efforts remaining through the end of FY99. The assessment included requirements for PVAR Management, focused Subject Matter Expert (SME) support, procedure development and revision support, training and other implementation needs. It also included PVAR activities for a second set of administrative and support processes scheduled for completion prior to the end of this FY. The current approved budget does not cover the full scope of the proposed effort. We will include the rationale, scope and schedule for the additional effort in the upcoming CR. Attachment #4 provides the estimated increased cost for PVAR resulting from the assessment.

2. CAB (CORRECTIVE ACTION BOARD)

The CAB was not in our original work scope for FY 99. We have developed an estimate for the CAB function and a line item is provided for CAB in the Cost Estimate, Attachment #1.

3. WBS STRUCTURE

We recommend that YMSCO consider modifying the current WBS structure to incorporate a new Subproduct under the LA product titled "Process Model Reports." The M&O would then assign each of the eight (8) proposed PMRs to Subproduct Elements that would be at the same level as the current PSS activities. This approach would provide YMSCO detailed insight into the progress of cost and schedule for each PMR. This recommendation ties to our recommended approach to progress reporting provided in our response to Comment #2 above.

4. MODEL AND ANALYSIS HIERARCHY EXAMPLE

We have developed a model and analysis hierarchy example for the unsaturated zone, which is provided in Attachment #7. This hierarchy extends from the abstracted models used as inputs to TSPA, down to the process models, and ultimately to the data and software used to support the process model. This level of detail will be developed and provided in the detailed schedules that will be incorporated in the upcoming CR for all eight (8) proposed PMRs.

Attachment 1: Impacts to M&O and USGS FY99 Workscope and Deliverables Resulting from Refocus on High Priority Quality Assurance Initiatives

Account	Impacted Work	Deliverable	Deliverable Abbreviated Title	Deliverable Current Date	Planned Deliverable Disposition Under QA Refocus Initiative
NEPO					
2021 Design Alternatives	No impact	NA	NA	NA	NA
2025 Seepage/UZ Flow & Transport	No impact	None planned for FY99	NA	NA	NA
2027 UZ Flow & Transport	Inputs and improvements to mineralogy, THC, geostatistical and two and three dimensional radionuclide transport modeling delayed until FY00	None planned for FY99			
2029 SZ Data Collection and Analysis	No impact	SP32E1M3	Rpt: Prow Pass Reactive Tracer Test	01-Apr-99	Discontinue work on report, submit existing data to TDMS, incorporate test results directly into SZ PMR, delete Level 3 requirement from baseline.
2031 SZ Flow and Transport	Radionuclide transport model development and calibration process delayed by about 4 months	None planned for FY99	NA	NA	NA
2033 NFE Results to Support TSPA	Delay most planned work until final design selected. Focus restart on support of LA Design	SP9904M3	Rpt: Final LBT Report	12-Aug-99	Discontinue work on report, submit existing data to TDMS, incorporate test results directly into NFE PMR, delete Level 3 requirement from baseline.
2035 NF Results, Waste Package & EBS Transport	Same as above	None planned for FY99	NA	NA	NA
2253 NFE Data and Analysis Update	Same as above	SP399CM3 **PEMP 13-1**	Rpt: NF/AZ Environment rpt Volume 1, Rev 2	30-Aug-99	Discontinue work on report, submit existing data to TDMS, incorporate test results directly into NFE PMR, delete Level 3 requirement from baseline.
2050 Cross-drift Testing to Support LA	Defer detailed analysis of moisture monitoring data until FY00	None planned for FY99	NA	NA	NA
2210 Geologic Framework and Geoengineering	Accelerate data qualification supporting ISM model	SP32K5M3 **PEMP 13-1**	Rpt: Integrated Site Model 3.0 Report	31-Mar-99	Discontinue work on report, submit existing data to TDMS, refocus on preparation of PMR, delete Level 3 deliverable. Incorporate test results directly into ISM PMR. Due 29 Oct 99.

Account	Impacted Work	Deliverable	Deliverable Abbreviated Title	Deliverable Current Date	Planned Deliverable Disposition Under QA Refocus Initiative
		SPG42GM3	Geo/Geotech Data fm X-Block Drift Project	31-Mar-99	Discontinue work on report, submit existing data to TDMS, incorporate test results directly into ISM PMR, delete Level 3 requirement from baseline
		SP32P4M3	Rpt: ISM3.1 Addendum to ISM3.0 report	28-May-99	Discontinue work on report, submit existing data to TDMS, incorporate min/pet data from WT-24 and SD-6 into ISM PMR, delete Level 3 requirement from baseline.
		SPG640M3	Report: Correlation of Litho & Geophysical Data	30-Sep-99	Discontinue work on report, submit existing data to TDMS, incorporate test results directly into ISM PMR, delete Level 3 deliverable requirement from baseline.
2215 Data Analysis Update Seepage & UZ Flow and Transport (Busted Butte)	Defer some analysis and modeling until FY00; defer fault and fracture characterization until FY00	None planned for FY99	NA	NA	NA
2245 SZ Flow and Transport Investigation	Delay alluvium/geochem data analysis	None planned for FY99	NA	NA	NA
2270 Single Heater Test Cool Down	No Impact	SP3120M3	Rpt: Single Heater Test Final Report (L3)	14-Apr-99	Discontinue work on report, submit existing data to TDMS, incorporate test results directly into NFE PMR, delete Level 3 requirement from baseline.
6105 Support SR, WDLA, EIS, Technical Interactions, Closeout Activities	Reduced support to technical interactions; considerably reduced support to closeout activities; and eliminate support to Chapter 3 of WDLA	SPQ224M3	Rpt: R1 Seismic Design Basis Inputs	31-Aug-99	Incorporate data and results with FY98 report SP24IM3, combine SP24IM3 and SPQ224M3 into one report that will be completed 30 Sep 99.
6107 ST215 Drift Scale Heater Test	Reduce data analysis and reporting	SP3880M3	Rpt: Drift Scale Test Progress Report #2	29-Sep-99	Discontinue work on report, submit data to TDMS, incorporate test results directly into NFE PMR, delete Level 3 requirement from baseline.
7027 Performance Confirmation and Seismic and Water Level Monitoring	No Impact	None planned for FY99	NA	NA	NA

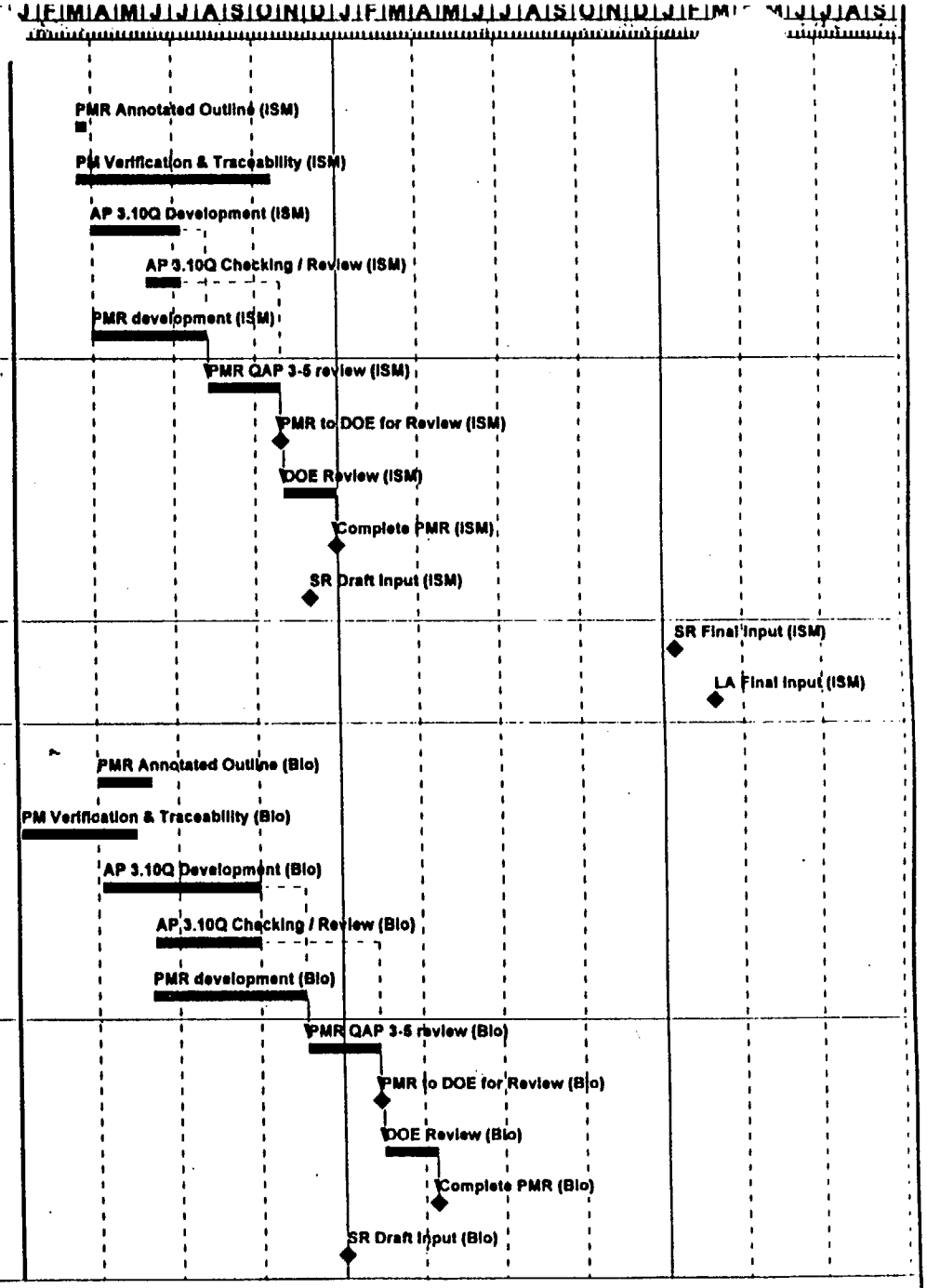
Account	Impacted Work	Deliverable	Deliverable Abbreviated Title	Deliverable Current Date	Planned Deliverable Disposition Under QA Refocus Initiative
8621 Test Coordination and Sample Management	TCO staff refocus support to data and document QA compliance, traceability and documentation	None planned for FY99	NA	NA	NA
9090 Site Investigation Base Support	Refocus additional base support efforts to support data and document QA compliance, traceability, and documentation	None planned for FY99	NA	NA	NA
Performance Assessment					
1122 TSPA-VA Documentation	No Impact	N/A	N/A	N/A	N/A
2021 Alternatives/Options Evaluation	No Impact	N/A	N/A	N/A	N/A
2186 Regulatory Support	No Impact	N/A	N/A	N/A	N/A
2175 Develop Abs/Test Disruptive Events	1. Several analyses activities identified in the VA (volume 3 and 4) and/or issues raised by the TSPA-VA Peer Review Panel will not be addressed in the SR Rev 0. Bounding analyses will replace more uncertain aspects of the process model .	N/A	N/A	N/A	N/A
	2. Some abstractions will not be significantly different than those in the VA; however they will be more traceable and transparent and controlled.				
	3. Some aspects of the acceptance criteria for the IRSR will be necessarily bounded.				
2176 Develop Abs/Test SZ & Biosphere	See items 1. & 3.of 2175	N/A	N/A	N/A	N/A
2184 Process Control & Management	No impact – greater level of fidelity in plan	N/A	N/A	N/A	N/A
2185 Design Analysis SR	No impact	N/A	N/A	N/A	N/A
2190 Develop Abs/Test WF & EBS Transport	See 2175	N/A	N/A	N/A	N/A
2195 Develop Abs/Test WP degradation	See items 1. & 3.of 2175	N/A	N/A	N/A	
2220 Develop Abs/Test UZ Flow & Transport	See 2175	N/A	N/A	N/A	
2235 Develop Abs/Test NFE	See 2175	N/A	N/A	N/A	N/A
2396 TSPA Approach & Model Development	No impact	SL9051M3	Repository Design Feed to TSPA	28-May-99	N/A

Account	Impacted Work	Deliverable	Deliverable Abbreviated Title	Deliverable Current Date	Planned Deliverable Disposition Under QA Refocus Initiative
		SL915M3	TSPA SR/LA Methodology & Assumptions	13-Aug-99	N/A
		SL9050M3	Complete Info Feeds for Science and Design to TSPA	30-Sep-99	Information feeds will be less
2397 TSPA for SR	See 2175 .	SL921M3	TSPA-SR Rev. 00	14-Jul-00	Less content than planned
		SL924M3	TSPA-SR Rev. 01	29-Feb-01	More bounding analyses
3040 DEIS		SL916M3	PA Input to DEIS	26-Feb-99	Delay completion of deliverable to 31 March 99 to accommodate DOE/MTS comments on SL916M4
2115 Prepare WDLA	Work to be terminated effective with CR				N/A
Waste Package					
7030 LT Waste Form Testing and Modeling SR	While long term testing will continue, there will be a delay in gathering and analysis of all but key data between 4/99 and 2/00. The number of data, software, and model TBVs that can be cleared will be reduced, as well as the number of bounding models that can be replaced by more realistic models.	WP110M3	Submit WFCR Update to DOE for SR	31-Mar-00	Cancel - will rename and change content to Modeling Report Add - deliverable replaces WFCR Update
7040 LT WP Materials Testing and Modeling for SR		WP20CM3	Submit EMCR Update to DOE for SR	24-Apr-00	Cancel - will rename and change content to Modeling Report Add - deliverable replaces WFCR Update
Engineered Barrier System					
12012383MT EBS Testing Program	Letter reports will be submitted instead of consolidated technical report.	RPA256M3	N/A	30-Sep-99	Delete this deliverable. The data originating from this activity will submitted to the TDMS by letter reports.
12012383ML Shafts and Ramp Design	No Impact	N/A	N/A	N/A	The completion of the 2 design analysis that support this activity will be delayed until FY00. There will not be an overall impact to the product by deferring this work provided that the work is not deleted and is started at the beginning of FY00.

Account	Impacted Work	Deliverable	Deliverable Abbreviated Title	Deliverable Current Date	Planned Deliverable Disposition Under QA Refocus Initiative
12012383M3 Radiation Monitoring – 99	No Impact	N/A	N/A	N/A	The completion of 2 design products, the Radiation Limits for Repository Material and the Minimum Detectable Waste Package Leak will be deferred until FY00. There will not be an overall impact to the product by deferring this work provided that the work is not deleted and is started at the beginning of FY00.
Support Operations					
2470 Tech Data Mgmt 2475 Interface Config Mgmt 9197 Doc Mgmt Svcs	The Technical Data Management, Configuration Management, and Document Management Services organizations will not be staffed to completely accommodate both work originally planned and the refocus initiatives. If additional funding is not available at the time requests for support are made, lower priority work will not be performed. If additional dollars are available, there will be delays in support while staff are reassigned tasks or brought in from teammates/outside sources.	None	N/A	N/A	N/A
Surface Facilities					
2392 Surf/Subsurf Mgmt & Design	Progress toward resolving some DR's against Engineering will be slowed	None	N/A	N/A	N/A

Account	Impacted Work	Deliverable	Deliverable Abbreviated Title	Deliverable Current Date	Planned Deliverable Disposition Under QA Refocus Initiative
Systems Engineering & Integration					
16012013 – Design Requirements Development	SDDs will be issued without or with very little TBX resolution (even for things import LA). Other organizations su.ace, sub-surface, WP, etc. are also not working to resolve TBX resolutions.	N/A	N/A	N/A	N/A
16012013 – Design Requirements Development	Project Description Document (PDD) Revision 1 scheduled for 8/30/99 will be deferred until 2000	N/A	N/A	N/A	

ID	Description	Dur	Start	Finish
Process Mo[illegible]ports				
Integrated Site Model				
100	PMR Annotated Outline (ISM)	10	15MAR99*	26MAR99
110	PM Verification & Traceability (ISM)	157	15MAR99*	19OCT99
120	AP 3.10Q Development (ISM)	75	29MAR99*	09JUL99
130	AP 3.10Q Checking / Review (ISM)	30	31MAY99*	09JUL99
140	PMR development (ISM)	95	29MAR99*	06AUG99
150	PMR QAP 3-5 review (ISM)	60	09AUG99	29OCT99
160	PMR to DOE for Review (ISM)	0		29OCT99
170	DOE Review (ISM)	44	01NOV99	30DEC99
180	Complete PMR (ISM)	0		30DEC99
182	SR Draft Input (ISM)	0		30NOV99*
184	SR Final Input (ISM)	0		15JAN01*
186	LA Final Input (ISM)	0		28FEB01*
Biosphere				
190	PMR Annotated Outline (Bio)	43	01APR99*	31MAY99
200	PM Verification & Traceability (Bio)	95	04JAN99*	14MAY99
210	AP 3.10Q Development (Bio)	129	05APR99*	30SEP99
220	AP 3.10Q Checking / Review (Bio)	85	04JUN99*	30SEP99
230	PMR development (Bio)	124	01JUN99*	19NOV99
240	PMR QAP 3-5 review (Bio)	60	22NOV99	11FEB00
250	PMR to DOE for Review (Bio)	0		11FEB00
260	DOE Review (Bio)	44	14FEB00	13APR00
270	Complete PMR (Bio)	0		13APR00
272	SR Draft Input (Bio)	0		31DEC99*



Project Start	01OCT98
Project Finish	28FEB01
Data Date	01JAN99
Run Date	03MAR99

Early Bar
Progress Bar
Critical Activity

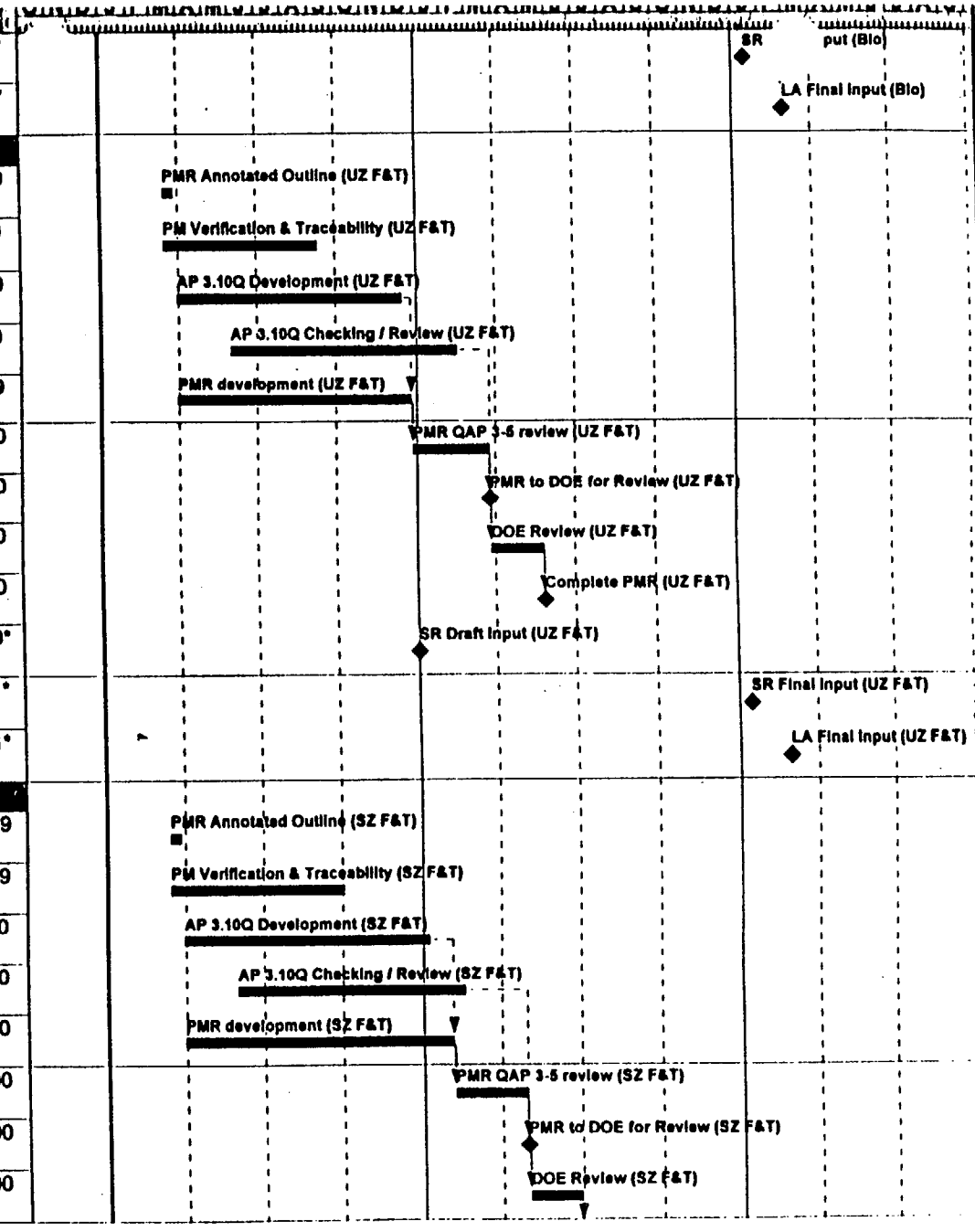
PMRS

Sheet 1 of 6

Schedule

Attachment 2

ID	Description	Dur	Start	Finish
274	SR Final Input (Bio)	0		15JAN01*
276	LA Final Input (Bio)	0		28FEB01*
	UZ Flow and Transport			
280	PMR Annotated Outline (UZ F&T)	10	15MAR99*	26MAR99
290	PM Verification & Traceability (UZ F&T)	129	15MAR99*	09SEP99
300	AP 3.10Q Development (UZ F&T)	188	29MAR99*	15DEC99
310	AP 3.10Q Checking / Review (UZ F&T)	187	31MAY99*	15FEB00
320	PMR development (UZ F&T)	195	29MAR99*	24DEC99
330	PMR QAP 3-5 review (UZ F&T)	65	27DEC99	24MAR00
340	PMR to DOE for Review (UZ F&T)	0		24MAR00
350	DOE Review (UZ F&T)	44	27MAR00	25MAY00
360	Complete PMR (UZ F&T)	0		25MAY00
362	SR Draft Input (UZ F&T)	0		31DEC99*
364	SR Final Input (UZ F&T)	0		15JAN01*
366	LA Final Input (UZ F&T)	0		28FEB01*
	SZ Flow and Transport			
370	PMR Annotated Outline (SZ F&T)	10	15MAR99*	26MAR99
380	PM Verification & Traceability (SZ F&T)	145	15MAR99*	01OCT99
390	AP 3.10Q Development (SZ F&T)	205	29MAR99*	07JAN00
400	AP 3.10Q Checking / Review (SZ F&T)	189	31MAY99*	17FEB00
410	PMR development (SZ F&T)	225	29MAR99*	04FEB00
420	PMR QAP 3-5 review (SZ F&T)	60	07FEB00	28APR00
430	PMR to DOE for Review (SZ F&T)	0		28APR00
440	DOE Review (SZ F&T)	44	01MAY00	29JUN00



Project Start	01OCT98
Project Finish	28FEB01
Data Date	01JAN99
Run Date	03MAR99

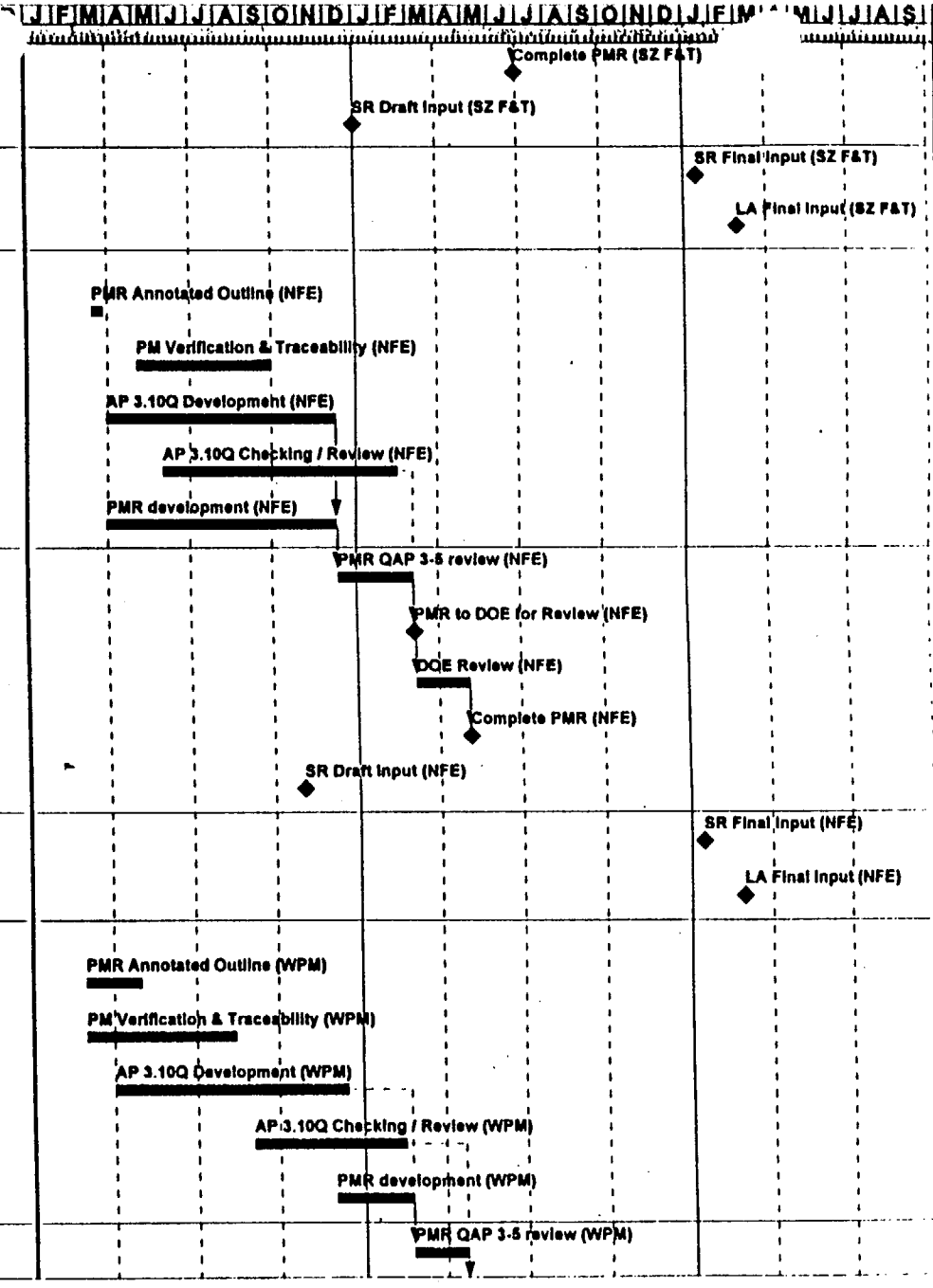
Early Bar
Progress Bar
Critical Activity

PMRS

Schedule

Attachment 2

ID	Description	Dur	Start	Finish
450	C PMR (SZ F&T)	0		29JUN00
452	SR Draft Input (SZ F&T)	0		31DEC99*
454	SR Final Input (SZ F&T)	0		15JAN01*
456	LA Final Input (SZ F&T)	0		28FEB01*
	Near Field Environment			
460	PMR Annotated Outline (NFE)	10	15MAR99*	26MAR99
470	PM Verification & Traceability (NFE)	109	03MAY99*	30SEP99
480	AP 3.10Q Development (NFE)	185	29MAR99*	10DEC99
490	AP 3.10Q Checking / Review (NFE)	187	31MAY99*	15FEB00
500	PMR development (NFE)	185	29MAR99*	10DEC99
510	PMR QAP 3-5 review (NFE)	60	13DEC99	03MAR00
520	PMR to DOE for Review (NFE)	0		03MAR00
530	DOE Review (NFE)	44	06MAR00	04MAY00
540	Complete PMR (NFE)	0		04MAY00
542	SR Draft Input (NFE)	0		01NOV99*
544	SR Final Input (NFE)	0		15JAN01*
546	LA Final Input (NFE)	0		28FEB01*
	Waste Package			
550	PMR Annotated Outline (WPM)	45	01MAR99*	30APR99
560	PM Verification & Traceability (WPM)	120	01MAR99*	13AUG99
570	AP 3.10Q Development (WPM)	185	01APR99*	15DEC99
580	AP 3.10Q Checking / Review (WPM)	120	01SEP99*	15FEB00
590	PMR development (WPM)	60	01DEC99*	22FEB00
600	PMR QAP 3-5 review (WPM)	43	23FEB00	21APR00



Project Start 01OCT98
Project Finish 28FEB01
Data Date 01JAN99
Run Date 03MAR99

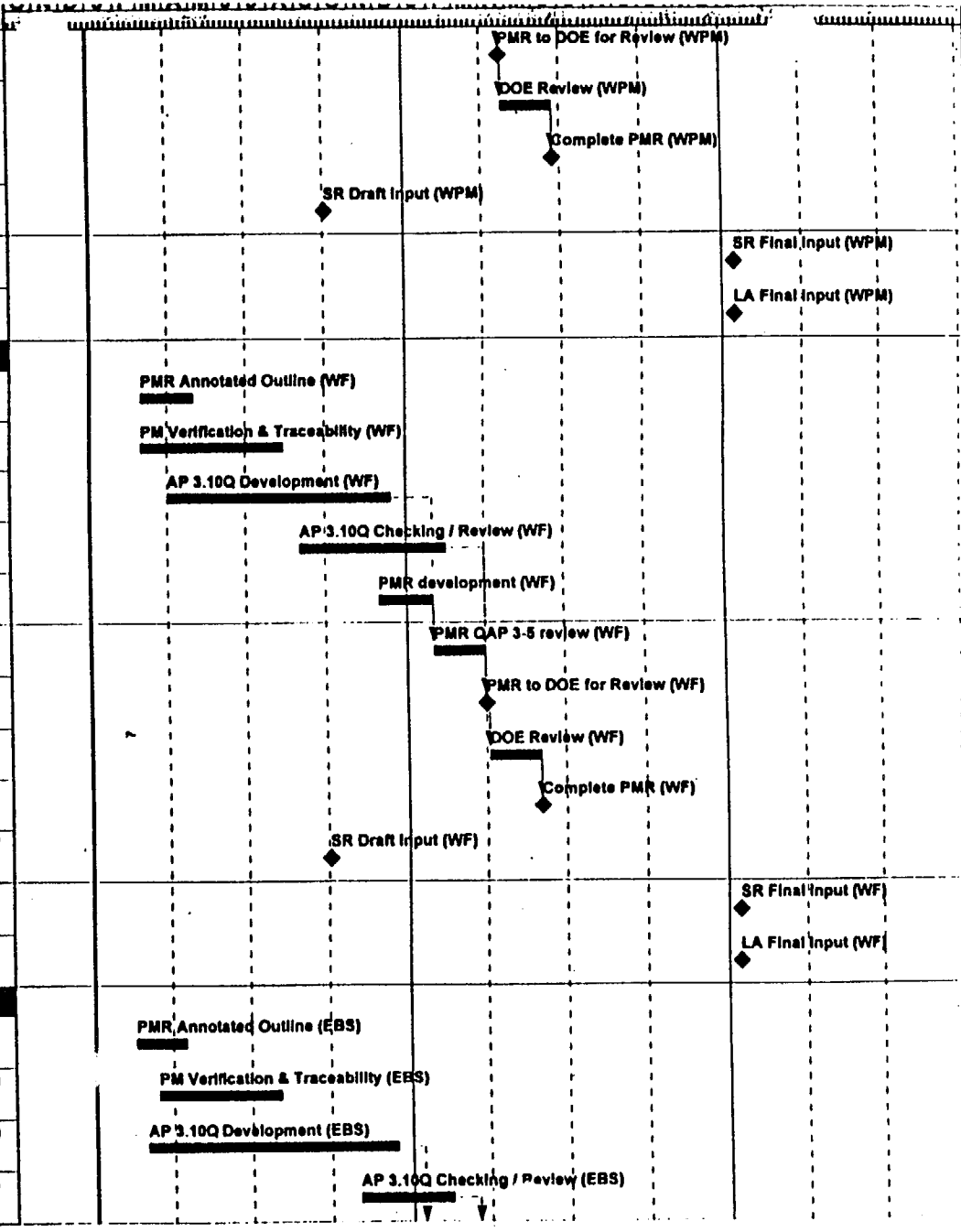
Early Bar
Progress Bar
Critical Activity

PMRS

Schedule

Attachment 2

ID	Description	Dur	Start	Finish
610	PM DOE for Review (WPM)	0		21APR00
620	DOE Review (WPM)	44	24APR00	22JUN00
630	Complete PMR (WPM)	0		22JUN00
632	SR Draft Input (WPM)	0		01OCT99*
634	SR Final Input (WPM)	0		15JAN01*
636	LA Final Input (WPM)	0		15JAN01*
	Waste Form			
640	PMR Annotated Outline (WF)	45	01MAR99*	30APR99
650	PM Verification & Traceability (WF)	120	01MAR99*	13AUG99
660	AP 3.10Q Development (WF)	185	01APR99*	15DEC99
670	AP 3.10Q Checking / Review (WF)	120	01SEP99*	15FEB00
680	PMR development (WF)	44	01DEC99*	31JAN00
690	PMR QAP 3-5 review (WF)	44	01FEB00	31MAR00
700	PMR to DOE for Review (WF)	0		31MAR00
710	DOE Review (WF)	44	03APR00	01JUN00
720	Complete PMR (WF)	0		01JUN00
722	SR Draft Input (WF)	0		01OCT99*
724	SR Final Input (WF)	0		15JAN01*
726	LA Final Input (WF)	0		15JAN01*
	Engineered Barrier System			
730	PMR Annotated Outline (EBS)	41	17FEB99*	14APR99
740	PM Verification & Traceability (EBS)	101	15MAR99*	02AUG99
750	AP 3.10Q Development (EBS)	208	01MAR99*	15DEC99
760	AP 3.10Q Checking / Review (EBS)	77	01NOV99*	15FEB00



Project Start 01OCT98
Project Finish 28FEB01
Data Date 01JAN99
Run Date 03MAR99

Early Bar
Progress Bar
Critical Activity

PMRS

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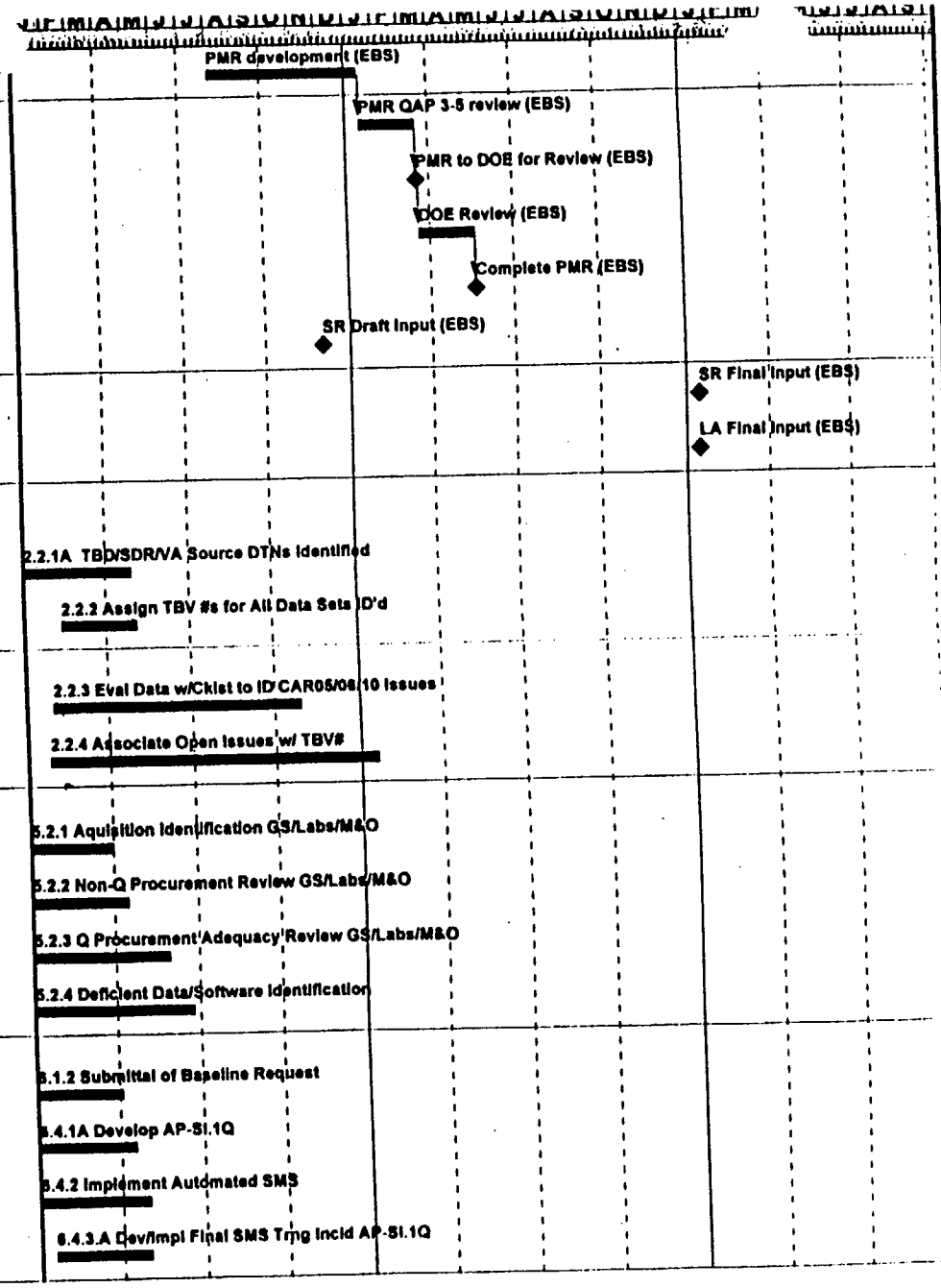
Schedule

Attachment 2

ID	Description	Dur	Start	Finish
770	PM[illegible]opment (EBS)	119	03AUG99*	14JAN00
780	PMR QAP 3-5 review (EBS)	45	17JAN00	17MAR00
790	PMR to DOE for Review (EBS)	0		17MAR00
800	DOE Review (EBS)	44	20MAR00	18MAY00
810	Complete PMR (EBS)	0		18MAY00
812	SR Draft Input (EBS)	0		01DEC99*
814	SR Final Input (EBS)	0		15JAN01*
816	LA Final Input (EBS)	0		15JAN01*
	CARs			
	CAR 98-002 Closure			
931	2.2.1A TBD/SDR/VA Source DTNs Identified	84	01JAN99	28APR99
932	2.2.2 Assign TBV #s for All Data Sets ID'd	59	10FEB99*	03MAY99
	CAR 98-002 Remediation			
933	2.2.3 Eval Data w/Cklst to ID CAR05/06/10 Issues	196	29JAN99*	29OCT99
934	2.2.4 Associate Open Issues w/ TBV#	259	25JAN99*	20JAN00
	CAR 98-005 Closure			
921	5.2.1 Aquisition Identification GS/Labs/M&O	64	01JAN99	31MAR99
922	5.2.2 Non-Q Procurement Review GS/Labs/M&O	75	01JAN99	15APR99
923	5.2.3 Q Procurement Adequacy Review GS/Labs/M&O	106	01JAN99	28MAY99
924	5.2.4 Deficient Data/Software Identification	124	01JAN99	23JUN99
	CAR 98-006 Closure			
900	6.1.2 Submittal of Baseline Request	66	01JAN99	02APR99
908	6.4.1A Develop AP-SI.1Q	76	01JAN99	16APR99
909	6.4.2 Implement Automated SMS	86	01JAN99	30APR99
910	6.4.3.A Dev/Impl Final SMS Trng Incld AP-SI.1Q	76	15JAN99*	30APR99



Project Start 01OCT98
Project Finish 28FEB01
Data Date 01JAN99
Run Date 03MAR99

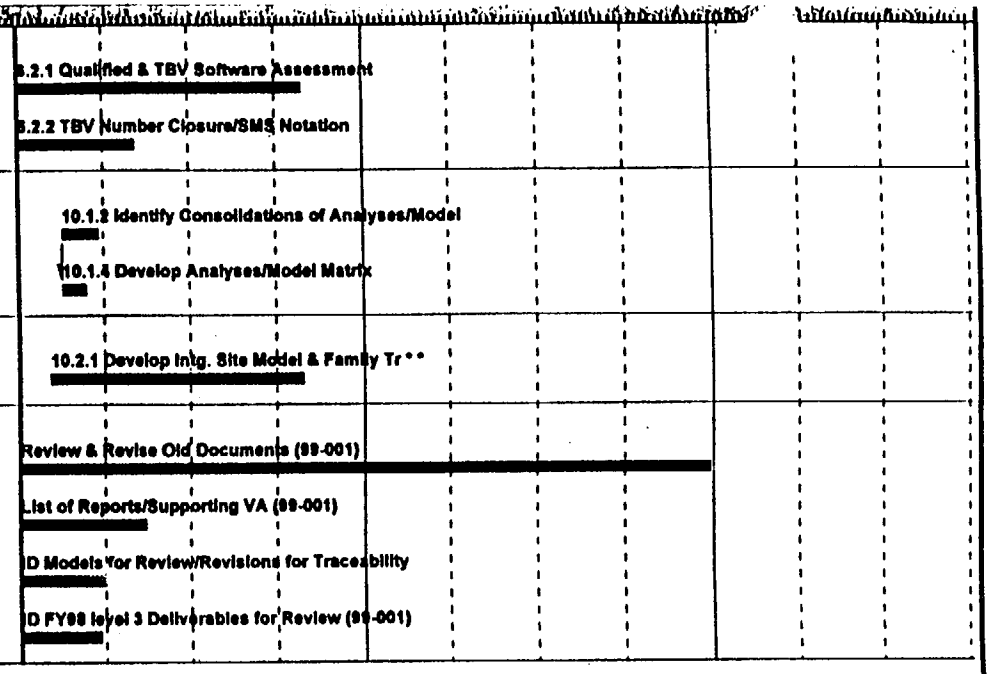
Early Bar
Progress Bar
Critical Activity

PMRS

Schedule

Attachment 2

A	ID	Description	Dur	Start	Finish
CARD [illegible]		[illegible]ification			
	906	6.2.1 Qualified & TBV Software Assessment	216	01JAN99	29OCT99
	907	6.2.2 TBV Number Closure/SMS Notation	87	01JAN99	03MAY99
CARD [illegible]		[illegible]			
	980	10.1.2 Identify Consolidations of Analyses/Model	35	15FEB99*	26MAR99
	981	10.1.4 Develop Analyses/Model Matrix	20	15FEB99*	12MAR99
CARD [illegible]		[illegible]			
	982	10.2.1 Develop Intg. Site Model & Family Tr * *	195	01FEB99*	29OCT99
CARD [illegible]		[illegible]			
	950	Review & Revise Old Documents (99-001)	521	01JAN99	29DEC00
	960	List of Reports/Supporting VA (99-001)	150	01JAN99	14MAY99
	965	ID Models for Review/Revisions for Traceability	64	01JAN99	31MAR99
	970	ID FY98 level 3 Deliverables for Review (99-001)	61	01JAN99	26MAR99



Project Start	01OCT98
Project Finish	28FEB01
Data Date	01JAN99
Run Date	03MAR99

Early Bar
Progress Bar
Critical Activity

PMRS

Schedule

A[illegible]chment 2

Attachment 3

SCHEDULE ACTIVITY DESCRIPTIONS

PMR Annotated Outline

This task bar represents the development of the process model report (PMR) annotated outline. This annotated outline applies and expands the generic outline provided in Attachment 6, for each specific process model. The annotated outline's purpose is to initiate the process to identify the objective, scope, relationship of this specific model report to the other reports, and to provide an overview description of the supporting models and abstractions and how they fit into the regulatory arguments to be presented in the License Application.

PM Verification and Traceability

As part of CAR-99-001, Process Model Verification and Traceability teams are being established to identify and control the input data sets for each model that will support the SR/LA. These teams will help establish the retrievability, reproducibility, traceability, and transparency necessary for regulatory review. One of the primary roles of these teams, in the PMR process, is to establish the model analysis hierarchy, similar to the "typical" example provided in Attachment 7.

AP-3.10Q Development

This task bar represents the development of the documentation of the analyses and models identified by the PM Verification and Traceability teams. At the end of this task bar, the last AP-3.10Q product is ready for the checking and reviewing phase of the process as defined in AP-3.10Q. It should be noted that multiple AP-3.10Q products may be developed for each PMR and that each product would follow the rigid check and review process identified by this procedure.

AP-3.10Q Checking/Review

This task bar represents the check and review of the analyses and model documentation provided in the AP-3.10Q development step defined above. Product check and review cycles will be complete prior to PMR completion. (See PMR QAP-3-5 review task description below).

PMR Development

This task includes the development of the process model report in accordance with QAP-3-5. The report will follow the annotated outline defined above and the Technical Document Preparation Plan developed as required by QAP-3-5. All AP-3.10Q products used in the PMR will be in the check and review phase of development prior to being referenced in the PMR. It is permissible for an AP-3.10Q product to be in check and review at the same time as the PMR is being reviewed; however, this practice should be limited due to the potential schedule impact that could result from the check and review processes.

PMR QAP 3-5 review

This task represents the formal M&O (and informal DOE) check and review of the PMR. At this stage, most of the references should be complete and signed, however, a small set of references (AP-3.10Qs) could be finishing their check and review process (this reference flexibility increases schedule risk). However, the QAP-3-5 review cannot be considered complete until the last reference is complete (signed-off in accordance with the controlling procedure).

PMR to DOE for Review

This task represents the submittal of the PMR as a Level 3 deliverable to initiate the concurrent YMSCO acceptance review and the DOE QAP 6.2 review.

DOE Review

This task includes the acceptance review and the QAP 6.2 review conducted by DOE and the resolution of the comments provided during the reviews.

Complete PMR

This task represents the incorporation of the DOE comments received during the acceptance and QAP 6.2 reviews into the PMR as required.

SR Draft Input

This milestone represents the date that the reference information should be available to the SR authors for incorporation in the associated SR chapter. In many cases this is the AP-3.10Q documentation; in other cases it is the PMR documentation. This will vary from section to section and chapter to chapter of the SR. However, it should be noted that there is a schedule risk associated with the use of AP-3.10Q and PMR documentation prior to / or during the check and review cycles. This schedule risk will have to be managed due to the tight schedule for the SR and the abstractions being completed in late 1999. Presently, there are at least three instances of schedule disconnects between the development of the reference material and the date the information is needed for the SR. These three specific areas include the SR draft input request and the development of the 3.10Q products and PMRs for the Near Field Environment, the Waste Package Material and the Waste Form. These schedule disconnects are associated with the abstraction process and documentation and are not as a result of the PMR effort. Additional information regarding the resolution of these disconnects will be provided at a latter date.

SR Final Input and LA Final Input

As described above, these milestones are the dates at which the reference material to be used in the SR and LA must be available to the authors for inclusion in the final version of the SR or LA as applicable. At this time, the revision schedule for each PMR beyond Revision 0 has not been developed; however, each organization is cognizant of the required SR and LA dates and each organization has must address these dates as applicable in their upcoming planning process.

CARs

The activities provided for CARs 98-002, 98-005, 98-006, and 98-010 are identified by the corresponding CAR management plan paragraph numbers. Therefore, for a description of each CAR related activity, please review the appropriate section of the CAR management plan.

CAR 99-001

The activities presented in the schedule are consistent with the remedial actions for this deficiency. A more detailed schedule is available upon request.

REFOCUS OF WORK EFFORT ON HIGH PRIORITY QUALITY ASSURANCE INITIATIVES
ESTIMATED FY99 FUNDING REQUIREMENTS
Millions of Dollars

Category	A Total Required Funding	B=A-C New Funding Required	C=D+E+F Covered from Exist. Resources	D Current Baseline Plan	E Reduce Scope and Eliminate Level 3's	F Work to be Deferred
Qualification						
Science	3.0	0.1	2.9	1.1	0.2	1.6
TSPA	0.6	0.0	0.6	0.3	0.3	0.0
WP	1.0	0.6	0.4	0.1	0.0	0.3
EBS	0.0	0.0	0.0	0.0	0.0	0.0
Support Ops	0.9	0.0	0.9	0.3	0.3	0.3
CAR Closure						
Science	2.5	1.1	1.4	0.3	0.0	1.1
TSPA	0.7	0.0	0.7	0.4	0.3	0.0
WP	0.1	0.0	0.1	0.0	0.1	0.0
EBS	0.0	0.0	0.0	0.0	0.0	0.0
Procurement	0.8	0.0	0.8	0.8	0.0	0.0
Support Ops	1.0	0.3	0.7	0.4	0.1	0.2
CAB	0.3	0.3	0.0	0.0	0.0	0.0
Process Model Reports						
R&L	0.6	0.4	0.2	0.0	0.2	0.0
Science	7.2	0.4	6.8	2.8	0.7	3.3
TSPA	1.4	0.2	1.2	0.3	0.9	0.0
WP	1.1	0.5	0.6	0.0	0.0	0.6
EBS	1.1	0.3	0.8	0.6	0.0	0.2
Support Ops	1.4	0.4	1.0	0.2	0.4	0.4
PVAR						
Mgmt	0.8	0.3	0.5	0.5	0.0	0.0
Procedures						
R&L	0.3	0.3	0.0	0.0	0.0	0.0
Science	0.1	0.1	0.0	0.0	0.0	0.0
TSPA	0.4	0.1	0.3	0.1	0.2	0.0
WP	0.1	0.0	0.1	0.0	0.1	0.0
EBS	0.1	0.1	0.0	0.0	0.0	0.0
Sys Eng	0.4	0.2	0.2	0.1	0.1	0.0
Surf Fac	0.7	0.6	0.1	0.0	0.0	0.0
Support Ops	0.5	0.5	0.0	0.0	0.0	0.0
Info Architecture	1.9	1.9	0.0	0.0	0.0	0.0
M&O Total	**29.0**	**8.7**	**20.3**	**8.3**	**3.9**	**8.0**
OQA	0.6	0.6	0.0	0.0	0.0	0.0

Attachment 4

Cost Table Explanatory Notes

The rough-order-of magnitude funding analysis that accompanied our 2/9/99 letter has been revised.

Cost estimates (Total Required Funding) previously reported by functional group have now been more rigorously built up from, and are reported in, lower-level activity categories (Table rows), consistent with the project schedule. The Qualification category includes activities needed to qualify the scientific notebooks, technical data, software, and models that will be used in SR and LA. CAR Closure is comprised of activities outlined in the CAR Management Plan, Revision 2. The Process Model Report line items encompass both the work to define the content of the Reports (Tiger Teams) as well as the report-writing effort itself. The PVAR category has been expanded to include design of the Technical Information Management System and activities in support organizations that will be required to implement new procedures.

In addition to updating estimates of the total costs associated with refocusing the M&O work plan on high-priority quality assurance initiatives, the amount of the effort that can be covered with existing resources was reanalyzed (Table columns). The amount that can be covered from existing resources (Column C) was determined from the sum of: (1) what was estimated to have been in the original FY99 baseline plan (Column D); (2) what could be gained by eliminating Level 3 deliverables and/or reducing the scope of other FY99 project work (Column E), and (3) the FY99 savings realized by deferring (lower-priority) work into future years. Scope reductions, deliverable elimination, and work deferrals are detailed in other attachments to this letter. In particular, that the same, key individuals must be involved in all elements of the quality assurance initiatives forces the work originally planned for them to perform in FY99 to be down-scoped, eliminated, or deferred.

New Funding Required (Column B) is calculated as the difference between the Total Required Funding (Column A) and what is expected to be Covered from Existing Resources (Column C).

On top of the M&O effort, it is now estimated that additional support will be required from OQA.

Attachment 5

DESCRIPTION OF PROCESS MODEL REPORT CONCEPT

Purpose

The purpose of a Process Model Report is to document in one place, as a stand-alone report, a synthesis of all the necessary and sufficient technical information that the Project will be relying upon to make its site suitability evaluation and ultimately the licensing argument pertaining to a particular process model. The technical information consists of data, analyses, models, software, and supporting documents used to defend the applicability of the model for its intended purpose of evaluating the postclosure performance of the Yucca Mountain repository system.

Scope of Reports

A Process Model Report will be developed for each of the eight topics identified below:

1. Integrated Site Model
2. Unsaturated Zone Flow and Transport
3. Saturated Zone Flow and Transport
4. Near Field Environment
5. Waste Package Degradation
6. Waste Form Degradation
7. Engineered Barrier System Degradation and Flow/Transport Model
8. Biosphere

The Process Model Reports will incorporate the results of the model validation and traceability effort currently underway, as well as reflect the analyses and modeling documentation to be developed under the new AP-3.10Q process, Analyses and Models. Each Process Model Report will address the following aspects related to the particular process model being addressed:

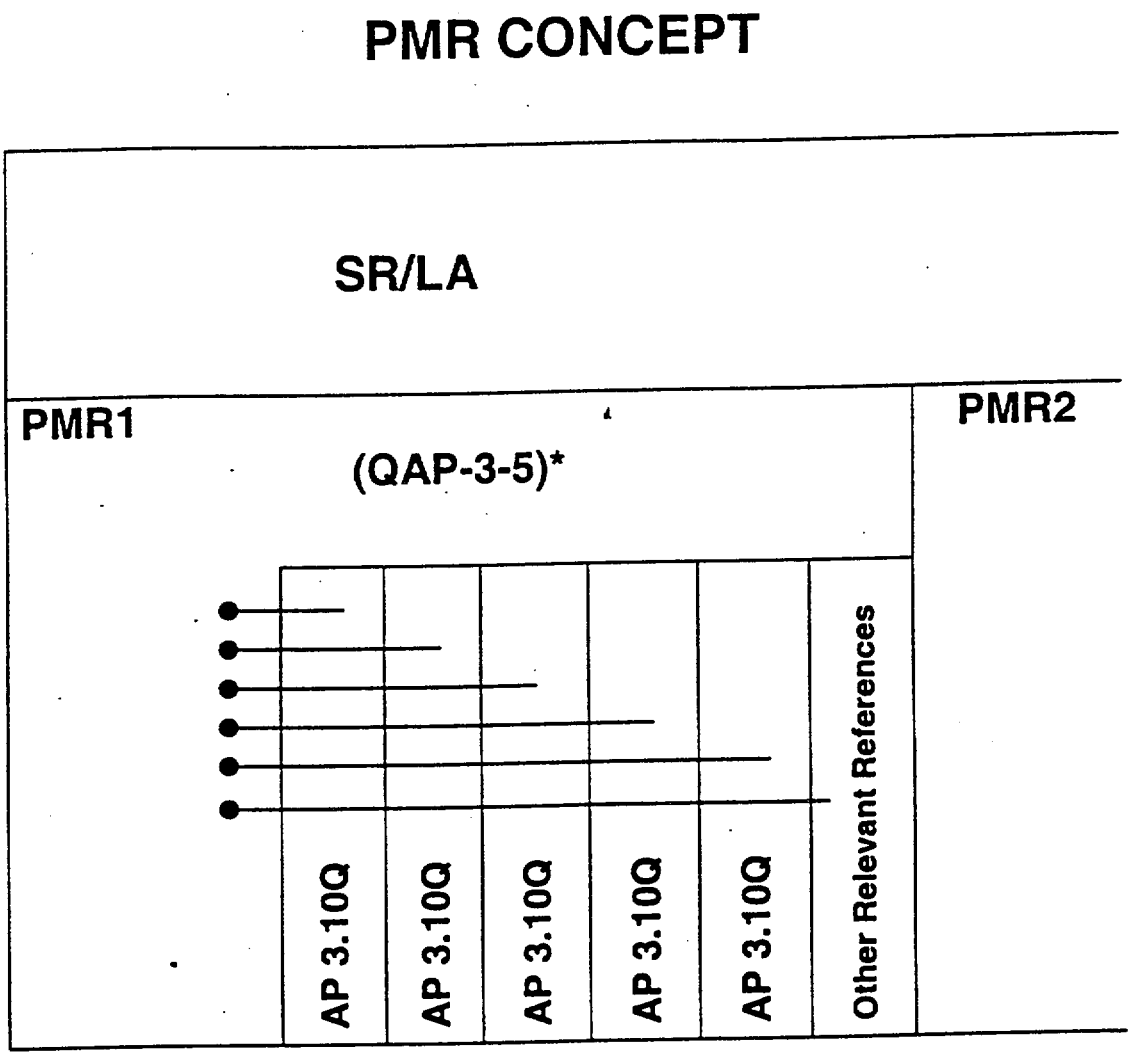
- Description of the model
- Verification of QA status of code(s) used
- Data supporting the codes/models
- Abstraction of the model into TSPA
- Uncertainties related to model parameters
- Model validation information
- Opposing views
- Assumptions and basis

Key Points Regarding Process Model Reports

As indicated in the purpose statement above, each Process Model Report will be a stand-alone synthesis report. That is, the technical information relevant to supporting the site suitability evaluation and ultimately the licensing argument on a particular process model will be presented in the Report. The Report will reference supporting AP-3.10Q analyses and modeling

documentation, the Technical Data Management System (TDMS), the Software Library, documents developed outside the Project, and other regulatory documents (e.g., Topical Reports and other Process Model Reports). However, the intent is to minimize reference to other internal Project reports, to the extent practicable. Such reports may be considered for referencing on a case-by-case basis.

The schematic below illustrates the general concept of the Process Model Reports:



* This may be elevated to an AP-level procedure

Each of the analyses and models that are related to a particular Process Model Report will be documented in accordance with AP-3.10Q. This documentation will be summarized in the Process Model Report, but will not be physically part of the report. The Process Model Report itself will be developed using M&O procedure QAP-3-5, Development of Technical Documents (or its equivalent, which may ultimately be an AP-level procedure).

In developing each Process Model Report, and the supporting analyses and models, the subject matter experts will be cognizant of existing documentation (internal and external) that is related to the process model being addressed. The information in these related documents will be dispositioned in one of the following ways:

- The information in the document is relevant and needed to support the licensing argument for the process model [INCLUDE THIS INFORMATION IN THE PROCESS MODEL REPORT OR THE AP-3.10Q DOCUMENTATION].
  - Ensure that the data and codes used are properly documented in the TDMS and the Software Library.

- The information in the document is not relevant (e.g., it has been superseded or is not important to supporting the licensing argument) [DO NOT INCLUDE THIS INFORMATION IN THE PROCESS MODEL REPORT].
  - This conclusion should be documented separately (e.g., in a memo to file).

- The information in the document provides a different view or interpretation that does not support the licensing argument [INCLUDE THIS INFORMATION IN THE PROCESS MODEL REPORT OR THE AP-3.10Q DOCUMENTATION, ALONG WITH THE RATIONALE FOR WHY THIS VIEW OR INTERPRETATION WAS DISCARDED].
  - For internal documents, ensure that the data and codes used are properly documented in the TDMS and the Software Library.

These Process Model Reports will be developed using the "To Be Verified (TBV)" tag for that information that needs further work (e.g., data that need to be qualified). The Process Model Reports will contain TBVs primarily because the subordinate AP-3.10Q analyses and models contain TBV information. The principal task in going from Rev. 00 of the analyses and models to Rev. 01 will be removing the TBVs and conducting appropriate controlled impact analyses per AP-3.10Q. We will eliminate these TBVs as much as possible by the time the Site Recommendation is submitted to the President (July 2001).

Each Process Model Report may ultimately be subjected to an independent peer review, after which it may be converted to a Topical Report for submittal to the NRC.

Other Documents Providing Regulatory Focus

In addition to the Process Model Reports, other supporting documents will be needed to provide a regulatory focus on selected technical work. These documents include: Yucca Mountain Site Description, Disruptive Events Report, Natural Analogues Report, Disposal Criticality Analysis Topical Report, and Seismic Hazards Topical Reports. These reports will be referenced, as appropriate, in the Process Model Reports or the AP-3.10Q documentation.

Attachment 6

ANNOTATED TABLE OF CONTENTS/OUTLINE
PROCESS MODEL REPORT
(TYPICAL)

Chapter 1.0 Introduction

This chapter provides the "up front" information necessary for the reader to understand the purposes of the report, its basic organization, and related issues. It also supports the reader who desires a quick look at the document without reviewing it in great detail.

1.0 Introduction

Section 1.0 contains introductory text that briefly describes the goal of the Yucca Mountain Project, which is to determine suitability of the Yucca Mountain site for disposal of high-level nuclear waste. If it is found suitable, the goal is to then seek a license to construct and subsequently to operate and close a high-level waste disposal facility.

This section also explains in general why the Process Model Reports (PMR) are being developed, and why this specific PMR is being developed. This discussion includes a summary of previous treatment of the subject issue (background of previous modeling).

Finally, the section summarizes the layout of the PMR.

1.1 Objective

This section provides the objective (or objectives) of the PMR (what its production is intended to accomplish). Briefly and generically, the objective is to document in one place, as a stand-alone report, a synthesis of all the necessary and sufficient technical information that the Project will be relying upon to make its site suitability evaluation and ultimately the licensing argument pertaining to a particular process model. The technical information consists of data, analyses, models, software and supporting documents used to defend the applicability of the model for its intended purpose of evaluating the post-closure performance of the Yucca Mountain repository system. The PMR serves as an important reference to the license application and has a similar readership (primarily knowledgeable persons in technical and regulatory fields). Many of the objectives are common to all the PMRs, though one or more may also be specific to a given PMR.

1.2 Scope

This section explains the information presented in and the content of the PMR. It will likely use one or more flowcharts to show the evolution of information from data to TSPA output, showing in the flowcharts what parts of the evolution are included in the PMR. The section also describes where to find relevant subject matter not included in the PMR. The discussion includes a brief description of the relationship between the PMR and the constituent sub-process models,

abstraction models, and analyses (as applicable) developed under AP-3.10Q. Finally, it provides a description of how the PMR will be used in addressing its subject in the Site Recommendation Report (SRR) and the License Application.

1.3 Quality Assurance

This section explains the quality assurance controls under which the PMR was de- -loped. The PMR is expected to be determined to be quality-affecting through QAP-2-0 analy . As such, it is to be developed under QAP-3-5. The section also discusses the method through which non-Q data and references have been upgraded for incorporation in the PMR via the constituent models and analyses developed in compliance with AP-3.10Q. And, in the case of the first version of the PMR, it discusses how non-Q data referred to in the document are tracked with "TBVs." This section provides a general discussion, with the more specific demonstrations of compliance with quality assurance requirements to follow in later chapters and to be discussed in the referenced AP-3.10Q analyses.

1.4 Relationship to Other Process Model Reports and Project Documents

This section discusses how this PMR relates to the others in terms of interfaces and overlaps. It includes a list of all the PMRs and a summary-level purpose and description of each. The section explains how: 1) the PMR relates to documents such as the Yucca Mountain Site Description, the SRR, the LA, and other documents as considered applicable and appropriate by the PMR authors and 2) other contributory or subsequent process models. This discussion may overlap with some of the information under Section 1.2, "Scope" above.

1.5 Overview Description and Results of Models and Abstraction

This section provides a high-level description of the models, the abstractions of the models, the results of abstractions, and application of the models in the PMR. It basically summarizes the information that is provided in somewhat more detail in chapters 3 through X and in much greater detail in the reference AP-3.10Q analyses. This is intended to support the reader who wants to get the gist of the report without examining it in great detail. The section also contains a summary of the chapter that integrates the PMR models, abstractions, and analyses.

Chapter 2.0 Regulatory Perspective

This chapter provides the regulatory context within which the PMR is being written.

2.0 Introduction

Section 2.0 provides a summary of the purpose of the chapter and its conclusions.

2.1 Applicable Regulations

This section describes the regulations applicable to the subject of the PMR.

2.2 Licensing Approach

This section provides an overall description of the licensing approach the Project plans to use. This description is common among all the PMRs. A specific description of how this PMR supports the licensing strategy is also provided. The section summarizes the Repository Safety Strategy, discusses how the Project's approach to analyzing the process that is the subject of the PMR relates to the Strategy, and explains the role the PMR plays in supporting the Strategy.

2.3 Summary of Compliance

This section is a summary-level description of how the PMR supports demonstration of compliance with regulations. The actual compliance demonstration that uses results of the models will be in the License Application, but that demonstration will be underpinned in major part by the PMR. The PMR shows that the regulations regarding quality assurance and measures used to support models are met.

Chapters 3.0 through X.0 Models and Abstraction

Chapter 3 and those that follow provide summary descriptions of the models, abstractions, and analyses that address the process that is the subject of the PMR. The number of such chapters will vary, so the "X" is a placeholder. It is contemplated that each chapter will discuss a top-level model and/or abstraction that addresses the subject of the PMR. However, the relationships among models, abstractions, data, and analyses are often complex and different from one PMR process to another. Therefore, the chapter and section organization provided in this outline is nominal. PMR authors will be at liberty to organize Chapter 3 and subsequent chapters to most clearly present the information.

X.0 Introduction

Section X.0 introduces the model and/or abstraction that is the principal subject of the chapter and shows the relationship among the various components that are discussed in the chapter. It also describes the layout of the chapter discussion of those components.

X.1 Model or Abstraction Description

This section provides a description of each model and/or abstraction consistent with the corresponding AP-3.10Q report, including its supporting codes, components, sub-models, and/or analyses. Sub-models that make up the model are identified.

X.2 Discussion of Uncertainties in the Model or Abstraction

This section discusses the uncertainties in the model/sub-models and/or abstractions and the assumptions and bases thereof associated with the uncertainties. It also describes the approach taken to dealing with the uncertainties in the performance assessment (PA).

X.3 Model Validation

This section demonstrates the validity of the model and its sub-models for their intended application. It includes demonstration of the validity of the data used to support the model validation, as well as demonstration of the validity of the codes that support the models. Results of expert elicitation(s) used to support model validation are included. The discussion summarizes use of natural and man-made analogues in the model validation as appropriate.

X.4 Abstraction of the Models

This section describes the method of abstracting the model and its sub-models into the PA (if the abstraction is not discussed in a separate chapter).

X.5 Validity of the Abstraction

This section contains a demonstration of the validity of the abstraction (if the abstraction is not discussed in a separate chapter). Results of expert elicitation(s) and abstraction workshops are included as appropriate. The discussion summarizes use of natural and man-made analogues in validating the abstraction as appropriate.

X.6 Results of the Model and its Sub-models and their Abstraction

This section provides the output of the model and its sub-models, as well as their abstraction; this output is what serves as input to the TSPA analysis.

X.7 Data Qualification

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections.

X.8 Other Views

This section documents credible opposing views to the approaches and methods described in the PMR for the model under discussion. Depending on the best manner of addressing the subject as determined by the PMR authors, this section may be a separate chapter that addresses the PMR as a whole rather than as a section in each chapter.

The chapter or section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position. To the extent that compensatory measures have been or will be taken to deal with the opposing view, those measures are also described in this section.

The chapter or section also discusses findings of reviewers external to the Project of the models and processes associated with the PMR, and it describes how the findings have been satisfactorily addressed.

Finally, the chapter or section discusses expert elicitation(s) applicable to the model and/or its abstraction, cross-referencing discussions in previous sections as appropriate.

Y.0 Synthesis of Models and Abstractions

This chapter follows the chapters discussing individual models, abstractions, and analyses. It synthesizes the information from the various chapters into a discussion of how the process that is the subject of the PMR is satisfactorily addressed. (The Y is a placeholder.)

Y.0 Introduction

The chapter begins with a section Y.0 that introduces the chapter and briefly describes the organization of the components (models, abstractions, and analyses) that support overall compliance demonstration. Cross-references are made to the locations in the document where these components are discussed in more detail.

Y.1 Results of Synthesis

This section provides a detailed description of how the component parts (models, abstractions, and analyses) of the Project's approach to addressing the process are used together to predict the effect of the process on repository performance. This is not the compliance demonstration, which is in section 2.3. Instead, it focuses on the technical description that shows the process is addressed with acceptable levels of uncertainty. Some aspects of showing the validity of the overall method may need to be captured in subsections. The organization and purpose of these subsections would nominally be similar to that in the preceding chapters. Again, the need for and complexity of such discussions is likely to vary among PMRs, so the PMR authors are at liberty to organize this information as they see fit to most clearly present the information.

Chapter Z.0 Relationship with the NRC's Issue Resolution Status Reports (IRSR)

The NRC has determined that resolution of several designated Key Technical Issues is crucial to licensing the repository. The NRC staff has issued various IRSRs that describe the status of the Key Technical Issues from the NRC's perspective and provide subissues and acceptance criteria. Some of the Key Technical Issues may correspond to or overlap with the issues and processes that the PMR addresses. This chapter of the PMR describes how each Key Technical Issue and its constituent subissues and acceptance criteria have been addressed through the PMR. It includes a section Z.0 (Z is a placeholder) that describes the NRC's Key Technical Issue and IRSR effort. The sections that follow discuss, for each Key Technical Issue, its subissues, and its acceptance criteria have been addressed through the PMR. In many cases a given PMR only partially addresses a given Key Technical Issue, and that fact is noted as appropriate.

Chapter (Z+1).0 References

This chapter contains the complete reference list for the document.

Appendices

The appendices contain supporting information deemed appropriate for inclusion in the PMR but at too great a level of detail for the body of the report.

Attachment 7

MODEL AND ANALYSIS HIERARCHY EXAMPLE

A first step in identifying the analyses and models required to support the postclosure compliance demonstration to be documented in Volume 2 of the SR as well as the TSPA-SR Technical Document, is to decompose the abstracted models used as inputs to the TSPA into the process models, subprocess models and analyses of data that are used as a basis for the abstraction. This effectively creates a model and analysis hierarchy that extends from the abstracted model down to the process models and ultimately to the data and software used to support the process model.

Varying levels of detail of such hierarchies were included in the VA (Volume 3 and the TSPA-VA Technical Basis Document). However, these illustrations were mainly for communicating the interrelationships between data and process models and abstracted models.

We now need to create model and analysis hierarchies for each process model used as a feed into TSPA-SR. These hierarchies will be used as the basis for controlling information flow as well as for revision control and analyses of potential impacts when revisions are made. These hierarchies will also serve as a basis for defining the required AP-3.10Q analyses and models products that need to be developed, baselined and controlled. Previously, this information has been contained in scientific notebooks and/or in process model technical reports.

As an example application of such a hierarchy, we have taken the draft outline of the technical work to be performed in the UZ Flow and Transport model, as documented in the draft report outline developed by NEPO and PAO staff prior to the workshop on this subject held last December. This outline has been decomposed into an appropriate level of AP-3.10Q analyses and models products. The level of detail in each analysis or model varies, but the following provides an outline of the products in the hierarchy. In many cases, a single AP-3.10Q product will have multiple uses.

1) PA model abstraction for UZ flow
   a) 3D mountain-scale process flow model (integrated UZ flow model)
      i) mountain-scale fracture/matrix flow model
      ii) Paintbrush nonwelded flow model
      iii) flow in faults model
      iv) Calico Hills nonwelded flow model
      v) perched water flow model
      vi) inverse flow model
      vii) infiltration model
   b) sensitivity/abstraction analyses for:
      i) different climate sequences
      ii) different infiltration ranges
      iii) weeps conceptual model
      iv) durable properties changes due to THCM effects

v) grid refinement
vi) refinement of EBS/UZ interface

2) PA model abstraction for drift seepage
   a) PA model for percolation into repository zones
      i) see 1)
      ii) 3D drift-scale process model for seepage
      iii) drift collapse analysis
   b) sensitivity/abstraction analyses for:
      i) different climate sequences
      ii) different infiltration ranges
      iii) weeps conceptual model
      iv) durable properties changes due to THCM effe

3) PA model abstraction for UZ transport
   a) see 1)
   b) matrix diffusion model abstraction
   c) sorption model abstraction
   d) colloid transport model abstraction
   e) decay model abstraction analysis
   f) gas-phase radionuclide release analysis
   g) evaluation of radionuclide inventory tracked
   h) analysis of PA transport model compared with alternate process models
      i) mountain-scale advection-dispersion model
      ii) Laplace inversion model
   i) sensitivity/abstraction studies f
      i) different climate sequences
      ii) different infiltration ranges
      iii) durable properties changes due to THCM effects

4) PA model abstraction for climate to define climate cycles (timing)
   a) climate process model for yearly average conditions
      i) paleoclimate analysis

5) PA model abstraction of coupled process effects
   a) Coupled process model (used for PA model abstractions for UZ flow, drift seepage, and UZ transport)

Attachment 8

RESPONSE TO QUESTIONS AND CONCERNS FROM THE OFFICE OF LICENSING AND REGULATORY COMPLIANCE (OLRC) (Dated February 8, 1999)

Each of the OLRC items are shown below in italics, followed by the M&O response.

1. *It is of utmost importance to fix the problem.*

Response:

We agree that the problems associated with the implementation of the QA program need to be fixed. We believe that the proposal presented to YMSCO management on February 4, 1999, and discussed in our letter of February 9, 1999 (Wilkins to Dyer), addresses a path for redefining and focusing our work efforts to fix these problems and to upgrade the technical products supporting the Site Recommendation and License Application.

2. *Presentation Sufficiency Questions.*
   Unknown: How Long?

Response:

The activities associated with this proposal are multi-year activities, with the main efforts being focused on FY 1999 and FY 2000. For a summary schedule of these efforts (Work associated with addressing QA deficiencies, Process Validation and Reengineering activities, and development of Process Model Reports), see Attachment #2. A more detailed schedule for PVAR activities and for work addressing QA deficiencies is statused weekly for the Office of Project Execution and can be provided upon your request.

How Much?

Response:

The rough order of magnitude (ROM) cost estimates associated with implementing this proposal are addressed in Attachment #4. These estimates will be further refined when we submit the Change Request for this proposal.

QA criteria/process.

Response:

The QA criteria/process to be followed for the development of the Process Model Reports (PMRs) will be in accordance with QARD requirements and quality-affecting procedures that implement these requirements. The PMRs will be developed under M&O procedure QAP-3-5,

Development of Technical Documents (this may be elevated to an AP-level procedure). The analyses and modeling activities that support these PMRs will be conducted and documented in accordance with procedure AP-3.10Q, Analyses and Models, which was recently issued. For more information on this topic, see Attachment #5.

PMR process.

Response:

The description of the PMR concept, including the process to be followed for development of these reports is discussed in Attachment #5. The schedules for each PMR are shown in Attachment #2.

What work is deferred?

Response:

The work that is being proposed for deferral or deletion is discussed in Attachment #1.

Data needs SR/LA.

Response:

The information needed for the SR and LA are identified in the SR Annotated Outline and the LA Technical Guidance Document, both currently being developed. The schedules shown in Attachment #2 show how the proposed Process Model Reports relate to when inputs are needed for the SR and LA schedules.

Crosswalk on commitments.

Response:

We agree with the need to identify what commitments have been made to external parties that may affect the Site Recommendation. We have initiated work to identify these commitments, with the primary focus being the NRC, NWTRB, and the State of Nevada.

Concerns: Concern on sufficiency of resources.

Response:

We share your concern on the sufficiency of resources. As we discussed with you at the February 4, 1999 meeting, we plan to obtain the resources needed to perform this work by deferring/deleting some current work scope (see Attachments #1) and by requesting additional budget to obtain new resources (see Attachment #4).

Won't be done this year.

Response:

We agree that the work discussed with you on February 4, 1999 will not all be done this year. This is a multi-year effort, as shown on the schedules contained in Attachment #2.

Interpretation question – May need level 3 deliverables.

Response:

We understand that Level 3 deliverables provide a vehicle for the interpretation of the data contained in the deliverables. We believe that such interpretations can also be captured directly in the Technical Data Management System. The proposed Process Model Reports, including the supporting AP-3.10Q analyses and modeling documentation would also provide for interpretation of data.

Impact on current LA strategy unknown. Implies a different strategy. Topical Reports – 2 years to finish.

Response:

We agree that this is a modification of the current LA strategy, one that we believe will enhance the LA defensibility and traceability. We do not expect an impact on the LA schedule (see Attachment #2). With respect to Topical Reports, these Process Models Reports will be written in such a manner as to facilitate converting them to Topical Reports, if DOE chooses to do that.

Need more QA assistance.

Response:

We agree. This was discussed during our presentation of this proposal at our February 4, 1999, meeting. Attachment #4 contains a line item for the additional resources required by OQA.

Concern on whether the M&O has knowledge and commitment and will provide the oversight to preclude recurrence.

Response:

We believe that we have sufficient understanding of where the problems are, and this will be further supported by completion of the root cause determinations being conducted. We have made an explicit management commitment to both the DOE and NRC to focus on addressing these QA implementation issues and we stand behind that commitment. This commitment, as well as what the management expectations of the staff are, have been communicated to the M&O staff through various vehicles, including explicit inclusion of key nuclear culture principles in each employee's performance appraisal.

Need to inform lower levels of the problem.

Response:

These QA implementation problems have been and will continue to be communicated to the staff via the all-hands meetings held, Licensing Training, and ongoing staff meetings. As indicated above, each M&O employee's performance appraisal form now contains key nuclear culture principles that will be used to evaluate employees' performance.

Public Affairs need to provide support to deal with external issues.

Response:

We agree. As we get ready to discuss this concept with external parties, we will seek support from Public Affairs.

Some new work is essential and should not be deferred, i.e., Calico Hills and SZ models are not sufficient – need new data rather than fix old models.

Response:

We do plan to continue this work, while maybe not at the full level planned under the current baseline. We will adequately incorporate Busted Butte data into the UZ flow and transport model, and will incorporate Nye County data into the SZ flow and transport model.

Perhaps we should focus on new models with the right vigor rather than a top to bottom review of VA models which may be out-dated.

Response:

Through implementation of the new AP-3.10Q process, our analyses and modeling activities will incorporate new information, not just review of the VA models. These activities will reflect new data, as well as changes to current models that would be needed to address the LA Design Selection (LADS) process.

Reference 4

Letter OPC:JRS-1012, J.R. Dyer to D.R. Wilkins, U.S. Department of Energy (DOE) Guidance for Refocus Change Request (CR), dated March 25, 1999.

Department of Energy
Office of Civilian Radioactive Waste Management
Yucca Mountain Site Characterization Office
P.O. Box 30307
North Las Vegas, NV 89036-0307

QA:N/A

MAR 25 1999

D. R. Wilkins, Technical Project Officer
for Yucca Mountain Site
Characterization Project
TRW Environmental Safety Systems, Inc.
1261 Town Center Drive, M/S 423
Las Vegas, NV 89134-6352

U.S. DEPARTMENT OF ENERGY (DOE) GUIDANCE FOR REFOCUS CHANGE REQUEST (CR)

Reference: Ltr, Wilkins to Dyer, dtd 3/4/99

The purpose of this letter is to direct initiation of a CR to implement Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O) recommendations for upgrading plans to address high priority tasks in order to put in place full traceability of models, software, as well as full qualified data, implement improved work control processes, and ensure a credible and defensible basis for Site Recommendation (SR) and License Application (LA).

In general, we believe the CRWMS M&O's proposed approach would benefit the Project. We endorse the CRWMS M&O's efforts to improve the processes used to ensure the quality, traceability, and defensibility of products that support preparation of the SR Report and LA. However, certain information, as noted below, needs to be included in the CR to ensure that DOE has adequate technical bases for SR and the LA.

1. DOE endorses the general philosophy of the Process Model Reports (PMR) as a synthesis of the technical information and models that are deemed to be necessary and sufficient to support postclosure performance assessment, evaluation of postclosure site suitability, and preparation of those portions of the SR Report and LA related to the process models and postclosure system performance. The PMRs should focus only on the documentation of the technical basis for the process models used in postclosure performance assessment. They should contain no regulatory conclusions or compliance arguments, and they should not be prepared for conversion to topical reports.

2. The depth and breadth of scientific and engineering work that relates to the assessment of postclosure performance and that will be used in preparing the SR Report and LA must be adequately represented in the PMRs, and in supporting

Administrative Procedure (AP) 3.10Q analyses and other documents. The PMRs and the AP-3.10Q analyses, as appropriate, must take full advantage of and adequately reflect the body of existing scientific work on the Project by direct reference, as is normally done within the scientific and technical community. The PMRs must provide sufficient support for the conclusions and models presented to be credible and defensible, and to withstand rigorous technical review. The PMRs should be based on the best available information and provide a roadmap to that information, both in the Technical Data Management System (TDMS) and available reports.

3. In order to adequately define the scope of the PMR effort, the CR needs to: contain an outline of each PMR that is sufficiently detailed to convey the scope of the document; identify the number and scope of the AP-3.10Q analyses that may be required to support each PMR; identify the data, including existing data, analyses, and interpretations, that are likely to be considered in preparing the PMRs and supporting AP-3.10Q analyses; to the extent possible, indicate which data, analyses, and interpretations contained in existing references are likely to require qualification or other action prior to use and provide a detailed plan for this effort; and provide a list of other documentation, data, and models that may be addressed or a schedule for providing the information in each PMR.

4. An appropriately detailed cost estimate for the work required in preparing each PMR and the associated AP-3.10Q documentation must be provided so that there is a basis to evaluate the scope of the proposal. A schedule for development of the PMRs and the associated AP-3.10Q analyses and supporting data also needs to be provided. The linkages between each PMR and its supporting AP-3.10Q analyses, existing scientific data and analyses, and other information should be defined to the extent possible. The schedule needs to display the relationships among the PMRs, and between the PMRs and the Total System Performance Assessment/Analysis (TSPA), the SR/LA design, and the Site Description, so that the sequencing and timing of product development can be adequately evaluated. The relationship of the CR and the PMRs to plans for development or completion of other documents, including the Seismic Hazard Topical Reports, the Disposal Criticality Topical Report, and separate reports on disruptive events and natural analogs, also needs to be described. The schedule must indicate how the PMRs will support the process and schedule for development of the draft SR Report and draft LA chapters. DOE review of the CR will focus heavily on the details of the logic in the schedule.

5. The CRWMS M&O should provide a matrix showing how the PMRs support preparation of the relevant postclosure sections of the SR Report and LA. The matrix should also indicate where other documents are required to provide the necessary information (e.g., TSPA, Site Description). Since the proposed PMR process focuses

entirely on the documentation needed for postclosure evaluations, the CR should indicate how the PMR process and other proposed changes relate to existing plans to provide the other information (e.g., on design and pre-closure radiological safety) that is required for the SR Report and LA. The CR should clearly note any changes in the work planned to provide the information needed for design and preclosure safety analyses.

6. The CR needs to provide DOE with a detailed schedule and specific goals of the Tiger Team efforts related to each PMR, and an estimate of the costs associated with these efforts for each PMR so that there is a basis to understand the scope of the effort and to identify those areas that require the greatest expenditure of resources. The Tiger Team schedules need to be integrated with the PMR development schedule so that the overall PMR schedule can be evaluated. Additional technical reviews, data qualification activities, and formal peer reviews that may be required, as identified by the Tiger Teams, should not be planned as part of this CR, but should be included in future CRs as the needs are identified.

7. The deletion or disposition of planned fiscal year (FY) 1998 and FY 1999 Level 3 Deliverables should be discussed with and must be agreed upon by the Yucca Mountain Site Characterization Office (YMSCO) Assistant Manager (AM) affected as part of CR development. A rationale for each Level 3 deliverable deletion agreed upon by the affected YMSCO AM needs to be included in the CR. The rationale should include a discussion of where the data or information will be captured, a schedule for when this event will occur, and an estimate of the cost savings associated with deliverable deletion (i.e., a cost-benefit analysis for the deletion as opposed to completing it according to the present plan). Absent a clear benefit to deleting the deliverable, the work should be completed as originally planned.

8. Rather than accept the proposed treatment of the PMRs as a new sub-product, with a separate sub-product element for each PMR, as a basis for CR development, DOE prefers that the CR effort focus on the detailed integration of the schedule and scope for PMR development, and the relationship of the PMRs to other project documents and activities. Once this effort has begun, it should be possible for the planning team to identify where the proposed activities logically fall in the Project Work Breakdown Structure. Two weeks after the receipt of this guidance, the planning team should report to Victor W. Trebules, Director, Office of Project Control, with a proposal for DOE approval regarding the planning structure for reporting and monitoring work related to these new activities.

9. We remain concerned that the cost estimate to re-focus the FY 1999 CRWMS M&O work plan on high priority tasks needed to develop the documentation and traceability required for the SR Report and the LA has grown since the original proposal presented on February 4, 1999. We suggest that the final cost associated with the CR be constrained to the $8.7 million estimate contained in the above-referenced letter.

10. The CR needs to contain a detailed schedule which shows all necessary and appropriate technical feeds to the final Environmental Impact Statement (EIS) under the new construct, and most importantly, demonstrates how the CRWMS M&O will assure technical and design consistency between the final EIS and SR.

The proposed schedule for PMR development (as indicated in the above-referenced letter) shows that verification and traceability activities will be completed by the end of FY 1999. Before approving the FY 2000 plan, the DOE will need to have a good understanding of what additional information must be collected or other work completed to support the PMRs. To approve the CR, DOE will also need to understand, in detail, the differences, if any, in scope, cost, or schedule, between the work discussed in Volume 4 of the VA and the work planned for FY 1999, 2000, and the out years to achieve SR and LA under this new construct. The CRWMS M&O should plan to provide this information as part of its FY 2000 planning documentation.

If you have any questions please contact Victor W. Trebules at 794-5068 or Jane R. Summerson 794-1493.

J. Russell Dyer
Project Manager

OPC:JRS-1012

cc:
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J. K. Clark, M&O, Las Vegas, NV
C. J. Nesbitt III, M&O, Las Vegas, NV
J. L. Younker, M&O, Las Vegas, NV
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V. W. Trebules, DOE/YMSCO, Las Vegas, NV
M. E. Van Der Puy, DOE/YMSCO, Las Vegas, NV
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Reference 5

Briefing 1999-043cjn Rev. 1, prepared by C.J. Nesbitt, III, PMR, Data Qualification and LADS Change Request Status, dated Apri; 13, 1999.

Civilian Radioactive Waste Management System

Management & Operating Contractor

TRW Environmental Safety Systems Inc.

PMR, Data Qualification and LADS Change Request Status

C. J. Nesbitt, III

April 13, 1999

1999-043cjn Rev 1

TRW Environmental Safety Systems Inc.
B&W Services, Inc.
Duke Engineering & Services, Inc.
Fluor Daniel, Inc.
Framatome Cogema Fuels
JAI Corporation
JK Research Associates, Inc.
Lawrence Berkeley Laboratory
Lawrence Livermore National Laboratory
Los Alamos National Laboratory
Morrison-Knudsen Corporation
Sandia National Laboratories
Science Applications International Corporation
Science & Engineering Associates, Inc.
Winston & Strawn
Woodward-Clyde Federal Services
Cooperating Federal Agency:
U.S. Geological Survey

Work Status

- All work associated with PMRs, Data Qualification & LADS Design Option 2 is underway per direction of M&O General Manager.
- Pending CR action is not holding up any work.

Work Status (Continued)

- **PMRs**
  - PMR work logic is completed - April 13, 1999.
  - Logic undergoing check.
  - Schedule being developed based on logic.
- **Data Qualification**
  - Tiger Teams engaged and working to determine state of remedial action.
  - Work on schedule provided to DOE in Wilkins letter dated March 4, 1999.

Work Status (Continued)

- **PVAR**
  - Draft procedures complete.
  - Review completed on April 9, 1999.
  - Comment resolution underway, completion scheduled April 16, 1999.
- **Product WBS/RAM**
  - M&O has developed a proposed revision to the Product Hierarchy in line with the briefing at the Colorado Off-Site.
  - Briefing being prepared for DOE per direction in Dyer letter dated March 25, 1999 . M&O functional hierarchy also being updated.

Work Status (Continued)

- **LADS**
  - Per draft DOE direction April 9, 1999, work proceeding on LADS Option 2.
  - Current VA design workscope being evaluated for possible changes.
  - Work on ceramics has been suspended.
  - Orderly suspension of work on Richards Barrier will be proposed.
  - Recommendation to continue Backfill studies.
- **MR Disposition**
  - M&O has reviewed listing of workscope to be considered for CRs. Recommendation to be briefed to PORB on Thursday, April 15, 1999.

Next Steps

- **PMRs**
  - Complete Schedule by end of April as briefed at Colorado Springs Off-Site.
  - Prepare budget estimate for PMRs.
    - Multi-year estimate to be in sync with the schedule.
- **Data Qualification**
  - Integrate Tiger Team and PMR schedules.
  - Prepare budget estimates.

Next Steps (Continued)

- **PVAR**
  - Integrate PVAR procedures (e.g. AP 3-10Q) into PMR schedules.
  - Prepare budget estimates.
- **Product WBS/RAM**
  - Gain DOE approval.
    - Needed for Annual Planning Guidance.
- **LADS**
  - Obtain DOE approval to suspend work.
    - Residual budget rollover.
  - Complete design workscope review.
    - Develop schedule & estimates.

Next Steps (Continued)

- **MR Disposition**
  - DOE review of M&O proposed list.
  - DOE decision and direction for new FY99 workscope.

Situation

- Work underway on PMDQ CR.
- Work starting on LADS.
- Potential work about to start on new CR (MR Disposition).
- Work to start on FY00 multi-year plan as soon as possible to support an August PORB approval of plan.

Problem

- **Using the current planning approach the completion of PMDQ, LADS Option 2 & MR CR actions into the next six weeks would not be possible.**
  - Resulting delay would push start of annual planning out beyond May 15, 1999.
  - Resulting delays would put us into the same position we were in last year when critical end of year CRs took precedence over annual plan start.
  - A virtual replan of the baseline would be required touching over half of all work packages and control accounts.

Solution

- **Implement revised annual planning process (as briefed at Colorado Springs Off-Site) now.**
- **Provide DOE two top level CR packages.**
  - PMDQ/LADS
    - Mid-May, Combine two CRs into one.
  - MR Disposition
    - Mid-June, Contingent on quick DOE direction.

Solution (Continued)

- **CR Packages to contain:**
  - Detailed logic driven schedule (P3).
  - Added/Deleted deliverables with rationale.
  - Cost Estimates at Sub-Product level (By month by labor/ODC).
  - Sub-Product Scope (New or Revisions to existing scope).

Special Notes

- Revised WBS/RAM will be implemented with approval of annual plan CR (August 1999).
- The M&O would continue to perform and control work in accordance with the forward looking decisions provided at the Colorado Springs Offsite.

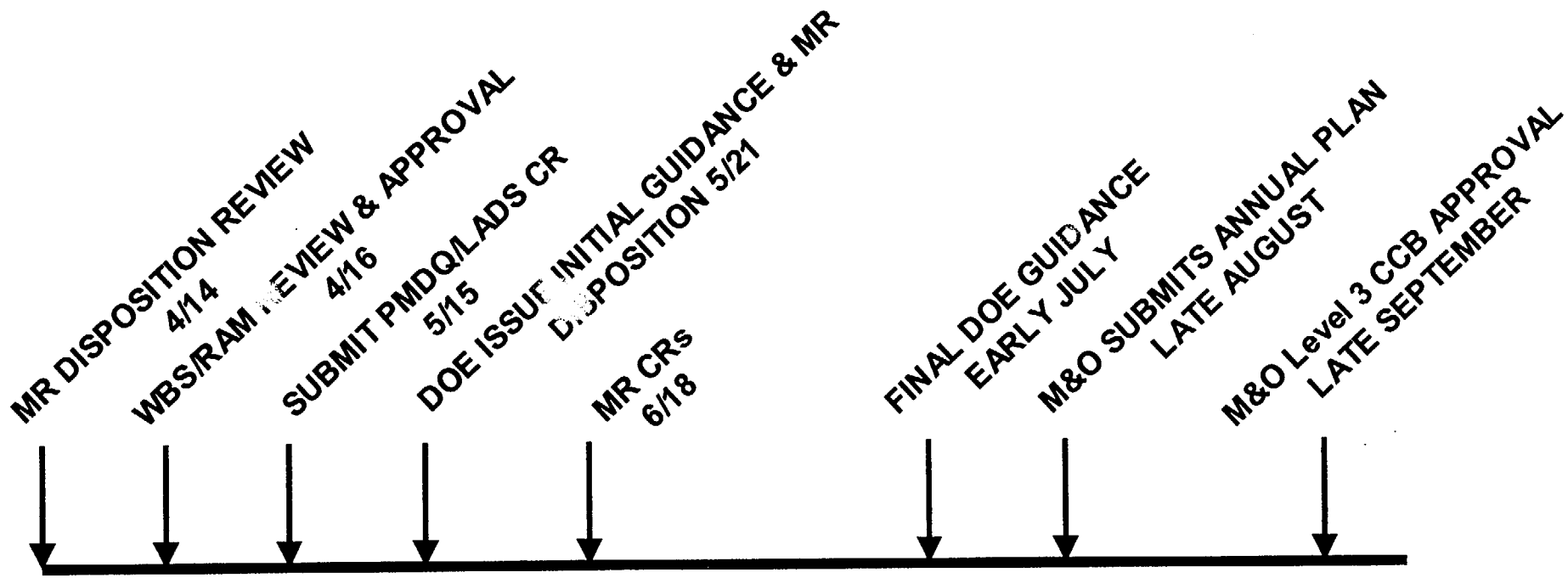
Key Understandings

- M&O will continue reporting to current baseline until PMDQ/LADS CR is approved.
- M&O will report to new schedule once CRs are approved.
- M&O will continue to report earned value at Inception to Date (ITD) by Sup-Product for the balance of the Fiscal Year once CRs are approved.
- M&O will also provide spend report by month, ITD, FTC, and FAC along with FTE reports.

Key Understandings (Continued)

- **M&O will modify work packages and control accounts only to the degree necessary to control and report work for the balance of the Fiscal Year.**
  - WP/CA revision will not be included with CRs (Per new planning process).
  - Functional Monitors will be privy to WP/CA modifications as soon as available.
- **Special requirements in Dyer direction dated March 25, 1999, to be provided after CR submissions.**
  - VA Crosswalks.

Preliminary Timeline



Closing Summary

- We can't get there from here using the existing planning process.
- We need to learn from our FY98 planning problems and apply the revised paradigm now.
- Bi-weekly planning status to DOE.
- Recommend PORB approval ASAP.

Reference 6

Management Plan and Response to Corrective Action Request (CARs) LVMO-98-002 (CAR-002), LVMO-98-005 (CAR-005), LVMO-98-006 (CAR-006), LVMO-98-010 (CAR-010), Revision 2, dated November 30, 1998.

MANAGEMENT PLAN and RESPONSE to CORRECTIVE ACTION REQUESTS (CARS) LVMO-98-C-002 (CAR-002) VAMO-98-C-005 (CAR-005) LVMO-98-C-006 (CAR-006) LVMO-98-C-010 (CAR-010)

YUCCA MOUNTAIN PROJECT (YMP) MANAGEMENT AND OPERATING CONTRACTOR (M&O)

Revision 2

November 30, 1998

Prepared by:

_____
Ed Miller
CAR Technical Lead
Date_____

Reviewed by:

_____
David Calloway
CAR Project Manager
Date_____

Checked by:

_____
Jim Gardiner, DOE
YMSCO Office of Program Execution
Date_____

Approved by:

_____
Bob Marler, M&O
Support Operations Manager
Date_____

Approved by:

_____
Dan R. Wilkins, M&O
AGM, Monitored Geologic Repository
Date_____

Approved by:

_____
Colin Heath, M&O
AGM, Waste Management & Integration
Date_____

Approved by:

_____
R. L. Strickler, M&O
General Manager
Date_____

Approved by:

_____
Robert Craig, USGS
Technical Project Officer
Date_____

EXECUTIVE SUMMARY

This Management Plan and Response identifies actions by the Management and Operations (M&O) contractors and other affected organizations in response to Corrective Action Requests (CARs) LVMO-98-C-002 (CAR-002), VAMO-98-C-005 (CAR-005), LVMO-98-C-006 (CAR-006) and LVMO-98-C-010 (CAR-010). These CARs relate to deficiencies found in technical data, procurement, software, and model development and use respectively. Each of the individual CARs defines specific problems that have some degree of overlap with the other three areas. Due to the interconnected nature of the CARs, this plan provides an M&O-wide, coordinated approach to remedial actions, action to determine the extent of the conditions, root cause(s) determination, and actions to preclude recurrence.

The CARs are interrelated in that at least one of the potential affects of inadequate procurement controls may be to directly affect the quality status of data and software/models. Data and software code of indeterminate quality status, in turn, may impact the adequacy of analyses/models and their outputs. Data is the focal point because of its current or eventual use in licensing documents, licensing-like documents (e.g., the Viability Assessment and Site Recommendation), or design documents. The identification of deficiencies in any one of these CARs will involve corrective actions that will help to identify the quality status and the extent of the deficiencies associated with one or more of the CARs, for example, a CAR-002 data item identification and qualification process would support and aid in the qualification of a CAR-006 software item and/or CAR-010 model item validation. Completion of planned or yet to be planned actions to preclude recurrence may also apply to one or more of the other CARs.

The actions already taken or planned include remedial actions designed to prevent similar deficiencies while corrective actions are being developed and implemented. Using a method of "global" flagging, i.e. "To Be Verified" (TBV) provides a positive control over the status and use of data and software. This ensures their verification/qualification at a point in time when the data or software is going to be used for future decisions. To ensure identification and resolution of affected data, remedial actions provide short-term compensatory measures to assure that the qualification status of data is verified and any identified issues are tracked until resolved. A system will be developed to ensure that data and software, and the point(s) of their usage will be identified. This will include assigning a TBV number to the data and software with traceability to and/or from the point of use. In this manner, data or software with known qualification deficiencies or whose qualification status is indeterminate can still be used for various applications and included in various reports or draft/preliminary documents without having those conditions fully resolved. The assignment of the TBV number once the data or software has been used or identified for use in the Site Recommendation (SR) or License Application (LA) establishes a priority for evaluation/resolution. This will ensure that all points of usage are flagged and tracked and will not be unknowingly relied on for SR and LA document submittal or, in the case of designs, be relied on for their safety or waste isolation function.

Other actions will include methods to determine the extent of the identified conditions and the setting of priorities for correcting the identified deficiencies. Priority will focus on data, software, and the models required in support of, or in the preparation of, the SR and LA.

Due to the complexity of the actions required to address these CARs, training for those involved in the actions to determine the extent of the conditions will be performed prior to initiation of

such complex actions. Whenever a commitment is made to develop or revise a procedure, training is required as a part of the OCRWM process for making a procedure effective.

Also due to the complexity of these corrective actions, the M&O will perform independent assessments at appropriate intervals or milestones to confirm that actions taken are adequately completed and effective. Progress for each CAR will be reported by the CAR Project Manager to the Yucca Mountain Site Characterization Office (YMSCO) and OQA periodically as deemed appropriate. Upon completion of the actions to determine extent of conditions for each of the CARs, amended CAR responses will be submitted that will identify the extent of conditions, corrective actions taken, and impacts.

CORRECTIVE ACTION REQUEST CONDITIONS

CAR-002 Summary

CAR-LVMO-98-C-002 has identified data-related procurements as deficient or of indeterminate quality. These deficiencies also render the resulting data and related downstream documentation/documents where the data were used of indeterminate quality. Some of these data reside in databases and are labeled as qualified. Quality Assurance Requirements and Description (QARD) Supplement III controls of data are inadequate as depicted by the cited examples of the inadequate procurements involving the services that affect data.

CAR-005 Summary

CAR-VAMO-98-C-005's deficiencies are summarized as follows:

1) Controls over the content and review of procurement documents are ineffective or of an indeterminate quality. Per QARD criterion 4 procurement document controls and associated activities were not effective and the items or services acquired as well as downstream items, documents, or activities where the acquired items or services were used are of an indeterminate quality.

2) Controls over the qualification and use of suppliers are deficient or of an indeterminate quality. Per QARD criterion 7 controls over procured items and services were ineffective and the items or services acquired as well as downstream items, documents, or activities where the acquired items or services were used are of an indeterminate quality.

3) Previous actions to determine the extent of procurement-related conditions adverse to quality have been in part ineffective (this includes actions to determine the direct quality of items or services acquired and of downstream items or activities impacted by the acquired items or services). QARD criterion 16 controls were not effectively implemented and the items, services, documents, data, software, models or activities and products of activities involved in prior documented procurement deficiencies are of an indeterminate quality.

4) Previous actions to preclude recurrence of conditions adverse to quality have been deficient. Per QARD criterion 16 controls were not ineffectively implemented with regard to ultimately correcting and precluding procurement program deficiencies at the M&O Laboratories that

had been identified and documented in several prior Deficiency Reports and Corrective Action Requests.

CAR-006 Summary

CAR-LVMO-98-C-006 has identified that M&O software programs are being developed and used for quality affecting activities throughout the CRWMS M&O without the implementation of specific software life cycle baseline, and/or controls. The ability to assess the effectiveness of these processes is rendered indeterminate due to an inadequate process and/or lack of implementation. Not all M&O software programs have been identified, baselines established, or placed under configuration management.

CAR-010 Summary

CAR-LVMO-98-C-010 has identified that M&O models are being developed and used for quality affecting activities throughout the M&O without the implementation of sufficient model development processes, scientific investigation and configuration management controls. The M&O has no established system for external interface controls related to affected organizations or internal interfaces within an M&O organization utilizing models. There is no published baseline list of models that delineates ownership, integration, flow or controls for the various models, and models have not been placed under model configuration management version control.

INTEGRATED CAR MANAGEMENT

This plan has been developed to coordinate and integrate the M&O's responses to the CARs. The overlapping nature of CARs 002, 005, 006 and 010 requires extensive coordination and communication within the M&O and between the M&O, the U.S. National Laboratories, the U.S. Geological Survey (USGS), and the U.S. Department of Energy's (DOE) Office of Civilian Radioactive Waste Management (OCRWM) and the Office of Quality Assurance (OQA).

A CAR Project Support Team has been established and is headed by the CAR Project Manager who reports to M&O Support Operations Manager. The M&O's Configuration Management Manager has been assigned as the CAR Project Manager. The CAR Project Manager is provided with technical support from the Natural Environment Program Office (NEPO), Performance Assessment Operations (PAO), Support Operations, Engineered Barrier Systems Operations, M&O Procurement, Surface Facilities Operations, Waste Package Operations, Repository Design Program, USGS, and others as necessary to assist with managing CAR resolution.

The CAR Project Manager's role is to coordinate between the designated points of contact for the various departments and groups that are involved in the investigation and corrective actions for the identified conditions. The CAR Project Manager is responsible for the planning, integration and coordination of the M&O Integrated CAR related activities. This role includes:

1. Managing the overall CAR response effort
2. Coordinating communication between the M&O organizations and the Process Validation and Re-engineering (PVAR) working groups
3. Planning and scheduling M&O CAR response activities

4. Consolidating Operations Managers' (OMs) CAR responses/planned actions
5. Reporting status of the CAR activities
6. Identifying appropriate methodologies for investigating the extent of the conditions and for ensuring proper completion of actions and integration between the CARs and the various responsible organizations
7. Coordinating CAR closure actions with OQA.

The Operations Managers (OMs) and the USGS Technical Project Officer (TPO) have the primary responsibilities for the execution of the CAR activities in accordance with the action, commitments and completion dates provided in this plan. The OMs/TPO will direct the conduct of the actions described in this plan for their respective organizations.

Actions will be managed at a sufficient level of consistency and detail beyond this plan to provide clear guidance to members of their respective organizations on the actions required, and on required status reporting to the CAR Project Manager. The OMs/TPO will each designate a Point Of Contact (POC) to assure common and complete understanding within each operation of what is required by the implementation of this plan.

Additional integration will be accomplished through the use of common tools such as integrated schedules, common guidance and reporting formats, and OM/TPO actions based on this plan. The CAR Project Manager has established guidance for reporting of action completion status. Planning, information exchange, and status reporting meetings will be scheduled as necessary to ensure timely completion of the identified actions.

CAR RESPONSES

A number of the remedial actions described below were taken as immediate actions to identify and track to resolution deficient conditions and to prevent additional deficiencies while corrective actions are being implemented. The immediate actions were included in a memorandum from D.R. Wilkins (Subject: M&O Policy for Closure of QA Deficiencies LVMO-98-C-002, VAMO-98-C-005 and LVMO-98-C-006, dated June 17, 1998) to all OMs and TPO.

2.0 CAR-002

This CAR involves two issues, procurement controls and controls affecting data. This response covers the data quality aspects of the CAR. The response to CAR-005 covers all of the procurement program aspects identified in this CAR.

2.1 Remedial Actions

2.1.1 Data currently identified in the Technical Data Management System (TDMS) as qualified will be flagged as "TBV". Until YAP SIII.3Q, *Processing of Technical Data on the Yucca Mountain Site Characterization Project*, is modified as identified in remedial action 2.1.2 any data submitted to the TDMS and identified as qualified will continue to be flagged as TBV when entered into TDMS.

Responsibility: Technical Data Management Manager

Due Date: Completed. Existing data identified as qualified were flagged as TBV on September 30, 1998.

2.1.2 YAP SIII.3Q, *Processing of Technical Data on the Yucca Mountain Project* will be modified to include checklist(s) designed to identify procurement, software, or modeling issues that potentially affect the qualification status of the data and provide traceability to related records, such as scientific notebooks or technical procedures, procurement documents, source data, or reports. Once this procedure modification is effective, all data submittals will be accompanied by the completed checklist(s) from the data submitter/originator. Based on the results of the checklist, Qualified - " Q" data initially generated under the Quality Assurance (QA) program as "Q" will either be identified as qualified or identified as qualified with a TBV and any indeterminate issues identified (e.g. PO, software, model) in the TBX system and TDMS. If no issues are identified as a result of completing the checklists, no TBV number will be issued to this incoming data.

Responsibility: Technical Data Management Manager

Due Date: February 15, 1999

2.1.3 Methods and procedures for tracking data point(s) of use (data to document traceability) and appropriate interface with the TBV system will be established. Data flagged with a global TBV will be required to have a TBV number assigned at the time the data are initially identified for use (i.e. use refers to any data that is identified from VA to SR/LA) and the number referenced to the "point of use" document(s). While the TBV number is open, it will be referenced in any subsequent document where the data may be used.

Responsibility: Configuration Management Manager

Due Date: Completed November 4, 1998 with the issuance of NLP 3-15.

2.1.4 YAP SIII.3Q will be modified to require all data used to be obtained from the TDMS, to be identified by the Data Tracking Number and to identify the qualification status of the data.

Responsibility: Program Information Management Office Manager

Due Date: February 15, 1999

2.2 Actions to Determine Extent of the Conditions

Remedial actions when implemented will provide positive controls to ensure that issues identified in the subject CAR are evaluated for potential impact on any data identified for use and will require that the qualification status of the data be confirmed on an ongoing basis. This approach allows the determination of extent of condition to focus on data previously used and anticipated for use in support of the SR and LA. The following actions will be taken to determine the extent of condition.

2.2.1 The managers responsible for Volumes 2 and 3 of the Viability Assessment (VA) document, the Technical Basis Document (TBD), and Site Description Report will identify all quality affecting data/references used in support of VA and anticipated for use in the SR and LA. The results will be documented in a list that is provided to the CAR Project Manager for inclusion in the CAR closure package.

Responsibility: Natural Environment Program Operations Manager; Performance Assessment Operations Manager; Surface Facilities Operations Manager; Waste Package Operations Manager; Engineered Barrier System Operations Manager; Repository Design Program Manager.

Due Date: Completed October 30, 1998

2.2.2 Data and or data sets identified, as a result of extent of condition action 2.2.1 will be assigned individual TBV number (s). The qualification status of any data submitted to the TDMS will be reviewed as part of the submittal process. This will prevent data with open issues requiring further evaluation from being labeled qualified without noting the indeterminate quality status of the data.

Responsibility: CAR Technical Lead

Due Data: May 3, 1999

2.2.3 Checklist(s) will be established to guide the evaluation of data to identify procurement, software, or modeling issues that potentially affect the qualification status of the data and provide traceability to related records, such as scientific notebooks or technical procedures, procurement documents, source data, reports, etc. The owner/generator of the data identified to be used from VA to SR//LA from extent of condition action 2.2.1 above will perform a documented evaluation using these checklists for each of the identified data sets. This evaluation and qualification process will be performed for all current "newly developed" data and data to be submitted to the TDMS. The checklist will be completed by the data and/or data sets owner/generator and forwarded to the CAR Project Manager for inclusion in the CAR closure package. To ensure the effectiveness of this action, the evaluations will be independently verified.

Responsibility: Natural Environment Program Operations Manager; USGS Technical Project Officer; Performance Assessment Operations Manager; Waste Package Operations Manager, others as identified

Due Date: October 29, 1999 – for completion of re-verification of data identified in 2.2.1 as being needed for SR and LA

2.2.4 If the results of item 2.2.3 identify additional issues requiring further evaluation (e.g., software issue, model issue, procurement deficiencies), the issues will be identified in the appropriate tracking system(s) such as the TDMS, Software Management System (SMS) and TBV system. The TBV number will remain open until required actions are complete. Any data having open issues and/or a TBV number will be corrected or qualified using approved alternate methods according to the revised YAP SIII.1Q, *Qualification of Unqualified Data (made effective November 18, 1998)*. For those data having no open issues after completion of the evaluation, the TBV number will be closed.

Responsibility: CAR Technical Lead

Due Date: May 3, 1999

2.3 Root Cause Determination

The apparent cause is:

Corrective action taken in response to previous procurement deficiencies (e.g., CAR 97-001 – closed, CAR 98-005) did not include commitment to assess impact on data for those suppliers who did not have sufficient QA and technical requirements passed down to them.

2.3.1 Root cause determination will be performed and documented according to the requirements of AP-16.4Q, Root Cause Determination.

Responsibility: CAR Project Manager

Due Date: March 5, 1999

2.4 Actions to Preclude Recurrence

2.4.1 Actions to preclude recurrence and associated schedules for completion will be provided after root cause determination.

Responsibility: CAR Project Manager

Due Date: March 15, 1999

The following actions are being taken based on the apparent cause:

2.4.2 YAP SIII.1Q, *Qualification of Unqualified Data* will be revised to improve the process for data qualification.

Responsibility: Assistant Manager for OPE

Due Date: Completed November 18, 1998

2.4.3 YAP SIII.3Q, *Processing of Technical Date on the Yucca Mountain Project* will be revised to improve the process to ensure adequate objective evidence is available to support the qualification of submitted data.

Responsibility: Assistant Manager for OPE

Due Date: February 15, 1999

5.0 CAR-005

5.1 Remedial Actions

During OQA Audit M&O-ARC-98-06, it was identified that the M&O were not effectively implementing M&O QAPs 7-3, 7-5, and 7-6 procedures. The audit report stated that remedial action to resolve these issues was referenced to CAR-005. The following four remedial actions strictly apply to those identified audit deficiencies:

5.1.1 The FY'99 statement of work for UNLV and ANL were issued containing acceptance criteria.

Completed: October 15, 1998

5.1.2 M&O QAP-7-5 will incorporate specific responsibilities for submittal of QA records generated or accepted by this procedure to be reflected in the new recommended AP.

Responsibility: M&O Procurement Engineer

Due Date: February 26, 1999

5.1.3 M&O QAP-7-6 will be deleted and replaced by QAP-7-5. QAP-7-5 will no longer contain a requirement to notify the supplier that the service has been accepted. This is a requirement of the QARD and the fact that a supplier receives payment for the service is adequate notification of acceptance of the service.

Responsibility: M&O Procurement Engineer

Due Date: February 26, 1999

5.1.4 Based on DOE correspondence dated 10/30/98 from Alan Brownstein to Mr. Michael J. Bell, Subject: Office of Civilian Radioactive Waste Management Administrative Procedure AP 32.6, *Reporting of Defects and Noncompliance to meet the intent of 10 CFR Part 21,* the CRWM Program is postponing its voluntary implementation of 10 CFR, Part 21. M&O-QAP-7-3 will be revised to delete the application of 10 CFR, Part 21 in future procurement documents.

Responsibility: M&O Procurement Engineer

Due Date: February 26, 1999

The following remedial actions address the specific deficiencies addressed in CAR-005.

With the exception of remedial action 5.1.5 below, no other remedial actions are planned at this time for the USGS. If, through completion of other actions it is determined that remedial actions are needed, then such actions will be planned, taken, and this response modified.

5.1.5 Issue a policy letter stating that procurements are not to be made on the Civilian Radioactive Waste Management (CRWM) Program unless in accordance with applicable procurement procedures to determine if the item or service is Q.
If determined to be Q, the procurement will be processed according to approved CRWM Program procedures. A part of the objective here is to ensure that credit card and electronic purchasing on the CRWM Program is stopped. This policy letter will be sent to the USGS Technical Project Officer (TPO) and YM Project Lead at each of the National Laboratories. Each copy will contain a statement for acknowledging receipt, understanding of the policy, and personal commitment to ensure compliance that must be signed, dated and returned by the TPO or YM Project Lead to the DOE Director, Office of Civilian Radioactive Waste Management.

Responsibility: DOE Director, Office of Civilian Radioactive Waste Management and the USGS TPO and the YMP Project Lead at each of the National Laboratories

Due Date: December 21, 1998

5.1.6 Establish within the M&O Las Vegas Procurement Department a position of Procurement Engineer with responsibilities to ensure the adequacy of the M&O procurement process and the adequacy of new M&O procurements. The Procurement Engineer will assure the adequacy of the procurement documents by coordinating the development and review of the technical and quality requirements included in those procurement documents.

Responsibility: Procurement Manager

Due Date: Completed September 30, 1998

5.1.7 M&O QAP-7-3 will be revised to incorporate an enhanced procurement process that meets the QARD and has appropriate quality controls incorporated to ensure built-in quality.

Responsibility: M&O Procurement Manager

Due Date: February 26, 1999

5.1.8 Revise the National Laboratories' procurement procedures as necessary for their application to the new procurement process in order to reference M&O QAP-7-3 for new procurements.

Responsibility: NEPO Manager and Laboratory Leads

Due Date: February 15, 1999

5.1.9 The Procurement Engineer (PE) and the OQA representatives respectively will review the current open Q procurements in accordance with applicable procurement procedures at the National Laboratories to ensure that appropriate technical and quality requirements are established and applied. Any needed changes will be processed to incorporate the change according to applicable procedures.

Responsibility: Procurement Engineer and responsible OQA Representatives

Due Date: January 22, 1999

5.1.10 The Procurement Engineer (PE) and/or responsible OQA representative, as appropriate, will review all currently open procurements classified as non-Q to ensure the classification is correct in accordance with a documented methodology. If the classification is incorrect, the procurement will be re-classified and re-processed under the Q procurement process. This documented methodology will be included in the M&O QAP-7-3 revision to ensure that all future procurement classifications have been made correctly.

Responsibility: PE and responsible OQA Procurement Representatives

Due Date: January 31, 1999

5.1.11 Revise M&O QAP-7-5 to include a fully compliant process for the acceptance of quality-related services. The M&O QAP-7-5 will require the M&O Procurement Engineer to coordinate the review of supplier deliverables to ensure compliance with the requirements of the procurement document. The M&O Procurement Engineer will solicit the assistance of the requester in this review.

Responsibility: M&O Procurement Manager

Due Date: February 26, 1999

5.2 Actions to Determine Extent of the Conditions

NOTE: The assessment and review process of current and closed procurements is integrated with CAR-002, 006 and 010 in qualified procurements for data, software and models that have been identified as necessary for SR or LA will be reviewed and resolved as the first priority. Procurements involving the acquisition of Q items will be worked as the second priority. Any procurement not worked as a part of the first two priorities will be evaluated and identified issues resolved using the following priorities:

- Procurements of design services
- Procurements of calibration services involving Q data
- Procurements of analytical services where Q data is provided
- Procurements of data collection services
- Procurements of vendor qualified software used in Q applications
- Any other Q procurements

The following were referenced in the CAR-005 write up and result in the following identified issues that will be covered by the CAR-005 actions.

Deficiency Document No.	Issues Included In CAR-005	Comment
YM-97-C-001 (LVMO)	CAR-005 actions to preclude recurrence will address the following: 1. University Systems subcontracting services without the knowledge of the M&O and without QA controls being applied 2. Use of credit cards to procure where the QA procurement process controls are by-passed	Closure partially based on reference to CAR-005 for additional actions to preclude recurrence
LVMO-98-C-001 (LVMO/SNL)	None	Citation in CAR-005 was to show that these issues have been identified previously, but without effective corrective actions that precluded recurrence

YM-97-D-047 (M&O, LLNL)	CAR-005 remedial actions and action to determine the extent of conditions will address the following: 1. Still using suppliers not on the QSL 2. Processing Q procurements as non-Q	Closure partially based on reference to CAR-005 for additional remedial actions and actions to determine extent of conditions. CAR-005's actions to preclude recurrence must also address these conditions
YM-97-D-068 (M&O, SNL)	None	Citation in CAR-005 was to show that these issues have been identified previously, but without effective corrective actions that precluded recurrence
YM-97-D-046 (K/PB)	None	Citation in CAR-005 was to show that these issues have been identified previously, but without effective corrective actions that precluded recurrence
YM-97-D-025 (LVMO)	Actions to preclude recurrence of the procurement programmatic issues involving subcontracting by suppliers not having an approved procurement program	Closed partially based on reference to CAR-005 for actions to correct the programmatic deficiencies in order to preclude recurrence
YM-97-D-074 (LANL)	LANL passed on technical & quality requirements to the SNL Primary Standards Laboratory without a controlling procedure	Closure partially based on reference to CAR-005 for actions necessary to address the remaining identified issue
LLNL-98-D-085	Ineffective corrective actions on 5 of 7 verified prior deficiency documents. These are related to areas not dealing with procurement.	Closure partially based on reference to CAR-005 for actions to preclude recurrence of ineffective corrective actions
LLNL-98-D-092	Q procurement made as non-Q and procurement made to a supplier not on QSL	Response to DR refers to CAR-005 for the corrective actions for these two issues. This DR is still open for other unrelated issues, but may be closed without further actions with regard to these two procurement issues that will be covered by the CAR-005 corrective actions

YM-97-C-004 (M&O, SNL)	None	Citation in CAR-005 was to show that these issues have been identified previously, but without effective corrective actions that precluded recurrence
YM-97-C-002 (LVMO/PNL)	None	Citation in CAR-005 was to show that these issues have been identified previously, but without effective corrective actions that precluded recurrence

5.2.1 Where possible, identify all M&O, National Laboratory, and USGS acquisitions that were active or made after the initial OQA acceptance date of the respective AO's QA program provided in Attachment I. This process is to identify closed as well as currently open procurements. As such, the procurement should include designation as "Q" and "Non-Q" and may include documents termed as procurements, augmented staff procurements, U. S. National Laboratory agreements, task agreements, Memorandums of Agreement, Memorandums of Understanding and any other terms applied to procurement methods for acquisition of quality-affecting items or services. A listing of these acquisitions identifing the procurement document identifier, the supplier's name and location, a summary of the work statement/scope of supply, the issue date, and the closure date (if applicable) will be provided to the CAR Project Manager for inclusion in the CAR closure package.

Responsibility: M&O Procurement Manager and USGS TPO

Due Date: March 31, 1999

5.2.2 The Procurement Engineer and/or responsible OQA Representative will review, in accordance with a documented methodology, each non-Q procurement identified in action 5.2.1 to determine if the acquisition was, or should have been Q. The results of the reviews will be used to up-date the above listing.

Responsibility: Procurement Engineer and National Laboratory Leads

Due Date: April 15, 1999

5.2.3 Each Q procurement will be reviewed for adequacy using a documented methodology The review will determine the quality status of the procurement with regard to the requirements of the Quality Assurance Requirements and Description (QARD). This review will include verifying the quality status of any lower-tier procurement in meeting the appropriate QARD requirements if work was subcontracted. Documented results of the reviews will be provided to the CAR Project Manager for CAR integration activities and inclusion in the CAR closure package.

Responsibility: Responsible Manager of each AO with assistance of the respective OQA representative.

Due Date: May 30, 1999

5.2.4 Potentially deficient items will be identified through the initiation of a Nonconformance Report (NCR) according to OCRWM YAP-15.1Q. Potentially deficient data or software will be identified as having procurement issues in the TBX system, Software Management System (SMS) or TDMS as applicable.

Responsibility: Initiation of NCRs for items – OQA
Management of YAP SIII.1Q – Technical Data Management Manager
AP-SI.1Q – Configuration Management Manager

Due Date: June 15, 1999

5.2.5 Review and verify the adequacy of the current Qualified Suppliers List (QSL) to determine that it correctly reflects the qualification status of each supplier listed and contains up to date, accurate, and complete information needed for the proper procurement of Q items and services. The results of this action will be reported in writing to the CAR Project Manager for inclusion in the CAR closure package.

Responsibility: OQA

Due Date: Complete, see letter, Richard G. Peck to Catherine E. Hampton (DOE OQA), dated February 6, 1998, letter number RGP:kh:L98-18.

5.3 Root Cause Determination

The apparent cause is:

Insufficient and inconsistent implementation of procedures for procurement process and supplier selection.

5.3.1 Root cause determination will be performed and documented according to the requirements of AP-16.4Q, Root Cause Determination.

Responsibility: CAR Project Manager

Due Date: March 5, 1999

5.4 Actions to Preclude Recurrence

5.4.1 Based on the apparent cause, revise M&O QAP-7-3, *Procurement Process* and M&O QAP- 7-5, *Acceptance of Items and Services and Supplier Performance Monitoring* procedures, as described above in actions 5.1.7 and 5.1.11, to provide enhanced processes.

Responsibility: M&O Procurement Manager
Due Date: February 26, 1999

5.4.2 Any additional actions to preclude recurrence and associated schedules for completion will be provided upon root cause determination. Additional actions will correct prior ineffective corrective actions taken for previous similar deficiencies and will ensure future root cause determinations and actions to preclude recurrence are thorough and effective.

Responsibility: CAR Project Manager

Due Date: February 19, 1999

6.0 CAR-006

6.1 Remedial Actions

6.1.1 A program wide inventory of all qualified, unqualified, and undocumented software subject to the QARD will be conducted. The inventory will flag that software used in support of VA and/or anticipated for use in the SR or LA. The inventory will include software routines and macros subject to the requirements of QARD section I.2.1.C, but will not include administrative support software such as MS Word or Excel. This inventory will be reported to the CAR Project Manager for CAR integration activities and inclusion in the CAR closure package.

Responsibility: OMs & CM Manager

Due Date: Completed September 30, 1998

6.1.2 A baseline request for unqualified software identified for use in the SR or LA will be submitted according to AP-SI.1Q, *Software Configuration Management* to initiate and track the qualification process.

Responsibility: Software Owners

Due Date: April 2, 1999

6.1.3 The software identified as qualified on the inventory will be included in the M&O Software Management System (SMS) status accounting program and reflected in the M&O Software Baseline Report. This software will be labeled to be verified (TBV) and will be evaluated according to action 6.2.1 below to determine extent of conditions.

Responsibility: CM Manager

Due Date: February 2, 1999

6.2 Actions to Determine Extent of the Conditions

6.2.1 Software identified as qualified and as TBV will be assessed using the software qualification procedure, QAP-SI-0, Software Qualification procedure, Rev. 4 checklists to verify that an accurate and complete qualification process has been completed and documented. The verification process will review the supporting documentation (i.e. SCR, LCP, CSD, User Manual, V/V Plan and the SQR) to ensure the development of the software, data used in the development of the software, and support documentation developed for the qualification of the software in accordance with applicable procedures. The verification process will confirm by citing the records accession numbers that all required software records have been submitted to Records Management, including the review records of the software qualification documentation as required by the actions transferred to this CAR from DR LVMO-98-D-053. If review documentation does not exist, this review under CAR-006 will provide documentation of the review required by LVMO-98-D-053.

A report identifying documentation evaluated (e.g. notebooks, logs, applicable departmental procedures, software documentation) and the results of the assessment – whether the qualification is confirmed or whether issues requiring resolution remain -will be prepared and forwarded to the CAR Project Manager for inclusion in the CAR closure package.

Responsibility: Software Owners and CM Manager

Due Date: October 29, 1999 - for completion of re-verification of software in 6.1.3 identified as being needed for SR and LA

6.2.2 Based on the results of action 6.2.1 to determine extent, if the software qualification is confirmed with no outstanding issues requiring further evaluation/action the TBV number will be closed. If the results identify issues requiring further actions, such as CAR LVMO-98-C-002 data evaluation or user manual preparation, the issues and TBV number will be identified in the SMS until resolved.

Responsibility: CM Manager

Due Date: May 3, 1999

6.3 Root Cause Determination

The apparent causes are:

- Some software users did not follow procedures and ensure the software they used was from qualified and controlled sources
- Some affected organizations did not have procedures sufficient to ensure software was adequately qualified and placed under configuration management

6.3.1 Root cause determination will be performed and documented according to the requirements of AP-16.4Q, Root Cause Determination.

Responsibility: CAR Project Manager

Due Date: February 19, 1999

6.4 Actions to Preclude Recurrence

The following actions to preclude recurrence are being taken in advance of completing the root cause determination based on the identified apparent causes. Upon completion of the root cause analysis if the following actions do not completely or sufficiently address the root cause the actions to preclude recurrence will be amended by March 15, 1999.

6.4.1 An AP-SI.1Q, *Software Configuration Management* procedure will be developed to standardize the software development life cycle and centralize the configuration management of CRWMS M&O and USGS software. AP-SI.1Q will be developed and implemented in a phased approach: the initial phase will institute a centralized software configuration management process and the final phase will institute a standardized software development life cycle, including qualification process.

Initial Phase
Responsibility: CM Manager

Due Date: February 12, 1999

Final Phase
Responsibility: CM Manager

Due Date: April 16, 1999

6.4.2 An automated Software Management System (SMS) will be implemented for the identification, control, testing, change control capabilities, library functions, distribution of software and supporting documentation. The Software Management System (SMS) will provide real time Internet/Web Page capabilities and provide the capability to control developed, acquired software routines so that development, changes, modifications and enhancements may be applied to controlled software programs. The M&O will also provide the SMS utilities that can be accessed by an event/issue tracking system so that program access can be tracked, change control tracking and specific generations of source code can be retrieved by the event/issue tracking system.

Responsibility: CM Manager

Due Date: April 9, 1999

6.4.3 SMS workshop style training will be developed and implemented. This course will be used to raise the awareness of the M&O software developers, users and managers of the importance of identifying, qualifying, and controlling software in compliance with the QARD as well as providing instruction on the V&V process contained in AP-SI.1Q, Software Configuration Management procedure.

Responsibility: CM Manager & Training Manager

Due Date: March 12, 1999

10.0 CAR-010

This CAR cites deficiencies related to scientific investigation and performance assessment modeling functions. The CAR recommends in part, that model ownership and integration be improved and procedural controls are implemented that meet the QARD requirements for these activities. Design analyses/modeling is controlled according to M&O QAP-3-9, Design Analysis, which was not cited as deficient in this CAR. Corrective actions for this CAR will focus on those modeling activities that have not been conducted and documented under adequate procedural controls. Specifically, these actions will address NEPO's modeling, Performance Assessment Operations' modeling, and the Waste Package Materials Department's material and waste form degradation modeling that were not performed according to M&O QAP-3-9, Design Analysis.

Additionally, this CAR cited deficiencies concerning QARD, Supplement V, *Control of the Electronic Management of Data*. Specifically, the CAR cited a lack of control of file transfer protocols used to transfer Q data electronically. Although additional actions are being taken under other open deficiency documents with regard to the overall electronic data management program, the following specific actions are being taken as well:

- Procedure YAP-SV.1Q, *Control of the Electronic Management of Data* is being developed to address these concerns.

- This procedure will require Responsible Managers to evaluate all of their processes to determine the use of any forms of electronic media used within the process. The evaluation will be documented.

- Processes identified as using a form of electronic media to store, maintain, or transmit data will be revised to include those portions of QARD, Supplement V that are applicable.

10.1 Remedial Actions

10.1.1 Within the scope identified above, an inventory of the applicable models will to be conducted. The inventory will identify the model owner (i.e. organization and individual's name), analysis title, description, the associated code, and the products supported by the model. This inventory will be reported to the CAR Project Manager for CAR integration and inclusion in the CAR closure package.

Responsibility: NEPO Manager, PA Operations. Manager, and Waste Package Operations Department Manager

Due Date: Completed October 30, 1998

10.1.2 The completed inventory will be reviewed to identify any appropriate consolidations of models and provided to the M&O Configuration Management Manager. Models expected to support the SR or LA will be identified. The inventory will be updated as appropriate.

Responsibility: NEPO Manager, PA Operations. Manager, and Waste Package Operations Department Manager

Due Date: May 3, 1999

10.1.3 The inventory will be compared to the interfaces identified in the Interface Control Documents (ICDs) and any differences will be resolved and reflected in the matrix developed in action 10.1.4 below or in the ICDs as appropriate.

Responsibility: Configuration Management Manager and Systems Engineering & Integration Manager

Due Date: February 12, 1999

10.1.4 A model matrix (i.e. database) will be developed from the inventory to identify the results of the comparison made to the ICDs and will identify the model, description, owner(s), and current development stage and model version.

Responsibility: CM Manager

Due Date: March 12, 1999

10.2 Actions to Determine Extent of the Conditions

10.2.1 A family tree (traceability to origins and derivatives) for each PA model and supporting site models will be developed that will identify related models, associated codes and engineering analysis packages that provide input to the PA analysis.

While engineering analyses were not found to be deficient in the CARs, they are an integral part of PA support and as such will be included in the construction of the family trees. These family trees will be used to coordinate and prioritize software qualification, verification of data qualification status tracking, etc.

Responsibility: NEPO Manager and Performance Assessment Operations Manager

Due Date: October 29, 1999 - for completion of re-verification of software qualification and data qualification identified as being needed for SR and LA

10.3 Root Cause Determination

The apparent cause is:

Insufficient controls to assure data was qualified prior to use.

10.3.1 Root cause determination will be performed and documented according to the requirements of AP-16.4Q, Root Cause Determination.

Responsibility: CAR Project Manager

Due Date: February 19, 1999

10.4 Actions to Preclude Recurrence

The following action to preclude recurrence is being taken in advance of completing the root cause determination based on the identified apparent cause. After the root cause analysis, if the following actions do not completely or sufficiently address the root cause, the actions to preclude recurrence will be amended by March 12, 1999.

10.4.1 AP-3.10Q, *Analyses and Models* will be developed to standardize the model development process and establish controls for analysis/model use that will then supercede QAP-3.9. The procedure will provide for the identification, integration, problem resolution, flow and control of models.

Responsibility: PA Operations Manager

Due Date: December 22, 1998

REFERENCES

Corrective Action Reports (CARs):

LVMO-98-C-002, Suspect data where data-related services were procured

VAMO-98-C-005, M&O procurement program deficiencies and prior corrective actions not effective

LVMO-98-C-006, Software development and software configuration management deficiencies

LVMO-98-C-010, Program deficiencies in the development and use of models

LVMO-98-C-001, Supplier not implementing QA program; failure to pass QA requirements to suppliers; and SNL procurement procedures inadequate

LVMO-97-C-004, GEOKON QA program not implemented; M&O and SNL not adequately controlling procurement activities

YM-97-C-002, Lack of control of PNL and ineffective prior corrective actions

YM-97-C-001, M&O not adequately controlling procurement of quality-affecting services

Program Documents and Procedures:

DOE/RW-0333P, *Quality Assurance Requirements and Description*

AP-16.4Q, *Root Cause Determination*

YAP-SIII-1Q, Qualification of Unqualified Data

YAP-SIII.3Q, *Processing of Technical Data on the Yucca Mountain Project*

Viability Assessment Document

Site Description Report

M&O QAP-7-3, *Procurement Process*

M&O QAP-7-5, *Supplier Performance*

M&O QAP-2-0, *Conduct of Activities*

AP-SI.1Q (DRAFT), *Software Configuration Management*

YAP-SV.1Q, *Control of the Electronic Management of Data*

M&O QAP-3-9, *Design Analysis*

AP-3.10Q (DRAFT), *Analyses and Models*

Letters and Memorandums:

Memorandum from D.R. Wilkins (Subject: M&O Policy for Closure of QA Deficiencies LVMO-98-C-002, VAMO-98-C-005 and LVMO-98-C-006, dated June 17, 1998) to all OMs and TPO.

Letter from Richard G. Peck to Catherine E. Hampton (DOE OQA), dated February 6, 1998, letter number RGP:kh:L98-18.

Correspondence, dated 10/30/98, from Alan Brownstein to Mr. Michael J. Bell, Subject: Office of Civilian Radioactive Waste Management Administrative Procedure AP 32.6, *Reporting of Defects and Noncompliance to meet the intent of 10 CFR Part 21.*

Correspondence, dated 10/02/92, from Richard E. Spence to Distribution, Subject: Participant Qualified Quality Assurance (QA) Programs

Deficiency Reports (DRs):

YM-97-D-025, Problems with measuring and test equipment used in Alcove 5 test (LVMO)

YM-97-D-046, K/PB PO to Terracon did not require the work to be done to their approved QA program

YM-97-D-047, Use of supplier not on QSL; processing Q procurements as non-Q

YM-97-D-068, Ineffective control of outside calibration services at the Sandia National Laboratory

YM-97-D-074, LANL procurements have been made that did not fully meet the LANL YMP QA program requirements

LVMO-98-D-053, Software HYPOINVERSE V1.0, MCLCALC V1.0, and CALIB V1 not qualified

LVMO-98-D-055, Activities to determine controls for electronic data management and the administration of the Site and Engineering Properties databases being done without a procedure

LLNL-98-D-085, Implementation of AP-16.1Q is not adequate to ensure timely and effective corrective actions

ATTACHMENT I

CRWMS AFFECTED ORGANIZAITON QUALITY ASSURANCE (QA) PROGRAM QUALIFICATION BASELINE DATES

	OCRWM ISSUED QA PROGRAM ACCEPTANCE LETTER TO NRC	OCRWM RESOLUTION OF EXCEPTIONS
FSN}RSN H&N}RSN	09/12/90	08/01/91
LLNL	09/12/90	N/A
REECO	09/12/90	06/17/91
SNL	09/12/90	N/A
USGS	09/12/90	06/03/91
LANL	01/22/91	N/A
T&MSS	01/22/91	08/01/91
LBNL	10/25/95	N/A
OCRWM	12/11/90	08/21/91

Reference 7

Data, Model and Code Qualification/Validation and Control Plan, dated December 1998.

Civilian Radioactive Waste Management System
Management & Operating Contractor

Data, Model and Code Qualification/Validation and Control Plan

December 1998

Prepared for

U.S. Department of Energy
Yucca Mountain Site Characterization Office
P.O. Box 30307
North Las Vegas, Nevada 89036-0307

Prepared by

TRW Environmental Safety Systems Inc.
1261 Town Center Drive
Las Vegas, Nevada 89134-6352

Under Contract Number
DE-AC08-91RW00134

DISCLAIMER

CONTENTS

FIGURES

1. INTRODUCTION

The Data, Model and Code Qualification/Validation and Control Plan is in response to the Technical Directive Letter dated November 20, 1998 from Horton to Wilkins. Its purpose is to outline the Civilian Radioactive Waste Management System (CRWMS M&O) strategy for identifying the minimum set of data that needs to be qualified for Site Recommendation/License Application (SR/LA) and the method and timetable for qualification. While this plan primarily addresses the qualification of technical data, a similar approach will be used in a simultaneous effort to qualify the models and codes used to support SR/LA.

According to the *Quality Assurance Requirements and Description* (QARD), DOE/RW-0333P, Supplement III, data directly relied upon "to resolve safety or waste isolation issues" shall be identified in a manner that facilitates traceability to associated documents and to its qualification status. Establishing the traceability and qualification of both the directly relied upon data and other associated elements such as the relevant codes and models, is essential to the development of a quality Site Recommendation (SR) and License Application (LA). Thus, a successful strategy must recognize defensibility will extend beyond the singular aspect of qualifying data. The plan describes a Data Management and Control System approach that identifies the data sets to be qualified and controlled.

This Data Qualification Plan relies on an ongoing integrated set of activities composed of Corrective Action Request (CAR) resolution, data checks and reviews, the Process Validation and Reengineering (PVAR) effort, and training for implementation. The integrated set of activities provides the vehicle for successful implementation of the Data Qualification Plan.

2. STRATEGY

The data qualification strategy discussed below is comprised of three key functions providing a comprehensive approach to a robust SR and LA. The three key functions of this strategy are:

Identify–Using a systematic "top-down" approach; identify the elements and interfaces of models, codes and associated data anticipated as relied upon in the SR and LA.

Qualify–Apply existing methods of qualification to the previously identified models, codes and data, and build upon the current "Tiger Team" approach for implementation.

Control–Place qualified data and the associated models and codes under a system of integrated databases providing rigorous data management, configuration management and change control. Additionally, document development controls will ensure data traceability for SR/LA needs.

Beyond the immediate goal of data qualification, this strategy provides a number of other benefits, including a roadmap of necessary work activities which facilitates efficient management, an affirmation of the nuclear culture aspect of control, facilitating internal development and external review of regulatory products, enhancing defensibility and transparency through explicit documentation of associated models, codes and data.

Each of these key functions of the overall strategy is discussed in greater detail below. As with most strategies, certain details of implementation remain to be worked.

2.1 IDENTIFICATION

In the strategy to identify relied upon versus other data, the goal is to ensure a high probability that all needed data will be correctly identified early in the process, i.e., a complete, accurate, timely process.

The identification strategy is based upon a classic "top-down" approach. Starting from known or anticipated elements directly supporting the SR and LA (e.g. the Total Systems Performance Assessment, the Safety Analysis Report, etc.), continue to identify the specific supporting elements of those upper-tier elements (e.g. the process models, analyses, abstractions, etc.). This process of associating upper-tier (parent) elements with specific lower-tier supporting (daughter) elements can be extended as far down as necessary to establish the traceability lineage.

Once the network of SR and LA elements is established and documented, the associated data inputs and outputs are identified for each element. Once potential data sets are identified, specific data that is considered directly relied upon may be determined by any of several potential criteria including but not limited to:

1. The data are used in characterizing or modeling the natural environment, hydrologic flow, radionuclide transport, thermal behavior, or system performance of the repository and associated accessible environment.

2. The data are used as input to or are used to establish boundary conditions or parameters for performance assessment models.

3. The data are used to directly support design analysis used to establish design basis.

4. The data are directly used as design inputs for structures, systems, and components that are important to waste isolation or safety.

The result of the identification strategy is a complete schematic or input/output diagram of the system of associated data, codes, models, etc. which are relied upon, directly or indirectly, in the SR and LA. This input/output diagram provides a roadmap for prioritizing and managing subsequent work to classify and qualify the elements.

Data residing in controlled data bases, not determined to be relied upon, will maintain its TBV designation. Should this data become relied upon in the future, it will be validated in the same fashion as the data currently identified as relied upon.

2.2 QUALIFICATION

The objective of this plan is to qualify only the data necessary to support SR/LA. In the strategy to qualify data (and other associated elements), the goal is to ensure the qualification is defensible, documented and maintained. The specific methods and governing procedures for qualification are included in procedures such as YAP-SIII.1Q, *Qualification of Unqualified Data*, YAP-2.1Q, *Technical Assessment*, QAP 2.5, *Peer Review*, etc.

An objective of the qualification strategy is to enhance the defensibility, traceability and transparency of models, codes, and data. Consequently, other actions are necessary beyond the qualification of a data set. Since defensibility of the SR and LA is contingent upon the system of associated codes, models, and data, this strategy will capture a baseline configuration as a concurrent function of the qualification effort. Concurrent baselining of associated codes, models, data and other elements, provides for a comprehensive and robust approach to defensibility, by enforcing the nuclear culture concepts of traceability, configuration management, and change control.

The overall qualification strategy, including baselining, will accomplish several goals, such as:

1. Development of information management functions specifically designed to capture and maintain directly relied upon qualified data and the associated codes and models,

2. Classification and categorization of data to facilitate and prioritize the qualification effort,

3. Simultaneous capture of both data and the associated process model, code, etc., into configuration and data management systems,

4. Facilitate validation of models and qualification of codes and data,

5. Establish the basis for change control within configuration and data management systems.

Presently, it is envisioned the physical process of qualification and the development of supporting documentation (data forms, concurrence, etc.) will be accomplished in a manner similar to the existing Data Qualification Tiger Team, which recently prototyped the overall effort described above. Implementation guidance is under development by the Tiger Team that will be provided to the "owners" of the various elements identified in the input/output diagram. The existing Tiger Team will then provide assistance to owner-based and additional Tiger Team qualification efforts, and act as a central point of contact and coordinating resource throughout the effort.

2.3 CONTROL

The key goal of the control strategy is to provide change control within a configuration and data management system. This will provide for the automatic maintenance of defensibility by requiring model, code and data owners to work within a controlled process. The controlled process consists of procedures and information management systems that are designed to distinguish between the "official" data, codes and models directly relied upon in the SR and LA, and all other forms of information such as interim code revisions, corroborating data, work in progress, alternative models, etc.

Strict control of read and write access to the configuration and data management systems and the audit trails provided by a change control process will ensure the security, integrity and traceability of information supporting the SR and LA. Once the baseline configuration is established for models, codes and data as described above, updates will be entered under change

control procedures designed to provide management oversight, decision-point documentation, and impact analysis.

In addition, the official configuration and data management systems can be electronically linked to create a centralized run-control system which will better ensure the results of calculations, such as the Performance Assessment, are fully qualified and are accurately conveyed in related documentation, by providing a single point source for official inputs, analyses, and results.

3. METHODOLOGY FOR IMPLEMENTATION

3.0 APPROACH

The approach is to take the applicable processes and procedures resulting from the implementation of the Integrated Project Structure (Working Toward LA) and apply them toward identification, qualification and control of the data, models, and software. The following sections provide a brief description of the Integrated Project Structure and the integration and application of applicable processes and procedures.

3.1 INTEGRATED PROJECT STRUCTURE

An Integrated Project Structure is currently in place that is working toward implementation of processes and procedures that provide the necessary traceability, reproducibility and control required in a nuclear regulatory environment. The overall objective is to develop a set of processes and procedures that ensure defensibility of information and data supporting SR and LA. Figure 1 represents the Integrated Project Structure.

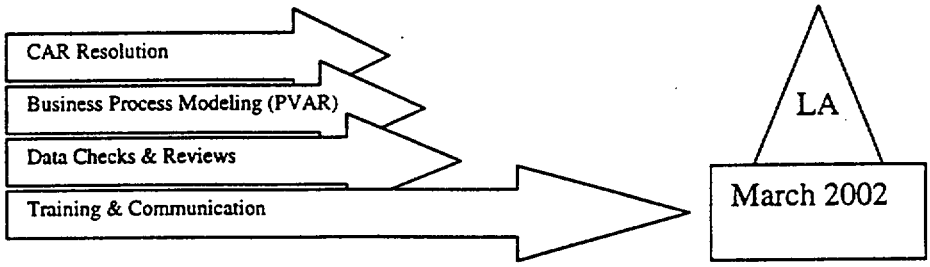


Figure 1. Integrated Project Structure

Corrective Action Report (CAR) resolution–Deals with resolution of outstanding CARs relating to data, model, and software quality and defensibility. It also deals with establishing the prototype for qualifying codes and data supporting SR and LA (Data Qualification Tiger Team). This effort continues until process improvements are in place that assures no reoccurrence of deficiencies.

Business Process Modeling (PVAR)–Provides a standardized, disciplined approach to reviewing and validating existing Yucca Mountain Site Characterization Project (YMP)

processes, procedures, and training curricula. A defined set of technical and administrative processes are reviewed, validated as-is, or improved. The end products of this effort are validated work processes, a consolidated set of procedures reflecting the validated work processes and training curricula tailored to the procedures. This effort continues until a sound project infrastructure is developed, approved and implemented.

Data Checks and Reviews–Includes technical and administrative reviews of documents and supporting data for SR and LA. Process and procedure improvements for data and document management are a part of this effort. The checks continue throughout preparations for SR and LA. Process improvements developed through conducting the data checks feed into the Business Process Modeling.

Training and Communication–Includes training, outreach, recognition and personnel performance assessment efforts that foster a work culture of integration, compliance and accountability. This effort interfaces with lessons learned from CARs resolution and interim quality checks and is based on compliance with the sound processes and procedures that results from PVAR. Culture change efforts continue through the submission of the SR and LA.

3.2 APPLICATION OF RELAVENT PROCESS AND PROCEDURES

The elements of the integrated project structure discussed above provide the basis for implementation of the Data, Model and Code Qualification/Validation and Control Plan. The following discusses the relationship between elements of the Data, Model and Code Qualification/Validation and Control Plan and the Integrated Project Structure.

Identification/CAR Resolution/PVAR–An integrated CAR resolution team is identifying and inventorying data sets and codes during resolution of five CARs. A data qualification Tiger Team that is part of the CAR resolution effort is developing a prototype of the top-down approach for identifying the minimum data required by the SR and LA. The PVAR effort includes validation and development of processes for identification of data.

Qualification/Data Checks and Reviews/PVAR–CRWMS M&O personnel conduct checks and reviews on LA supporting documents prior to submittal. The reviews check data references and traceability as well as document format and content. PVAR also addresses processes such as modeling, software, and technical verification for qualifying data.

Controls/PVAR/Training and Communication–Procedures such as technical data control, configuration control, and software are near term products of the PVAR process that provides the means of controlling data. Training supports control of data by providing personnel with the knowledge and tools to maintain compliance with approved project processes and procedures.

Figure 2 represents the integration of the Integrated Project Structure, and Data Identification, qualification and Control.

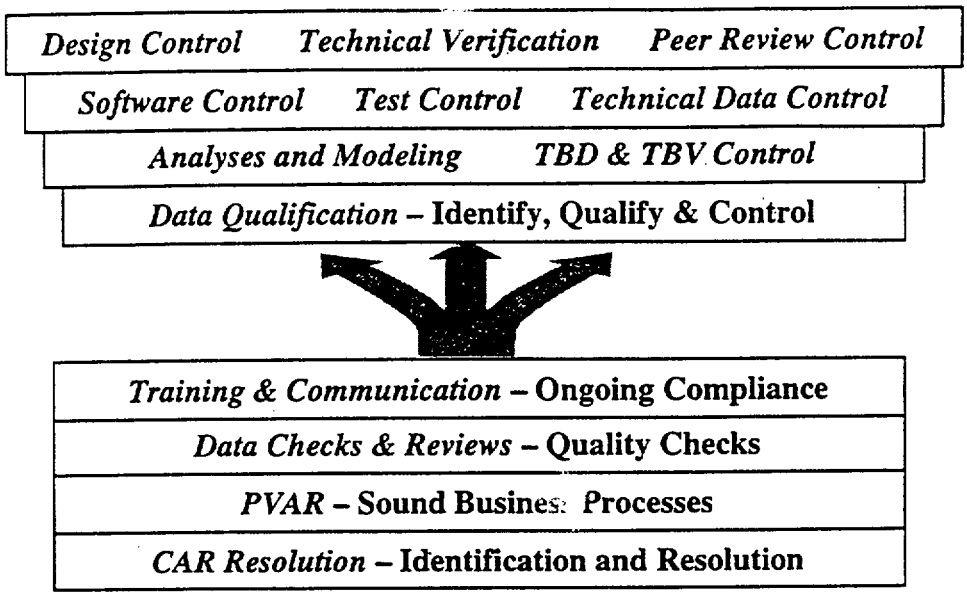


Figure 2. Integration of Data Qualification and Integrated Project Structure

As stated in the introduction, while this plan primarily addresses the qualification of technical data, a similar approach will be used in a simultaneous effort to qualify the models and codes required to support SR/LA.

Figure 3 identifies which PVAR process models directly apply to the identification, qualification and control of the data, models and codes that are the subject of this plan.

Business Process Models	Data Qualification	Model Validaton	Software Qualification
Procedures Control	X	X	X
Training, Indoc., Quali. & Cert			
Model Control		X	
Reviews Control			
Configuration Management	X	X	X
Software Control			X
TBV & TBD Control	X		
Technical Data Control	X		
Design Record Control			
Scientific Notebook Control	X		
Technical Report Control			
Design Control			
Test Control			
Technical Verification			
Deficiencies, CA, RCA, & LL			
Peer Review Control		X	
Expert Elicitation		X	
Procurement Control	X	X	X

Figure 3. Business Process Validation for Data, Models and Codes

4. TIMETABLE

A resource loaded Integrated Project Structure Schedule is being prepared and will be published by the end of February 1999. The schedule is integrated with significant project milestones like SR and LA. It includes activities, logic, and resource loading for the following:

1. CAR resolution
2. Business process modeling (PVAR)
3. Data checks and reviews
4. Training and communication

Resource estimates for each of the above four items will be published with the integrated schedule in February. The bases for estimate and planning assumptions are being documented during estimate preparation and will be provided with the estimates.

Reference 8

Project Operations and Review Board (PORB) Minutes & Actions, dated April 15, 1999.

PORB

Meeting Minutes & Actions

Date:04/15/99
Time:3:30pm - 5:00pm
Location:Hillshire Atrium

Approved for issue_____ Date_____

Decisions

PORB regular weekly meetings to be held on Wednesdays at 1:00 P.M. to 3:00 P.M.

Dennis Royer is to serve as PORB Executive Secretary as Wayne Kozai is alternate for OPC member and serves as the Change Secretary.

Action Items Closed/Recommendations for Project Manager:

None

General Information and Announcements

Note that there will be no meeting next Wednesday, 4/21/99. It has been postponed until Monday 9 A.M. 4/26/99, due to availability of the members.

Position papers, presentations and information to be addressed in agenda for future meetings must be forwarded through the sponsoring member to the Executive Secretary at least one day in advance of the meeting to ensure inclusion in the agenda and proper advance distribution to the PORB prior to the meeting.

Meeting Summary

Chairman open meeting; review minutes/actions from previous meeting; Chairman approve minutes:
None
Review action status, discuss/present previously assigned actions due this meeting:
None - No old business or actions, first meeting
Update issues, group provide any new concerns or issues, assign actions:
The Chairman opened the meeting with a discussion on the PORB Charter and Draft PORB procedure. The Chair and several members noted that the charter should be changed to eliminate the Robert's Rules of Order; determined that the need for member alternates to be provided in writing would be served by the documentation in the minutes; and the global reference to the CCB is incorrect as the PORB would serve as the CCB board. The Chair announced that Dennis Royer has been selected to serve as the PORB Executive Secretary as Wayne Kozai already is an alternate for the OPC member and also serves as the Change Secretary.

The alternates were as follows: Dennis Williams for Don Horton (DPM); Wendy Dixon for Steve Brocoum (OLRC); Ram Murthy for Bob Clark (OQA); Birdie Hamilton-Ray for Jerri Adams (OPS); Wayne Kozai for Vic Trebules (OPC); Jim Replogle for Dick Spence (OPE); Scott Wade for Mark Van der Puy (SASM).

ACTION: Executive Secretary (D. Royer) Change the PORB Charter to eliminate Robert's Rules of Order, modify wording for alternate member nomination, and change globally the incorrect references to CCB. Due 4/23/99.

R. Spence presented the M&O position paper for the upper bound for surface storage. He noted that he had not enough time to review and correct editorial errors, but did agree with the recommendation. PORB discussion included the true need for the EIS, revisited the Colorado Off-site discussions, a concern for how the documentation of the rationale would occur; and possible influence from the changing design. It was decided that the position paper would serve as the rational documentation and should be reformatted in accordance with the draft PORB procedure, fix the editorials, internal review, and present to the PORB for approval at the next meeting.

ACTION: OPE (R. Spence): Make corrections, review, reformat into PORB draft procedure format, provide advance copy to PORB secretary for distribution on 4/23 and present to the PORB for approval. Due 4/23/99.

Ric Craun for OLRC made a presentation entitled "FY 2000 Planning Goal" attached below. PORB discussion included final decision authority through the PORB on the Products, Sub-Products and Scope. The Project Manager's desire and understanding is that DOE will be responsible for the guidance. A concern for the aggressive schedule was raised and noted that the RAMs were needed. OLRC will provide their RAM in two weeks for PORB review and approval. The M&O RAMs are under development and very close to being complete. The new RAM WBS basis would not be implemented until

10/1/99. Suggestion that the off-site decisions be put into the decision database and sent to the planning guidance writers, note that this action was already being accomplished within the product organizations. The PORB noted that the steering committee should continue through the review of the guidance and provide a lessons learned presentation at the end of the planning year. Also a presentation is needed to identify the structure and process needed for the two day PORB review and approval of the guidance. All members approved of the process with outstanding comments regarding the products, crosswalk, and schedule.

ACTION: OPC (Planning Steering Committee): Identify the structure and process needed for two day PORB review and approval of the planning guidance. Due TBD.

ACTION: OPC (Planning Steering Committee): Present planning lessons learned at end of planning year. Due TBD.

ACTION: OLRC (S. Brocoum): Develop and present to PORB for approval, OLRC RAMs. Due 4/28/99

Jack Nesbitt (M&O) for OPC and Planning Steering Committee made a presentation entitled "PMR, Data Qualification and LADS Change Request Status" attached below. PORD discussion, comments, concerns included time lines, 10CFR 960 and 63 planning inclusion, table rework, M&O proceeding at risk, and VA change crosswalks. The elimination of a March 99 CR and remaining 2 CRs was explained by the M&O. The associated logic to a very low level and October RAM transition date was explained. Clarification regarding the DOE working of the tables and crosswalk concerns was accomplished. The process was approved by all PORB members with comments by OPS that the M&O was proceeding at risk, without C.O. authority, and resulting fee could be impacted. The M&O acknowledged the risk and that the scope is basically unchanged only repackaged into the products. OLRC had the condition that DOE had a week to review prior to PORB approval. The process was approved and the VA crosswalk would be provided at a later date. Mike Voegele took the action to provide the crosswalk by 5/24/99 or sooner.

Mike Voegele (M&O) for OPC and Planning Steering Committee made a presentation on the M&O priorities on the unfunded work for FY99. The handout was changed from what was included on the agenda, copies will be forwarded by separate distribution. OPC recommended that the PORB not approve this list, but instead review the list and identify those items that would not be impacted by the upcoming CR. The list should include only the FY99 work, and safety related items should be separated. Mike Voegele said he would provide OPC with an updated package showing all of the safety related items. All new input to this list will be provided to Jane Summerson (OPC) by noon Monday, 4/19/99.

Chairman Horton recommended that all decisions from the Colorado Off-Site should be entered into the decisions database. All members voted in favor of this recommendation. Brocoum had a final comment that senior M&O members should be empowered to make commitments to the Board.

ACTION: ALL PORB; Review M&O Priority listing and resolve comments and concerns prior to PORB approval 4/26 meeting and presentation to RW-1 4/27. Due 4/23/99

Adjournment

The Executive Secretary reviewed the action assignments; meeting adjourned at 6:10 P.M.

Attachments

1999-043cjn Rev 1.p

PORB 00 Planning.

Updated: 04/28/99 12:33:40 PM Updated By: CN=Dennis Royer/OU=YD/O=RWDOE Form Meeting Information

M&O-99-008: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative (EDA) 2

Summary of Subproduct Plan Sheet (SPS) Changes

Subproduct Plan Sheets (SPSs) have been created for this CR for the 16 existing FY99 subproducts. The SPS structure is to replace the control account structure in the current Performance Measurement Baseline. As stated in the CR narrative, the SPSs are structured similar to the Control Account Plan (CAP) sheet used to date in FY99. The SPSs present cost data by fiscal year, but do not show monthly spreads. Statements of Work for the SPSs are based on the Product Guidance Documents and are presented in a broad, general manner.

Deliverables (Level 3 Milestones), including the deliverable ID and title, are listed on each SPS. A note is included in the SPS deliverable section stating that the deliverables are considered baseline items, with deliverable details to be included in an appendix for each SPS. For this CR, only new or revised deliverable sheets are included in the appendices. Existing deliverables in the Baseline that are not affected by this CR are not included. However, when the CR is implemented into the Baseline document the unaffected deliverable sheets will be included.

The following SPSs were created by this CR:

	SPS ID	SPS Title
1	AMJX	Documentary Record for SR
2	AMMQ	SR Design Alternatives
3	AMNL	Site Recommendation Report
4	AMNT	Repository Design and Waste Form Revision - SR
5	AMNW	TSPA-SR Document
6	AMPP	Technical Support for SR/Designation
7	AMCW	EIS
8	AMPS	Post EIS Completion Activities
9	AMPU	DOE SNF and Fissile Materials
10	AMMW	LA Design and Verification
11	AMNE	Draft LA
12	AMNN	Working Draft LA
13	AMNS	Documentary Record for LA
14	AMPT	Technical Support for LA
15	AMRF	Construction Authorization
16	AMPW	Project Support for SR/LA

Subproduct Plan Sheet

1 AMJX Documentary Record for SR

Subproduct: AMJX Documentary Record for SR
Product: 2 Site Recommendation

	Fiscal Year Distribution												At
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	Complete
Annual Budget	0	31916	0	0	0	0	0	0	0	0	0	0	31916

Description

The documentary record for the SR subproduct provides the information technology and management needed to develop, process, control, and disseminate the requirements, data and documents needed to support the SR.

AMJX Documentary Record for SR (continued)

Deliverables

Deliv ID	Title	Due Date
BM203AM3	Complete Implementation of Public Access	
BM205IM3	OCRWM Internet/Intranet Guidelines	
BM205NM3	Y2K Certification Letter for OCRWM Systems	
BM205OM3	Year 2000 Business Continuity Plan (Date change) JJP	
BM2071M3	IT Investment Portfolio for FY 2000	
BM207BM3	Update and Re-Issue the CPPP	
BM207CM3	Planning Procedure for IT Capital Investments	
BM207DM3	IT Architecture Baseline Document	
SLTDAM3	1st Qtr Data Submittal/Incorp Report	
SLTDBM3	2nd Qtr Data Submittal/Incorp Report	
SLTDCM3	3rd Qtr Data Submittal/Incorp Report	
SLTDDM3	4th Qtr Data Submittal/Incorp Report	
SLTDNM3	GIS CD U[illegible]	
SPG28LM3	Deterministic Evals. For Type 1 Faults at YM (Date change) JJP	
~~SP24IM3~~	~~Seismic Design Inputs for a Geol. Repos.at YM~~ (TO BE DELETED)	

Deliv[illegible]oles are baselined with the descriptions, completion and evaluation criterias, and due dates contained in the appendix for each SPS

Approvals

Ops. Manager Date	DOE Manager Date
J.N. Bailey 5/17/99	Stephan Brocoum 6/10/99

MultiYear Planning System

Version 2.0

DELIVERABLE

	ID	TITLE
Deliverable	SP24IM3	Seismic Design Inputs for a Geol. Repos. at YM
CCB Level: 3	**Finish Date:** 02/25/1999 09/30/1999	

QARD Applies: ○ Yes ○ No	**OSTI Applies:** ○ Yes ○ No
YAP3012 "Pub Review, App and Dist." Applies: ○ Yes ○ No	**YAP-SIII3Q "Proc. of Tech. Data on YMP" Applies:** ○ Yes ○ No

DELETED

Description:

The report will document seismic design inputs for fault displacement and vibratory ground motion for the Geologic Repository Operations Area at Yucca Mountain. For fault displacement, representative displacement inputs will be provided for a limited number of locations for Frequency Categories 1 and 2 with associated annual frequencies of being exceeded that are described in the Topical Report "Seismic Design Methodology for a Geologic Repository at Yucca Mountain". Vibratory ground motion inputs (e.g., peak horizontal acceleration and velocity, design response spectra, time histories, strain) will also be provided for the defined design categories. Ground motion inputs will be calculated for a 300-m-deep interface, taking into account the overlying rock, and at a rock (tuff) outcrop at the surface. If determined to be necessary because of the variation in overlying rock thickness, ground motions will be given for the interface at depth for two overlying rock thicknesses. A method to address the effects of surficial alluvium deposits, including an example, will be discussed, but ground motion values will not take this effect into account. Seismic design inputs will be developed on the basis of the results of the Probabilistic Seismic Hazard Assessment for Yucca Mountain, and considering other relevant information.

The report will include a description of its objectives and scope; input data, their sources, and whether they are qualified; the assumptions that are used; the methodology for development of seismic design inputs; the resulting seismic design inputs; computer software used in developing the inputs and its quality assurance status; conclusions; limitations; and references.

This deliverable will be prepared in accordance with OCRWM approved quality assurance procedures implementing requirements of the QARD. Q and non-Q data used and cited in this deliverable will be appropriately noted and clearly identified. Every effort will be made to assure

that qualified data are used in this deliverable as specified in Supplement III, Section 2.5, Data Usage, of the current revision QARD. Technical data contained within the deliverable and not already incorporated in the Geographic Nodal Information Study and Evaluation System (GENISES) will be submitted, if appropriate, for incorporation into GENISES in accordance with YAP-SIII.3Q. Verification of technical data submittal compliance will be demonstrated by including as part of the deliverable: 1) a copy of the Technical Data Information Form generated identifying the data in the Automated Technical Data Tracking System, and 2) a copy of the transmittal letter attached to the technical data transmittal to the GENISES Administrator. Record accession numbers and Automated Tracking numbers will be included, as appropriate, for all data used and/or cited in this deliverable.

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-5.1Q and logged into the TPM database.

Acceptance Criteria:
This deliverable shall include all information identified in the Deliverable Description on this PPS sheet unless specifically exempted in writing by the COR at least 60 days before the scheduled due date (30 days in special cases agrees to by the COR). This constitutes the "completion criteria" identified in section 5.4.3 (b) of YAP 5.1Q. The COR will review the deliverable and process in accordance with YAP 5.1Q.

WBS Information

ID	1.2.3.2
Description	Geology

Product Information

ID	1155
Description	ST23DA - Conduct Probabilistic Seismic Hazards Ass

Control Account Information

ID	12321155
Description	Prepare Seismic Design Inputs
DOE Manager	Sullivan , Tim

DOE Organization	AML - Stephan Brocoum

[redacted]

Work Package Information

ID	12321155M1
Description	Prepare Seismic Design Inputs
Product	M&O
Product Description	CRWMS/M&O
M&O Organization	140 - Natural Environment Program Operations
Work Package Manager	Quittmeyer , Richard
Estimator	Quittmeyer , Richard

[redacted]

Modification Information

Last Updated By: Ralph Rogers **Last Update:** 11/03/97 10:27:53 AM

This Form has been updated by:

MultiYear Planning System

Version 2.0

DELIVERABLE

	ID	TITLE
Deliverable	SPG28LM3	Deterministic Evals. for Type 1 Faults at YM
CCB Level: 3	**Finish Date:** ~~12/19/1997~~ 09/30/99	

QARD Applies: ● Yes ○ No	**OSTI Applies:** ○ Yes ● No
YAP3012 "Pub Review, App and Dist." Applies: ● YES ○ No	**YAP-SIII3Q "Proc. of Tech. Data on YMP" Applies:** ○ Yes ● No

Description:

This report will contain identification of Type 1 faults within five kilometers of the site and will evaluate a maximum earthquake for each fault and credible fault scenario. Deterministic ground motion estimates will be provided for each maximum earthquake. The maximum earthquake will be based on fault parameters such as length and geometry, and on collected paleoseismic data on rupture length, and maximum displacements. Mmax will also be examined by examining the 50th and 84th fractiles presented in the aggregated Mmax curves from the PSHA seismic source characterization final results. Ground motions will be evaluated at the 16th, 50th, and 84th fractiles for each Mmax, and spectral characteristics will be provided for each of those fractiles.

This deliverable will be prepared in accordance with OCRWM approved quality assurance procedures implementing requirements of the QARD. Q and non-Q data used and cited in this deliverable will be appropriately noted and clearly identified. Every effort will be made to assure that qualified data are used in this deliverable as specified in Supplement III, 2.5, Data Usage, of the current revision QARD. Technical data contained within the deliverable and not already incorporated in the Geographic Nodal Information Study and Evaluation System (GENISES) will be submitted, if appropriate, for incorporation into the GENISES in accordance with YAP-SIII.3Q. Verification of technical data submittal compliance will be demonstrated by including as part of the deliverable: 1) a copy of the Technical Data Information Form generated identifying the data in the Automated Technical Data Tracking System, and 2) a copy of the transmittal letter attached to the technical data transmittal to the GENISES Administrator. Record accession numbers and Automated Tracking numbers will be included, as appropriate, for all data used and /or cited in this deliverable. This deliverable shall be processed in accordance with YAP-5.1Q.

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-5.1Q and logged into the TPM database.

Acceptance Criteria:
This deliverable shall include all information identified in the Deliverable Description on this PPS sheet unless specifically exempted in writing by the COR at least 60 days before the scheduled due date (30 days in special cases agrees to by the COR). This constitutes the "completion criteria" identified in section 5.4.3 (b) of YAP 5.1Q. The COR will review the deliverable and process in accordance with YAP 5.1Q.

WBS Information

ID	1.2.3.2
Description	Geology

Product Information

ID	1155
Description	ST23DA - Conduct Probabilistic Seismic Hazards Ass

Control Account Information

ID	12321155
Description	Prepare Seismic Design Inputs
DOE Manager	Sullivan , Tim
DOE Organization	AML - Stephan Brocoum

Work Package Information

ID	12321155U1
Description	Prepare Seismic Design Inputs

Product	USGS
Product Description	United States Geological Survey
M&O Organization	140 - Natural Environment Program Operations
Work Package Manager	Parks , Bruce
Estimator	Arnold , Raye

[redacted]

Modification Information

Last Updated By: Jeffrey Gromny **Last Update:** 10/20/97 03:07:24 PM

This Form has been updated by:

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	BM205OM3	Year 2000 Business Continuity Plan
Finish Date: ~~06/30/99~~	08/13/99	

☐ D/Assumption	☐ OSTI Distribution
☐ Internet Distribution	☐ YAP-6.20 Document Review Applies
☐ YAP-30.12 Pub. Review App and Dist. Applies	☐ YAP-SIII.30 Proc. of Tech. Data on YMP Applies

Description:
A business continuity plan relative to Year 2000 activities will be submitted to DOE ~~by June 30, 1999.~~

Completion Criteria:
The Year 2000 Business Continuity Plan will be submitted to DOE in accordance with YAP-30.63. This Level 3 milestone is considered complete when a copy of the M&O letter transmitting the Year 2000 Business Continuity Plan data to YMSCO is submitted (without enclosures) to the M&O Document Control center and the accompanying YMP Deliverable Acceptance Review form is stamped with the "received" date by the Document Control center.

Evaluation Criteria:
The deliverable will be reviewed and processed by YMSCO in accordance with YAP-30.63. This deliverable is approved when the YMSCO COR or TM verifies that the Year 2000 Business Continuity Plan implements a process for Year 2000-related activities that satisfies the goals and objectives of the Department of Energy Chief Information Office as they relate to the Year 2000 issue. Evaluation criteria may include the following:

1. Comply with DOE CIO issued directives for Year 2000 Continuity Planning.

2. Address all safety and health issues and minimal, essential business processes as prioritized

in compliance with the CIO's directive.

3. The continuity plan will address the following:
- Industry standard scenarios
- Scenarios which could significantly impact operations
- The schedule for License Application or Site Recommendation
- Areas directly impacting the M&O.

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Open Project Form

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMJX
Title	Documentary Record for SR
Performing Org. Manager	CN = David Dobson/OU = YM/O = RWDOE
DOE Manager	CN = Claudia Newbury/OU = YD/O = RWDOE

Open SubProduct Form

Organization Information

Organization	150
Description	Support Operations
Manager	Bob Marler
Project Participant: M&O	CRWMS/M&O

Open Org

Control Account Information

ID	15019130
Description	Information Technology
DOE Manager	
DOE Organization	OPS - Jerri Adams
PSS	9130
PSS Description	Information Technology SR

Work Package Information

ID	15019130M3
Description	Information & Database Systems Mgmt
WBS Element	1.2.12
Work Package Manager	James Low
Estimator	Jason Gray

Modification Information

Last Updated By: John Slocum **Last Update:** 01/27/99 09:07:11 AM

This Form has been updated by:

Jason Gray, Ron Helms, Alan Blackston, Ken Maddrey, John Slocum

Subproduct Plan Sheet

2 AMMQ SR Design Alternatives

Subproduct: AMMQ SR Design Alternatives
Product: 2 Site Recommendation

	Fiscal Year Distribution											
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	At Complete
Annual Budget	0	21198	0	0	0	0	0	0	0	0	0	0	21198

Description

Evaluate and analyze repository design features and alternatives necessary to support a recommendation of a selected reference design fo Site Recommendation/License Application. (SR/LA)

AMMQ SR Design Alternatives (continued)

Deliverables

Deliv ID	Title	Due Date
RP740DM3	Cask Cooldown Component Analysis	
RPA118M3	Modular/Phased Construction Design Evaluation	
RPA128M3	Assembly Transfer System Analysis	
RPA140M3	LLW Treatment Strategy Analysis	
RPA384M3	Concrete Mechanical Test Report	
RPA451M3	LA Design Selection - Report	
SL05X7M3	Submit Draft Repository Safety Strategy Rev. 3	
SL05XM3	Submit Post Cl Rep Defense In Depth Design Bases	
SL06X7M3	Submit Repository Safety Strategy Rev. 3	
SE1930M3	Submit SR/LA Products List to DOE for Approval (NEW DELIVERABLE)	

Deliverables are baselined with the descriptions, completion and evaluation criterias, and due d[illegible]s contained in the appendix for each SPS

Approvals

Stephen Brocoum 6/1/99 6/10/99

R J Snell 5/19/99 6/10/99 6/10/99

Ops. Manager Date DOE Manager Date

RJ SNELL R C Spence 6/10/99 R.E. Spence

MultiYear Planning System

NEW

DELIVERABLE

	ID	TITLE
Deliverable	SE1930M3	Submit SR/LA Products List to DOE for Approval

Finish Date: 09/30/99

Description:

A revision of the License Application Design Products List will be developed, reviewed, and approved to include the philosophy reflected in the preliminary draft of the white paper entitled "Criteria for Design Information Needed for the License Application for Construction Authorization." The revision will be based on the inclusion of Enhanced Design Alternative II.

Completion Criteria:

The deliverable is complete when it is submitted to the DOE in accordance with YAP-30.63 and logged into the TPM database.

Evaluation Criteria:

The document shall include a list of the minimum products necessary to support License Application construction authorization based on the Level of Detail white paper identified above. It shall be an integrated M&O product as evidenced by approval signatures from Surface Design, Subsurface Design, Waste Package, Regulatory & Licensing, and Systems Engineering & Integration.

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SL06X7M3	Submit Repository Safety Strategy Rev. 3
Finish Date: ~~05/28/99~~ 07/28/99		

☐ QI Assumption	☐ OSTI Distribution
☐ Internet Distribution	☐ YAP-6.2Q "Document Review" Applies
☒ YAP-30.12 "Pub. Review, Appr and Dist" Applies	☐ YAP-SIII.3Q "Proc. of Tech. Data on YMP" Applies

Description:
The Repository Safety Strategy will be revised (Rev. 3) to reflect new site information, evaluations of design alternatives and options, updated TSPA model abstractions, and additional development of regulations and standards. Submit final Rev. 3 of Repository Safety Strategy to DOE following incorporation of DOE comments on the draft document.

Completion Criteria:
This deliverable will be complete when it is submitted to the DOE in accordance with YAP-5.1Q and is logged into the Technical Publications Management database.

Evaluation Criteria:
This deliverable will be reviewed by DOE in accordance with YAP-30.63 to ensure that it is complete and conforms to all aspects of the deliverable description.

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMMQ
Title	SR Design Alternatives
Performing Org. Manager	CN = Richard Snell/OU = YM/O = RWDOE
DOE Manager	CN = Paul Harrington/OU = YD/O = RWDOE

Open SubProduct Form

Organization Information

Organization	300
Description	Regulatory & Licensing
Manager	Jack Bailey
Project Participant: M&O	CRWMS/M&O

Open Org

Control Account Information

ID	30016101
Description	Repository Safety System Engineering
DOE Manager	Richard Craun
DOE Organization	OLRC - Steve Brocoum
PSS	6101
PSS Description	Licensing Case Development Initial SR Design

Open PSS Form

Work Package Information

ID	30016101M2
Description	Repository Safety Strategy Rev 3
WBS Element	1.2.5
Work Package Manager	Dennis Richardson
Estimator	Mark Wisenburg

Modification Information

Last Updated By: John Slocum **Last Update:** 03/09/99 11:08:38 AM

This Form has been updated by:

Mark Wisenburg, John Slocum, Ken Maddrey, Chris Weiss, Joyce Huston, Chris Weiss, Joyce Huston, Ken Maddrey, Peter Burke, Mark Wisenburg, Peter Burke, Mark Wisenburg, Peter Burke, Vickie Richardson, Peter Burke, Chris Weiss, Peter Burke, Ken Ashe, Peter Burke, Joyce Huston, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, John Slocum, Chris Weiss, John Slocum, Marshall Weaver, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, Chris Weiss, John Slocum, Ken Maddrey, John Slocum, Peter Burke, Linda Harmon, John Slocum, Ken Maddrey, John Slocum, Tom Ferguson

Subproduct Plan Sheet

3 AMNL
Site Recommendation Report

Subproduct: AMNL Site Recommendation Report
Product: 2 Site Recommendation Report

	Fiscal Year Distribution												At
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	Complete
Annual Budget	0	7455	0	0	0	0	0	0	0	0	0	0	7455

Description

The SR Report will serve as the "comprehensive statement of the basis of the recommendation" required by NWPA Section 114.

AMNL Site Recommendation Report (continued)

Deliverables

Deliv ID	Title	Due Date
SL29GM3	Submit Quarterly Interaction Summary Report	
SL29HM3	Submit Quarterly Interaction Summary Report	
SL29KM3	Submit Quarterly Interactions Summary Report	
SL29LM3	Submit Quarterly Interaction Summary Report	
SL36X2M3	Submit TGD Update No. 1 for YMP Review	
SL36X3M3	Submit Final TGD Update Rev 1	
SLDD01M3	Submit Documenting Decisions Assessment	
SLDD02M3	Submit Documenting Decisions Supplement	
SLSR51M3	Submit SR AO Rev 0 for DOE QAP-6.2 Review	
SLSR53M3	Complete SR AO Rev 0 for Acceptance Review	
SLSR6JM3	Submit Drft Vol 2, Sec 1 f/DOE QAP 6.2 Rvw	
~~SLSR7AM3~~	~~Submit Draft SR Vol 1, Sec 1 for DOE QAP 6.2 Rvw~~ (TO BE DELETED)	
SLSR7FM3	Submit Draft SR V1S1 to DOE (NEW DELIVERABLE)	

Deliverables are baselined with the descriptions, completion and evaluation criterias, and due dates contained in the appendix for each SPS

Approvals

Ops. Manager Date: 5/17/99 — J.N. Bailey

DOE Manager Date: 6/10/99 — Stephan Brocoum

6/10/99

MultiYear Planning System

NEW

DELIVERABLE

	ID	TITLE
Deliverable Finish Date: 09/30/99	SLSR7FM3	Submit Draft SR, V1S1 to DOE

Description:

This deliverable will contain the CRWMS M&O approved draft of the Site Recommendation Report Volume 1 Section 1 (Introduction) in accordance with the YMSCO approved SR Management Plan and the SR Annotated Outline, as modified per mutual agreement between the M&O's SR Product Manager and the YMSCO. The SR Author Team and Senior Management would have reviewed it, and their comments resolved and incorporated prior to submission to YMSCO.

Completion Criteria:
This deliverable is considered complete when a copy is submitted to the M&O Document Control center and the accompanying Deliverable Acceptance Review form is stamped with the received date by DC

Evaluation Criteria:
This deliverable shall include all information identified in the Deliverable Description on this CAP sheet unless specifically exempted in writing by the COR at least 60 days before the scheduled due date (30 days in special cases agreed to by the COR). The COR will review the deliverable and process in accordance with YAP-30.63.

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SLSR7AM3	Submit Draft SR Vol 1, Sec 1 for DOE QAP 6.2 Rvw
Finish Date: 09/30/99		

☐ O Assumption	☐ OST Distribution
☐ Internet Distribution	☐ YAP-6.2Q "Document Review" Applies
☐ YAP-30.12 "Pub. Review App. and Dist." Applies	☐ YAP-SIII.3Q "Proc. of Tech. Data on YMP" Applies

DELETE

Description:
After review and comment resolution of the draft Site Recommendation Report Volume 1 Section 1 by the CRWMS M&O, the revised draft report is submitted to YMSCO for a QAP 6.2 review and comment.

Completion Criteria:
This deliverable is considered complete when a copy is submitted to the M&O Document Control center and the accompanying Deliverable Acceptance Review form is stamped with the received date by DC

Evaluation Criteria:
This deliverable shall include all information identified in the Deliverable Description on this CAP sheet unless specifically exempted in writing by the COR at least 60 days before the scheduled due date (30 days in special cases agreed to by the COR). The COR will review the deliverable and process in accordance with YAP-30.63.

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Open Project Form

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMNL
Title	Site Recommendation Report
Performing Org. Manager	CN = David Dobson/OU = YM/O = RWDOE
DOE Manager	CN = Tim Sullivan/OU = YD/O = RWDOE

Open SubProduct Form

Organization Information

Organization	300
Description	Regulatory & Licensing
Manager	Jack Bailey
Project Participant: M&O	CRWMS/M&O

Open Org

Control Account Information

ID	30012020
Description	Site Recommendation Support for SR
DOE Manager	Tim Sullivan
DOE Organization	OLRC - Steve Brocoum
PSS	2020
PSS Description	Site Recommendation Support for SR

Open WBS/CA Form

Work Package Information

ID	30012020M1
Description	FY99 Site Recommendation Report Preparation
WBS Element	1.2.5
Work Package Manager	David Dobson
Estimator	

Open Work Package

Modification Information

Last Updated By: John Slocum **Last Update:** 03/09/99 10:56:39 AM

This Form has been updated by:

Linda Harmon, John Slocum, Ken Maddrey, John Slocum, Tom Ferguson

Subproduct Plan Sheet

4 AMNT

Repository Design and Waste Form Revision - SR

Subproduct: AMNT Repository Design and Waste Form Revision - SR
Product: 2 Site Recommendation

	Fiscal Year Distribution												At
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	Complete
Annual Budget	0	40064	0	0	0	0	0	0	0	0	0	0	40064

Description

The Repository Design and Waste Form Report subproduct captures those aspects of engineering and design relevant to the SR, including support to the SR Report and process, as well as the technical work performed to continue development of the final repository design.

AMNT Repository Design and Waste Form Revision - SR (continued)

Deliverables

Deliv ID	Title	Due Date
RP740AM3	Waste Package Remediation Analysis	
RPA170M3	Waste Handling Thru-put Sensitivity Study	
RPA172M3	Non-Standard Waste Material Handling Study	
RPA254M3	Fire Hazards Analysis	
~~RPA256M3~~	~~Hydraulics and Water Flow In the Drifts~~ (TO BE DELETED)	
SEA100M3	Complete DOE Criteria Acceptance Review	
SEA105M3	Complete DOE Verification Review	
SEA115M3	Complete MGR-RD Revision	
WP05AM3	WP Draft Update to EIS Engr Files Letter	
WP05M3	WP Final Updates to EIS Engineering Files	
WP233AM3	Resolution of DOE 6.2 Review Comments Letter	
WP235M3	Disposal Criticality Topical Report Supplement	
~~WP275M3~~	~~Summary Rept of Degraded WP Crit Evaluations~~ (TO BE DELETED)	
WP942M3	Pre-closure Criticality Analysis Process Report	

Deliverables are baselined with the descriptions, completion and evaluation criterias and due dates contained in the appendix for each SPS

Approvals

5/14/99 6/10/99 6/10/99 6/10/99 6/10/99

Ops. Manager Date DOE Manager Date

RD SNELL 6/10/99 R E Spence

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	RPA256M3	Hydraulics and Water Flow In the Drifts
Finish Date: 09/30/99		

☒ Q-Assumption	☒ QSTL Distribution
☒ Internet Distribution	☒ YAP-6.20 Document Review Applies
☒ YAP-30.12 Pub. Review App and Dist. Applies	☒ YAP-SII.3Q Control of Tech. Data on YMP Applies

Description:
This report will document results of laboratory tests and tests performed in the EBS test facility for the determination of water movement through emplacement drifts at Yucca Mountain, and how well the movement can be controlled by engineered features. It will include the results of applying existing models to design tests and predict test results, and comparison of predictions with actual data. Performance of EBS alternatives will be measured by the degree to which water is diverted from contact with the surrogate waste package in the EBS facility. Sensitivity to material properties will be assessed by both data and analyses, and used to develop performance criteria for the design and construction of EBS features and systems. Final results will include any model refinements warranted by the data and engineering correlations for use by EBS design and PA.

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-30.63 and logged into the TPM database.

Evaluation Criteria:
This deliverable shall be processed in accordance with YAP-30.63. The acceptance date is the date that DOE accepts the product

Prepare a report for the DOE acceptance that describes the numerical models used or developed and analytical results based on the tests performed in the laboratories and in the EBS test .

facility. The report will provide information regarding the flow pathways of water through the Yucca Mountain emplacement drifts. M&O will ensure that the report contains results of models, column tests in the Laboratories and the results from the EBS tests. As a minimum following information will be included in the report:

- Descriptions of models and parameter values used to scope the test.
- Laboratory test procedures, conditions, and results.
- EBS test facilities, procedures, conditions, and results.
- Comparison of pre-test predictions with test results, where applicable.

Descriptions of model refinements and engineering correlations developed.

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Open Project Form

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMNT
Title	Repository Design and Waste Form Revision - SR
Performing Org. Manager	CN=Richard Snell/OU=YM/O=RWDOE
DOE Manager	CN=Paul Harrington/OU=YD/O=RWDOE

Open SubProduct Form

Organization Information

Organization	120
Description	Engineered Barrier System Operations
Manager	Kalyan Bhattacharya
Project Participant: M&O	CRWMS/M&O

DELETE

Control Account Information

ID	12012383
Description	Complete Proposed SR Design
DOE Manager	
DOE Organization	OPE - Dick Spence
PSS	2383
PSS Description	Complete Proposed SR Design

Work Package Information

ID	12012383MT
Description	EBS Testing Program - 99
WBS Element	1.2.4
Work Package Manager	John Pye
Estimator	Bruce Stanley

Modification Information

Last Updated By: Bruce Stanley **Last Update:** 02/03/99 12:55:36 PM

This Form has been updated by:

Bruce Stanley, John Slocum, Jill Gibbons, Ken Maddrey, Bruce Stanley, Ken Maddrey, Chris Weiss, Joyce Huston, Chris Weiss, Joyce Huston, Daniel McKenzie, Bruce Stanley, Daniel McKenzie, Ken Maddrey, Peter Burke, Diego Suarez, Peter Burke, John Slocum, Vickie Richardson, Peter Burke, Chris Weiss, Peter Burke, Joyce Huston, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, John Slocum, Bruce Stanley, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, Chris Weiss, John Slocum, Ken Maddrey, John Slocum

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	WP275M3	Summary Rept of Degraded WP Crit Evaluations
Finish Date: 09/30/99		

☒ Q Assumption	☒ QS Distribution
☒ Internal Distribution	☒ YAP-3.12Q Document Review Applies
☒ YAP-30.12 PMO Review and Dist Applies	☒ YAP-SIII.3Q Proc of Tech Data on YMR Applies

DELETED

Description:
Ref Work Package 1101 2380 M1

This deliverable is Rev 01 to the "Probabilistic Criticality Analysis". It documents the results of comprehensive probabilistic evaluations of external criticality for preliminary waste package designs to support License Application (LA). These results include criticality consequences. Analyses include the probability and consequences of criticality internal to the waste package. This is a preliminary documentation of all potential critical configurations and resulting consequences. Summaries of related environmental parameter information provided by Performance Assessment are also included.

This report supplements the reports of previous years. The most significant new items are: 1) Evaluations with respect to new waste package designs, 2) Evaluations of criticality control alternatives, 3) Refinement of scenarios, and 4) Demonstration of non-criticality for some external criticality scenarios and resulting configurations.

Completion Criteria:

This deliverable and Level-3 milestone is considered complete as of the date it is stamped in at

Document Control. An electronic copy of the deliverable is required at completion.

Evaluation Criteria:

This deliverable will be evaluated and processed by YMSCO in accordance with YAP-30.63. This deliverable shall include all information identified in the Deliverable Description on the Control Account Planning Sheet (CAPS) unless specifically exempted in writing by YMSCO.

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

SubProduct Information

Code	AMNT
Title	Repository Design and Waste Form Revision - SR
Performing Org. Manager	CN=Richard Snell/OU=YM/O=RWDOE
DOE Manager	CN=Paul Harrington/OU=YD/O=RWDOE

Organization Information

Organization	110
Description	Waste Package Operations
Manager	Hugh Benton
Project Participant: M&O	CRWMS/M&O

[redacted]

Control Account Information

ID	11012380
Description	Neutronics Methodology Development - SR
DOE Manager	Paige Russell
DOE Organization	OLRC - Steve Brocum
PSS	2380
PSS Description	Neutronics Methodology Development - SR

[redacted]

Work Package Information

ID	11012380M1
Description	Neutronics Methodology - SR
WBS Element	1.2.2
Work Package Manager	Dan Thomas
Estimator	Dan Thomas

[redacted]

DELETE

Modification Information

Last Updated By: Carl Chagnon **Last Update:** 02/06/99 04:18:42 PM

This Form has been updated by:

Carl Chagnon, Martin Lewis, Carl Chagnon, Peter Burke, Carl Chagnon, Martin Lewis

Subproduct Plan Sheet

5 AMNW
TSPA-SR Document

Subproduct: AMNW TSPA - SR Document
Product: 2 Site Recommendation

	Fiscal Year Distribution												At
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	Complete
Annual Budget	0	43846	0	0	0	0	0	0	0	0	0	0	43846

Description

The TSPA-SR subproduct includes all of the testing, analyses and documentation requried to complete a transparent, traceable, and defensible TSPA for the SR.

AMNW TSPA - SR Document

Deliverables

Deliv ID	Description/Completion Criteria	Due Date
SL9050M3	Cmpl Infor Feeds from Science & Design to TSPA	
SL9051M3	Repository Design Feed to TSPA	
SL915M3	TSPA SR/LA Methodology & Assumptions Document	
SLSR5M3	Comment Response on the TSPA Peer Review	
SP3120M3	Single Heater Test Final Report (L3)	
SP327KM3	Prelim Geotech Site Characterization for WHB	
~~SP32E1M3~~	~~Report on Prow Pass Reactive tracer Test~~ (TO BE DELETED)	
~~SP32P4M3~~	~~Rept: ISM3.1; Addendum to ISM3.0 Report~~ (TO BE DELETED)	
SP3515M3	Ghost Dance Fault Testing Rpt	
~~SP3880M3~~	~~Drift Scale Test Progress Report No. 2 (L3)~~ (TO BE DELETED)	
~~SP399CM3~~	~~NF/AZ Environ Rpt , Rev 2~~ (TO BE DELETED)	
~~SP9904M3~~	~~Final LBT Report~~ (TO BE DELETED)	
SPG258M3	Preliminary Geologic Map for SZ Site Area	
SPG452M3	Rpt: Geometry & char of fault zones at Yucca Mtn	
SPG630M3	Rpt: Lithologic Logs USW UZ-7a & USW UZ-14	
~~SPG640M3~~	~~Rpt: Corr. Litho/Geophys Data for Dir. Approval~~ (TO BE DELETED)	
~~SPQ224M3~~	~~Rpt R1: Seismic Design Basis Inputs~~ (TO BE DELETED)	
SPQ301M3	Drft Rpt R1: EBF for Geology/Hydrology	
SPQ303M3	Rpt R1: EBF for Geology/Hydrology	

Deliverables are baselined with the descriptions, completion and evaluation criterias, and due dates contained in the appendix for each SPS

Approvals

5/17/99 — Ops. Manager Date — R. W. Andrews

6/10/99 — DOE Manager Date — R. E. Spence

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SP32E1M3	Report on Prow Pass Reactive Tracer Test
Finish Date: 04/01/99		

☒ Q Assumption	☒ OSTI Distribution
☒ Internet Distribution	☒ YAP-6.20 "Document Review" Applies
☒ YAP-30.12 "Pub. Review App and Dist." Applies	☒ YAP-SIII.3Q "Proc. of Tech. Data on YMP" Applies

Description:
Due: 1 Apr 1999
Report on Prow Pass Testing that combines the results (as a joint participant report including LANL & USGS) that provides PA with flow and transport parameters and an assessment of the validity of conceptual flow and transport models in the Prow Pass Tuff. This level 3 will be the fully reviewed and accepted version of milestone SP32E7M4 : Reactive Tracer Test in the Prow Pass due February 12, 1999, and completed in work package 14012029M1. The Prow Pass Report will support TSPA-SR/LA (through the SZ Flow and Transport Process Model work package 14012031M1), the Site Description Report SPQ317M3 (M2NU), and Chapter 3 of the LA.

This deliverable will be developed, reviewed, and submitted in accordance with YMSCO's "Policy on Development of Documents that will be Available to the License Proceeding."

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-30.63 and logged into the Nevada Document Control database.

Evaluation Criteria:
This deliverable shall include all information identified in the Deliverable Description on the CAPS unless specifically exempted in writing by the COR at least 60 days before the scheduled due date (30 days in special cases agreed to by the COR). The COR will review the deliverable and process

in accordance with YAP30.63.

The quality assurance pedigree of data in the deliverable will be clearly and correctly identified and maintained with the data. The deliverable will be reviewed and evaluated to verify that, for all technical data (as defined in YAP SIII.3Q) in the deliverable.

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Note: When there are more than 15 data sets included or used in the deliverable, a random sampling based on statistically valid sampling practices or at least 10 of the references will be used to assess compliance with these criteria.

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Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMNW
Title	TSPA - SR Document
Performing Org. Manager	CN=Richard Snell/OU=YM/O=RWDOE
DOE Manager	CN=Mark Tynan/OU=YD/O=RWDOE

Open SubProduct Form

Organization Information

Organization	140
Description	Natural Environment Program Operations
Manager	Larry Hayes
Project Participant: M&O	CRWMS/M&O

Open OM

Control Account Information

ID	14012029
Description	Data/Analy Eval Dilution Pthwys-SZ for TSPA-SR
DOE Manager	
DOE Organization	OLRC - Steve Brocoum
PSS	2029
PSS Description	Data/Analy Eval Dilution Pathways-SZ for TSPA-SR

Open Control Account

Work Package Information

ID	14012029M1
Description	SZ Data Analysis - SR - FY99
WBS Element	1.2.3
Work Package Manager	Paul Dixon
Estimator	Paul Dixon

Open Work Package

Modification Information

Last Updated By: Elora Nudd **Last Update:** 02/05/99 02:18:46 PM

This Form has been updated by:

Roger Henning, John Slocum, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, Paul Dixon, Ken Maddrey, Chris Weiss, John Slocum, Jeffrey Gromny, John Slocum, Jeffrey Gromny, Elora Nudd, Peter Burke, Elora Nudd

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SP32P4M3	Rept: ISM3.1; Addendum to ISM3.0 Report
Finish Date: 05/28/99		

☒ Q Assumption	☒ OCRWM Distribution
☒ Internet Distribution	☒ YAP-6.2Q "Document Review" Applies
☒ YAP-30.12 "Pub. Review, App. and Dist." Applies	☒ YAP-SIII.3Q "Proc. of Tech. Data on YMP" Applies

Description:
This report will present the changes to ISM3.0 through the addition of stratigraphic and properties data from the USW SD-6 and USW WT-24 boreholes, and from the ECRB Cross-Drift. Other minor changes that improve the portrayal of the Geologic Framework Model, as of December 1998, will also be incorporated. The report will list the input changes that differentiate the ISM3.1 from its predecessor, ISM3.0, and provide an assessment of these changes on the ISM model output.

An update to the qualification status of input data and computer software used in constructing the models), assumptions, uncertainties of the Integrated Site Model ISM3.0, and the methodolgy used in the development of the model components (the geologic framework, mineralogic, and rock properties models) will be presented only to the extent that the above information has changed from that presented in Deliverable SP32K5M3 (Integrated Site Model ISM3.0). Illustrations demonstrating output of the model will also be provided.

ISM3.1 will be constructed using Q procedures and qualified software. Use of Q input data will be maximized to the extent possible, and the source and Q status of new (relative to ISM3.0) input data will be identified. Updates of the properties models provided by SNL and LANL will be integrated into the geologic framework to form the Integrated Site Model version ISM3.1. All input data, the completed ISM3.1, and model components will have been submitted to the TDMS, or the Numerical Model Warehouse, as appropriate, prior to submittal of the deliverable.

This deliverable will be developed, reviewed, and submitted in accordance with YMSCO's "Policy on Development of Documents that will be Available to the License Proceeding."

Completion Criteria:
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Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Open Project Form

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMNW
Title	TSPA - SR Document
Performing Org. Manager	CN=Richard Snell/OU=YM/O=RWDOE
DOE Manager	CN=Mark Tynan/OU=YD/O=RWDOE

Open SubProduct Form

Organization Information

Organization	140
Description	Natural Environment Program Operations
Manager	Larry Hayes
Project Participant: M&O	CRWMS/M&O

Open O/M

Control Account Information

ID	14012210
Description	Dev Hydrog Frmwrk/Eval Disruptive Events for SR
DOE Manager	
DOE Organization	OLRC - Steve Brocoum
PSS	2210
PSS Description	SR-Develop Hydrog Frmwork/Eval Disruptive Events

Open Control Account

Work Package Information

ID	14012210M1
Description	ISM Update & Maintenance-SR-FY99
WBS Element	1.2.3
Work Package Manager	Norma Biggar
Estimator	Norma Biggar

Open Work Package

Modification Information

Last Updated By: Elora Nudd **Last Update:** 02/05/99 02:18:56 PM

This Form has been updated by:

Norma Biggar, John Slocum, Norma Biggar, Jeffrey Gromny, John Slocum, Jeffrey Gromny, Norma Biggar, Elora Nudd, Norma Biggar, Peter Burke, Elora Nudd

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SP3880M3	Drift Scale Test Progress Report No. 2 (L3)
Finish Date: 09/15/99		

☒ O Assumption	☒ OSTI Distribution
☒ Internet Distribution	☒ YAP-6.20 "Document Review" Applies
☒ YAP-30.12 "Pub. Review App and Dist." Applies	☒ YAP-SIII.3Q "Proc. of Tech. Data on YMP" Applies

Description:
Drift Scale Test Progress Report No. 2, SP3880M3, Due 09-30-99
This deliverable shall include all information identified herein unless specifically exempted in writing by the COR at least 60 days before the scheduled due date (30 days in special cases agreed to by the COR). This milestone will be met upon submission of the Drift Scale Test Progress Report No. 2. The report will document measuements, numerical analyses, and corresponding interpretations of the four processes under consideration in the Drift Scale Test.

This deliverable will be developed, reviewed, and submitted in accordance with YMSCO's "Policy on Development of Documents that will be Available to the License Proceeding."

Completion Criteria:
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Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Open Project.com

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product.com

SubProduct Information

Code	AMNW
Title	TSPA - SR Document
Performing Org. Manager	CN=Richard Snell/OU=YM/O=RWDOE
DOE Manager	CN=Mark Tynan/OU=YD/O=RWDOE

Open SubProduct Form

Organization Information

Organization	140
Description	Natural Environment Program Operations
Manager	Larry Hayes
Project Participant: M&O	CRWMS/M&O

Open O/M

Control Account Information

ID	14016107
Description	ST215 Drift Scale Heater Test - Heat up Phase
DOE Manager	Steve Brocoum
DOE Organization	OLRC - Steve Brocoum
PSS	6107
PSS Description	Drift Scale Heater Test - Heat-Up Phase SR

Open Control Account

Work Package Information

ID	14016107M2
Description	Drift Scale Test: Analyze & Report-SR-FY99
WBS Element	1.2.3
Work Package Manager	Ralph Wagner
Estimator	Ralph Wagner

Open Work Package

Modification Information

Last Updated By: Ralph Wagner **Last Update:** 02/06/99 10:00:21 AM

This Form has been updated by:

Jeffrey Gromny, Ralph Wagner, Chris Weiss, Jack Scheer, John Slocum, Mark Peters, Roger Henning, Jeffrey Gromny, Ken Maddrey, Chris Weiss, Joyce Huston, Chris Weiss, Joyce Huston, Ken Maddrey, Peter Burke, John Slocum, Peter Burke, Robin Datta, Candace Lugo, Vickie Richardson, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, Ralph Wagner, Peter Burke, Candace Lugo, Ralph Wagner, Roger Henning, Peter Burke, Candace Lugo, Peter Burke, Joyce Huston, Peter Burke, John Slocum, Chris Weiss, Peter Burke, Chris Weiss, John Slocum, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, Ralph Wagner, Ken Maddrey, Chris Weiss, John Slocum, Ken Maddrey, John Slocum, Jeffrey Gromny, Elora Nudd, Peter Burke, Elora Nudd

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SP399CM3	NF/AZ Environ Rpt, Rev 2
Finish Date: 08/30/99		

☒ Q Assumption	☒ QSTI Distribution
☒ Internet Distribution	☒ YAP-6.20 "Document Review" Applies
☒ YAP-30.12 "Pub. Review App and Dist." Applies	☒ YAP-SIII.3Q "Proc. of Tech. Data on YMP" Applies

Description:
Produce a revised NFE report that contains a description of the evolution of the NF/AZ environment over time. Include THC simulations of CO2 redistribution due to repository heating. Describe and quantify the effects of CO2 fugacity and other environmental conditions on the alteration of concrete, and the composition of water in the near field geochemical environment. Present the status of integrated testing, introduced materials testing, and microbial process testing. Quantitively describe the influence of the NFGE on waste package corrosion, as a function of time and assuming reference WP materials. Describe the geochemical environment for transport of released radionuclides through introduced or EBS materials, along transport pathways to the host rock. Include EBS design options in consideration of these topics. The report content and format will meet the requirements of the 12/22/97 NEPO guidance on deliverables, including the requirements on electronic publishing. All data cited, developed, or reported as acquired data in this report will be submitted to the Technical Data Management System.

This deliverable will be developed, reviewed, and submitted in accordance with YMSCO's "Policy on Development of Documents that will be Available to the License Proceeding."

Completion Criteria:
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Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Open Project Icon

Product Information

ID	2
Description	Site Recommendation

DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMNW
Title	TSPA - SR Document
Performing Org. Manager	CN=Richard Snell/OU=YM/O=RWDOE
DOE Manager	CN=Mark Tynan/OU=YD/O=RWDOE

Open SubProduct Form

Organization Information

Organization	140
Description	Natural Environment Program Operations
Manager	Larry Hayes
Project Participant: M&O	CRWMS/M&O

Open O/M

Control Account Information

ID	14012035
Description	NFE Rslts to Eval WP Life & EBS Trans for SR/LA
DOE Manager	
DOE Organization	OLRC - Steve Brocoum
PSS	2035
PSS Description	NFE Results to Eval WP Life/EBS Trnspt for SR

Open Control Account

Work Package Information

ID	14012035M2
Description	Revise NF/AZ Environ. Report for SR (FY99)
WBS Element	1.2.3

Work Package Manager	Dwight Hoxie
Estimator	Dwight Hoxie

OPEN WORK PACKAGE

Modification Information

Last Updated By: Elora Nudd **Last Update:** 02/05/99 02:13:53 PM

This Form has been updated by:

Jeffrey Gromny, Dwight Hoxie, Chris Weiss, Jack Scheer, John Slocum, Roger Henning, Jeffrey Gromny, Ken Maddrey, Chris Weiss, Joyce Huston, Chris Weiss, Joyce Huston, Ken Maddrey, Peter Burke, John Slocum, Peter Burke, Vickie Richardson, Peter Burke, Chris Weiss, Peter Burke, Roger Henning, Chris Weiss, Roger Henning, Peter Burke, Roger Henning, Ernest Hardin, Peter Burke, Joyce Huston, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, John Slocum, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, Chris Weiss, John Slocum, Ken Maddrey, John Slocum, Ernest Hardin, John Slocum, Jeffrey Gromny, Dwight Hoxie, Roger Henning, Elora Nudd, Peter Burke, Elora Nudd, Dwight Hoxie, Elora Nudd

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SP9904M3	Final LBT Report
Finish Date: 08/12/99		

☒ Q Assumption	☒ GSTI Distribution
☒ Internet Distribution	☒ YAP-6.2Q 'Document Review' Applies
☒ YAP-30.12 'Pub. Review,App and Dist' Applies	☒ YAP SIII.3Q 'Proc. of Tech. Data on YMP' Applies

DELETE

Description:
Large Block Test Final Report, SP9904M3, Due: 8-12-99
Reduce data and perform analyses of the data collected during the test. Identify processes, particularly geochemical, that were present during the conducting of the LBT. Conduct final model studies, including fracture network models and other representations of the heterogeneity of the block, for comparison with different stages of the experiment. Integrate all data on fractures, including fracture maps, video logs, and permeability tests. Address differences between predictive modeling and observations, and identify any laboratory scale experiments needed to explain the discrepancies, if any. Determine whether the processes that were identified should be considered in the Drift Scale Test, WP and repository design, and PA analyses of the repository, and whether other processes may be present at the repository that were not present at the LBT, but which should be included in the design and PA efforts. Document alternative conceptual and numerical models that are consistent with the data. Develop recommendations for incorporating thermo-hydrologic/mechanical-chemical-biological and other coupled phenomena in PA models.

The Large Block Test Final Report will support TSPA-LA (through the Near Field Environment Process Models package), LA Design, and Chapter 3 of the LA.

This deliverable will be developed, reviewed, and submitted in accordance with YMSCO's "Policy on Development of Documents that will be Available to the License Proceeding."

Completion Criteria:

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Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMNW
Title	TSPA - SR Document
Performing Org. Manager	CN = Richard Snell/OU = YM/O = RWDOE
DOE Manager	CN = Mark Tynan/OU = YD/O = RWDOE

Open SubProduct Form

Organization Information

Organization	140
Description	Natural Environment Program Operations
Manager	Larry Hayes
Project Participant:	
M&O	CRWMS/M&O

Open E-M

Control Account Information

ID	14012033
Description	NFE Results to support TSPA-SR
DOE Manager	
DOE Organization	OLRC - Steve Brocoum
PSS	2033
PSS Description	NFE Results to Support TSPA-SR

Open WBS Control Account

Work Package Information

ID	14012033M1
Description	Large Block Test: Charact. & Analysis-SR-FY99
WBS Element	1.2.3
Work Package Manager	Ralph Wagner
Estimator	Ralph Wagner

[redacted]

Modification Information

Last Updated By: Ralph Wagner **Last Update:** 02/06/99 10:09:47 AM

This Form has been updated by:

Candace Lugo, Peter Burke, Chris Weiss, Ralph Wagner, Candace Lugo, Peter Burke, Ralph Wagner, Roger Henning, Peter Burke, Candace Lugo, Peter Burke, Joyce Huston, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, John Slocum, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, Chris Weiss, John Slocum, Ken Maddrey, John Slocum, Jeffrey Gromny, Dwight Hoxie, Jeffrey Gromny, Elora Nudd, Peter Burke, Elora Nudd, Ralph Wagner

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SPG640M3	Rpt: Corr Litho/Geophys Data for Dir Approval
Finish Date: 09/30/99		

☒ Q Assumption	☒ OSTI Distribution
☒ Internet Distribution	☒ YAP-6.2Q 'Document Review' Applies
☒ YAP-30.12 'Pub. Review App and Dist' Applies	☒ YAP-SIII.3Q 'Proc. of Tech. Data on YMP' Applies

DELETE

Description:
This milestone report will provide the overview of the recent effort to correlate lithostratigraphic features and geophysical log data, describe lithostratigraphic units and associated contacts, and illustrations and discussions of reference sections. Types of data used to determine the contacts will be described, and the Q- and non Q-status of these data will be listed and discussed. The data package for eighty boreholes will be submitted in July 1998, and this report will include the data for these boreholes as an appendix. This USGS Open-File Report will provide the overview of the recent effort to correlate lithostratigraphic features and geophysical log data, describe lithostratigraphic units and associated contacts, and illustrations and discussions of reference sections. Types of data used to determine the contacts will be described, and the Q- and non Q-status of these data will be listed and discussed. The data package for eighty boreholes will be submitted in July 1998, and this report will include the data for these boreholes as an appendix. The milestone will be met when the report has completed all technical and quality assurance reviews and has been submitted to the USGS Director's office for approval.

This deliverable will be developed, reviewed, and submitted in accordance with YMSCO's "Policy on Development of Documents that will be Available to the License Proceeding."

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-30.63 and logged into the Nevada Document Control database.

Evaluation Criteria:
This deliverable shall be processed in accordance with YAP-30.63

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Open Project Form

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMNW
Title	TSPA - SR Document
Performing Org. Manager	CN = Richard Snell/OU = YM/O = RWDOE
DOE Manager	CN = Mark Tynan/OU = YD/O = RWDOE

Open SubProduct Form

Organization Information

Organization	819
Description	United States Geological Survey
Manager	Robert Craig
Project Participant: USGS	United States Geological Survey

Open QM

Control Account Information

DELETED

ID	81912210
Description	ISM Data Update for SR
DOE Manager	
DOE Organization	OLRC - Steve Brocoum
PSS	2210
PSS Description	SR-Develop Hydrog Frmwork/Eval Disruptive Events

Open Control Account

Work Package Information

ID	819122101 1
Description	Geologic Studies-FY99
WBS Element	1.2.3
Work Package Manager	Michael Chornack
Estimator	Raye Arnold

Open Work Package

DELETE

Modification Information

Last Updated By: John Slocum **Last Update:** 04/08/99 08:49:39 AM

This Form has been updated by:

Shannon Reisler, Norma Biggar, Raye Arnold, Jack Scheer, Raye Arnold, Ken Maddrey, Chris Weiss, Shannon Reisler, Joyce Huston, Chris Weiss, Joyce Huston, Ken Maddrey, Peter Burke, John Slocum, Candace Lugo, Peter Burke, Vickie Richardson, Peter Burke, Chris Weiss, Peter Burke, Raye Arnold, Peter Burke, Joyce Huston, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, John Slocum, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, Chris Weiss, John Slocum, Ken Maddrey, John Slocum, Peter Burke, Raye Arnold, John Slocum, Ken Maddrey, John Slocum, Tom Ferguson, John Slocum, Ken Maddrey

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SPQ224M3	Rpt R1: Seismic Design Basis Inputs
Finish Date: 08/31/99		

☒ Q Assumption	☒ QSTI Distribution
☒ Internet Distribution	☒ YAP-6.2Q "Document Review" Applies
☒ YAP-30.12 "Pub. Review App and Dist" Applies	☒ YAP-SIII.3Q "Proc. of Tech. Data on YMP" Applies

DELETE

Description:
Update the report, Seismic Design Basis Inputs for a Geologic Repository at Yucca Mountain, Nevada (Rev 0) to include site-specific ground motion design inputs for the surface facilities important to radiological safety. Incorporate the results of site-specific soil and rock properties investigations and available results on site attenuation (kappa). Provide design response spectra for vertical and horizontal ground motion for Frequency Category 1 and Frequency Category 2. Provide spectra for acceleration and velocity. Provide spectra for the surface and for the proposed waste emplacement depth. Provide time histories with characteristics consistent with the design spectra. Provide values of strain as a function of depth from the surface to the depth of the proposed waste emplacement level.

This deliverable will be developed, reviewed, and submitted in accordance with YMSCO's "Policy on Development of Documents that will be Available to the License Proceeding."

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-30.63 and logged into the Nevada Document Control database.

Evaluation Criteria:
This deliverable shall include all information identified in the Deliverable Description on the CAPS unless specifically exempted in writing by the COR at least 60 days before the scheduled due date

(30 days in special cases agreed to by the COR). The COR will review the deliverable and process in accordance with YAP30.63.

The quality assurance pedigree of data in the deliverable will be clearly and correctly identified and maintained with the data. The deliverable will be reviewed and evaluated to verify that, for all technical data (as defined in YAP SIII.3Q) in the deliverable.

a) The data are labeled as to whether or not they were collected and maintained in accordance with the YMP quality assurance.
b) There is a process in place to verify that any source data for the data in the deliverable are similarly labeled
c) The labeling of the source is consistent with the labeling of the data in the deliverable or there is sufficient explanation of the difference (e.g. data in the deliverable are labeled as qualified while the source data are labeled accepted)

Note: When there are more than 15 data sets included or used in the deliverable, a random sampling based on statistically valid sampling practices or at least 10 of the references will be used to assess compliance with these criteria.

All documentation required by applicable procedures for the deliverable is complete, meets procedural requirements, and is retrievable. Procedures used in the development, review and approval of the deliverable (e.g. YAP 5.8Q, YAP SIII.3Q, AP 6.1Q) require that certain documentation be submitted to the records processing center.

All software code used in development and/or control of resulting models or manipulation of data presented in the deliverable is qualified and maintained under a configuration management system AP-SI.1Q. This deliverable will be reviewed and evaluated to verify that:

a) All software code that was used in development of models that are documented in the deliverable has been assigned a unique identifier and is maintained in a configuration management system
b) All software code used to develop or manipulate the data presented in the deliverable has been assigned a unique identifier and is maintained in a configuration management system
c) The software code is retrievable and usable, and the results reported in the deliverable are reproducible.

DELETE

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Open Project Form

Product Information

ID	2
Description	Site Recommendation
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE

Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMNW
Title	TSPA - SR Document
Performing Org. Manager	CN = Richard Snell/OU = YM/O = RWDOE
DOE Manager	CN = Mark Tynan/OU = YD/O = RWDOE

Open SubProduct Form

DELETE

Organization Information

Organization	140
Description	Natural Environment Program Operations
Manager	Larry Hayes
Project Participant: M&O	CRWMS/M&O

Open O/M

Control Account Information

ID	14016105
Description	Science Support to License Application
DOE Manager	April Gil
DOE Organization	OLRC - Steve Brocoum
PSS	6105
PSS Description	Science Support to SR

Open Control Account

Work Package Information

ID	14016105M2
Description	Review of Literature & Special Studies-SR-FY99
WBS Element	1.2.3
Work Package Manager	Richard Quittmeyer
Estimator	Richard Quittmeyer

Open Work Package

Modification Information

Last Updated By: Elora Nudd **Last Update:** 02/05/99 02:15:17 PM

This Form has been updated by:

Richard Quittmeyer, Roger Henning, Richard Quittmeyer, Jeffrey Gromny, Terry Grant, Jeffrey Gromny, Ken Maddrey, Chris Weiss, Joyce Huston, Chris Weiss, Joyce Huston, Ken Maddrey, Peter Burke, John Slocum, Peter Burke, Terry Grant, Peter Burke, Vickie Richardson, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, Peter Burke, Roger Henning, Peter Burke, Roger Henning, Peter Burke, Joyce Huston, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, John Slocum, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, Richard Quittmeyer, Ken Maddrey, John Slocum, Ken Maddrey, John Slocum, Jeffrey Gromny, Roger Henning, Jeffrey Gromny, Elora Nudd, Peter Burke, Elora Nudd

DELETE

Subproduct Plan Sheet

6 AMPP Technical Support for SR/Designation

Subproduct: AMPP Technical Support for SR/Designation
Product: 2 Site Recommendation

	Fiscal Year Distribution											
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	At Complete
Annual Budget	0	79899	0	0	0	0	0	0	0	0	0	0	79899

Description

This subproduct comprises activities that provide infrastructure and support for work identified under the other SR subproducts. This subproduct also covers work activities and related subproduct elements that address requirements or commitments not specifically covered under the other subproducts.

AMPP Technical Support for SR/Designation

Deliverables

Deliv ID	Description/Completion Criteria	Due Date
RPA302M3	Provide Updated SS Draft Eng. File	
RPA304M3	Provide SS Final Eng. File Update	
SLPR19M3	Submit PR19 to YMSCO AMs for Review	
SLPR20M3	Submit PR20 to YMSCO AMs for Review	
SLPRAMM3	Documentation of Prgm Chg to YMSCO AMs for Rev	
SLPRBMM3	Submit PR19 HQ Concurrence Draft to YMSCO	
SLPRCMM3	Submit PR20 HQ Concurrence Draft to YMSCO	
SS128AM3	Annual DOI Federal Archaeology Questionnaire	
SS128BM3	Ann Report on Compl w/Prgrm Agree on Hist Si	
SS128CM3	Annual Inventory of Collect Arch. Mtrls.	
SS128DM3	Ann Nv Comb Agen Haz Sub Infor Fac Rpt	
SS128EM3	Annual Waste Min Rpt Notification	
SS128FM3	Annual EPCRA Section 313 Report	
SS128GM3	Ambient Air Quality Report	
SS128HM3	Ambient Air Quality Report	
SS128IM3	Ambient Air Quality Report	
SS128JM3	Ambient Air Quality Report	
SS128KM3	SMP Quarterly Employment Data Report	
SS128LM3	SMP Procurement Data Report	
SS128MM3	SMP Quarterly Employment Data Report	
SS128NM3	SMP Quarterly Employment Data Report	
SS128OM3	SMP Quarterly Employment Data Report	
SS128PM3	SMP Procurement Data Report	
SS983AM3	Quarterly UIC Permit Report	
SS983BM3	Quarterly UIC Permit Report	
SS983CM3	Quarterly UIC Permit Report	
SS983M3	Quarterly UIC Permit Report	
SS985AM3	Env. Regulatory Compl. Plan	
SS985M3	Annual Site Environment Report	
SSH14HM3	Ltr Rpt: 4th Qtr FY98	
SSH14IM3	Ltr Rpt: 1st Qtr FY99	
SSH14JM3	Ltr Rpt: 2nd Qtr FY99	
SSH14KM3	Ltr Rpt: 3rd Qtr FY99	

AMPP Technical Support for SR/Designation

Deliverables

Deliv ID	Title	Due Date
SSH14NM3	Summary Monitoring Through Calendar Year 1998	

Deliverables are baselined with the descriptions, completion and evaluation criterias, and due dates contained in the appendix for each SPS

Approvals

Ops. Manager	Date	DOE Manager	Date	
J.N. Bailey	5/17/99	R.E. Spence	6/10/99	

Subproduct Plan Sheet

7 AMCW EIS

Subproduct: AMCW EIS
Product: 3 EIS, Environment, Safety, and Health

	Fiscal Year Distribution												At
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	Complete
Annual Budget	0	8258	0	0	0	0	0	0	0	0	0	0	8258

Description

This subproduct includes development of an EIS in compliance with the NWPA, CEQ, and DOE regulations and preparation of a technically adequate EIS that can be adopted, to the extent practicable, by the NRC.

AMCW EIS (continued)

Deliverables

Deliv ID	Title	Due Date
RPA105M3	Draft RSD Engineering Files Report	
RPA106M3	Final RSD Engineering Files Report	
SEA135M3	Evolution of the MGR Reference Design	
SEB135M3	EIS Cost Estimate Report	
SL916M3	PA Input to DEIS	
SS12AM3	Updated Draft Env. Baseline Files	
SS12BM3	Design Alternatives Report	
SS12CM3	Submit Final Env. Baseline Files	
SS19DM3	Distribute DEIS	
SSJ193M3	Deliver PDEIS for the EIS Manager Review	
SSJ29M3	Public Comment Period Starts	

Deliverables are baselined with the descriptions, completion and evaluation criterias, and due dates contained in the appendix for each SPS

Approvals

5/17/99
Ops. Manager Date
Glen T. Hanson

6/16/99
DOE Manager Date
R E Spence

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SL916M3	PA Input to DEIS
Finish Date: ~~02/26/99~~ 03/31/99		

☐ Q-Assumption	☐ SCI Distribution
☐ Internet Distribution	☐ YAP-6.20 Document Review Applies
☐ YAP-30.12 Pub. Review App. and Dist. Applies	☒ YAP-SIII.3c Proc. of Tech. Data on YMP Applies

Description:
The M&O PA will provide a report documenting the approach and results for the EIS cases including 3 thermal loads (25, 60, and 85 MTHM/acre), 3 waste inventories (base case, module 1 and module 2), and 4 locations (5, 20, 30, and 80 km). The results will be presented as expected value runs for all cases and as CCDF's for all but the module 2 cases. The draft will be deivered as an M4 on 02/01/99. The document will be delivered on 02/26/99. All RIP files will be electronically transferred to the EIS contractor. All files will be transmitted to the DBMS. M&O QC procedures will be followed.

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-30.63 and logged into the Technical Publications Management database.

Evaluation Criteria:
This deliverable shall include all information identified in the Deliverable Description on this CAP sheet unless specifically exempted in writing by the COR at least 60 days before the scheduled due date (30 days in special cases agreed to by the COR). The COR will review the deliverable and process in accordance with YAP-30.63.

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Product Information

ID	3
Description	EIS, Environment, Safety, and Health
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	

SubProduct Information

Code	MCW
Title	EIS
Performing Org. Manager	CN=Lee Morton/OU=YM/O=RWDOE
DOE Manager	CN=Kenneth Skipper/OU=YD/O=RWDOE

Organization Information

Organization	130
Description	Performance Assessment Operations
Manager	Robert Andrews
Project Participant: M&O	CRWMS/M&O

Control Account Information

ID	13013040
Description	DEIS Prepare & Issue
DOE Manager	Kenneth Skipper

DOE Organization	OLRC - Steve Brocoum
PSS	3040
PSS Description	NE1024 - DEIS Prepare and Issue

[redacted]

Work Package Information

ID	13013040M9
Description	EIS Analyses FY99
WBS Element	1.2.5
Work Package Manager	Jerry McNeish
Estimator	Sharon Rice

[redacted]

Modification Information

Last Updated By: John Slocum **Last Update:** 03/09/99 07:54:26 AM

This Form has been updated by:

Bartlett Mann, John Slocum, Ken Maddrey, John Slocum, Tom Ferguson, John Slocum

Subproduct Plan Sheet

8 AMPS Post EIS Completion Activities

Subproduct: AMPS Post EIS Completion Activities
Product: 3 EIS, Environment, Safety, and Health

	Fiscal Year Distribution												
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	At Complete
Annual Budget	0	0	0	0	0	0	0	0	0	0	0	0	0

Description

The post EIS Issuance Activities subproduct encompasses all work activities planned to support completion of the Draft and Final EIS Administrative Record, the issuance of the Mitigation Action Plan, and development of materials needed to support a decision document.

AMPS Post EIS Completion Activities

Deliverables

Deliv ID	Description/Completion Criteria	Due Date
	Deliverables are baselined with the descriptions, completion and evaluation criterias and due dates contained in the appendix for each SPS	

Approvals

5/17/99
Ops. Manager Date

Glen T. Hanson

6/16/99
DOE Manager Date

Stephan Brocoum

Subproduct Plan Sheet

9 AMPU DOE SNF and Fissile Materials

Subproduct: AMPU DOE SNF & Fissile Materials
Product: 4 DOE SNF & Fissile Material

	Fiscal Year Distribution												At
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	Complete
Annual Budget	0	5684	0	0	0	0	0	0	0	0	0	0	5684

Description

The DOE SNF & Fissile Materials subproduct includes performance analyses and waste acceptance criteria development to include DOE-owned SNF and surplus fissile materials disposition for inclusion into the safety and waste isolation case for the SR/LA.

AMPU DOE SNF & Fissile Materials

Deliverables

Deliv ID	Title	Due Date
SEA1A9M3	DBE Anal of Immobilized Pu Waste Form	
SEAA21M3	Crit Anal of Pu Waste Forms in a Geologic Repos	

Deliverables are baselined with the descriptions, completion and evaluation criterias, and due dates contained in the appendix for each SPS

Approvals

Ops Manager Date: J. S. Clouet 5/17/99

DOE Manager Date: R E Spence 6/10/99

J. S. Clouet

R E Spence

Subproduct Plan Sheet

10 AMMW LA Design and Verification

Subproduct: AMMW LA Design & Verification
Product: 6 License Application

	Fiscal Year Distribution												
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	At Complete
Annual Budget	0	2730	0	0	0	0	0	0	0	0	0	0	2730

Description

This subproduct element defines the work scope required to develop and revise design criteria controlled by the M&O and accepted by DOE for LA. Revisions and updates to the project requirements documents and SDD's that are required in connection with the resolution of TBXs items identified in the "Verification of Requirements for LA Design" milestone will be performed in this activity. The resolved TBX's and initial design work will be integrated into the System Engineering Products and completed in support of the WDLA/ADLA. This work will continue until the requirements/criteria are mature enough to support the development of procurement specifications and support the basis for the LA design.

AMMW LA Design & Verification

Deliverables

Deliv ID	Description/Completion Criteria	Due Date
SEA021M3	OATI/YMSCO Integrated ICD	
SEA225M3	Complete MGR Con-Ops Revision	
SEA226M3	WASRD Revision	

Deliverables are baselined with the descriptions, completion and evaluation criterias and due dates contained in the appendix for each SPS

Approvals

5/17/99 — Ops. Manager Date — RD SNELL

6/10/99 — DOE Manager Date — R.E. Spence

Subproduct Plan Sheet

11 AMNE Draft LA

Subproduct: AMNE Draft LA
Product: 6 License Application

Fiscal Year Distribution

	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	At Complete
Annual Budget	0	1612	0	0	0	0	0	0	0	0	0	0	1612

Description

This element comprises the work activities that directly support the preparation, review (M&O and DOE), and verification of draft LA input (chapters and sections) and the assembled document. Adequate resources must be allocated to conduct the scope of work within the time frame defined for the Draft LA sub-product in the PSS. Adequate involvement by all organizations from which input is required must be indicated as part of the plan. The basis for planning must clearly indicate the level of effort required as a function of time to develop the document under the process and controls described in the LA Management Plan and following the guidance on format and content provided in the Technical Guidance Document. A schedule for the delivery of draft LA chapters and sections will be developed showing the links to the development of the underlying support documents and delivery of the assembled document for DOE-wide review consistent with the LA development schedule in the baseline PSS.

AMNE Draft LA

Deliverables

Deliv ID	Description/Completion Criteria	Due Date
SLSTRBM3	Submit STR III Draft for QAP6.2/YAP 30.12 Rvws	
SPG42GM3	Geology of ECRB Cross Drift	
SLD105M3	Submit Level of Design Detail Paper for LA to DOE (NEW DELIVERABLE)	

Deliverables are baselined with the descriptions, completion and evaluation criterias, and due dates contained in the appendix for each SPS

Approvals

Dennis Richardson 5/17/99
Ops. Manager Date

R.E. Spence 6/10/99
DOE Manager Date

DENNIS RICHARDSON

R.E. Spence

MultiYear Planning System

New

DELIVERABLE

	ID	TITLE
Deliverable	SLDI05M3	Submit Level of Design Detail Paper
Finish Date: 06/10/99		For LA to DOE

Description:
Convene a multidiscipline team consisting of M&O, MTS and YMSCO to develop guidance on the level of design detail required to support the development of the License Application for Construction Authorization. Provide the guidance to YMSCO via letter to support the next revision of the Technical Guidance Document for the Preparation of a License Application.

This deliverable shall be prepared in accordance with OCRWM approved quality assurance procedures implementing requirements of the QARD as required. Q and non-Q data used and cited in this deliverable shall be appropriately noted and clearly identified. Every effort shall be made to assure that qualified data is used in this deliverable as specified in Section: Supplement III, 2.5, Data Usage, of the current revision QARD as required. Technical data contained within the deliverable and not already incorporated in the Geographic Nodal Information Study and Evaluation System (GENISES) shall be submitted, if appropriate, for incorporation into the GENISES in accordance with YAP-SIII.3Q. Verification of technical data submittal compliance shall be demonstrated by including as part of the deliverable: 1) a copy of the Technical Data Information Form generated identifying the data in the Automated Technical Data Tracking System, and 2) a copy of the transmittal letter attached to the technical data transmittal to the GENISES Administrator as required. Record accession numbers and Automated Tracking numbers will be included, as appropriate, for all data used and /or cited in this deliverable.

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-30.63 and logged into the Technical Publications Management database.

Evaluation Criteria:
This deliverable shall include all information identified in the Deliverable Description on this PPS sheet unless specifically exempted in writing by the COR at least 60 days before the scheduled due date (30 days in special cases agreed to by the COR). The COR will review the deliverable and process in accordance with YAP-30.63.

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SPG42GM3	Geology of ECRB Cross Drift
Finish Date: ~~03/31/99~~ 05/16/99		

☒ Q Assumption	☒ UST Distribution
☒ Internet Distribution	☒ YAP 6.20 "Document Review" Applies
☒ YAP 3D.12 "Pub. Review App and Dist" Applies	☒ YAP SIII.3Q "Proc. of Tech. Data on YMP" Applies

Description:
This milestone report will consist of a compilation and summary of mapping data collected in the cross block drift. It will include data delivery for the same interval into the GENISES data base. The report will integrate all mapping and other data, including, as appropriate, maps at a scale of 1:125, geologic units and subunits, fractures, faults, and other important structural features (as appropriate), the location of all samples collected for mineralogical or geochemical analysis and as-constructed installed ground support and type. The deliverable will supply fracture analysis for the cross block drift in the form of tabulated data sets, stereo plots, and statistical treatment of fracture information (by stratigraphic unit, or some selected interval along the course of tunnel excavation). A cross section comparing the predicted geology of the cross block drift and as-determined structural and stratigraphic interpretations will be presented. Predicted and actual stratigraphic, structural and other key features will be discussed in the report. Important sampling and testing activities will be identified and discussed, as appropriate. A general discussion of the stratigraphy and structure will be provided that will include characterization of predicted locations of known or suspected fault features. The report also will include a description of rock characteristics associated with features that do not lend themselves well to graphical presentations contained in the report such as fault gouge and breccia.

Results of the detailed line survey and appropriate graphical and tabular presentation of data will be included in the report. The report will briefly describe any unusual features observed in the mapping, detailed line survey, or sampling exercises. Results of the RQD and Q & RMR analyses will also be provided and integrated into map or other graphical presentations of related data. Simple statistical treatment or qualitative assessment of the results of the subject survey will be provided.
This deliverable will be developed, reviewed, and submitted in accordance with YMSCO's "Policy on Development of Documents that will be Available to the License Proceeding."

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-30.63 and logged into the Nevada Document Control database.

Evaluation Criteria:
This deliverable shall be processed in accordance with AP 30.63.

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Product Information

ID	6
Description	License Application
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

SubProduct Information

Code	AMNE
Title	Draft LA
Performing Org. Manager	CN = Mike Lugo/OU = YM/O = RWDOE
DOE Manager	CN = April Gil/OU = YD/O = RWDOE

Organization Information

Organization	819
Description	United States Geological Survey
Manager	Robert Craig
Project Participant:	

USGS United States Geological Survey

Control Account Information

ID	81912050
Description	Enhanced Charact. of Repository Block
DOE Manager	
DOE Organization	OPE - Dick Spence
PSS	2050
PSS Description	Testing Enhanced Characteriz of Repos Block LA

Work Package Information

ID	81912050U2
Description	Geologic Testing in the ECRB-FY99
WBS Element	1.2.3
Work Package Manager	Michael Chornack
Estimator	Raye Arnold

Modification Information

Last Updated By: John Slocum **Last Update:** 04/08/99 08:48:31 AM

This Form has been updated by:

Shannon Reisler, Raye Arnold, Jack Scheer, Raye Arnold, Jeffrey Gromny, Ken Maddrey, Chris Weiss, Joyce Huston, Chris Weiss, Joyce Huston, Raye Arnold, Ken Maddrey, Peter Burke, Raye Arnold, Peter Burke, Raye Arnold, Peter Burke, John Slocum, Peter Burke, Vickie Richardson, Peter Burke, Chris Weiss, Peter Burke, Joyce Huston, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, John Slocum, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, Chris Weiss, John Slocum, Ken Maddrey, John Slocum, Raye Arnold, Peter Burke, Raye Arnold, John Slocum, Ken Maddrey, John Slocum, Tom Ferguson

Subproduct Plan Sheet

12 AMNN Working Draft LA

Subproduct: AMNN Working Draft LA
Product: 6 License Application

	Fiscal Year Distribution												
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	At Complete
Annual Budget	0	4424	0	0	0	0	0	0	0	0	0	0	4424

Description

The Working Draft License Application (WDLA) subproduct includes coordination and development of chapters and sections in the WDLA, including reviews and comment resolution. This subproduct will establish the template and identify any missing or incomplete information expected to be necessary to develop the License Application. The WDLA subproduct is the preliminary attempt to establish the format and content of a license application, including the identification of the safety case for the Monitored Geologic Repository.

AMNN Working Draft LA

Deliverables

Deliv ID	Description/Completion Criteria	Due Date
SEA282M3	Performance Confirmation Plan Rev. 1	
SLWDO2M3	M&O Provide WDLA QAP6.2 Draft to DOE	

Deliverables are baselined with the descriptions, completion and evaluation criterias, and the due dates contained in the appendix for each SPS

Approvals

Dennis Richardson 5/12/99
Ops. Manager Date

DENNIS RICHARDSON

R.E. Spence 6/10/99
DOE Manager Date

R.E. Spence

MultiYear Planning System

DELIVERABLE

	ID	TITLE
Deliverable	SLWDO2M3	M&O Provide WDLA QAP6.2 Draft to DOE
Finish Date: 07/30/99		

☐ Q Assumption	☐ OSTI Distribution
☐ Internet Distribution	☒ YAP-6.2Q "Document Review" Applies
☐ YAP-30.12 "Pub. Review App and Dist." Applies	☐ YAP-SIII.3Q "Proc. of Tech. Data on YMP" Applies

Description:

This deliverable is to submit the Working Draft License Application to YMP for a QAP 6.2 review. The Working Draft will conform to the applicable guidance provided by the License Application Management Plan and the Technical Guidance Document for the Preparation of a License Application, except as authorized by the YMP Assistant Manager for Licensing. It will incorporate licensing information called for in the Technical Guidance Document for License Application Preparation available at the time the WDLA is developed. Placeholders for missing information will also be provided. The WDLA is a work in progress and not a licensing submittal to the NRC.

This deliverable shall be prepared in accordance with OCRWM approved quality assurance procedures implementing requirements of the QARD as required. Q and non-Q data used and cited in this deliverable shall be appropriately noted and clearly identified. Every effort shall be made to assure that qualified data is used in this deliverable as specified in Section: Supplement III, 2.5, Data Usage, of the current revision QARD as required. Technical data contained within the deliverable and not already incorporated in the Geographic Nodal Information Study and Evaluation System (GENISES) shall be submitted, if appropriate, for incorporation into the GENISES in accordance with YAP-SIII.3Q. Verification of technical data submittal compliance shall be demonstrated by including as part of the deliverable: 1) a copy of the Technical Data Information Form generated identifying the data in the Automated Technical Data Tracking System, and 2) a copy of the transmittal letter attached to the technical data transmittal to the GENISES Administrator as required. Record accession numbers and Automated Tracking numbers will be included, as appropriate, for all data used and /or cited in this deliverable.

Except for Chapter 3 (Site Characteristics) and Chapter 8 (Performance of the Repository after permanent closure.)

Completion Criteria:
This deliverable is complete when it is submitted to the DOE in accordance with YAP-30.63 and logged into the Technical Publications Management database.

Evaluation Criteria:
This deliverable shall include all information identified in the Deliverable Description on this PPS sheet unless specifically exempted in writing by the COR at least 60 days before the scheduled due date (30 days in special cases agreed to by the COR). The COR will review the deliverable and process in accordance with YAP-30.63.

Project Information

ID	1
Title	Yucca Mountain Site Characterization Project
Manager	Russ Dyer/YD/RWDOE

Open Project Form

Product Information

ID	6
Description	License Application
DOE Organization	OLRC - Steve Brocoum
DOE Manager	Steve Brocoum/YD/RWDOE
Performing Org. Manager	Jack Bailey/YM/RWDOE

Open Product Form

SubProduct Information

Code	AMNN
Title	Working Draft LA
Performing Org. Manager	CN = Mike Lugo/OU = YM/O = RWDOE
DOE Manager	CN = April Gil/OU = YD/O = RWDOE

Open SubProduct Form

Organization Information

Organization	300

Description	Regulatory & Licensing
Manager	Jack Bailey
Project Participant: M&O	CRWMS/M&O

Open O/A

Control Account Information

ID	30012115
Description	LA200 - Prepare Working Draft LA
DOE Manager	April Gil
DOE Organization	OLRC - Steve Brocoum
PSS	2115
PSS Description	LA200 - Prepare Working Draft LA

Open Control Account

Work Package Information

ID	30012115M1
Description	Development of the WDLA
WBS Element	1.2.5
Work Package Manager	Ken Ashe
Estimator	Ken Ashe

Open Work Package

Modification Information

Last Updated By: John Slocum **Last Update:** 03/09/99 10:57:40 AM

This Form has been updated by:

Gayle Lowther, Peter Burke, Wayne Gregory, Peter Burke, Joyce Huston, John Slocum, Peter Burke, Chris Weiss, Peter Burke, Chris Weiss, John Slocum, Ken Ashe, John Slocum, Peter Burke, Chris Weiss, Joyce Huston, John Slocum, Chris Weiss, Ken Maddrey, John Slocum, Ken Maddrey, John Slocum, Peter Burke, Linda Harmon, John Slocum, Ken Maddrey, John Slocum, Tom Ferguson

Subproduct Plan Sheet

13 AMNS Documentary Record for LA

Subproduct: AMNS Documentary Record for LA
Product: 6 License Application

	Fiscal Year Distribution												
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	At Complete
Annual Budget	0	0	0	0	0	0	0	0	0	0	0	0	0

Description

The Documentary Record for LA subproduct comprises the following:

Provide resources and technical services to support the development, placement, update and maintenance of electronic versions of key products and deliverables for LA onto the Internet/Intranet. Using the "Policy for Placing Selected DOE Documents on the Internet" as a basis, identify specific products that will directly support LA that will be released to the Internet. Key objectives are to provide public access to relevant programmatic/policy and technical documents in a timely manner and provide linkages to supporting information.

Perform all activities necessary for the operation, maintenance, update and population of an electronic information system consistent with the requirements of 10 CFR 2, Subpart J. Perform all necessary activities to meet the annual re-certification of the system in accordance with 10 CFR 2, Subpart J. Provide electronic access to the DOE's documentary material as defined.

Provide resources and technical services to support the placement, update, and maintenance of the project technical databases onto the Internet/Intranet.

Provide resources and technical services to support the development, placement, update and maintenance of an electronic version of LA related comments on the Internet/Intranet.

Provide the necessary resources and services to support the printing and publication of documents to be released to the public, including other required forms of media such as CD, tape, etc. For major LA products ensure coordination and planning with the Government Printing Office (GPO) regarding estimated cost for printing, including production schedules.

AMNS Documentary Record for LA

Deliverables

Deliv ID	Title	Due Date
	Deliverables are baselined with the descriptions, completion and evaluation criterias, and due dates contained in the appendix for each SPS	

Approvals

Dennis Richardson 6/17/99 — Ops. Manager Date

DENNIS RICHARDSON

Jerry Adams 6/10/99 — DOE Manager Date

JERRY ADAMS

Subproduct Plan Sheet

14 AMPT Technical Support for LA

Subproduct: AMPT Technical Support for LA
Product: 6 License Application

	Fiscal Year Distribution												At
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	Complete
Annual Budget	0	0	0	0	0	0	0	0	0	0	0	0	0

Description

Using up-to-date scientific knowledge, the DOE is required to demonstrate to the NRC that the geologic repository performance objectives after permanent closure, as mentioned in the LA, will be met. The Technical Support for LA subproduct includes Performance Confirmation (PC), a set of activities including monitoring, testing, and analyses required to demonstrate that post-closure performance of the proposed geologic repository at Yucca Mountain will comply with the requirements as presented in the License Application (LA

AMPT Technical Support for LA

Deliverables

Deliv ID	Title	Due Date
	Deliverables are baselined with the descriptions, completion and evaluation criterias, and due dates contained in the appendix for each SPS	

Approvals

Dennis [illegible] 5/17/99 — 6/10/99

Ops. Manager Date — DOE Manager Date

DENNIS RICHARDSON — R E Spence

Subproduct Plan Sheet

15 AMRF Construction Authorization

Subproduct: AMRF Construction Authorization
Product: 8 Construction Authorization

	Fiscal Year Distribution												
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	At Complete
Annual Budget	0	2138	0	0	0	0	0	0	0	0	0	0	2138

Description

The Construction Authorization subproduct includes work necessary to support the CA in 2005.

AMRF Construction Authorization

Deliverables

Deliv ID	Title	Due Date
	Deliverables are baselined with the descriptions, completion and evaluation criterias, and the due dates contained in the appendix for each SPS NO FY99 DELIVERABLES RDS	

Approvals

Ops. Manager	Date	DOE Manager	Date		
RD SNELL	5/17/99	R.E. Spence	6/10/99		

Subproduct Plan Sheet

16 AMPW Project Support for SR/LA

Subproduct: AMPW Project Support for SR/LA
Product: 9 Administration and Asset Management

	Fiscal Year Distribution											
	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	Future	At Complete
Annual Budget	0	26115	0	0	0	0	0	0	0	0	0	0	26115

Description

The Project Support SR/LA subproduct comprises administrative support, safeguards and security services, information technology planning and compliance, training support, institutional interactions, project control, integrated safety management system, payment-equal-to-taxes, safety and health core program support, and program litigation support.

AMPW Project Support for SR/LA

Deliverables

Deliv ID	Description/Completion Criteria	Due Date
BM9500M3	Submit Initial FY00 YMP Plan Update to YMSCO	
BM9560M3	Submit CR to Baseline FY00 YMP Plan Update	
BMSPM3	Submit Updated LA-10 Plan to YMSCO	

Deliverables are baselined with the descriptions, completion and evaluation criterias, and the due dates contained in the appendix for each SPS

Approvals

Ops. Manager Date: 5-17-99

TERRY D. TAIT

DOE Manager Date: 6/15/99

JERRY J ADAMS

M&O-99-008: Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ), and Enhanced Design Alternative 2 (EDA2)

Summary of Cost Back-up

Following are cost back-up data associated with this Change Request. The cost breakout is presented by control account/category of change and is grouped by Subproduct Code. The categories are as follows:

CAR - Response to Integrated Corrective Action Requests
DQ - Data qualification initiative
LADS - License Application Design Selection Enhanced Design Alternative 2 implementation
PMR - Process Model Development
PVAR - Process Validation and Re-engineering initiative

Below is a listing of codes, titles, and identification of the Subproducts affected by this CR.

	SPS ID	SPS Title	Changed By CR
1	AMJX	Documentary Record for SR	X
2	AMMQ	SR Design Alternatives	X
3	AMNL	Site Recommendation Report	X
4	AMNT	Repository Design and Waste Form Revision - SR	X
5	AMNW	TSPA-SR Document	X
6	AMPP	Technical Support for SR/Designation	X
7	AMCW	EIS	
8	AMPS	Post EIS Completion Activities	
9	AMPU	DOE SNF and Fissile Materials	
10	AMMW	LA Design and Verification	X
11	AMNE	Draft LA	
12	AMNN	Working Draft LA	X
13	AMNS	Documentary Record for LA	
14	AMPT	Technical Support for LA	
15	AMRF	Construction Authorization	
16	AMPW	Project Support for SR/LA	X

Description of Cost Summary Table Entries

Subproduct Code - The subproduct code assigned within Planning and Control System to the subproduct.
CAT - The category of work scope (see above).
PMR # - used for the cost estimating of each of the PMRs in response to YMSCO direction.

ISM - Integrated Site Model PMR

UZ- Unsaturated Zone Flow and Transport PMR
SZ - Saturated Zone Flow and Transport PMR
NF - Near Field Environment PMR
WP - Waste Package Degradation PMR
WF - Waste Form Degradation PMR
EB - Engineered Barrier System Degradation and Flow/Transport PMR
Bio - Biosphere PMR
Tec - Tectonic Hazards PMR
M&I - PMR management and integration/documentation support services
N/R - Non - PMR
N/A - not applicable line item for PMR estimate

CA # - Control Account number.
CA Current (k$) - The current CA baseline budget total. The total current CA budget is listed for only the first occurrence of a CA under a subproduct.
Rescoped Within CA (k$) - The budget estimate associated with work refocused within a CA.
CA Delta (k$) (+/-) - The budget estimate associated with reduced or increased work scope for the CA.
Adjusted CA (k$) - The budget estimate for the CA as adjusted to incorporate the particular line item. Note: Each CA may be affected by one or more line items. The total adjusted CA budget is listed for only the last occurrence of a CA under a subproduct.
Scope Statements - Notes regarding the affected work scope as related to both refocused, reduced, and/or increased work scope.

Sub Product Code	CAT	PMR #	CA #	CA Current (k$)	Rescoped Within CA (k$)	CA Delta (k$) (+/-)	Adjusted CA (k$)	Scope Statements
AMJX	CAR		15012475	1,627		570	2,197	Increased work to support Integrated CAR Closure and Corrective Action Board (CAB).
AMJX	PVAR		15019130	8,174		1,900	10,074	increased work scope for Information Systems Architecture supporting PVAR initiatives.
AMJX	PMR	M&I	15019197	9,105		300		Increased work scope to provide increased PMR documentation support services.
AMJX	PVAR		15019197			650		Increased work scope to support PVAR procedure development.
AMJX	QA		15019197			596	10,651	Increased work scope for QA procedure integration and procurement engineering.
AMJX, Doc Rec for SR, Totals				**18,906**	**0**	**4,016**	**22,922**	
AMMQ	LADS		13012021	2,200		60	2,260	Increased work scope to include Defense In Depth analyses of EDA2 to support prioritization effort lead by Regulatory and Licensing.
AMMQ	PVAR		24012392	3,649		274	3,923	Increased work scope to support PVAR activities for design input transmittal database, impact evaluation tracking, Project-wide tracking of submittals, Additional services for organizations as Safety, NEPO, Licensing and others, and compliance with Clinger/Cohen requirements.
AMMQ, SR Dgn Alt, Totals				**5,849**	**0**	**334**	**6,183**	
AMNL	PMR	M&I	30012186	5,434	0	600	6,034	Increased work scope to include PMR management and integration.
AMNL, SR Report, Totals				**5,434**	**0**	**600**	**6,034**	
AMNT	CAR		11012371	524	100	0		Refocus of work scope to support CAR Closure activities in Waste Package Operations.
AMNT	PVAR		11012371		100	0	524	Refocus of work scope to support PVAR activities in Waste Package Operations.
AMNT	LADS		11012377	2,398	230	20	2,418	Refocus of and increased work scope to initiate Drip Shield design and material selection process and interface with EBS Operations.
AMNT	DQ		11017030	5,222	217	136		Refocus of and increased work scope to analyze & qualify data and software being used in the AP-3.10Q analyses for the Waste Form Process Model Report.
AMNT	PMR	WF	11017030		987	284	5,642	Refocus of and increased work scope to prepare AP-3.10Q analyses on Waste Form to support preparation of the Waste Form PMR.
AMNT	DQ		11017040	9,384	221	464		Refocus of and increased work scope to analyze & qualify data and software being used in the AP-3.10Q analyses for the Waste Package Degradation Process Model Report.

Sub Product Code	CAT	PMR #	CA #	CA Current (k$)	Rescoped Within CA (k$)	CA Delta (k$) (+/-)	Adjusted CA (k$)	Scope Statements
AMNT	LADS		11017040		989	1,500		Work scope reduction of ceramics (-$340K); Work scope increase to perform short term materials testing at LLNL ($434K) and perform term materials testing at an outside laboratory ($1,090K).
AMNT	PMR	WP	11017040		1,104	216	11,564	Refocus of and increased work scope to prepare AP-3.10Q analyses on Waste Package materials to support preparation of the WP Degradation PMR
AMNT	PMR	EBS	12012383	6,087	800	300	6,387	Refocus of and increased work scope to prepare AP-3.10Q analyses on Engineered Barrier to support preparation of the Engineered Barrier System PMR.
AMNT	LADS		16012310	4,567		226		Increased work scope to: Support update of SR/LA Products List ($91K); Update SR/LA Design Criteria ICDs ($45K), Update the Waste Acceptance and Storage Requirements Document (WASRD) to reflect EDA2 ($90K).
AMNT	PVAR		16012310		200	200	4,993	Refocus of and increased work scope to support PVAR activities in Systems Engineering and Integration Operations.
AMNT	PVAR		24012403	2,150		322	2,472	Increased work scope to support PVAR activities for design input transmittal database, impact evaluation tracking, Project-wide tracking of submittals, Additional services for organizations as Safety, NEPO, Licensing and others, and compliance with Clinger/Cohen requirements.
AMNT	PVAR		30016102	375	0	300	675	Increased work scope to support PVAR procedure development.
AMNT, SR Rep Dgn & WF, Totals				**30,707**	**4,948**	**3,968**	**34,675**	
AMNW	CAR		13012175	684	50	0		Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	DQ		13012175		50	0		Work scope refocus of efforts on the traceability and qualification of data. Increase of work scope for Tiger Teams and tracebacks to information sources.
AMNW	PMR	Tec	13012175		50	200		Work scope refocus of and new work scope for efforts on the AP-3.10Q analyses and development of text for Tectonics PMR.
AMNW	PVAR		13012175		50	0	884	Work scope reduction in technical scope; Work scope increase for review/training/implementation of PVAR procedures.
AMNW	CAR		13012176	1,332	50	0		Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	DQ		13012176		50	0		Work scope refocus of efforts on the traceability and qualification of data. Increase of work scope for Tiger Teams and tracebacks to information sources.
AMNW	PMR	SZ	13012176		25	75		Work scope refocus of and new work scope for efforts on the AP-3.10Q analyses and development of text for SZ PMR.
AMNW	PMR	Bio	13012176		25	25		Work scope refocus of and new work scope for efforts on the AP-3.10Q analyses and development of text for Biosphere PMR.

Sub Product Code	CAT	PMR #	CA #	CA Current (k$)	Rescoped Within CA (k$)	CA Delta (k$) (+/-)	Adjusted CA (k$)	Scope Statements
AMNW	PVAR		13012176		50	0	1,432	Work scope reduction in technical scope; Work scope increase for review/training/implementation of PVAR procedures.
AMNW	CAR		13012184	2,289	400	0		Definitization of existing work scope in support of CAR closure, in particular CAR 10 actions to preclude recurrence.
AMNW	PVAR		13012184		100	100	2,389	Refocus of technical scope to support revision of PVAR procedures (especially AP-3.10Q) and integration of all procedures with data control procedures.
AMNW	CAR		13012190	985	50	0		Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	DQ		13012190		50	0		Work scope refocus of efforts on the traceability and qualification of data. Increase of work scope for Tiger Teams and tracebacks to information sources.
AMNW	PMR	WF	13012190		50	100		Work scope refocus of and new work scope for efforts on the AP-3.10Q analyses and development of text for Waste Form PMR.
AMNW	PVAR		13012190		50	0	1,085	Work scope reduction in technical scope; Work scope increase for review/training/implementation of PVAR procedures.
AMNW	CAR		13012195	719	50	0		Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	DQ		13012195		50	0		Work scope refocus of efforts on the traceability and qualification of data. Increase of work scope for Tiger Teams and tracebacks to information sources.
AMNW	PMR	WP	13012195		50	100		Work scope refocus of and new work scope for efforts on the AP-3.10Q analyses and development of text for Waste Package PMR.
AMNW	PVAR		13012195		50	0	819	Work scope reduction in technical scope; Work scope increase for review/training/implementation of PVAR procedures.
AMNW	CAR		13012220	3,446	50	0		Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	DQ		13012220		50	0		Work scope refocus of efforts on the traceability and qualification of data. Increase of work scope for Tiger Teams and tracebacks to information sources.
AMNW	LADS		13012220			-90		Work scope reductions in Climate & Infiltration ($30K); Seepage ($30K); and UZ Flow ($30K).
AMNW	PMR	NF	13012220		25	75		Work scope refocus of and new work scope for efforts on the AP-3.10Q analyses and development of text for Near Field PMR.
AMNW	PMR	UZ	13012220		25	75		Work scope refocus of and new work scope for efforts on the AP-3.10Q analyses and development of text for UZ PMR.
AMNW	PVAR		13012220		50	0	3,506	Work scope reduction in technical scope; Work scope increase for review/training/implementation of PVAR procedures.
AMNW	CAR		13012235	1,033	50	0		Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	DQ		13012235		50	0		Work scope refocus of efforts on the traceability and qualification of data. Increase of work scope for Tiger Teams and tracebacks to information sources.

Sub Product Code	CAT	PMR #	CA #	CA Current (k$)	Rescoped Within CA (k$)	CA Delta (k$) (+/-)	Adjusted CA (k$)	Scope Statements
AMNW	PMR	EB	13012235		50	150		Work scope refocus of and new work scope for efforts on the AP-3.10Q analyses and development of text for Engineered Barrier System PMR.
AMNW	PVAR		13012235		50	0	1,183	Work scope reduction in technical scope; Work scope increase for review/training/implementation of PVAR procedures.
AMNW	CAR		13012396	1,493	50	0		Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	DQ		13012396		50	0		Work scope refocus of efforts on the traceability and qualification of data. Increase of work scope for Tiger Teams and tracebacks to information sources.
AMNW	PVAR		13012396		50	0	1,493	Work scope reduction in technical scope; Work scope increase for review/training/implementation of PVAR procedures
AMNW	DQ		14012027	2,720	663			Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	PMR	UZ	14012027		586		2,720	Work scope reductions in technical scope; Work scope increase for AP-3.10Qs to support the UZ PMR.
AMNW	DQ		14012029	775		15	790	Additional work scope to close c-wells database
AMNW	DQ		14012031	1,231	320			Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	PMR	SZ	14012031		280		1,231	Work scope reductions in technical scope; Work scope increase for AP-3.10Qs to support the SZ PMR.
AMNW	DQ		14012033	2,101		-264		Work scope reductions in technical scope.
AMNW	PMR	N/A	14012033			-176	1,661	Work scope reductions in technical scope.
AMNW	DQ		14012035	1,422		-307		Work scope reductions in technical scope.
AMNW	PMR	N/A	14012035			-441	674	Work scope reductions in technical scope.
AMNW	PMR	ISM	14012210	1,243	371	138	1,381	Work scope increase for AP-3.10Qs to support the ISM PMR.
AMNW	DQ		14012253	241		-122		Work scope reductions in technical scope.
AMNW	DQ		14012253			693		Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	PMR	N/A	14012253			-81		Work scope reductions in technical scope.
AMNW	PMR	NF	14012253			663	1,394	Work scope increase for AP-3.10Qs to support the NF PMR.
AMNW	DQ		14016105	3,684		530		Work scope increase for software qualification, model traceability and control and data traceability.
AMNW	PMR	Tec	14016105			350		Work scope increase for AP-3.10Qs to support the Tec PMR.
AMNW	PMR	N/A	14016105			-1,810		Work scope reductions in technical scope.
AMNW	PMR	N/R	14016105			900		Work scope increase for Site Description.
AMNW	PMR	N/R	14016105			550		Work scope increase for Natural Analogues.
AMNW	PMR	N/R	14016105			295		Work scope increase for Natural Resources.
AMNW	PMR	N/R	14016105			150	4,649	Work scope increase for Seismic Design Basis.
AMNW	PMR	ISM	81912210	31		150	181	Work scope increase for AP-3.10Qs to support the ISM PMR.
AMNW, TSPA-SR Doc, Totals				**25,429**	**4,070**	**2,043**	**27,472**	

Sub Product Code	CAT	PMR #	CA #	CA Current (k$)	Rescoped Within CA (k$)	CA Delta (k$) (+/-)	Adjusted CA (k$)	Scope Statements
AMPP	LADS		12019086	3,915	800	0		Work scope reduction of Backfill/Richards Barrier and Getter test; Work scope increase for Backfill/Drip Shield and Invert Diffusion tests.
AMPP	PVAR		12019086		0	100	4,015	PVAR procedure development support from Engineered Barrier Operations.
AMPP	CAR		14019090	7,245	643	767		Work scope reductions in technical scope; Work scope increase for Integrated CAR Closure.
AMPP	DQ		14019090		2,010			Work scope reductions in technical scope; Work scope increase for software qualification, model traceability and control and data traceability.
AMPP	PVAR		14019090			85	8,097	Increased work scope to support PVAR procedure development.
AMPP	PMR	Bio	15016260	3,298		42	3,340	Work scope refocus of and new work scope for efforts on the AP-3.10Q analyses and development of text for Biosphere PMR.
AMPP	CAR		15019121	8,871		42	8,913	Increased work scope in suport of Integrated CAR closure.
AMPP	CAR		81919090	1,861		100		Increased work scope in suport of Integrated CAR closure.
AMPP	DQ		81919090			50		Work scope increase for software qualification, model traceability and control and data traceability.
AMPP	PVAR		81919090			15	2,026	Increased work scope to support PVAR procedure development.
AMPP, Tech Sup for SR, Totals				**25,190**	**3,453**	**1,201**	**26,391**	
AMMW	LADS		16012023	2,350		119	2,469	Increased work scope to: Update the Reference Design Description (RDD) to reflect EDA2 ($70K); Support update of SR/LA Products List to reflect EDA2 in the SR ($49K).
AMMW, LA Dg and Verif, Totals				**2,350**	**0**	**119**	**2,469**	
AMNN	PMR	N/A	13012115	750		-600	150	Work scope reduction of Chapter 8 from WDLA.
AMNN	PMR	N/A	30012115	1,135	0	-200	935	Work scope reduction of Chapters 3 and 8 from WDLA.
AMNN, Working Draft LA, Totals				**1,885**	**0**	**-800**	**1,085**	
AMPW	PVAR		15019111	2,600		200	2,800	Increased work scope to develop and conduct PVAR training and support PVAR development program.
AMPW, Sup for SR/LA, Totals				**2,600**	**0**	**200**	**2,800**	
Grand Totals				**118,350**	**12,471**	**11,681**	**130,031**	

Transmitted with letter dtd. 2/7/99

CR 99/008

Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ) and Enhanced Design Alternative (EDA) II

Volume 2

Copy of Approved Change Request

1028

Schedule Notes

The Civilian Radioactive Waste Management System Management and Operating Contractor's (M&O's) February recommendation to refocus fiscal year 1999 (FY99) work activities on high priority quality assurance initiatives launched an intense effort to improve the logic, level of detail, and consistency in the schedule for the project. A 7,000 activity, logic-driven schedule to License Application (LA) has been developed that (1) accommodates efforts judged to be sufficient to build credible and defensible pre- and post-closure safety cases and (2) details FY99 work needed to begin implementing to License Application Design Selection (LADS) Enhanced Design Alternative 2 (EDA2). The contents and structure of nine Process Model Reports (PMRs) and their supporting analyses and model reports generated using Administrative Procedure (AP)-3.10Q, Analyses and Models have been delineated. Work activities to compile the PMRs and System Description Documents (SDDs) have been integrated with Tiger Team, data qualification, and Process Validation and Reengineering (PVAR) efforts and logically tied to Total System Performance Assessment (TSPA), Environmental Impact Statement (EIS), Site Recommendation (SR), and LA activities.

Particular attention has been given to the schedule to SR. Because of the tight time frame between the consideration hearings (December 2000) and the submission of the SR to the President (July 2001), holding the SR production schedule was given top priority. A tacit assumption has been that adequate budget and other resources will be available to accomplish the work plan as portrayed. With FY00 budget constraints anticipated, however, the results of several ongoing initiatives, including the reallocation of principal factors affecting post-closure performance, will be needed to prioritize the work efforts.

The activities in the schedule have been logically linked to the LA. The schedule from SR to LA, however, is currently not as mature as the schedule from now to SR. A revised, more detailed, schedule to LA is being developed by the M&O. This effort should wrap up by mid-June and the results incorporated into the FY00 annual planning.

Several actions are still needed to improve the schedule included in this Change Request (CR). As outlined below, these will either be done by the time the May update is completed or as part of the FY00 annual planning.

Site Recommendation Schedule

Activities for the M&O submitted CR, M&O-99-005, Add Workscope and Budget to Project Baseline for Cross Drift Excavation and Testing and CL-36 Validation Study, and CR 99/004, Revise Project Baseline and Budget to Bypass Stuck Drill in Borehole SD-6 have been added into this CR schedule. Some integration between these activities and work on the AP-3.10Q analyses remains to be done. Other non PMR/SDD schedule information from Scientific and Engineering areas, e.g., Site Description, Revision 01, Natural Analogs, Seismic Inputs, Volcanic Hazards, Nye County Drilling Program, Busted Butte, Corrosion Testing, Criticality, and other field work, still needs to be incorporated into the schedule. The necessary logic ties

can be added only after the CR and the Integrated Project Schedule (IPS) baseline files are merged. This should be accomplished before the May 1999 status cycle.

The level of detail in the Program Information Management (PIM) activities in support of the SR has not yet been settled. A meeting between the SR Product Manager and the PIM Representative is needed to finalize the level of detail and then complete the schedule prior to merging it into the baseline file before the May 1999 status update. The impact of these additions during FY99 is minimal, since the majority of the effort will occur in FY00 and FY01. Completion and inclusion of this effort in the FY00 annual planning, as opposed to the current CR, should have no adverse impact on planned SR schedule and milestone delivery. The resulting PIM schedule template could become a prototype for all other technical document production in the future.

The Support Operations organization also needs to verify the activities and timing for the SR Cover Design, SR Public Information Plan, Government Printing Office (GPO) printing process, compact disk-read only memory (CD-ROM) and other documentation requirements as they are portrayed in the schedule. Decisions need to be made regarding the approval authority for Cover Design, the document review process, and document release requirements for the Consideration Hearings, and Notification and/or Submission to President. This work occurs during FY00 and can be planned during FY00 annual planning.

Corrective Action Request (CAR)/PVAR/Tiger Team Integration

The previous off-line schedules for CAR, PVAR and Tiger Team efforts have been merged into this CR schedule. Tiger Team efforts for data, software and model qualification have been planned for completion prior to the SR Notification Draft being issued. End milestones for the data sets have been logically tied to the SR schedule. Data set-specific activities, however, have yet to be planned and scheduled as the full suite of data that will require qualification will become known as the Tiger Teams complete their work.

Process Model Reports

All AP-3.10Qs required for Total System Performance Assessment (TSPA)-SR Revision 00 are planned for completion by November 30, 1999. All Rev 00 of the PMRs (submission of PMRs to Yucca Mountain Site Characterization Office (YMSCO) for review – Level 3 milestones) are planned for completion by April 28, 2000, to support the TSPA and SR needs. This allows 2-1/2 months for YMSCO review and approval, prior to submission of the SR Consideration Hearing Draft and the TSPA. PMRs, Revision 02 are submitted to YMSCO (Level 3 milestones) by December 1, 2000 to ensure that approvals are obtained by February 1, 2001, when the TSPA update is planned for submission to YMSCO. The PMR, Revision 05s are planned for completion by September 28, 2001, to support a final review of the LA and TSPA-LA, and to ensure that the Nuclear Regulatory Commission (NRC) staff review of the LA is completed by November 15, 2001, as currently planned. This Revision of the PMRs also responds to NRC

concerns as evinced from the NRC Sufficiency Comments to be received May 25, 2001 during the SR process.

System Description Documents Schedule/Integration

SDDs needed for SR have been planned in this CR schedule file. The schedule currently contains similar efforts for each of the SDDs being accomplished in parallel. Consequently, at the conclusion of ongoing interface meetings, the SDD schedule should be supported with more detail regarding Design Basis Event (DBE)/Classification analyses needed to support development of the SDDs and better time-phasing of the activities to avoid overloading key resources. This will be incorporated in the FY00 annual planning.

The following Engineering inputs need to be worked into the schedule:

- Include activities related to the National Spent Nuclear Fuel Program
- Include activities related to Naval Reactors
- Provide further detail for the DBE work
- Provide additional detail reflecting engineering design input to Performance Assessment.

The inclusion of these additional activities is not expected to adversely affect the schedule.

TSPA Schedule

The TSPA schedule through LA currently exists in this CR schedule file. The TSPA for SR Consideration Hearing Draft will be supported by completion of necessary AP-3.10Q analyses by November 30, 1999. This will ensure delivery of the TSPA information to SR authors by April 28, 2000 (Level 4 milestone) and submission of the TSPA SR Revision 00 by July 14, 2000 in conjunction with the SR Consideration Hearing Draft Volumes 1 and 2.

The TSPA update for SR Notification Draft is planned for completion by February 1, 2001 (Level 3 milestone). This is two weeks before the SR Notification Draft is submitted for YMSCO review. The update will incorporate any additional information that needs to be accounted for and received after the TSPA for the SR Consideration Hearings has been completed. To support this and the SR development, the TSPA update information is furnished to the SR Team by December 1, 2000 (Level 4 milestone). Note that this is just prior to the SR Consideration Hearings.

The final TSPA for LA is currently planned to support the LA process as it exists. No additional changes are currently required.

LA Schedule

The current Acceptance Draft License Application (ADLA) schedule has been added to this CR schedule file and integrated with the schedule activities for SR (NRC Sufficiency Review) and

PMRs. The Licensing Group, in conjunction with YMSCO personnel, is currently working on a more detailed LA development schedule. The links from SDDs to the LA will be established after this effort is completed. The resulting impacts will be incorporated during FY00 annual planning.

Support activities for Working Draft License Application Annotated Outline (WDLAO) chapters 3 & 8 in the non-Licensing areas (PA, Science, etc.) work scope is being reduced and need to be changed when the CR schedule file is merged with the baseline schedule file.

LADS Schedule/Integration

The impact of LADS recommendations (EDA2) has been incorporated in this CR schedule file in summary-level activities. The planned LADS effort needs to be further integrated with the engineering and design schedule, design, and the Site Recommendation process during the FY00 planning exercise.

Preparation of the Process Model and Data Qualification (PMDQ)/LADS EDA2 CR schedule for Merging with the IPS Baseline Schedule

To ensure concentration on the development of planned work and its interdependency (logic ties), the detail coding, coding structure refinement, consistency checks, control account and work package number adjustment, and the like for all work will be done post CR submission and prior to the next status cycle. This effort will require the establishment of the necessary coding structure changes needed to satisfy varying reporting requirements during FY99. The modification of the coding structure may be further required during FY00 annual planning process should the Product/Sub-product hierarchy change.

Schedule Outline

Schedule Outline

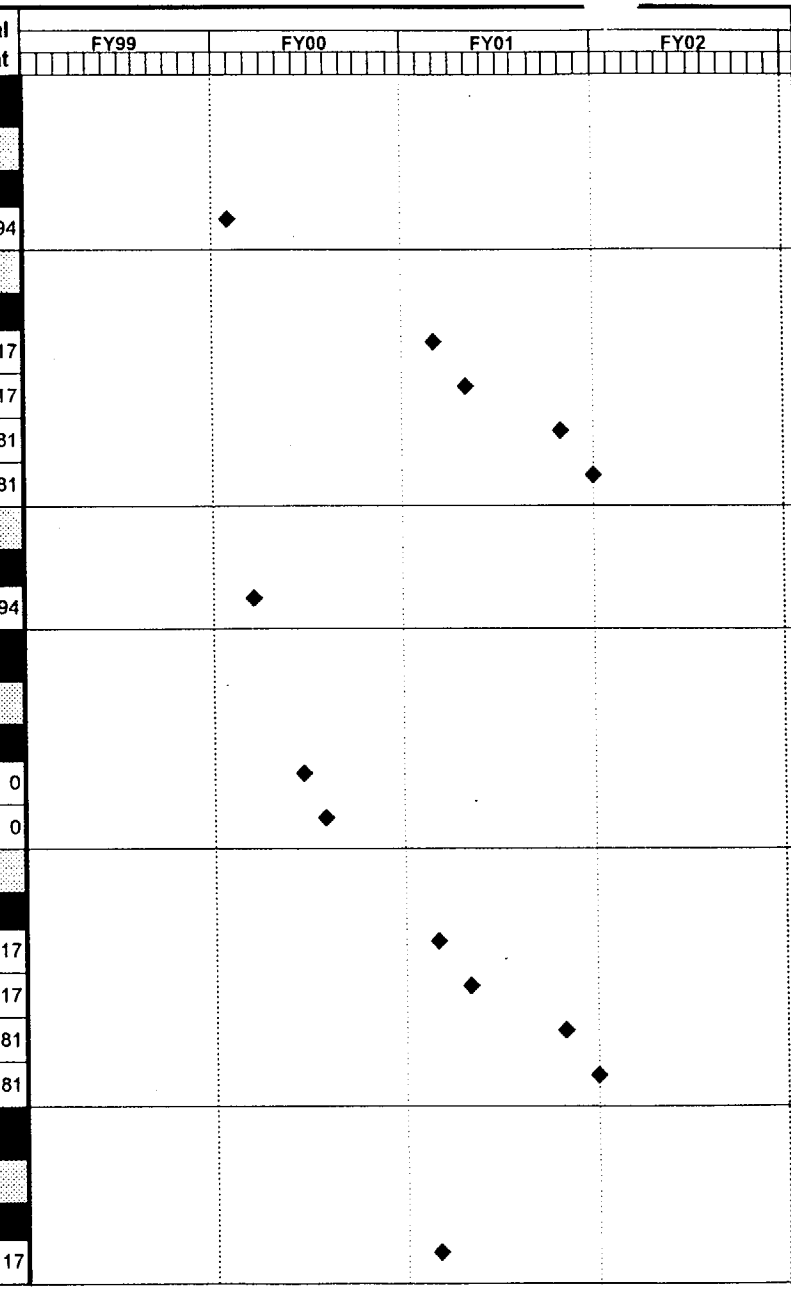
1. **All Activities**

Code Value	Schedule Category	Sequence
V	PVAR Activities	1
I	ISM PMR	2
B	BIO PMR	3
E	EBS PMR	4
F	WFD PMR	5
N	NFE PMR	6
U	UZ PMR	7
S	SZ PMR	8
W	WP PMR	9
T	Tectonics PMR	10
P	TSPA SR AP3.10Qs	11
A	PMR Management & Integration	12
M	Systems Eng. SDI's	13
X	Detailed SR Schedule	14
Z	LADS/EDA2	15
K	Working Draft License Application Outline	16
L	LA Schedule	17
C	ECRB	18
R	SD-6	19

2. **SR Trace**
3. **LA Activities**

Schedule of Deliverables Included in the PMDQ / LADS EDA 2 Schedule File (to be Baselined)

Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
I ISM PMR						
C5500						
300 Regulatory & Licensing						
SLP58BM3	ISM PMR Rev 00	M3	0		01NOV99	94
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SPI00CM3	ISM PMR Rev-02 for SR	M3	0		01DEC00	17
SPI00EM3	Rev 3 ISM PMR for SR	M3	0		31JAN01	17
SPI00RM3	ISM PMR Rev-04 for LA	M3	0		31JUL01	181
SPI00SM3	Rev 05 ISM PMR for LA	M3	0		28SEP01	181
300 Regulatory & Licensing						
SLP58CM3	Rev 01 ISM PMR	M3	0		15DEC99	94
B BIO PMR						
F2150						
300 Regulatory & Licensing						
SLPMRAM3	Biosphere PMR Rev 00	M3	0		17MAR00	0
SLPMRM3	Rev 01 Biosphere PMR	M3	0		28APR00	0
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SSB00CM3	Bio PMR Rev-02 for SR	M3	0		01DEC00	17
SSB00EM3	Rev 03 Bio PMR for SR	M3	0		31JAN01	17
SSB00RM3	Bio PMR Rev-04 for LA	M3	0		31JUL01	181
SSB00SM3	Rev 05 Bio PMR for LA	M3	0		28SEP01	181
E EBS PMR						
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
RPE00CM3	EBS PMR Rev-02 for SR	M3	0		01DEC00	17



Project Start 01OCT98
Project Finish 30SEP02
Data Date 01OCT98
Run Date 15MAY99

Early Bar
Progress Bar

M008

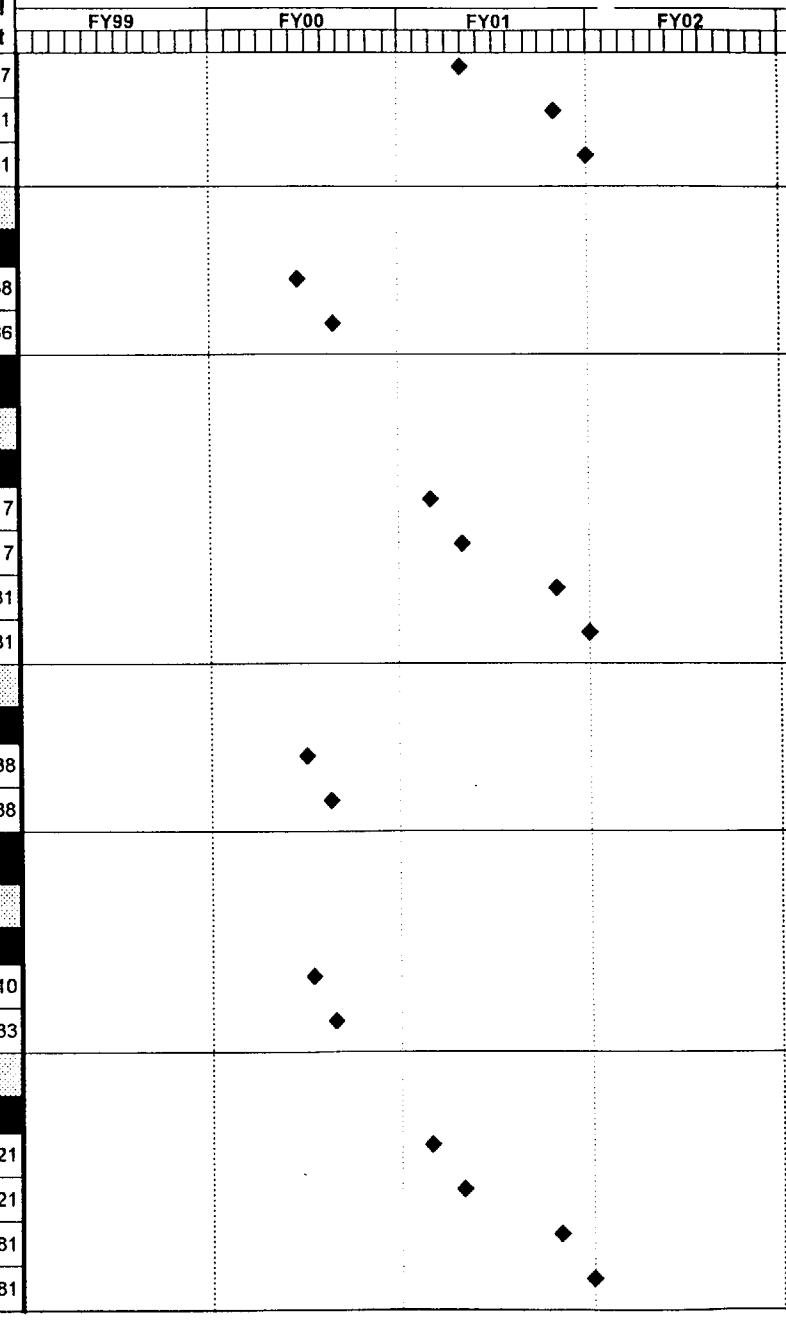
Sheet 1 of 8

CR-M&O M008 PMDQ/LADS
Level 3 Deliverables
As of May 17,1999 @ 8:00 AM

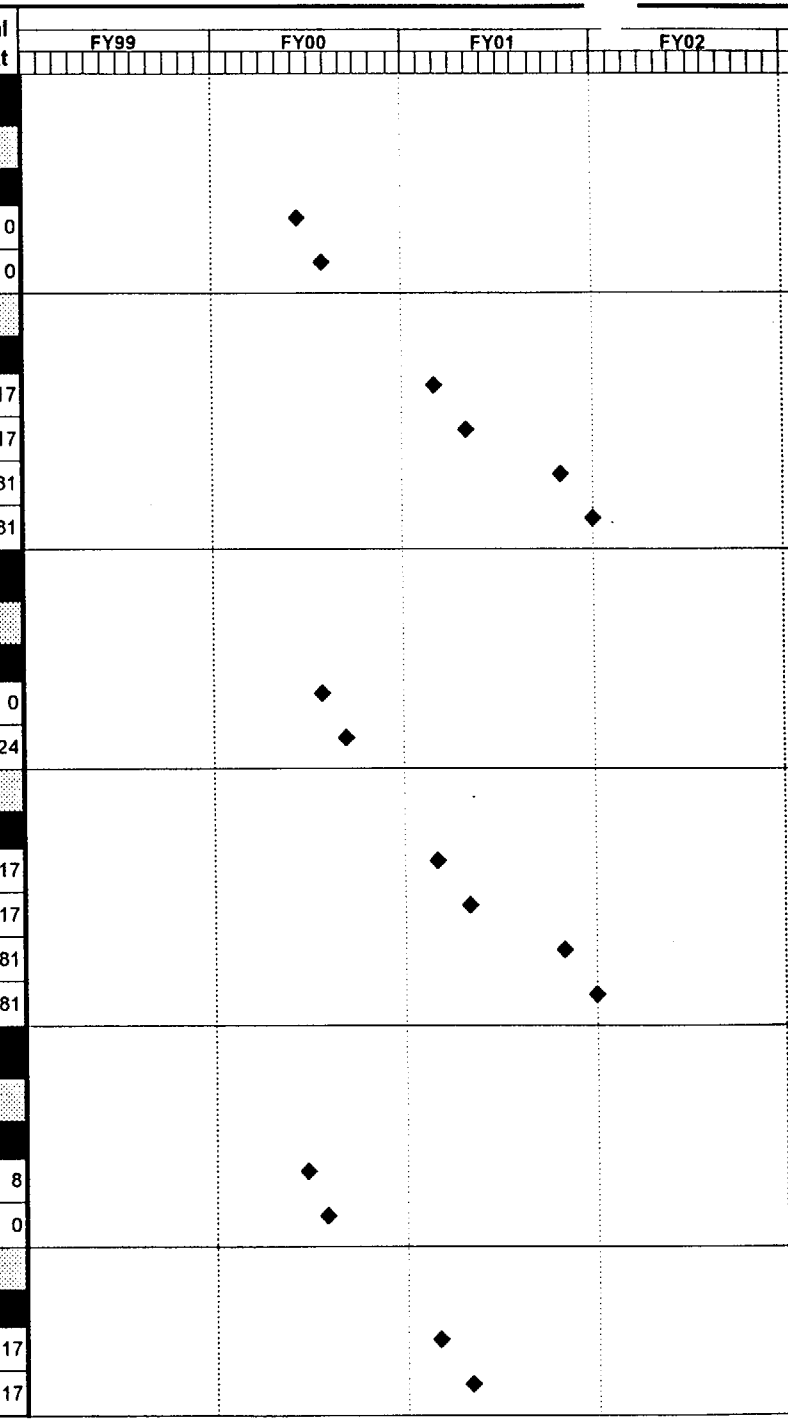
(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

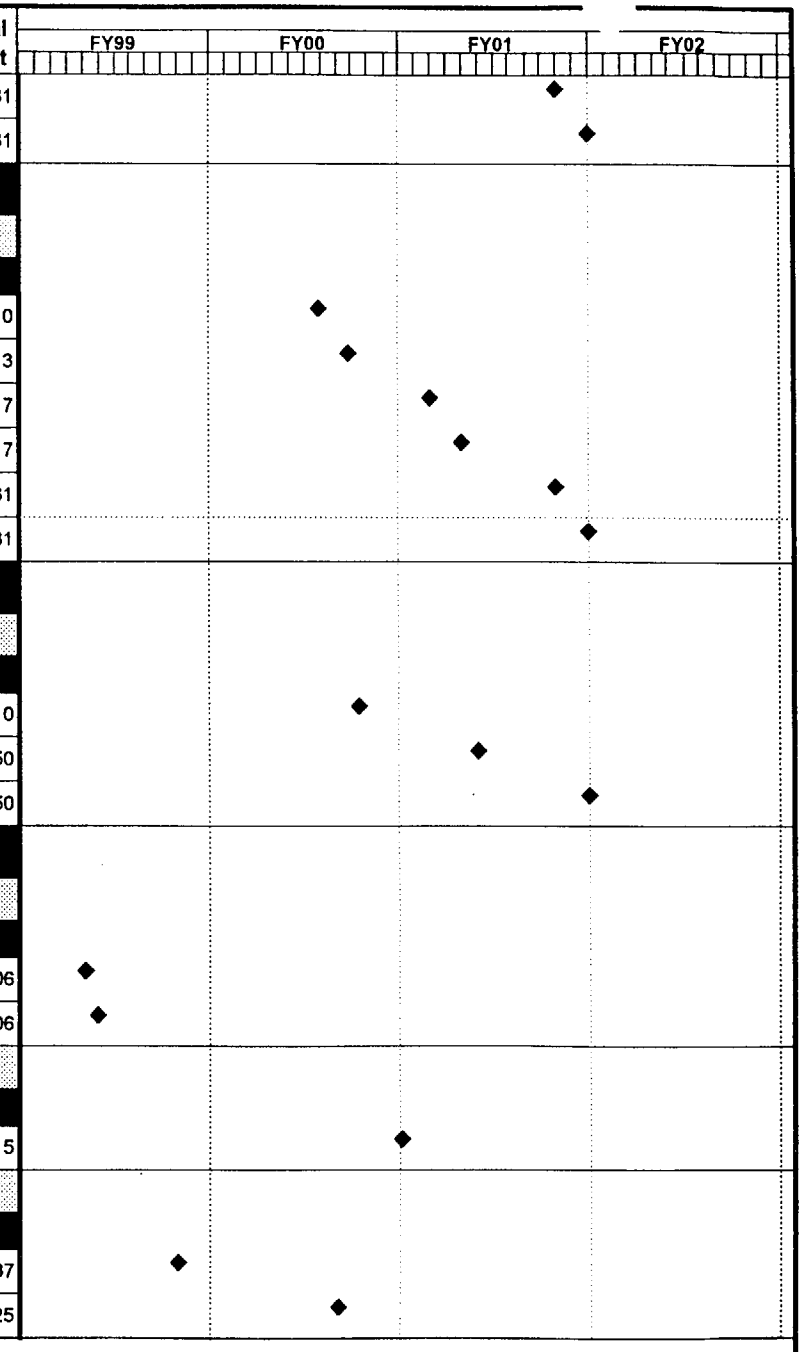
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
RPE00EM3	Rev 03 EBS PMR for SR	M3	0		31JAN01	17
RPE00RM3	EBS PMR Rev-04 for LA	M3	0		31JUL01	181
RPE00SM3	Rev 05 EBS PMR for LA	M3	0		28SEP01	181
300 Regulatory & Licensing						
SLEB145M3	EBS PMR Rev. 00	M3	0		17MAR00	638
SLEB105M3	Rev 01 EBS PMR	M3	0		23MAY00	36
F WFD PMR						
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
WPF00CM3	WF PMR Rev-02 for SR	M3	0		01DEC00	17
WPF00EM3	Rev 03 WF PMR for SR	M3	0		31JAN01	17
WPF00RM3	WF PMR Rev-04 for LA	M3	0		31JUL01	181
WPF00SM3	Rev 05 WF PMR for LA	M3	0		28SEP01	181
300 Regulatory & Licensing						
SLPMRDM3	Waste Forms PMR Rev 00 To DOE	M3	0		31MAR00	38
SLPMRBM3	Rev 01 Waste Forms PMR	M3	0		19MAY00	38
N NFE PMR						
N4040						
300 Regulatory & Licensing						
SLP7232M3	NFE PMR Rev 00	M3	0		14APR00	10
SLP7236M3	Rev 01 NFE PMR	M3	0		26MAY00	33
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SPN00CM3	NFE PMR Rev-02 for SR	M3	0		27NOV00	21
SPN00EM3	Rev 03 NFE PMR for SR	M3	0		25JAN01	21
SPN00RM3	NFE PMR Rev-04 for LA	M3	0		31JUL01	181
SPN00SM3	Rev 05 NFE PMR for LA	M3	0		28SEP01	181



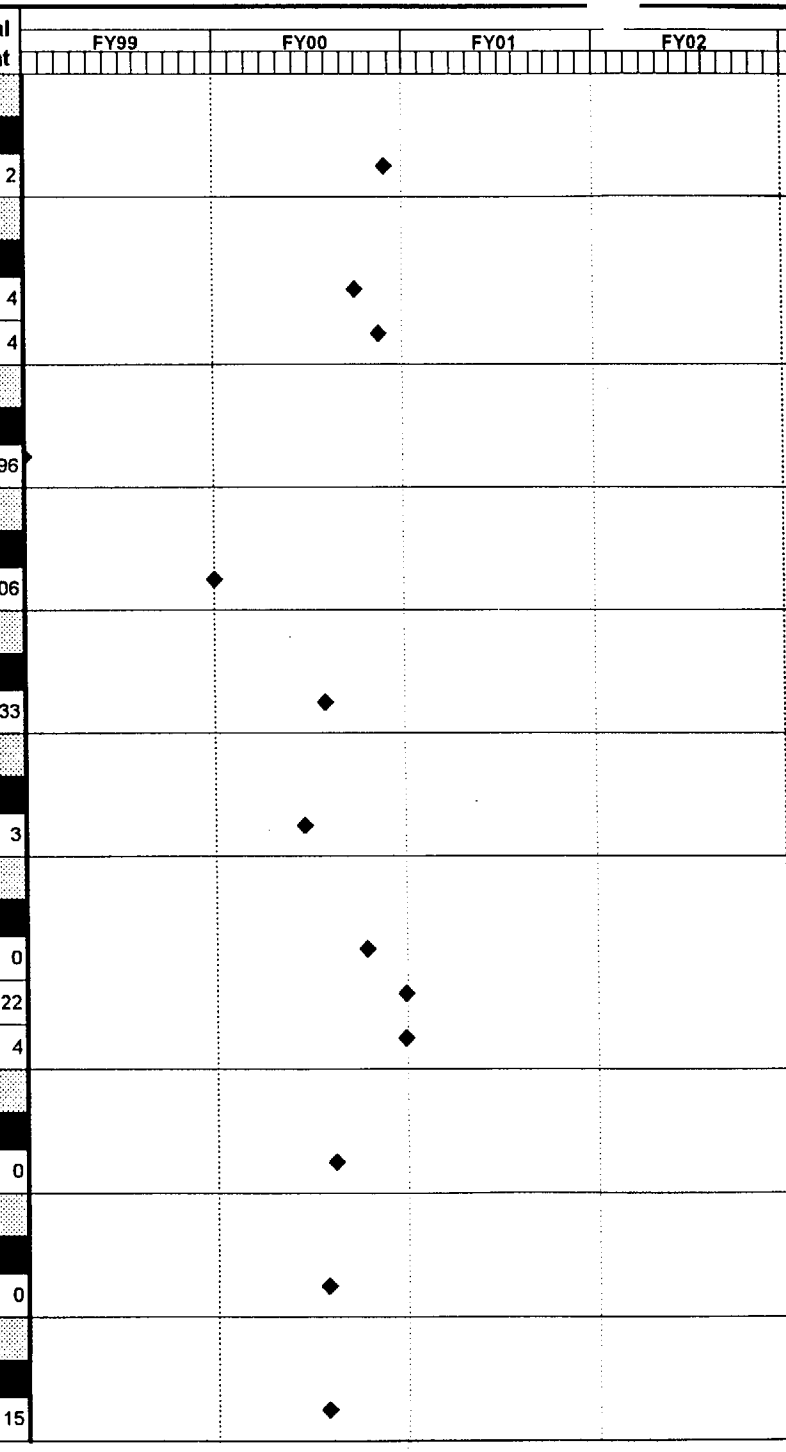
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
U UZ PMR						
U7100						
300 Regulatory & Licensing						
SLP59BM3	UZ Flow & Transport PMR Rev 00	M3	0		14MAR00	0
SLP59CM3	Rev 01 UZ Flow & Transport PMR	M3	0		28APR00	0
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SLU00CM3	UZ PMR Rev-02 for SR	M3	0		01DEC00	17
SLU00EM3	Rev 03 UZ PMR for SR	M3	0		31JAN01	17
SLU00RM3	UZ PMR Rev-04 for LA	M3	0		31JUL01	181
SLU00SM3	Rev 05 UZ PMR for LA	M3	0		28SEP01	181
S SZ PMR						
B2100						
300 Regulatory & Licensing						
SLP608M3	SZ Flow & Transport PMR Rev 00	M3	0		24APR00	0
SLP60CM3	Rev 01 SZ Flow & Transport PMR	M3	0		09JUN00	24
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SPS00CM3	SZ PMR Rev-02 for SR	M3	0		01DEC00	17
SPS00EM3	Rev 03 SZ PMR for SR	M3	0		31JAN01	17
SPS00RM3	SZ PMR Rev-04 for LA	M3	0		31JUL01	181
SPS00SM3	Rev 05 SZ PMR for LA	M3	0		28SEP01	181
W WP PMR						
W3095						
300 Regulatory & Licensing						
SLPMRFM3	Waste Package PMR Rev 00	M3	0		21MAR00	8
SLPMRGM3	Rev 01 Waste Package PMR	M3	0		28APR00	0
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
WPW00CM3	WP PMR Rev-02 for SR	M3	0		01DEC00	17
WPW00EM3	Rev 03 WP PMR for SR	M3	0		31JAN01	17



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW00RM3	WP PMR Rev-04 for LA	M3	0		31JUL01	181
WPW00SM3	pRev 05 WP PMR for LA	M3	0		28SEP01	181
T Tectonics PMR						
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SLA9100M3	Tectonics PMR Rev 00	M3	0		28APR00	0
SLA9010M3	Rev 01 Tectonics PMR	M3	0		26JUN00	13
SLT00CM3	Tec PMR Rev-02 for SR	M3	0		01DEC00	17
SLT00EM3	Rev 03 Tec PMR for SR	M3	0		31JAN01	17
SLT00RM3	Tec PMR Rev-04 for LA	M3	0		31JUL01	181
SLT00SM3	Rev 05 Tec PMR for LA	M3	0		28SEP01	181
P TSPA SR AP3.10Qs						
BASE Baseline Activities						
130 Performance Assessment Operations						
SL921M3	TSPA-SR - Rev 00	M3	0		14JUL00*	0
SL924M3	TSPA-SR Final - Rev 01	M3	0		01MAR01	250
SL980M3	TSPA - LA Final	M3	0		01OCT01*	250
X Detailed SR Schedule						
AO						
300 Regulatory & Licensing						
SLSR51M3	Submit SR AO Rev 1 for YMSCO/DOE Reviews	M3	0		01FEB99*	106
SLSR53M3	Complete SR AO Rev 1 Development	M3	0		26FEB99*	106
CHFR						
300 Regulatory & Licensing						
SLCH01M3	M&O Provide Draft SR Hearing Notice to YMSCO	M3	0		04OCT00	5
RSS1						
300 Regulatory & Licensing						
SL06X7M3	Submit Repository Safety Strategy Rev 3	M3	0		28JUL99*	537
SL08X7M3	Submit Repository Safety Strategy Rev 4	M3	0		01JUN00*	325



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SRCRD						
300 Regulatory & Licensing						
SLRCR1M3	M&O Submit CRD System & Process Document	M3	0		24AUG00	2
SRPI						
300 Regulatory & Licensing						
SLRDP3M3	M&O Deliver Draft SR Distribution/PI Plan	M3	0		29JUN00	4
SLRDP5M3	M&O Deliver Draft Distr/PI Plan for Acceptance	M3	0		15AUG00	4
TSPA						
130 Performance Assessment Operations						
SL934M3	Submit TSPA for SR Update	M3	0		30SEP98	596
V1S1						
300 Regulatory & Licensing						
SLSR7FM3	Submit Draft SR V1S1 to DOE	M3	0		30SEP99	106
V1S2						
300 Regulatory & Licensing						
SLSR7DM3	Submit Draft SR V1S2 to DOE	M3	0		28APR00	33
V1S3						
300 Regulatory & Licensing						
SLSR7CM3	Submit Draft SR V1S3 to DOE	M3	0		17MAR00	3
V1SCHD						
300 Regulatory & Licensing						
SLSR7EM3	Submit SR Consideration Hearings Draft to DOE	M3	0		14JUL00*	0
SLM2JTM3	Complete DOE Concurrence Review Draft SR Vol 1	M3	0		25SEP00	22
SLSR7AM3	Complete OCRWM Concurrence Draft SR Vol 1	M3	0		25SEP00	4
V2S1						
300 Regulatory & Licensing						
SLSR68M3	Submit V2S1 Prelim Draft f/ DOE Rvw	M3	0		15MAY00	0
V2S3.1						
300 Regulatory & Licensing						
SLSR6AM3	Submit V2S3.1 Prelim. Draft f/ DOE Review	M3	0		28APR00	0
V2S3.2						
300 Regulatory & Licensing						
SLR222M3	Submit Precl. Eval Prelim. Drft V2S3.2 DOE Rvw	M3	0		26APR00	15



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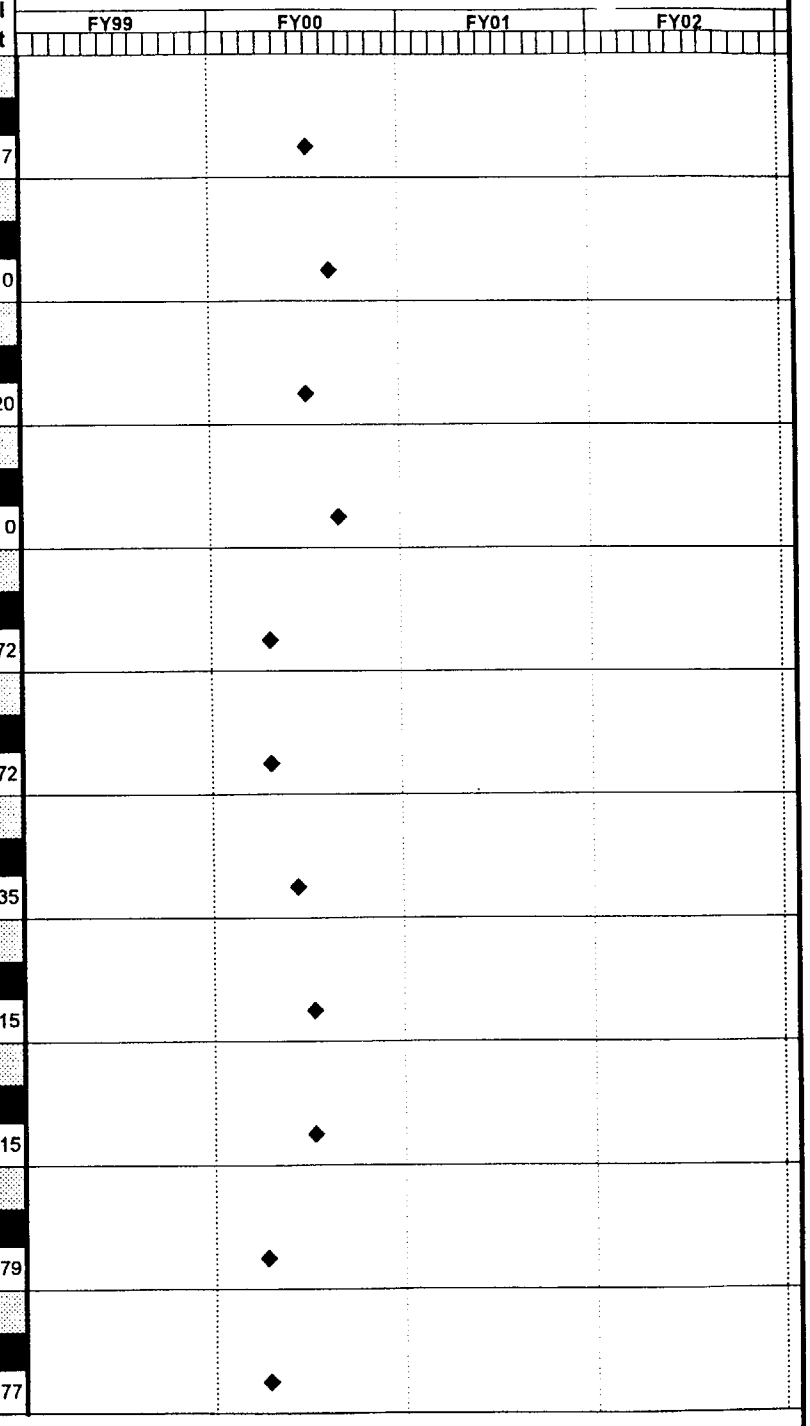
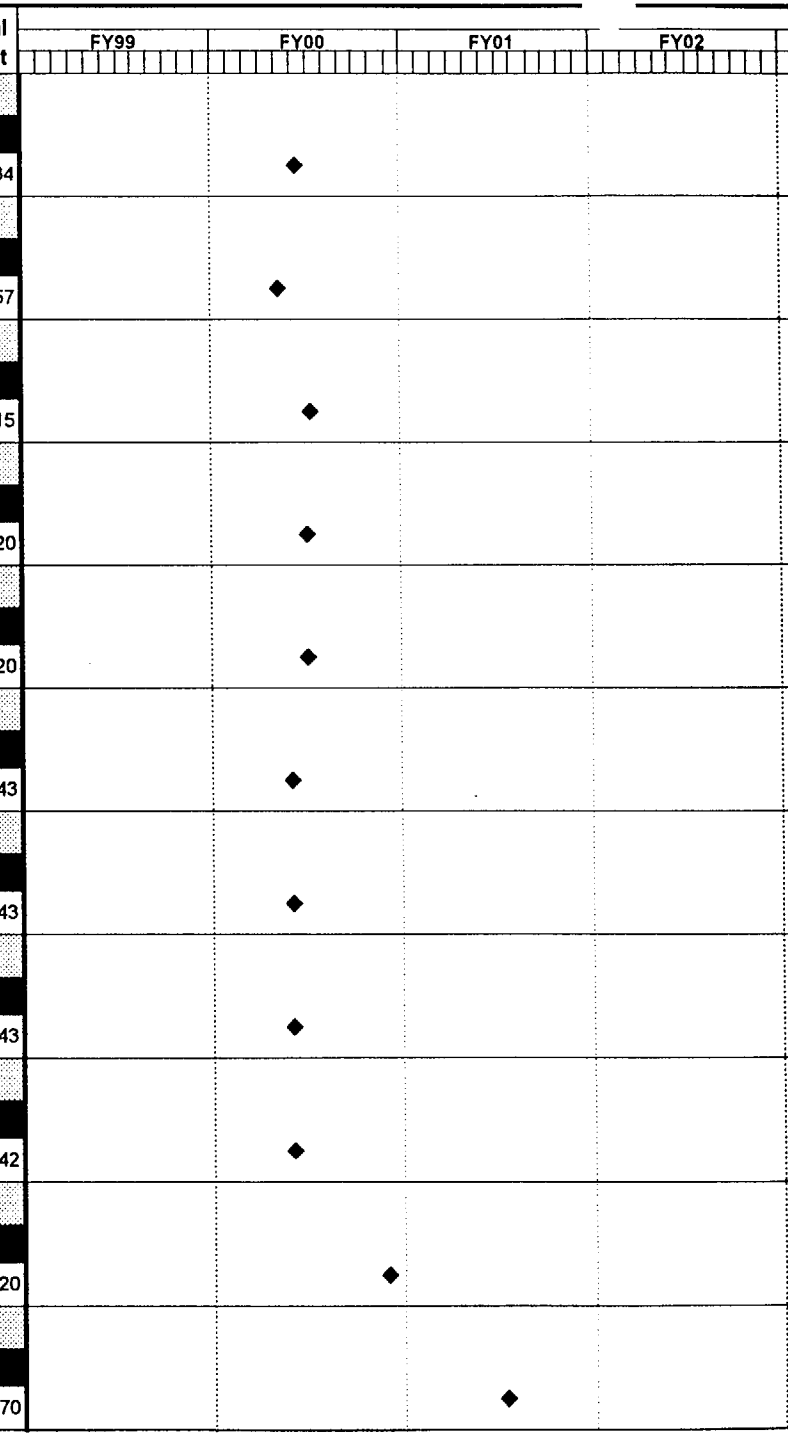
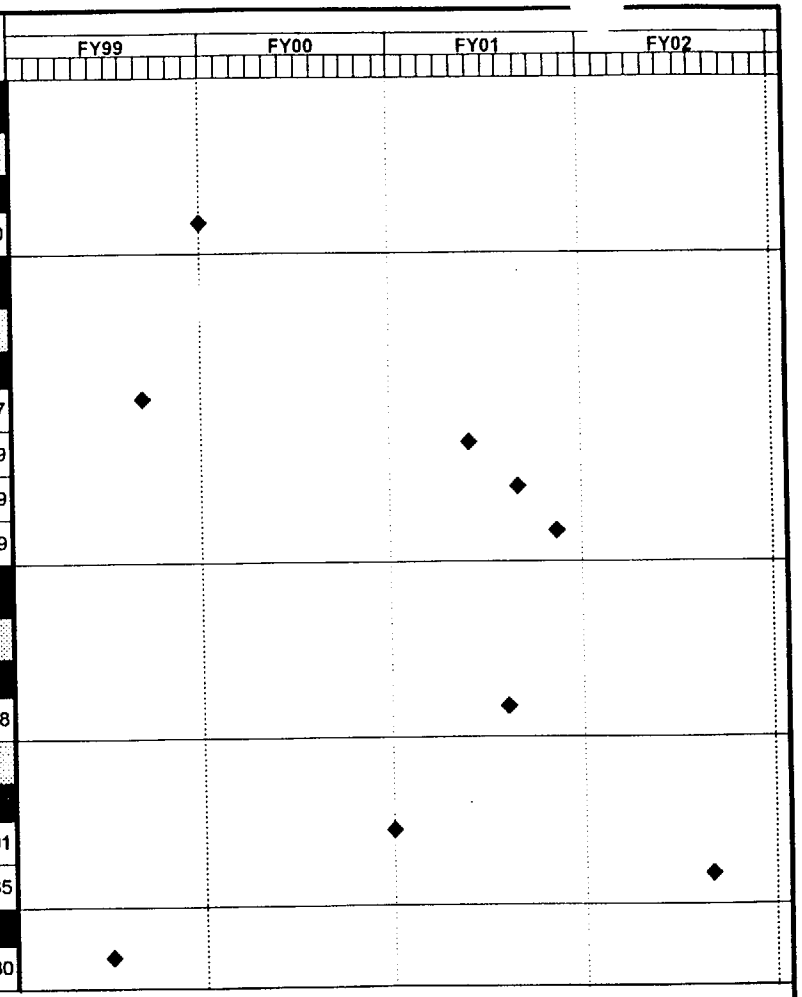
V2S3.3						
300 Regulatory & Licensing						
SLR232M3	Submit V2S3.3 Prelim Draft SR for DOE Rvw	M3	0		05APR00	17
V2S4.1.2						
300 Regulatory & Licensing						
SLR249M3	Submit V2S4.1.2 Prelim. Draft f/ DOE Review	M3	0		18MAY00	0
V2S4.1.3						
300 Regulatory & Licensing						
SLR250M3	Submit V2S4.1.3 Prelim. Draft f/ DOE Review	M3	0		31MAR00	20
V2S4.1.4						
300 Regulatory & Licensing						
SLR25XM3	Submit V2S4.1.4 Prelim. Draft f/ DOE Review	M3	0		31MAY00	0
V2S4.1.5						
300 Regulatory & Licensing						
SLR251M3	Submit V2S4.1.5 Prelim. Draft f/ DOE Review	M3	0		18JAN00	72
V2S4.1.6						
300 Regulatory & Licensing						
SLR252M3	Submit V2S4.1.6 Prelim. Draft f/ DOE Review	M3	0		18JAN00	72
V2S4.1.7						
300 Regulatory & Licensing						
SLR253M3	Submit V2S4.1.7 Prelim. Draft f/ DOE Review	M3	0		10MAR00	35
V2S4.1.8						
300 Regulatory & Licensing						
SLR254M3	Submit V2S4.1.8 Prelim. Draft f/ DOE Review	M3	0		07APR00	15
V2S4.1.9						
300 Regulatory & Licensing						
SLR255M3	Submit V2S4.1.9 Prelim. Draft f/ DOE Review	M3	0		07APR00	15
V2S4.2.01						
300 Regulatory & Licensing						
SLR234M3	Submt V2S.4.2.1 Precl Eval Prelim. Draft DOE Rvw	M3	0		07JAN00	79
V2S4.2.02						
300 Regulatory & Licensing						
SLR235M3	Submit V2S4.2.2 Prelim. Draft f/ DOE Review	M3	0		11JAN00	77



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
V2S4.2.03						
300 Regulatory & Licensing						
SLR236M3	Submit V2S4.2.3 Prelim. Draft f/ DOE Review	M3	0		13MAR00	34
V2S4.2.04						
300 Regulatory & Licensing						
SLR240M3	Submit V2S4.2.4 Prelim. Draft f/ DOE Review	M3	0		08FEB00	57
V2S4.2.05						
300 Regulatory & Licensing						
SLR241M3	Submit V2S4.2.5 Prelim. Draft f/ DOE Review	M3	0		10APR00	15
V2S4.2.06						
300 Regulatory & Licensing						
SLR242M3	Submit V2S4.2.6 Prelim. Draft f/ DOE Review	M3	0		31MAR00	20
V2S4.2.07						
300 Regulatory & Licensing						
SLR243M3	Submit V2S4.2.7 Prelim. Draft f/ DOE Review	M3	0		31MAR00	20
V2S4.2.08						
300 Regulatory & Licensing						
SLR244M3	Submit V2S4.2.8 Draft f/ DOE Review	M3	0		29FEB00	43
V2S4.2.09						
300 Regulatory & Licensing						
SLR24XM3	Submit V2S4.2.9. Draft f/ DOE Review	M3	0		29FEB00	43
V2S4.2.10						
300 Regulatory & Licensing						
SLR246M3	Submit V2S4.2.10 Draft f/ DOE Review	M3	0		29FEB00	43
V2S4.2.11						
300 Regulatory & Licensing						
SLR247M3	Submit V2S4.2.11 Draft f/ DOE Review	M3	0		01MAR00	42
V2SCHD						
300 Regulatory & Licensing						
SLSR6DM3	Complete Final 10CFR960 Evaluation (SR Vol 2)	M3	0		29AUG00	20
V3.2						
300 Regulatory & Licensing						
SLR245M3	Complete SR Comment Summary Document	M3	0		13APR01	270



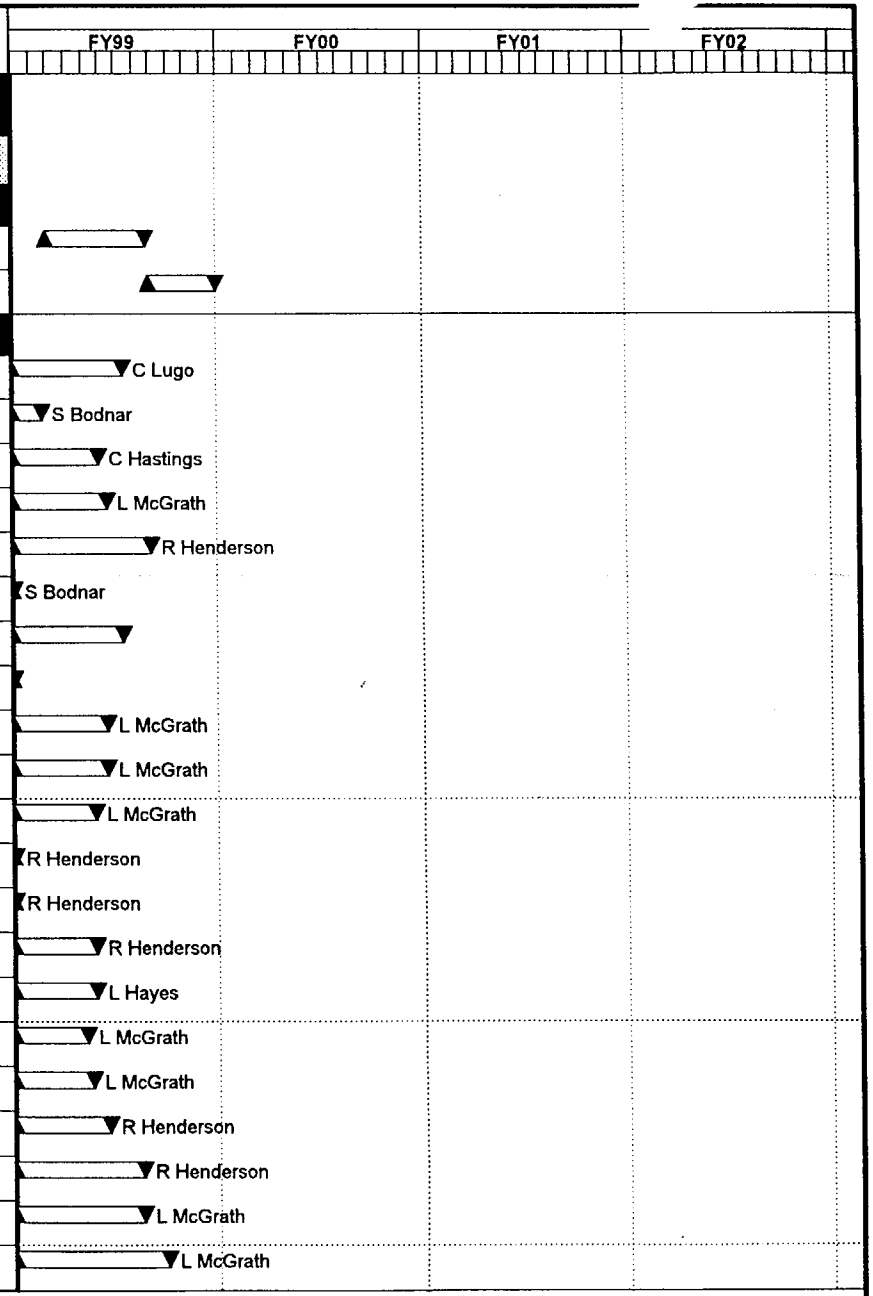
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
Z LADS/EDA2						
SA Summary Activities for SE						
160 Systems Engineering & Integration Office - LV						
SE1930M3	Submit SR/LA Products List to DOE for Approval	M3	0		30SEP99	260
L LA Schedule						
300 Regulatory & Licensing						
SLDI05M3	Submit Level of Design Detail Paper f/LA to DOE	M3	0		10JUN99	147
SLAD03M3	M&O Submit ADLA S& P Chap. QAP-6.2 Draft to DOE	M3	0		01MAR01	149
SLAD04M3	M&O Submit ADLA D&E Chap. QAP-6.2 Draft to DOE	M3	0		31MAY01	149
SLAD05M3	M&O Submit ADLA Perf. Chap. QAP-6.2 Draft to DOE	M3	0		15AUG01	149
ECRB						
EC ECRB Design / Construction						
170 Site Construction Operations						
SCM070M3	Complete ECRB Construction	M3	0		11MAY01	348
140 Natural Environment Program Operations						
SPC315M3	Rpt: Dyn/Static Testing for FF Seepage & Pondage	M3	0		29SEP00	501
SP1880M3	Rpt: CDTT Final Report	M3	0		30MAY02	85
819 United States Geological Survey						
SPG42GM3	Geology of E[illegible] X-Drift	M3	0		31MAR99	880



Schedule

All Activities

Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
V PVAR Activities					
300 Regulatory & Licensing					
SL05RSS6	RSS Support PVAR Effort		121	01DEC98*	28MAY99
SL05RSS11	RSS Continue PVAR Support		86	01JUN99	30SEP99
49	2.3.1 Perform & Document Root Cause		127	01OCT98*	13APR99
61	2.4.2 YAP-SIII.1Q to Improve Process Data Qual		35	01OCT98*	20NOV98
65	2.4.3 YAP-SIII.3Q to Ensure ID of Supt Docs/DQ		98	01OCT98*	03MAR99
157	5.4.1 Supersede M&O QAP-7-3 & QAP-7-5 with new A		106	01OCT98*	15MAR99
161	5.4.2 Actions/Schedules Preparation		162	01OCT98*	02JUN99
2005	2.1.1 Flag all TDMS Data TBV		1	01OCT98*	01OCT98
90005	2.2.1 VA/TBD/SDR References to SR/LA Listed		127	01OCT98*	13APR99
100047	5.1.1 UNLV & ANL SOW Acceptance Criteria		1	01OCT98*	01OCT98
100050	5.1.2 M&O QAP-7-5 Rev. (QA Records Submittal)		106	01OCT98*	15MAR99
100053	5.1.3 Supersede M&O QAP-7-6 with QAP-7-5		106	01OCT98*	15MAR99
100056	5.1.4 M&O QAP-7-3 Rev. (Delete 10CFR, Part 21)		93	01OCT98*	24FEB99
100059	5.1.5 Issuance of Policy Ltr. (Voided Action)		1	01OCT98*	01OCT98
100062	5.1.6 Establish Procurement Engineer Position		1	01OCT98*	01OCT98
100065	5.1.7 M&O QAP-7-3 Rev. (Enhanced Procurement)		93	01OCT98*	24FEB99
100068	5.1.8 Nat'l. Labs'. Procurement Procedures Rev.		92	01OCT98*	23FEB99
100071	5.1.9 Rev Q Procuments at USGS/Natl Labs/M&O		81	01OCT98*	05FEB99
100074	5.1.10 Open Proc Classifctn Rev, GS/Labs/M&O		87	01OCT98*	16FEB99
100077	5.1.11 M&O QAP-7-5 Rev. (Acceptance of Q Service		106	01OCT98*	15MAR99
100083	5.2.1 Aquisition Identification GS/Labs/M&O		150	01OCT98*	14MAY99
100086	5.2.2 Non-Q Procurement Review GS/Labs/M&O		151	01OCT98*	17MAY99
100089	5.2.3 Q Procurement Adequacy Review GS/Labs/M&O		180	01OCT98*	28JUN99



Project Start	01OCT98
Project Finish	30SEP02
Data Date	01OCT98
Run Date	16MAY99

Early Bar
Progress Bar

M008

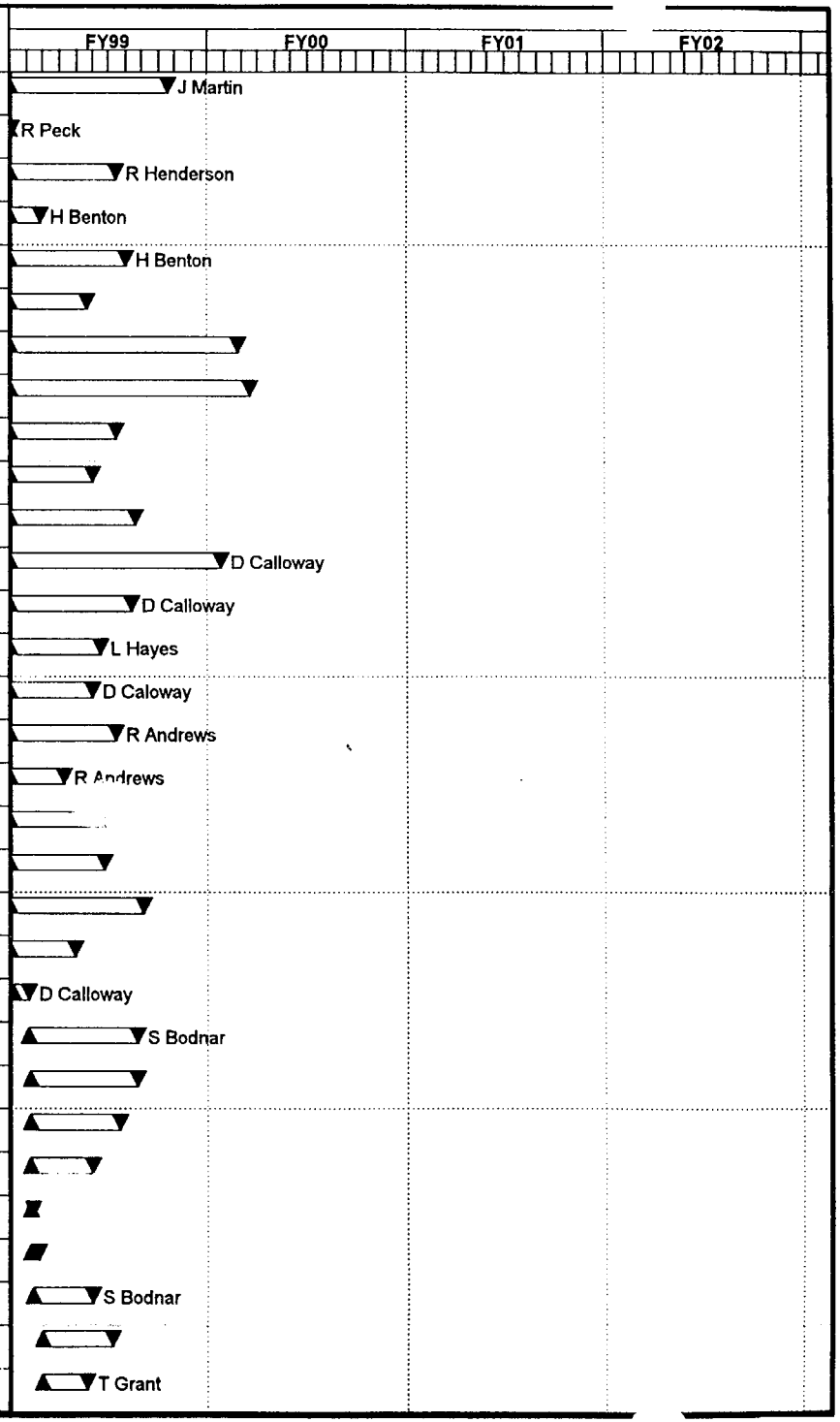
Sheet 1 of 263

CR-M&O M008 PMDQ/LADS
All Activities (6927)
As of May 17,1999 @ 8:00 AM

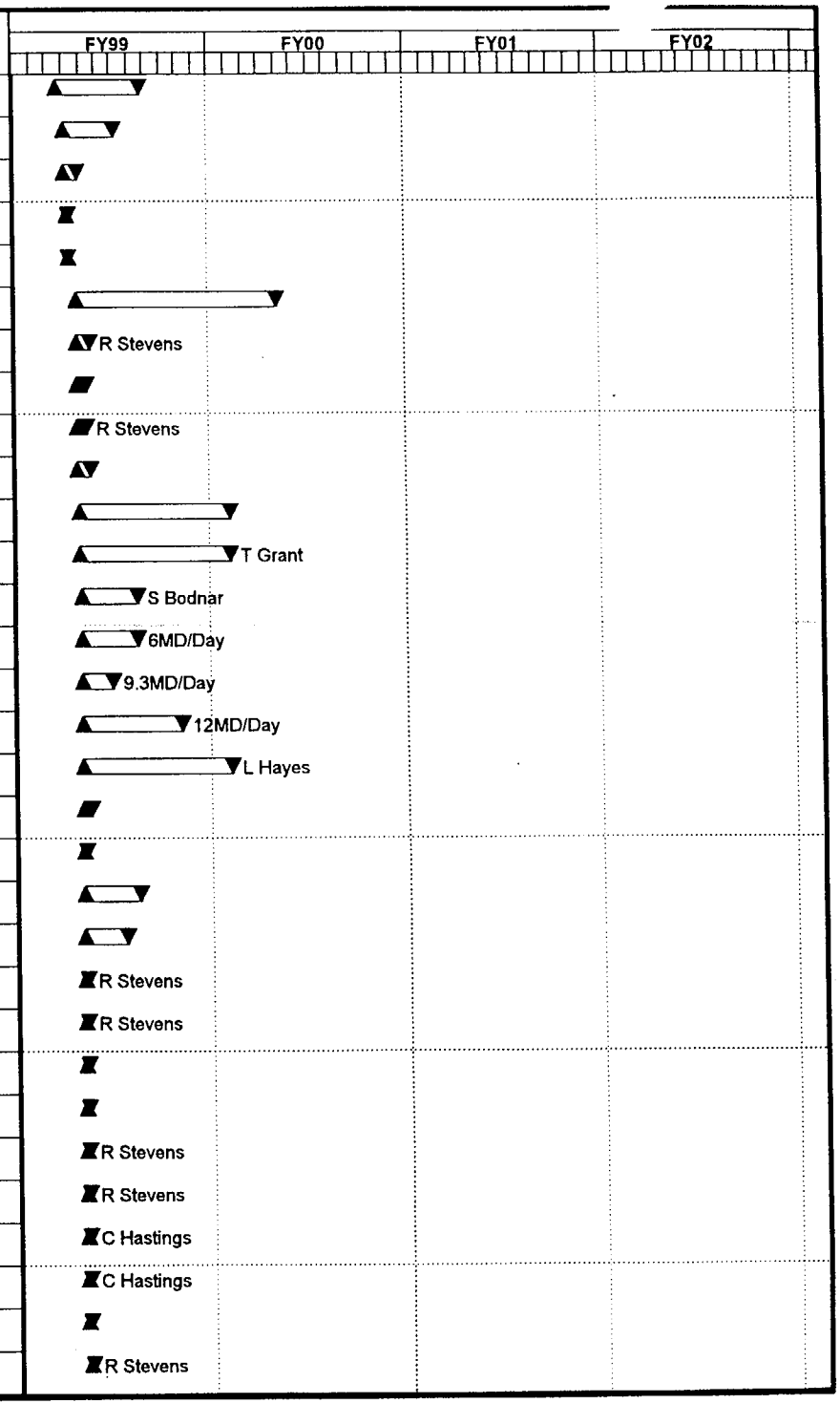
(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

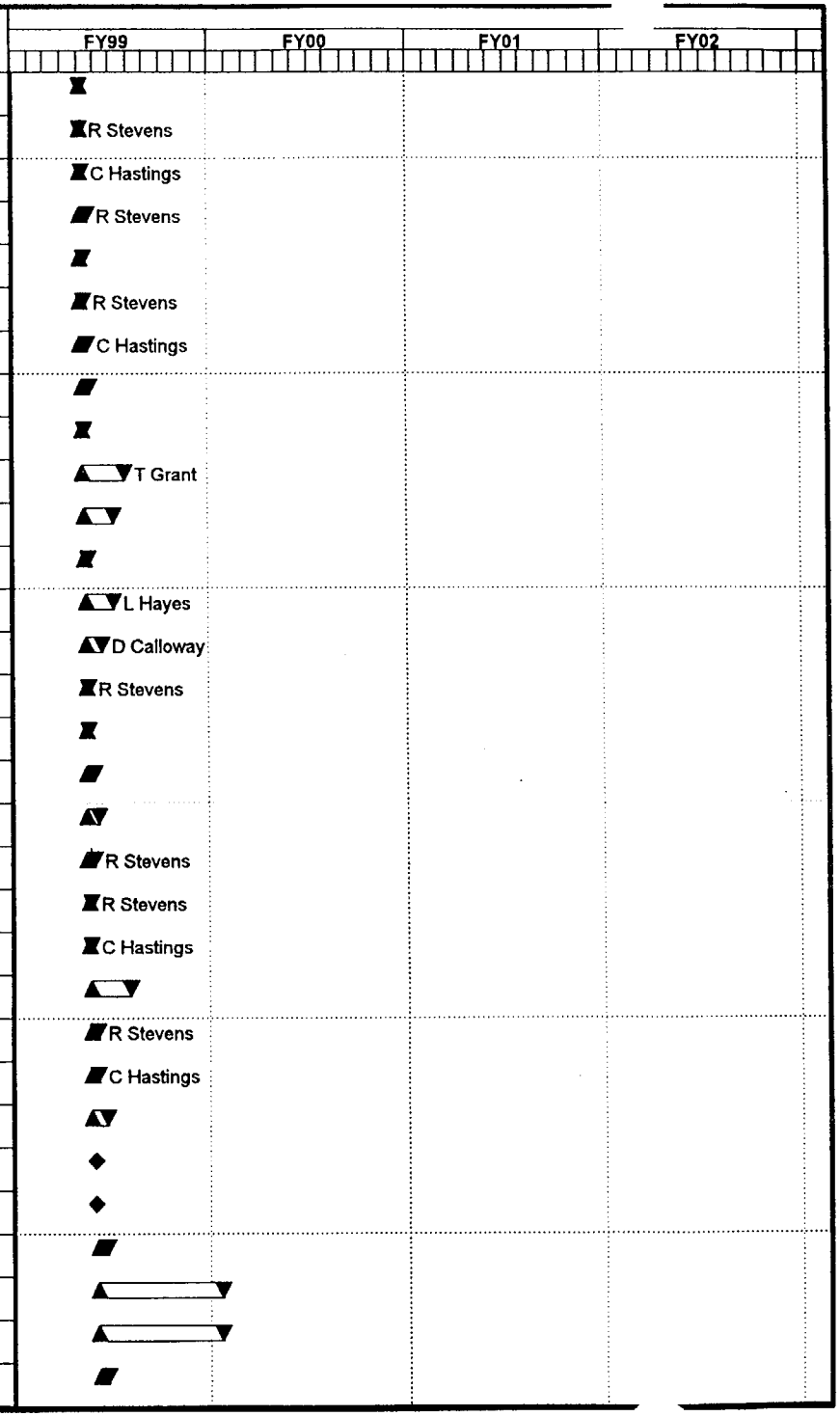
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
100092	5.2.4 Deficient Data/Software Identification		194	01OCT98*	19JUL99
100095	5.2.5 QSL Adequacy Review (Completed)		1	01OCT98*	01OCT98
100101	5.3.1 Perform & Document Root Cause		127	01OCT98*	13APR99
100116	6.1.1 Conduct Inventory of Software		37	01OCT98*	24NOV98
100119	6.1.2 Submittal of Baseline Request		140	01OCT98*	30APR99
100122	6.1.3 TBV Labeling		89	01OCT98*	18FEB99
100128	6.2.1 Reverify SR/LA Software		282	01OCT98*	23NOV99
100131	6.2.2 TBV Number Closure/SMS Notation		297	01OCT98*	16DEC99
100137	6.3.1 Perform & Document Root Cause		127	01OCT98*	13APR99
100143	6.4.1 Develop AP-SI.1Q, Rev 0		97	01OCT98*	02MAR99
100146	6.4.1A Develop AP-SI.1Q, Rev1		152	01OCT98*	18MAY99
100149	6.4.2 Implement Automated SCCS (overall)		261	01OCT98*	22OCT99
100152	6.4.3 Develop Initial SCCS Trng Incld AP-SI.1		147	01OCT98*	11MAY99
100161	10.1.1 Inventory Applicable Analyses/Models		106	01OCT98*	15MAR99
100167	10.1.3 Inventory & Interfaces Comparison		97	01OCT98*	02MAR99
100182	10.3.1 Perform & Document Root Cause		127	01OCT98*	13APR99
100188	10.4.1 Develop AP-3.10Q/Supersede AP-3.9Q		59	01OCT98*	06JAN99
100119A	Review of SW SR/LA		112	01OCT98*	R99
100131A	OM Identify SR/LA SW		112	01OCT98*	23MAR99
100149A	Automated SCCS Phase I		162	01OCT98*	02JUN99
100152A	APSI.1Q Training Package Development Ph I		76	01OCT98*	29JAN99
2010	2.1.3 TBV Control Proced (NLP 3-15)		21	07OCT98*	05NOV98
2007	2.1.2 YAP SIII.3Q Cklst/Rcdlst for New Data		130	06NOV98*	21MAY99
00007	System for Tracking Users and Evaluations Compl.		128	10NOV98*	21MAY99
00011	ID Models for Review/Revisions for Traceability		104	10NOV98*	19APR99
00014	Process and Procedure Revisions		70	10NOV98*	02MAR99
00019	Management/control-Interim Measures in Place		1	10NOV98*	10NOV98
00033	Review of Documents Reviewed During Audit		9	10NOV98*	23NOV98
2020	2.1.4 YAP SIII.3Q Req all Data from TDMS		69	12NOV98*	02MAR99
90007	2.2.1A TBD/SDR/VA Source DTNs Identified		84	01DEC98*	07APR99
90015	NEPO DTNs in TBD Source Traced to Source DTN		51	01DEC98*	19FEB99



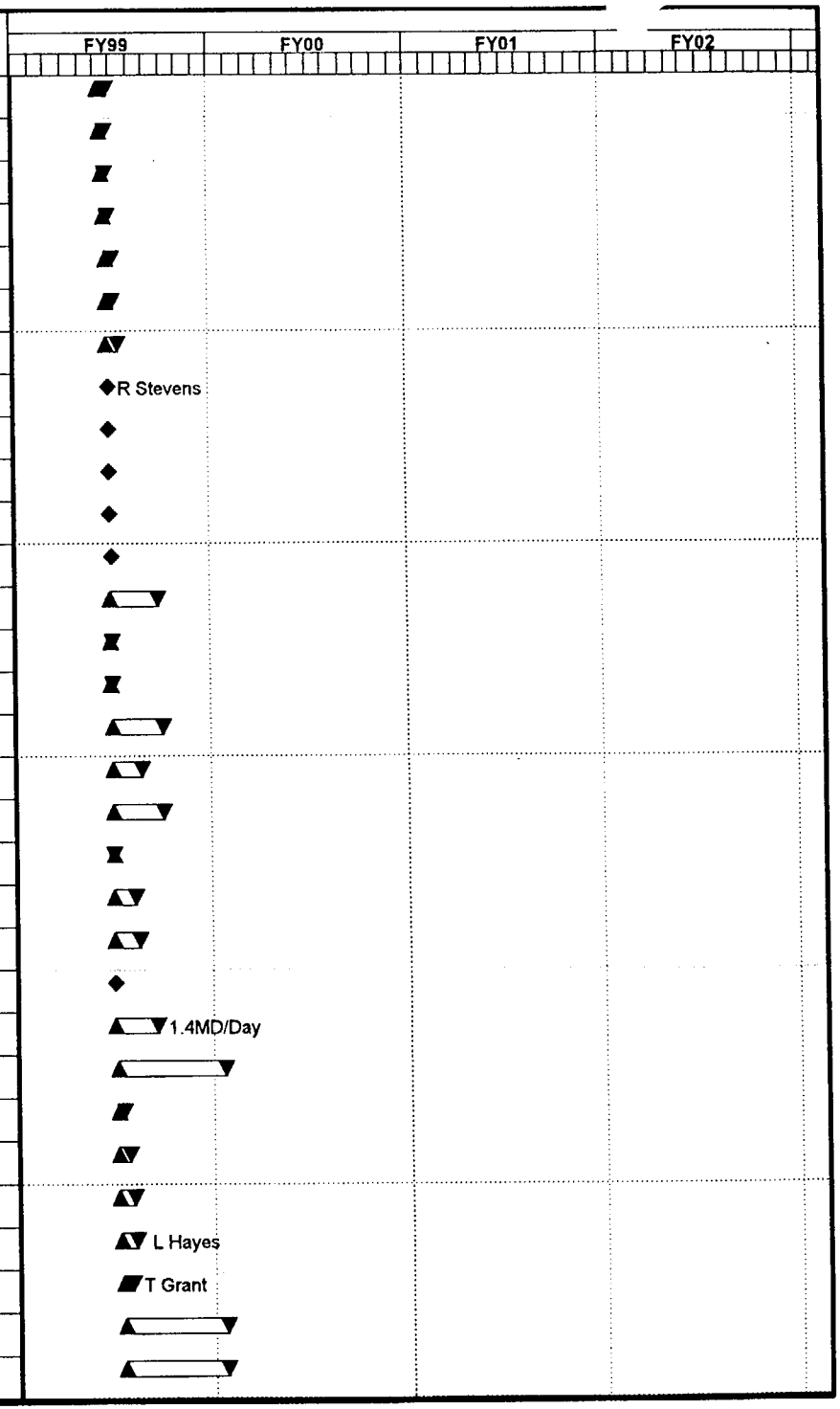
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
00005	List of Reports/Supporting VA		104	22DEC98*	26MAY99
00013	ID FY98 level 3 Deliverables for Review		65	04JAN99*	05APR99
100146A	Develop "Strawman"		20	04JAN99*	29JAN99
100152C	Conduct M&O Training Ph I		2	08JAN99*	11JAN99
100152D	Conduct USGS Training Ph I		2	11JAN99*	12JAN99
90077	2.2.4 Associate Open Issues w/ TBV#		259	25JAN99*	03FEB00
100101A	Ongoing Document/Background Review		17	26JAN99*	18FEB99
100137A	Ongoing Document/Background Review		12	26JAN99*	10FEB99
10188B	Ongoing Document/Background Review		12	26JAN99*	10FEB99
49A	Ongoing Document/Background Review		17	26JAN99*	18FEB99
90065	2.2.3 Eval Data w/Cklst to ID CAR05/06/10 Issues		196	29JAN99*	05NOV99
90067	Complete Checklist for TBD Related DTNs		196	29JAN99*	05NOV99
57	2.4.1 ID Addl Prev Actions from 2.3.1		75	01FEB99*	17MAY99
00001	Extent of Conditions		75	01FEB99*	17MAY99
00075	Review Open Notebooks		40	01FEB99*	29MAR99
00085	Correct Open Notebooks (530)		130	01FEB99*	04AUG99
100176	10.2.1 Develop Intg. Site Model & Family Tr * *		195	01FEB99*	05NOV99
100146B	Review "Strawman"		11	01FEB99*	16FEB99
100152B	Conduct Lab Training Ph I		5	01FEB99*	05FEB99
100152E	Cleanup Initial Training Ph I		74	01FEB99*	14MAY99
100176A	Develop PAO Tree (TSPA & Upstream Models)		55	01FEB99*	19APR99
100101F	Develop Target Interview List		2	02FEB99*	03FEB99
100101P	Develop Checklist of Questions		4	02FEB99*	05FEB99
100137B	Develop Target Interview List		2	02FEB99*	03FEB99
100137D	Develop Checklist of Questions		2	02FEB99*	03FEB99
10188C	Develop Target Interview List		2	02FEB99*	03FEB99
10188E	Develop Checklist of Questions		2	02FEB99*	03FEB99
49A5	Ongoing Document/Background Review		2	02FEB99*	03FEB99
49B05	Develop Checklist of Questions		4	02FEB99*	05FEB99
PV0025	SME Preparation for Integration Workshop		4	02FEB99*	05FEB99
100101K	Set-Up Interviews		4	04FEB99*	09FEB99



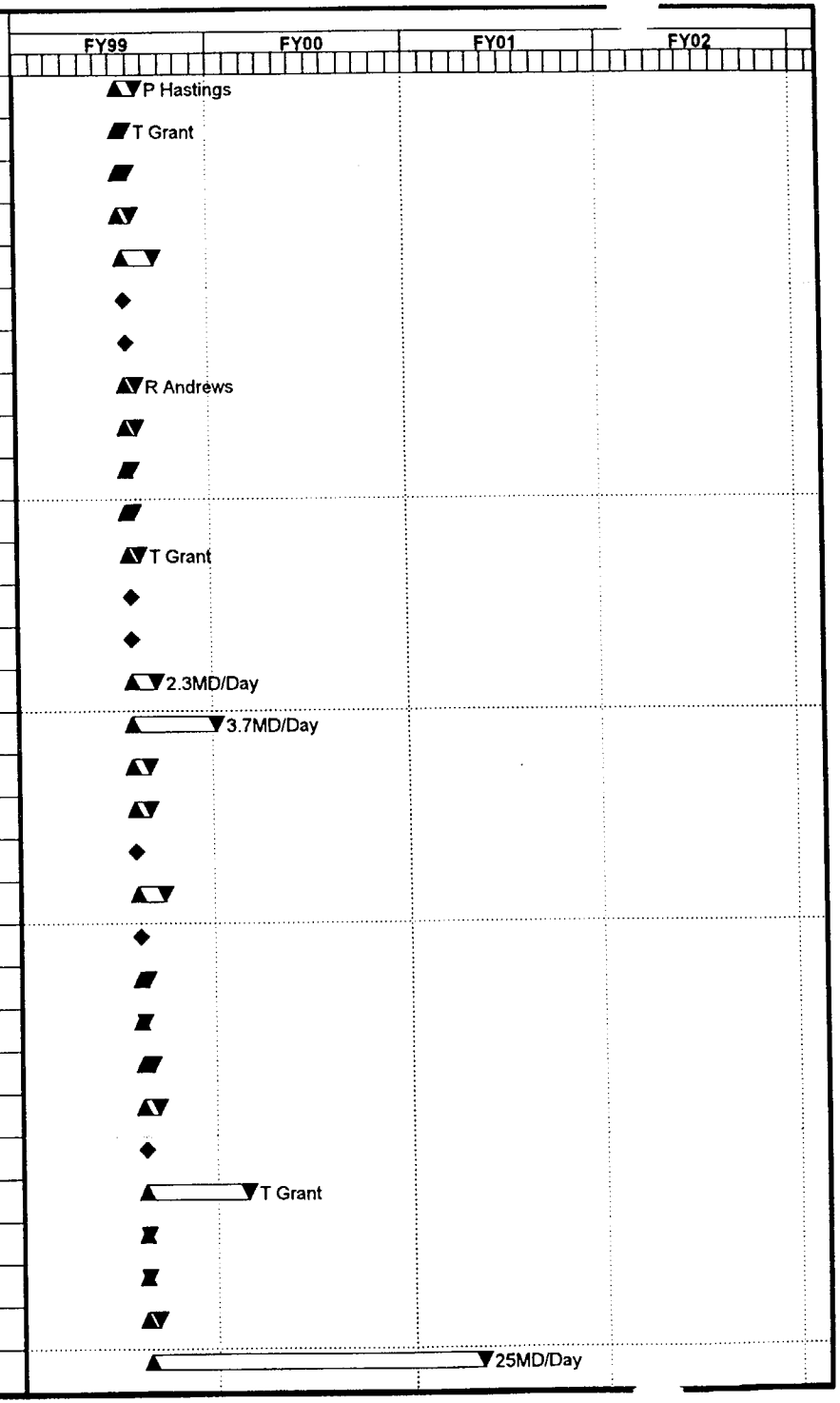
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
100137C	Set-Up Interviews		2	04FEB99*	05FEB99
10188D	Set-Up Interviews		2	04FEB99*	05FEB99
49B	Set-Up Interviews		4	04FEB99*	09FEB99
100101U	Perform Interviews		9	05FEB99*	18FEB99
100137E	Perform Interviews		6	05FEB99*	12FEB99
10188F	Perform Interviews		6	05FEB99*	12FEB99
49B10	Perform Interviews		9	05FEB99*	18FEB99
PV0030	Conduct SME Integration Workshop		10	08FEB99*	22FEB99
PV0035	Identify Policy Issues and Recommend Resolution		5	08FEB99*	12FEB99
90042	NEPO TBV # Assoc W/Tech Basis Doc		54	10FEB99*	27APR99
00015	Training to Revised Procedures Completed		37	11FEB99*	05APR99
100137F	Interpret Results of Interviews		4	12FEB99*	18FEB99
100164	10.1.2 Identify Consolidations of Analyses/Model		35	16FEB99*	05APR99
100170	10.1.4 Develop Analyses/Model Matrix		20	16FEB99*	15MAR99
10188G	Interpret Results of Interviews		4	16FEB99*	19FEB99
PV0040	Resc ssues		4	16FEB99*	19FEB99
100137G	Comp Cause Analysis		9	17FEB99*	01MAR99
100146C	Develop First Draft		14	17FEB99*	08MAR99
10188H	Complete Root Cause Analysis		9	18FEB99*	02MAR99
100101Z	Interpret Results of Interviews		3	19FEB99*	23FEB99
49B15	Interpret Results of Interviews		3	19FEB99*	23FEB99
90040	2.2.2 Assign TBV #s for All Data Sets ID'd		54	22FEB99*	06MAY99
100102E	Complete Root Cause Analysis		9	23FEB99*	05MAR99
49B20	Complete Root Cause Analysis		9	23FEB99*	05MAR99
PV0045	Prepare Process Flows		22	23FEB99*	24MAR99
PV0055	Approved Procedure Procedure Available		0	01MAR99*	
00010	Revise Procedures		0		02MAR99*
100128B	Submit SW		14	05MAR99*	24MAR99
100131B	OM Review SW "Q" Status		161	05MAR99*	21OCT99
100131C	OM SW "Q" Verification Process		161	05MAR99*	21OCT99
50	SMEs Review/Integrate Process Flows		10	11MAR99*	24MAR99



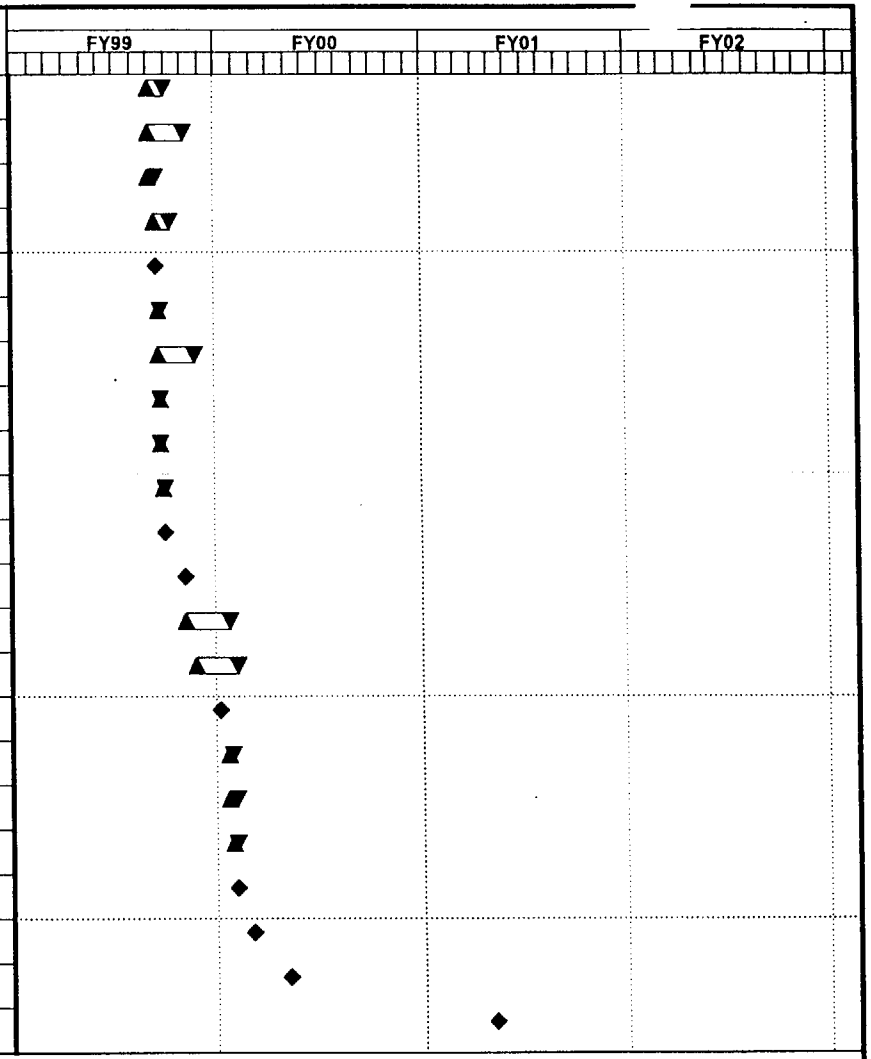
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
PV0060	Write Procedures		12	11MAR99*	26MAR99
100146D	Review First Draft		6	15MAR99*	22MAR99
100119B	Prepare SBRF		6	16MAR99*	23MAR99
PV0065	Informal SME Procedure Review		6	19MAR99*	26MAR99
100146E	Review and Comment		9	23MAR99*	02APR99
100119C	Submit SBRF		8	24MAR99*	02APR99
100128C	Assign Tracking Numbers		13	25MAR99*	12APR99
100102J	Turnover Completed Root Cause Analysis		0		26MAR99*
100137H	Turnover Completed Root Cause Analysis		0		26MAR99*
10188I	Turnover Completed Root Cause Analysis		0		26MAR99*
49B25	Turnover Completed Root Cause Analysis		0		26MAR99*
00080	All Active Notebooks Reviewed (530)		0		29MAR99*
IT0010	CAR/PVAR Related Modifications		64	29MAR99*	25JUN99
IT0015	Staff Orientation/Preparation		2	29MAR99*	30MAR99
PV0067	Incorporate Results of Informal Review		3	29MAR99*	31MAR99
IT0005	IT Architecture & CAR/PVAR Interim Modifications		66	30MAR99*	30JUN99
IT0025	Staffing and Training		40	30MAR99*	24MAY99
IT0070	Architecture Baseline Development		66	30MAR99*	30JUN99
IT0075	Finalize Plan		1	30MAR99*	30MAR99
IT0020	SME Interviews and Reqmts. Def.		28	31MAR99*	07MAY99
IT0080	Business Sub-Arch		33	31MAR99*	14MAY99
PV0070	Procedures Ready for Formal Review		0		31MAR99*
00090	Review Inactive Notebooks (100)		54	01APR99*	16JUN99
100128F	Qualification Process of "UnQualified SW"		141	02APR99*	21OCT99
PV0075	Conduct Formal Procedure Review 6.2Q		8	02APR99*	13APR99
100119D	Approve SBRF		15	05APR99*	23APR99
100146F	Resolve Comments and Obtain Final Approval		20	05APR99*	30APR99
100165	10.1.2A Revise Matrix		22	06APR99*	05MAY99
90045	Non-NEPO TBV # Assoc W/Tech Basis Doc		12	12APR99*	27APR99
100128D	Verification Process of "Q SW"		134	13APR99*	21OCT99
100128E	Validation Process of "Q SW"		134	13APR99*	21OCT99



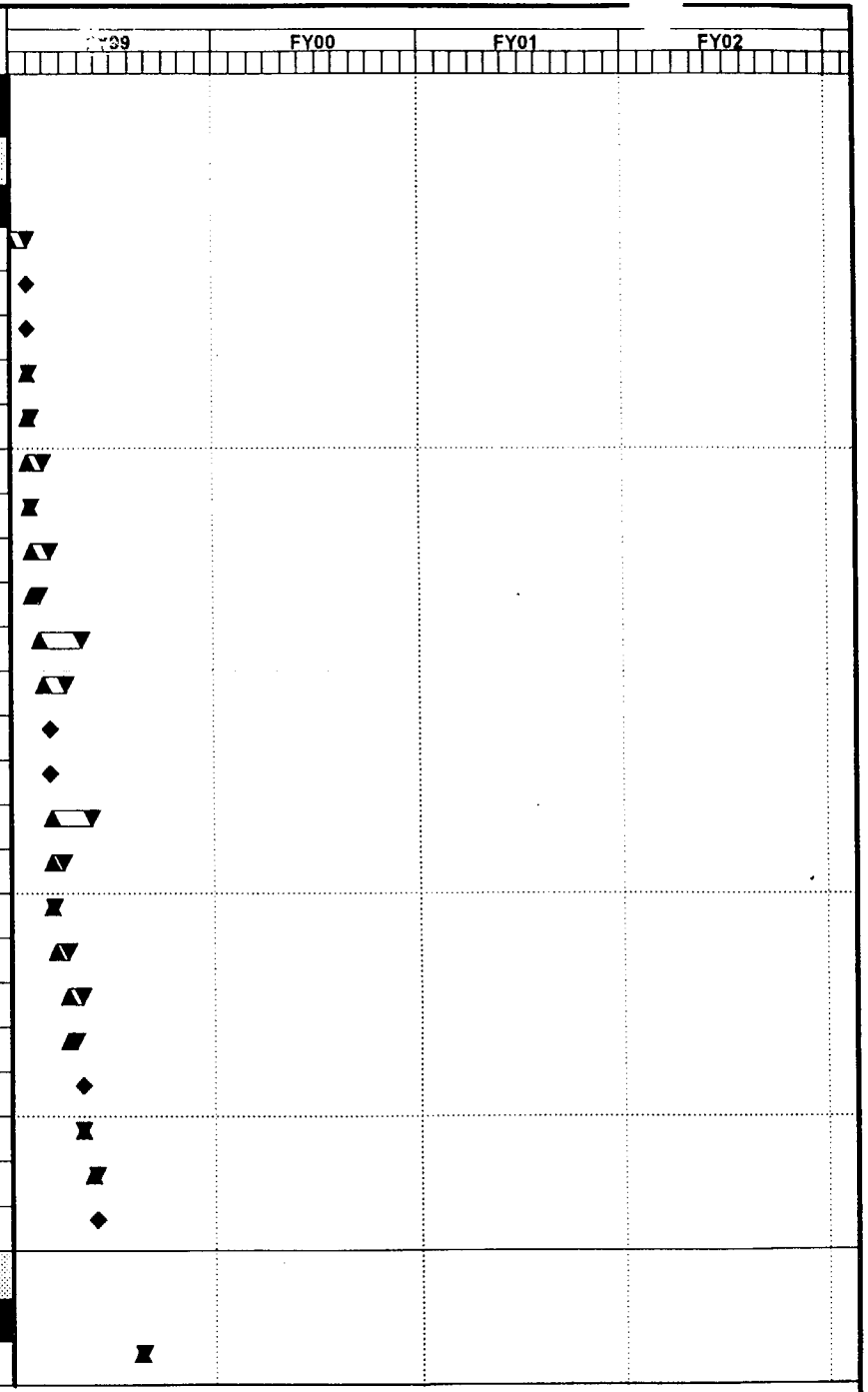
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
90010	ID Non-NEPO DTNs from TBD/SDR/VA		25	14APR99*	18MAY99
90050	TBV # Assoc w/SD/VA		9	14APR99*	26APR99
PV0080	Incorp Comments/Finalize Procedure Doc. Group1		14	14APR99*	03MAY99
PV0080A	Incorp Comments/Finalize Procedure Doc. Group2		19	14APR99*	10MAY99
100176B	Develop NEPO & WPO Trees(w/Upstream Mdls)		45	20APR99*	22JUN99
100119E	Approve SBRF		0		23APR99*
90055	TBV# Assigned for Source DTNs Identified		0		26APR99*
100188A	Identify Additional Actions Required		15	26APR99*	14MAY99
IT0030	Database Design Mods.		15	26APR99*	14MAY99
IT0040	Application Design Mods.		7	26APR99*	04MAY99
IT0100	Technology Sub-Arch		10	26APR99*	07MAY99
90025	Trace Non-NEPO DTNs Part of 2.2.1		16	27APR99*	18MAY99
00020	Root Cause Determination Complete		0		30APR99*
100146I	AP-SI.1Q Final Phase Complete		0		30APR99*
00103	Review Selected Closed Notebooks (100)		32	03MAY99*	16JUN99
00105	Corrective Action on Inactive/Selected Nbks(200)		109	03MAY99*	05OCT99
PV0085	Develop Procedure Training Curriculum		21	03MAY99*	01JUN99
IT0045	Code Development		20	05MAY99*	02JUN99
PV0105	Final Procedure Approval Group 1		0		05MAY99*
IT0095	Data Sub-Arch		35	11MAY99*	29JUN99
PV0105A	Final Procedure Approval Group 2		0		11MAY99*
100152AA	APSI.1Q Training Package Development Ph II		10	14MAY99*	27MAY99
100152BB	Conduct Lab Training Ph II		3	14MAY99*	18MAY99
IT0035	Database Mods.		12	17MAY99*	02JUN99
IT0085	Information Sub-Arch		20	17MAY99*	14JUN99
90030	All TBD/SD/VA DTNs Traced to Source		0		18MAY99*
90070	Complete Checklist for SD/VA Related DTNs		130	19MAY99*	23NOV99
100152CC	Conduct M&O Training Ph II		3	19MAY99*	21MAY99
100152DD	Conduct USGS Training Ph II		2	20MAY99*	21MAY99
100152EE	Cleanup Initial Training Ph II		15	20MAY99*	10JUN99
00025	Review and Revise Old Documents		425	27MAY99*	06FEB01



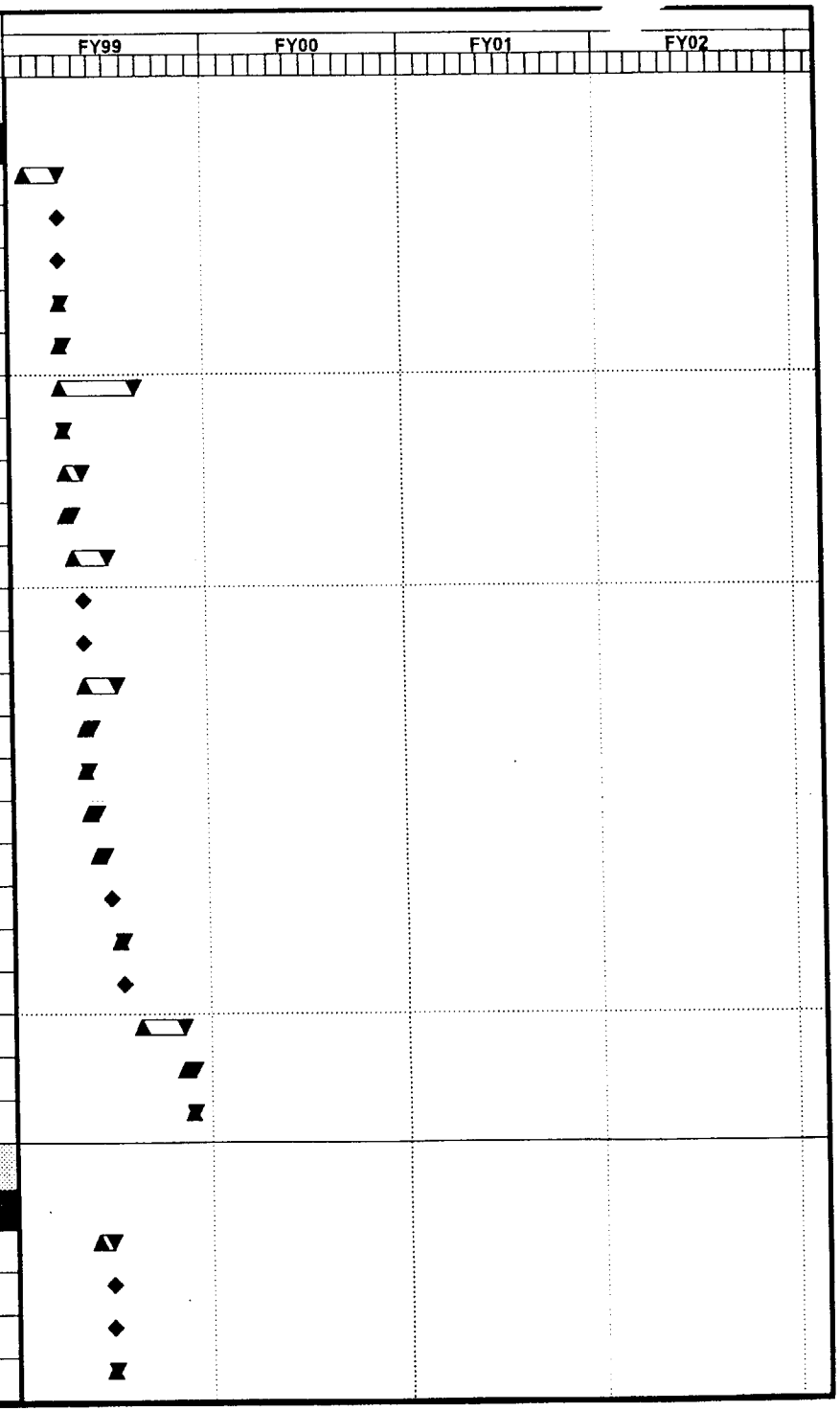
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
PV0095	Perform Procedure Training		21	02JUN99*	30JUN99
100149B	Automated SCCS Phase II		45	03JUN99*	05AUG99
IT0050	Component/Integration Testing		12	03JUN99*	18JUN99
IT0090	Application Sub-Arch		20	15JUN99*	13JUL99
00100	Inactive Notebooks Reviewed		0		16JUN99*
IT0055	System V&V		3	21JUN99*	23JUN99
100176C	Review/Check PAO, NEPO, WPO Trees		45	23JUN99*	25AUG99
IT0060	User Training		1	24JUN99*	24JUN99
IT0065	Implementation		1	25JUN99*	25JUN99
IT0105	Sign-Off/Deliver		1	30JUN99*	30JUN99
PV0097	Technical Process Improvements Implemented		0		30JUN99*
00095	Open Notebooks Corrected		0		04AUG99*
100149C	Automated SCCS Phase III		54	06AUG99*	22OCT99
100176D	Revise/Modify/Finalize Trees		50	26AUG99*	05NOV99
00110	Inactive Notebooks Corrected		0		05OCT99*
100128G	Prepare "Draft" SW Report		5	22OCT99*	28OCT99
100131D	CM TBV Status Report		10	22OCT99*	04NOV99
100128H	Prepare "Final" SW Report		5	29OCT99*	04NOV99
100128I	TBV Software Qualified		0		04NOV99*
90075	Chklst Completed for Source DTNs frm TDB/SDR/VA		0		30NOV99*
90090	2.2.4 Associate Open Issues w / TBV#		0		03FEB00*
00030	Review Complete to Support TSPA/SR		0		06FEB01*



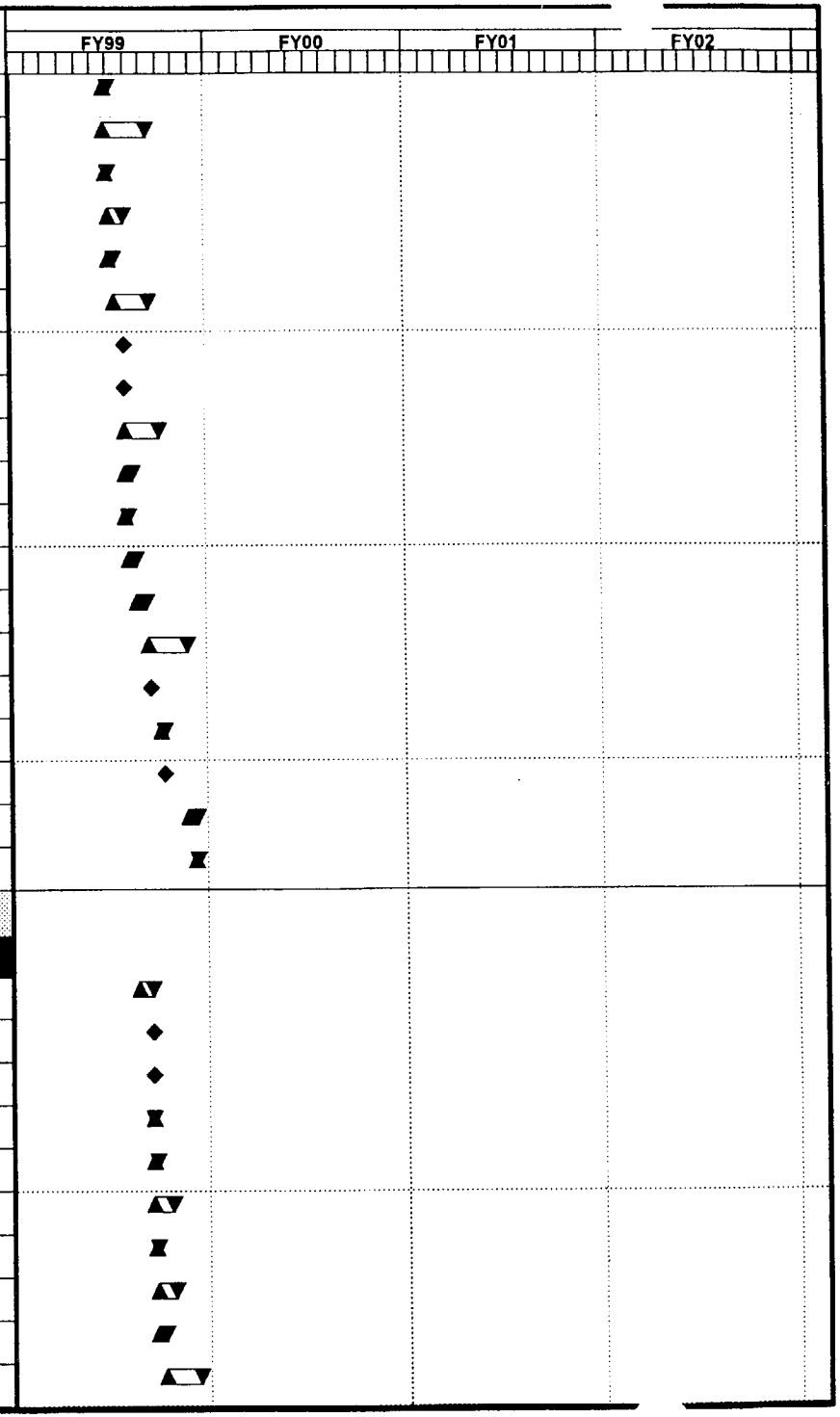
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
I ISM PMR					
C1000					
140 Natural Environment Program Operations					
SPP5800	AP3.10Q Data-Stratigraphic Workbook		21	01OCT98*	30OCT98
SPI000	Strat Workbook-Input Parameters and Data Identif		0		30OCT98
SPI002	Strat Workbook-Models and Codes Identified		0		30OCT98
SPI004	Strat Workbook-Determine DTN Assignment		2	02NOV98	03NOV98
SPI028	Strat Workbook-Determine if Model-Rel SW is Unde		5	02NOV98	06NOV98
SPP5802	Prep Draft AP3.10Q-Stratigraphic Workbook		18	02NOV98	30NOV98
SPI006	Strat Workbook-Determine if Data/DTN in TDMS		3	04NOV98	06NOV98
SPI008	Strat Workbook-Submit Data/DTN to TDMS as Necess		22	09NOV98	11DEC98
SPI030	Strat Workbook-Place Model-Related SW Under SMS		10	09NOV98	23NOV98
SPI032	Strat Workbook-Verify Model-Related Software		44	24NOV98	04FEB99
SPP5804	AP3.10Q Chckng/Rev-Stratigraphic Workbook		22	01DEC98	08JAN99
SPI012	Strat Workbook-Procurement Related Issues Id d t		0		11DEC98
SPI020	Strat Workbook-Data Related Software Issues Iden		0		11DEC98
SPI010	Strat Workbook-Verify/Trace Data		44	14DEC98	23FEB99
SPI014	Strat Workbook-Resolve Procurement Related Data		10	14DEC98	05JAN99
SPI022	Strat Workbook-Determine if Data Rel SW is Under		5	14DEC98	18DEC98
SPI024	Strat Workbook-Place Under SMS Control as Necess		10	21DEC98	12JAN99
SPP5806	Prep Final AP3.10Q Rpt-Stratigraphic Workbook		20	11JAN99	05FEB99
SPI026	Strat Workbook-Verify Data-Related Software		10	13JAN99	26JAN99
SPI034	Strat Workbook-Qualified/Verified SW Available		0		04FEB99
C1000	ISM3.1 Stratigraphic Workbook - AP3.10Q	M4	1	05FEB99	05FEB99
SPI016	Strat Workbook-Update TDMS		5	24FEB99	02MAR99
SPI018	Strat Workbook-Qualified/Verified Data Available		0		02MAR99
C1020					
140 Natural Environment Program Operations					
C1020	ISM3.1 Borehole Porosities	M4	1	21MAY99*	21MAY99



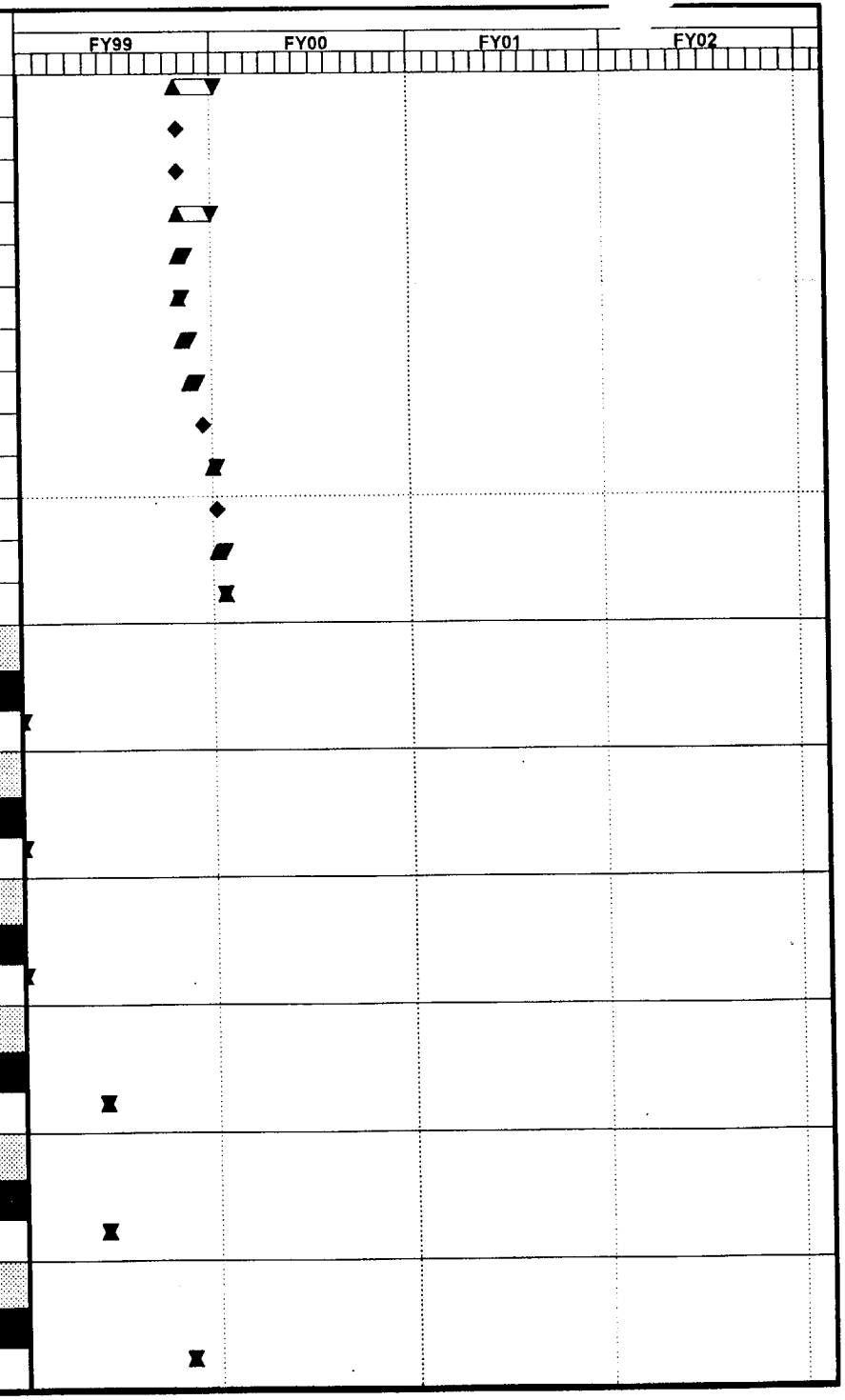
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
C1035					
140 Natural Environment Program Operations					
SPP5820	AP3.10Q Data-GFM3.1		36	02NOV98	04JAN99
SPI072	Rpt-GFM3.1-Input Parameters and Data Identified		0		04JAN99
SPI074	Rpt-GFM3.1-Models and Codes Identified		0		04JAN99
SPI076	Rpt-GFM3.1-Determine DTN Assignment		2	05JAN99	06JAN99
SPI100	Rpt-GFM3.1-Determine if Model-Rel SW is Under S		5	05JAN99	11JAN99
SPP5822	Prep Draft AP3.10Q-GFM3.1		98	05JAN99	21MAY99
SPI078	Rpt-GFM3.1-Determine if Data/DTN in TDMS		3	07JAN99	11JAN99
SPI080	Rpt-GFM3.1-Submit Data/DTN to TDMS as Necessary		22	12JAN99	10FEB99
SPI102	Rpt-GFM3.1-Place Model-Related SW Under SMS Con		10	12JAN99	25JAN99
SPI104	Rpt-GFM3.1-Verify Model-Related Software		44	26JAN99	29MAR99
SPI084	Rpt-GFM3.1-Procurement Related Issues ID'd to C		0		10FEB99
SPI092	Rpt-GFM3.1-Data Related Software Issues Identif		0		10FEB99
SPI082	Rpt-GFM3.1-Verify/Trace Data		44	11FEB99	14APR99
SPI086	Rpt-GFM3.1-Resolve Procurement Related Data Iss		10	11FEB99	25FEB99
SPI094	Rpt-GFM3.1-Determine if Data Rel SW is Under SM		5	11FEB99	18FEB99
SPI096	Rpt-GFM3.1-Place Under SMS Control as Necessary		10	19FEB99	04MAR99
SPI098	Rpt-GFM3.1-Verify Data-Related Software		10	05MAR99	18MAR99
SPI106	Rpt-GFM3.1-Qualified/Verified SW Available		0		29MAR99
SPI088	Rpt-GFM3.1-Update TDMS		5	15APR99	21APR99
SPI090	Rpt-GFM3.1-Qualified/Verified Data Available		0		21APR99
SPP5824	AP3.10Q Chckng/Rev-GFM3.1		56	24MAY99	11AUG99
SPP5826	Prep Final AP3.10Q Rpt-GFM3.1		11	12AUG99	26AUG99
C1035	GFM3.1 - AP3.10Q	M4	1	26AUG99	26AUG99
C1040					
140 Natural Environment Program Operations					
SPP5830	AP3.10Q Data-Rock Properties Model		18	02MAR99	25MAR99
SPI108	Rock Properties-Input Parameters and Data Identi		0		25MAR99
SPI110	Rock Properties-Models and Codes Identified		0		25MAR99
SPI112	Rock Properties-Determine DTN Assignment		2	26MAR99	29MAR99



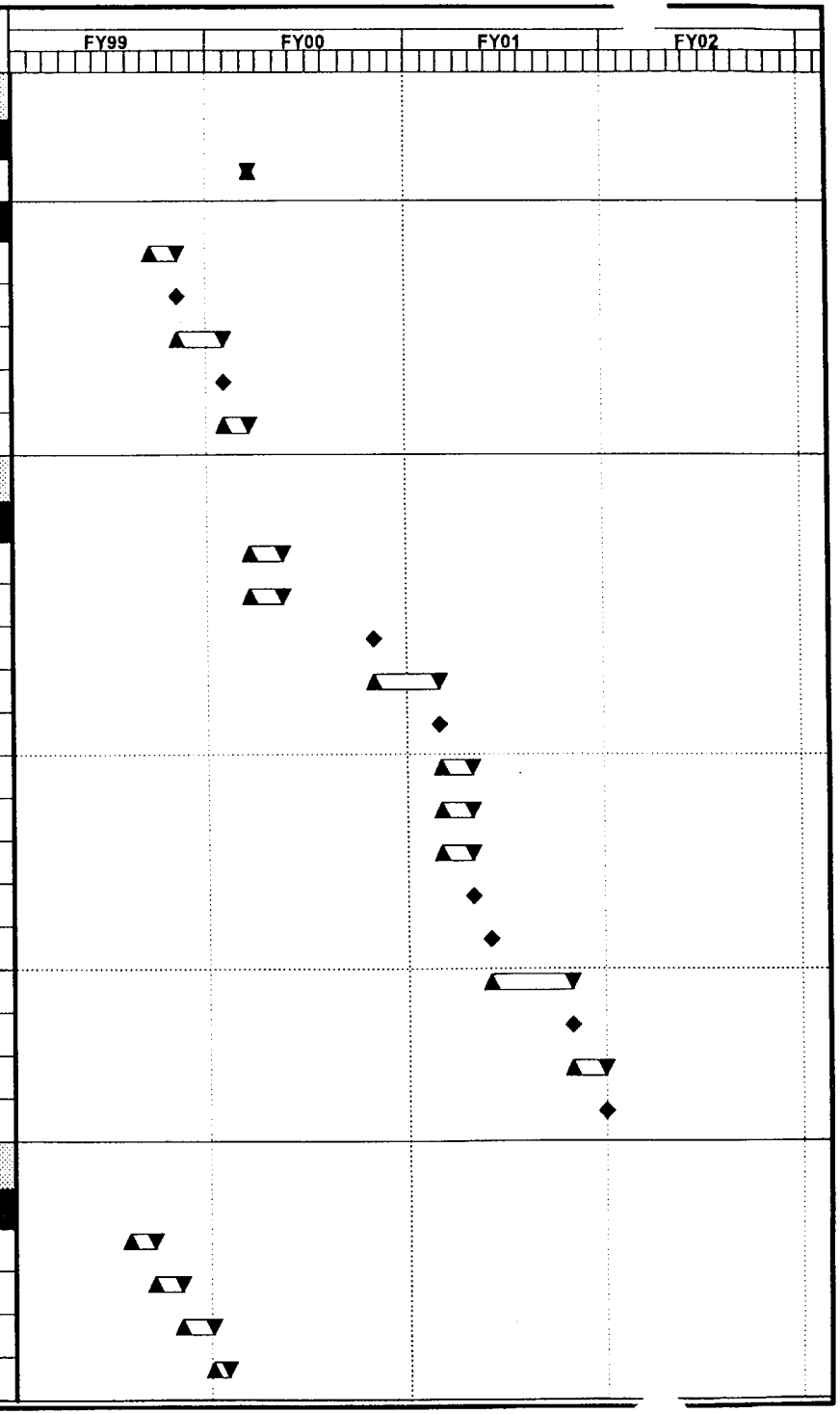
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPI136	Rock Properties-Determine if Model-Rel SW is Und		5	26MAR99	01APR99
SPP5832	Prep Draft AP3.10Q-Rock Porperties Model		56	26MAR99	14JUN99
SPI114	Rock Properties-Determine if Data/DTN in TDMS		3	30MAR99	01APR99
SPI116	Rock Properties-Submit Data/DTN to TDMS as Neces		22	02APR99	03MAY99
SPI138	Rock Properties-Place Model-Related SW Under SMS		10	02APR99	15APR99
SPI140	Rock Properties-Verify Model-Related Software		44	16APR99	17JUN99
SPI120	Rock Properties-Procurement Related Issues ID'd		0		03MAY99
SPI128	Rock Properties-Data Related Software Issues Ide		0		03MAY99
SPI118	Rock Properties-Verify/Trace Data		44	04MAY99	06JUL99
SPI122	Rock Properties-Resolve Procurement Related Data		10	04MAY99	17MAY99
SPI130	Rock Properties-Determine if Data Rel SW is Unde		5	04MAY99	10MAY99
SPI132	Rock Properties-Place Under SMS Control as Neces		10	11MAY99	24MAY99
SPI134	Rock Properties-Verify Data-Related Software		10	25MAY99	08JUN99
SPP5834	AP3.10Q Chckng/Rev-Rock Properties Model		50	15JUN99	24AUG99
SPI142	Rock Properties-Qualified/Verified SW Available		0		17JUN99
SPI124	Rock Properties-Update TDMS		5	07JUL99	13JUL99
SPI126	Rock Properties-Qualified/Verified Data Availabl		0		13JUL99
SPP5836	Prep Final AP3.10Q Rpt-Rock Properties Model		11	25AUG99	09SEP99
C1040	ISM3.1 Rock Properties Model - AP3.10Q	M4	1	09SEP99	09SEP99
C1045					
140 Natural Environment Program Operations					
SPP5840	AP3.10Q Data-Min-Pet model		17	24MAY99	16JUN99
SPI144	Min-Pet Model-Input Parameters and Data Identifi		0		16JUN99
SPI146	Min-Pet Model-Models and Codes Identified		0		16JUN99
SPI148	Min-Pet Model-Determine DTN Assignment		2	17JUN99	18JUN99
SPI172	Min-Pet Model-Determine if Model-Rel SW is Under		5	17JUN99	23JUN99
SPP5842	Prep Draft AP3.10Q-Min-Pet Model		25	17JUN99	22JUL99
SPI150	Min-Pet Model-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99
SPI152	Min-Pet Model-Submit Data/DTN to TDMS as Necessa		22	24JUN99	26JUL99
SPI174	Min-Pet Model-Place Model-Related SW Under SMS C		10	24JUN99	08JUL99
SPI176	Min-Pet Model-Verify Model-Related Software		44	09JUL99	09SEP99



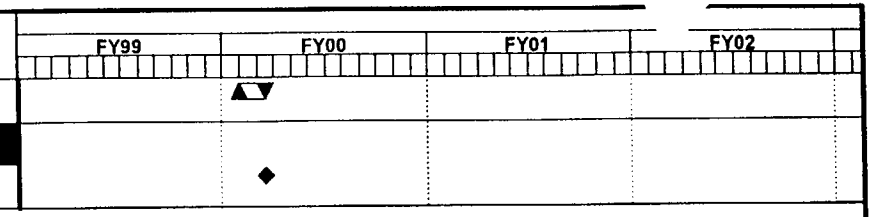
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPP5844	AP3.10Q Chckng/Rev-Min-Pet Model		51	23JUL99	04OCT99
SPI156	Min-Pet Model-Procurement Related Issues ID'd to		0		26JUL99
SPI164	Min-Pet Model-Data Related Software Issues Ident		0		26JUL99
SPI154	Min-Pet Model-Verify/Trace Data		44	27JUL99	27SEP99
SPI158	Min-Pet Model-Resolve Procurement Related Data I		10	27JUL99	09AUG99
SPI166	Min-Pet Model-Determine if Data Rel SW is Under		5	27JUL99	02AUG99
SPI168	Min-Pet Model-Place Under SMS Control as Necessa		10	03AUG99	16AUG99
SPI170	Min-Pet Model-Verify Data-Related Software		10	17AUG99	30AUG99
SPI178	Min-Pet Model-Qualified/Verified SW Available		0		09SEP99
SPI160	Min-Pet Model-Update TDMS		5	28SEP99	04OCT99
SPI162	Min-Pet Model-Qualified/Verified Data Available		0		04OCT99
SPP5846	Prep Final AP3.10Q Rpt-Min-Pet Model		11	05OCT99	20OCT99
C1045	ISM3.1 Min-Pet Model - AP3.10Q	M4	1	20OCT99	20OCT99
C1060					
140 Natural Environment Program Operations					
C1060	Surface & Borehole Geophysics Data	M4	1	01OCT98*	01OCT98
C1061					
140 Natural Environment Program Operations					
C1061	Regional Potentrometer Surface	M4	1	01OCT98*	01OCT98
C1062					
140 Natural Environment Program Operations					
C1062	Mapping, Geologic Data	M4	1	01OCT98*	01OCT98
C1063					
140 Natural Environment Program Operations					
C1063	Hydrogeological Properties Data	M4	1	01MAR99*	01MAR99
C1064					
140 Natural Environment Program Operations					
C1064	Min-Pet Data	M4	1	01MAR99*	01MAR99
C5100					
140 Natural Environment Program Operations					
C5100	Feed to TSPA	ZZ	1	05AUG99	05AUG99



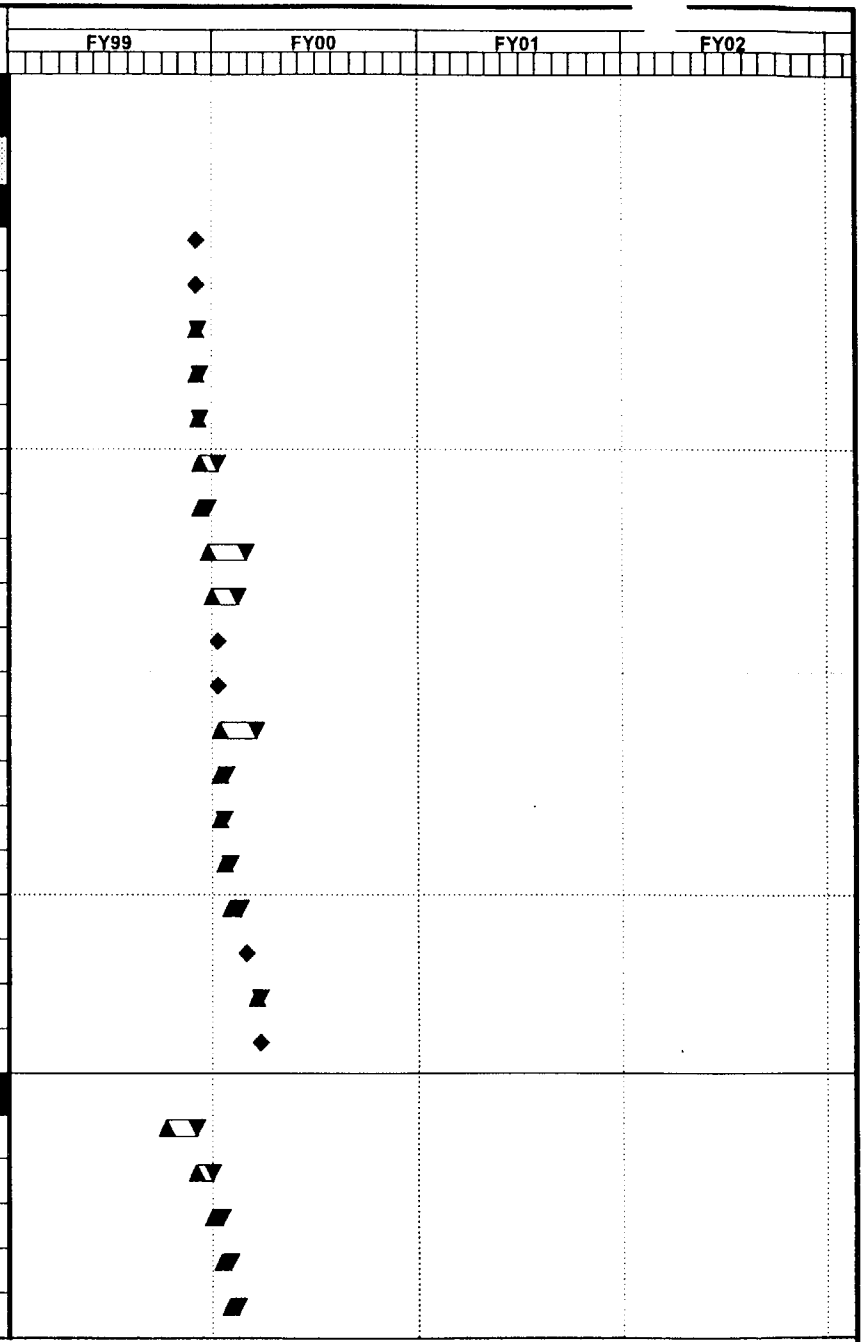
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
C5500					
140 Natural Environment Program Operations					
C5000	EIS Chapter 5	ZZ	1	16DEC99	16DEC99
300 Regulatory & Licensing					
SLP5860	ISM PMR Text Process		34	17JUN99	04AUG99
SLP58AM4	ISM PMR Rev 00A		0		04AUG99
SLP5865	M&O ISM PMR Review		60	06AUG99	01NOV99
SLP58BM3	ISM PMR Rev 00	M3	0		01NOV99
SLP5870	DOE ISM PMR Review		29	02NOV99	15DEC99
Z9999 PMR Rev 02 thru Rev 05					
300 Regulatory & Licensing					
SPI00A	Revise ISM PMR AP 3.10Q's for SR		41	16DEC99	14FEB00
SPI00B	Prepare ISM PMR REV-02A for SR		41	16DEC99	14FEB00
SPI00BM4	ISM PMR Rev-02A for SR	M4	0		01AUG00*
SPI00C	M&O Review ISM PMR Rev-02A for SR		83	02AUG00	01DEC00
SPI00CM3	ISM PMR Rev-02 for SR	M3	0		01DEC00
SPI00D	DOE Review ISM PMR 02 for SR		41	04DEC00	31JAN01
SPI00P	Revise ISM PMR AP 3.10Q's for LA		41	04DEC00	31JAN01
SPI00Q	Prepare ISM PMR REV-04A for LA		41	04DEC00	31JAN01
SPI00EM3	Rev 3 ISM PMR for SR	M3	0		31JAN01
SPI00QM4	ISM PMR Rev-04A for LA	M4	0		01MAR01*
SPI00R	M&O Review ISM PMR Rev-04A for LA		106	02MAR01	31JUL01
SPI00RM3	ISM PMR Rev-04 for LA	M3	0		31JUL01
SPI00S	DOE Review ISM PMR 04 for LA		42	01AUG01	28SEP01
SPI00SM3	Rev 05 ISM PMR for LA	M3	0		28SEP01
150 Support Operations					
BMP125	PIM 3.10Q/PMR Planning & Text Support (ISM)		32	03MAY99*	16JUN99
BMP127	PIM Text & M&O Review Prep Support ISM)		35	17JUN99	05AUG99
BMP128	PIM M&O Rev. & DOE Rev. Prep Support (ISM)		40	06AUG99	01OCT99
BMP130	Cont PIM M&O Rev. & DOE Rev. Prep Support (ISM)		20	04OCT99	01NOV99



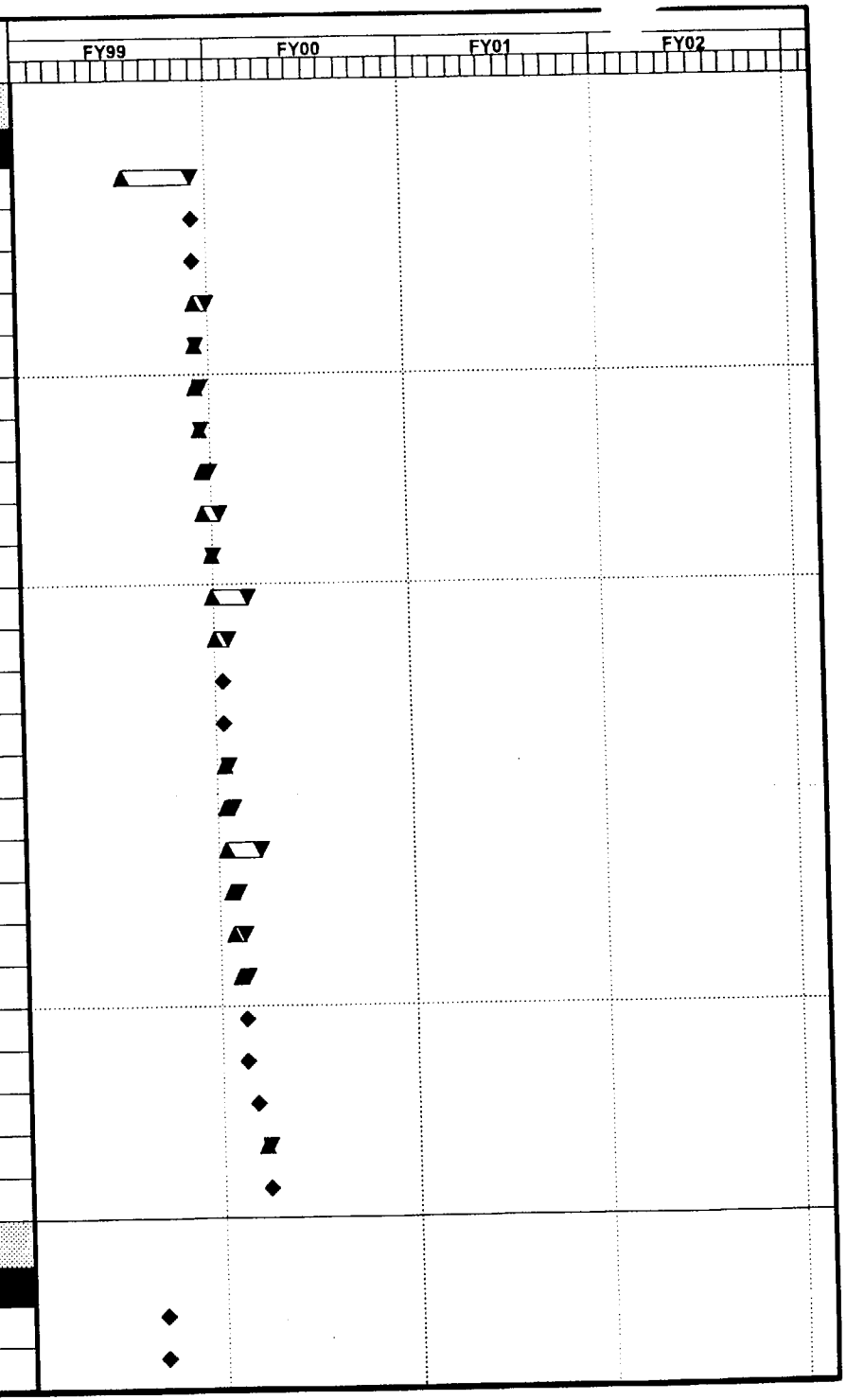
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMP132	PIM DOE Rev. & Final Accept. Support (ISM)		29	02NOV99	15DEC99
300 Regulatory & Licensing					
SLP58CM3	Rev 01 ISM PMR	M3	0		15DEC99



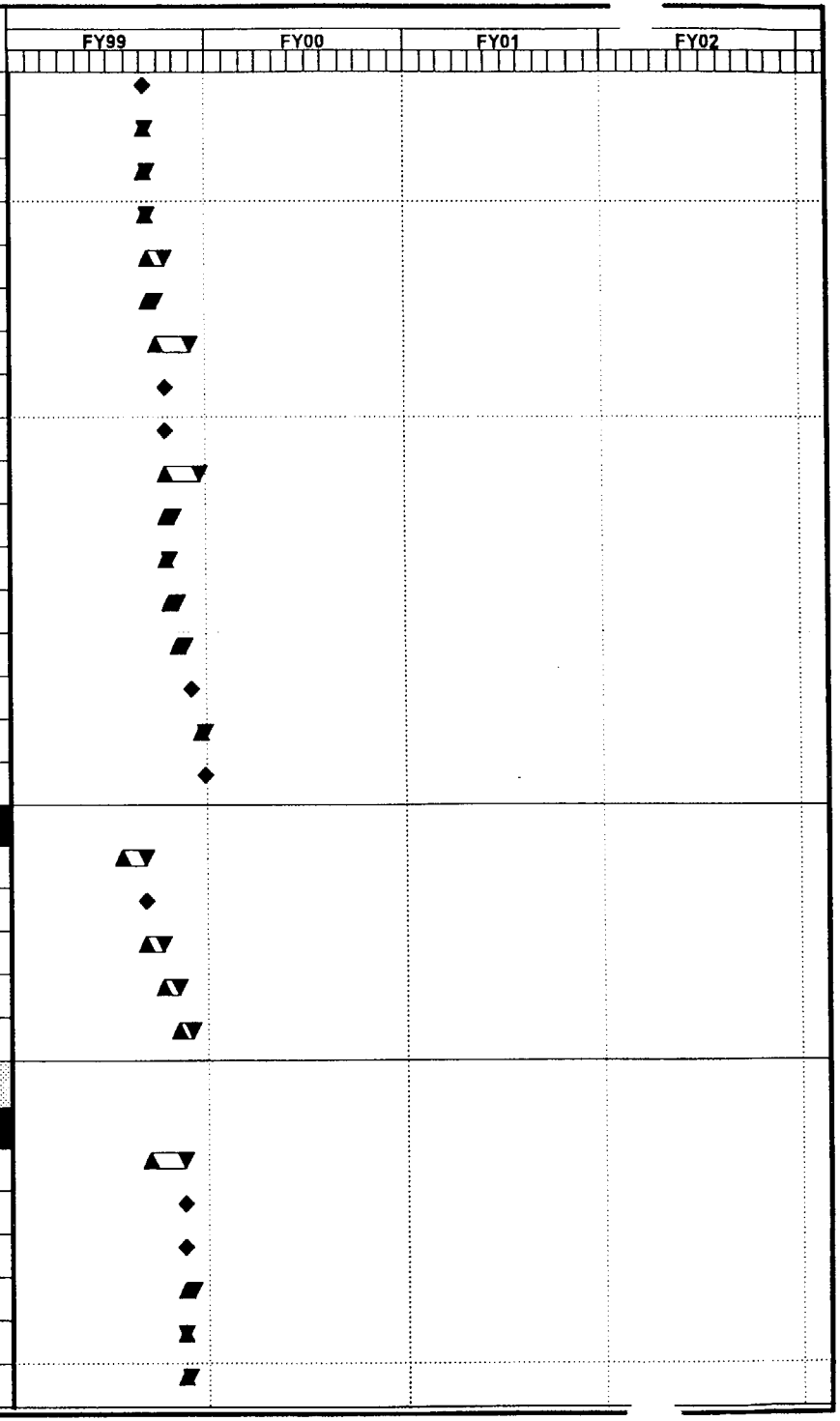
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
B BIO PMR					
F0000					
130 Performance Assessment Operations					
SSB600	FEP Analysis-Input Parameters and Data Identifie		0		31AUG99
SSB602	FEP Analysis-Models and Codes Identified		0		31AUG99
SSB604	FEP Analysis-Determine DTN Assignment		2	01SEP99	02SEP99
SSB628	FEP Analysis-Determine if Model-Rel SW is Under		5	01SEP99	08SEP99
SSB606	FEP Analysis-Determine if Data/DTN in TDMS		3	03SEP99	08SEP99
SSB608	FEP Analysis-Submit Data/DTN to TDMS as Necessar		22	09SEP99	08OCT99
SSB630	FEP Analysis-Place Model-Related SW Under SMS Co		10	09SEP99	22SEP99
SSB632	FEP Analysis-Verify Model-Related Software		44	23SEP99	29NOV99
SLPA1572	Review FEP Analysis		30	01OCT99	15NOV99
SSB612	FEP Analysis-Procurement Related Issues ID'd to		0		08OCT99
SSB620	FEP Analysis-Data Related Software Issues Identi		0		08OCT99
SSB610	FEP Analysis-Verify/Trace Data		44	12OCT99	15DEC99
SSB614	FEP Analysis-Resolve Procurement Related Data Is		10	12OCT99	25OCT99
SSB622	FEP Analysis-Determine if Data Rel SW is Under S		5	12OCT99	18OCT99
SSB624	FEP Analysis-Place Under SMS Control as Necessar		10	19OCT99	01NOV99
SSB626	FEP Analysis-Verify Data-Related Software		10	02NOV99	16NOV99
SSB634	FEP Analysis-Qualified/Verified SW Available		0		29NOV99
SSB616	FEP Analysis-Update TDMS		5	16DEC99	22DEC99
SSB618	FEP Analysis-Qualified/Verified Data Available		0		22DEC99
150 Support Operations					
SSPMR420	AP3.10Q data (FEP Analysis)		39	08JUL99*	31AUG99
SSPMR425	AP3.10Q Draft (FEP Analysis)		21	01SEP99	30SEP99
SSPMR427	Continue AP3.10Q Draft (FEP Analysis)		10	01OCT99	15OCT99
SSPMR430	AP3.10Q Check (FEP Analysis)		11	18OCT99	01NOV99
SSPMR435	AP3.10Q Final (FEP Analysis)		9	02NOV99	15NOV99



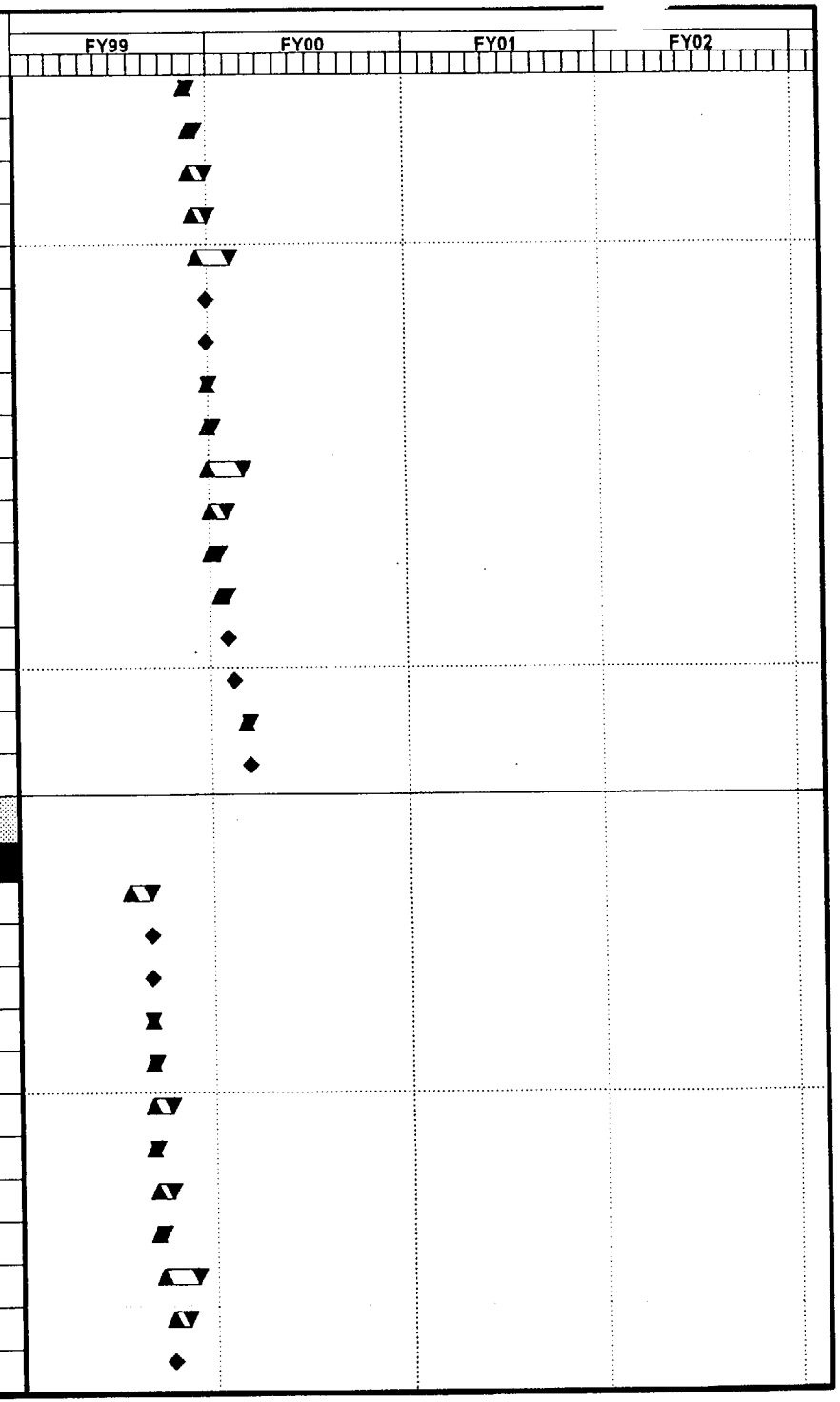
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
F1020					
130 Performance Assessment Operations					
SLPA1574	AP3.10Q data (Radionuclide Removal from Soil)		91	26APR99*	01SEP99
SLPA1588	Radionuclide Removal-Input Parameters and Data I		0		01SEP99
SLPA1590	Radionuclide Removal-Models and Codes Identified		0		01SEP99
SLPA1576	AP3.10Q Draft (Radionuclide Removal from Soil)		15	02SEP99	23SEP99
SLPA1592	Radionuclide Removal-Determine DTN Assignment		2	02SEP99	03SEP99
SLPA1594	Radionuclide Removal-Determine if Model-Rel SW i		5	02SEP99	09SEP99
SLPA1596	Radionuclide Removal-Determine if Data/DTN in TD		3	07SEP99	09SEP99
SLPA1598	Radionuclide Removal-Place Model-Related SW Unde		10	10SEP99	23SEP99
SLPA1600	Radionuclide Removal-Submit Data/DTN to TDMS as		22	10SEP99	12OCT99
SLPA1578	AP3.10Q Check (Radionuclide Removal from Soil)		5	24SEP99	30SEP99
SLPA1602	Radionuclide Removal-Verify Model-Related Softwa		44	24SEP99	30NOV99
SLPA1580	Cont AP3.10Q Check(Radionuclide Rem'l from Soil)		15	01OCT99	22OCT99
SLPA1604	Radionuclide Removal-Procurement Related Issues		0		12OCT99
SLPA1606	Radionuclide Removal-Data Related Software Issue		0		12OCT99
SLPA1608	Radionuclide Removal-Determine if Data Rel SW is		5	13OCT99	19OCT99
SLPA1610	Radionuclide Removal-Resolve Procurement Related		10	13OCT99	26OCT99
SLPA1612	Radionuclide Removal-Verify/Trace Data		44	13OCT99	16DEC99
SLPA1614	Radionuclide Removal-Place Under SMS Control as		10	20OCT99	02NOV99
SLPA1582	AP3.10Q Final (Radionuclide Removal from Soil)		15	25OCT99	15NOV99
SLPA1616	Radionuclide Removal-Verify Data-Related Softwar		10	03NOV99	17NOV99
SLPA1584	Receive Radoinuclide Removal From Soil 0 AP3.10Q	M4	0		15NOV99*
SLPA1586	AP3.10Q Final (Radionuclide Removal from Soil)	M4	0		15NOV99
SLPA1618	Radionuclide Removal-Qualified/Verified SW Avail		0		30NOV99
SLPA1620	Radionuclide Removal-Update TDMS		5	17DEC99	23DEC99
SLPA1622	Radionuclide Removal-Qualified/Verified Data Ava		0		23DEC99
F1030					
130 Performance Assessment Operations					
SLPA1624	Receive Critical Group - AP3.10Q	M4	0		07JUN99*
SSB252	Critical Group-Input Parameters and Data Identif		0		07JUN99



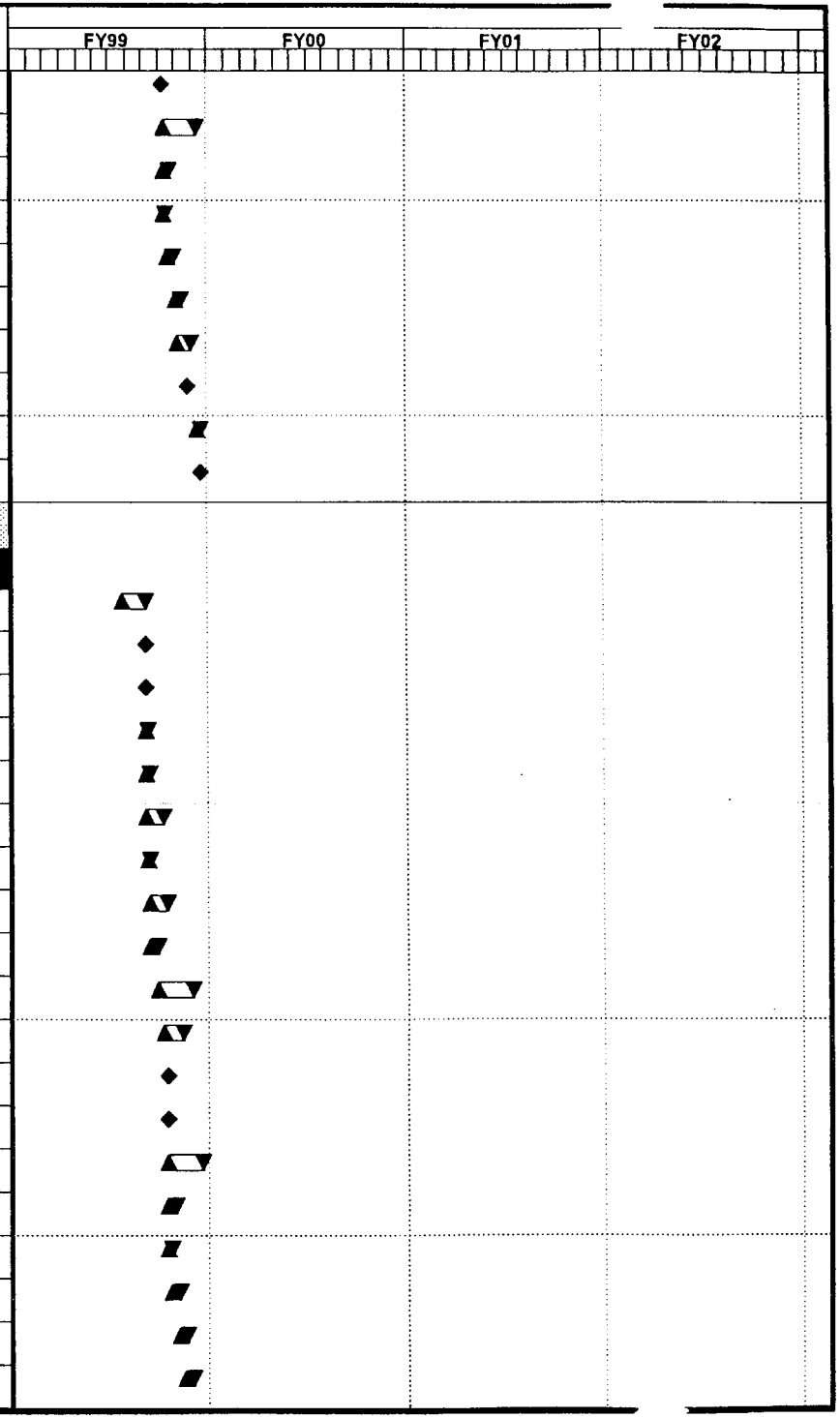
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SSB254	Critical Group-Models and Codes Identified		0		07JUN99
SSB256	Critical Group-Determine DTN Assignment		2	08JUN99	09JUN99
SSB280	Critical Group-Determine if Model-Rel SW is Unde		5	08JUN99	14JUN99
SSB258	Critical Group-Determine if Data/DTN in TDMS		3	10JUN99	14JUN99
SSB260	Critical Group-Submit Data/DTN to TDMS as Necess		22	15JUN99	15JUL99
SSB282	Critical Group-Place Model-Related SW Under SMS		10	15JUN99	28JUN99
SSB284	Critical Group-Verify Model-Related Software		44	29JUN99	30AUG99
SSB264	Critical Group-Procurement Related Issues ID'd t		0		15JUL99
SSB272	Critical Group-Data Related Software Issues Iden		0		15JUL99
SSB262	Critical Group-Verify/Trace Data		44	16JUL99	16SEP99
SSB266	Critical Group-Resolve Procurement Related Data		10	16JUL99	29JUL99
SSB274	Critical Group-Determine if Data Rel SW is Under		5	16JUL99	22JUL99
SSB276	Critical Group-Place Under SMS Control as Necess		10	23JUL99	05AUG99
SSB278	Critical Group-Verify Data-Related Software		10	06AUG99	19AUG99
SSB286	Critical Group-Qualified/Verified SW Available		0		30AUG99
SSB268	Critical Group-Update TDMS		5	17SEP99	23SEP99
SSB270	Critical Group-Qualified/Verified Data Available		0		23SEP99
150 Support Operations					
SSPMR240	AP3.10Q data (Critical Group)		30	26APR99*	07JUN99
SSPMRFM4	AP3.10Q data (Critical Group)	M4	0		07JUN99
SSPMR245	AP3.10Q Draft (Critical Group)		21	08JUN99	07JUL99
SSPMR250	AP3.10Q Checking (Critical Group)		21	08JUL99	05AUG99
SSPMR255	AP3.10Q Final (Critical Group)		17	06AUG99	30AUG99
F1060					
130 Performance Assessment Operations					
SLPA1626	AP3.10Q data (Water Usage)		44	15JUN99*	16AUG99
SLPA1636	Water Usage-Input Parameters and Data Identified		0		16AUG99
SLPA1638	Water Usage-Models and Codes Identified		0		16AUG99
SLPA1628	AP3.10Q Draft (Water Usage)		11	17AUG99	31AUG99
SLPA1640	Water Usage-Determine DTN Assignment		2	17AUG99	18AUG99
SLPA1642	Water Usage-Determine if Model-Rel SW is Under S		5	17AUG99	23AUG99



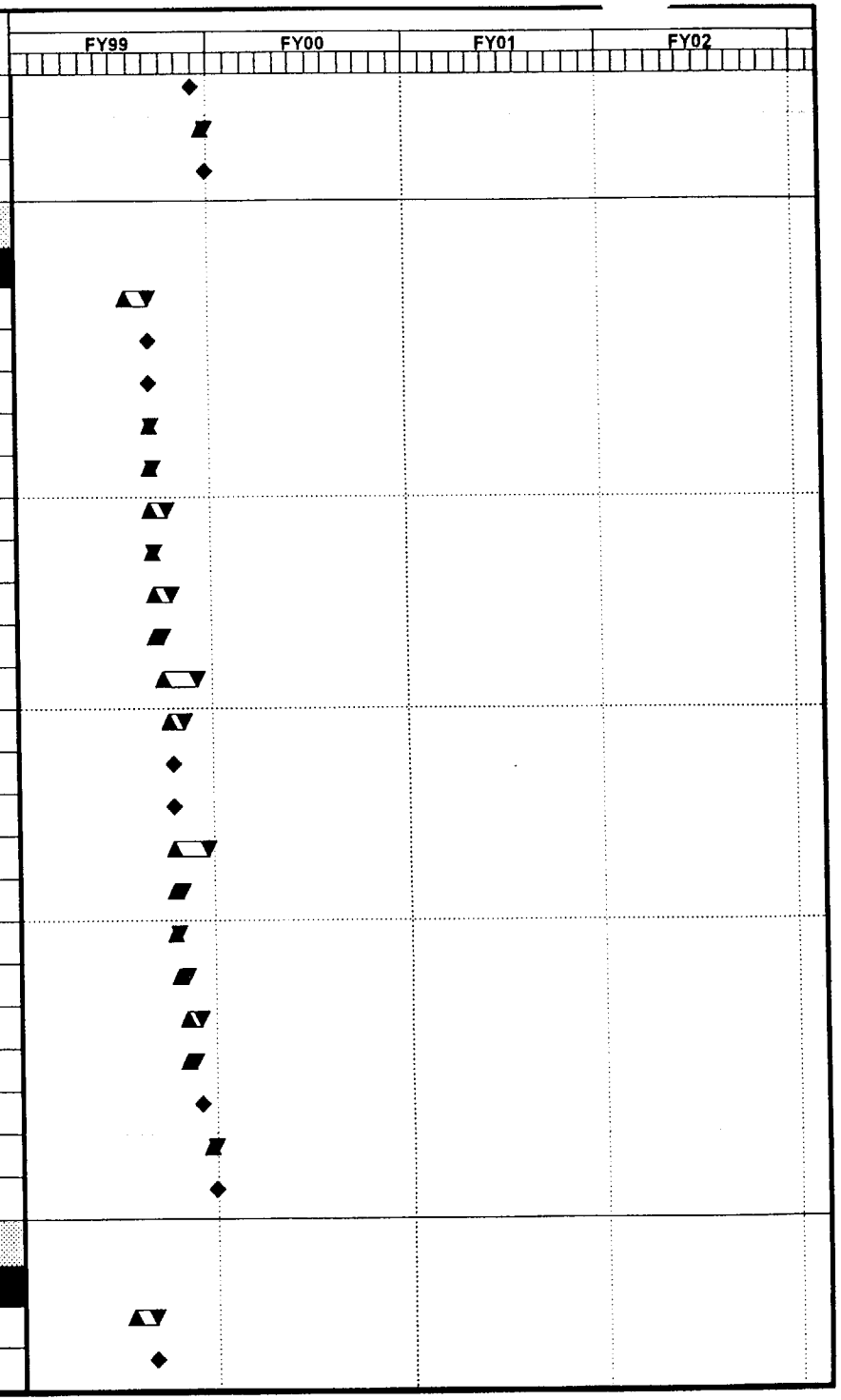
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1644	Water Usage-Determine if Data/DTN in TDMS		3	19AUG99	23AUG99
SLPA1646	Water Usage-Place Model-Related SW Under SMS Con		10	24AUG99	07SEP99
SLPA1648	Water Usage-Submit Data/DTN to TDMS as Necessary		22	24AUG99	23SEP99
SLPA1630	AP3.10Q Checking (Water Usage)		21	01SEP99	30SEP99
SLPA1650	Water Usage-Verify Model-Related Software		44	08SEP99	09NOV99
SLPA1652	Water Usage-Procurement Related Issues ID'd to C		0		23SEP99
SLPA1654	Water Usage-Data Related Software Issues Identif		0		23SEP99
SLPA1656	Water Usage-Determine if Data Rel SW is Under SM		5	24SEP99	30SEP99
SLPA1658	Water Usage-Resolve Procurement Related Data Iss		10	24SEP99	07OCT99
SLPA1660	Water Usage-Verify/Trace Data		44	24SEP99	30NOV99
SLPA1632	AP3.10Q Final (Water Usage)		20	01OCT99	29OCT99
SLPA1662	Water Usage-Place Under SMS Control as Necessary		10	01OCT99	15OCT99
SLPA1664	Water Usage-Verify Data-Related Software		10	18OCT99	29OCT99
SLPA1634	AP3.10Q Final (Water Usage)	M4	0		29OCT99
SLPA1666	Water Usage-Qualified/Verified SW Available		0		09NOV99
SLPA1668	Water Usage-Update TDMS		5	01DEC99	07DEC99
SLPA1670	Water Usage-Qualified/Verified Data Available		0		07DEC99
F1061					
150 Support Operations					
SSPMR200	AP3.10Q data (External Exposure Analysis)		26	26APR99*	01JUN99
SSB180	External Exposure-Input Parameters and Data Iden		0		01JUN99
SSB182	External Exposure-Models and Codes Identified		0		01JUN99
SSB184	External Exposure-Determine DTN Assignment		2	02JUN99	03JUN99
SSB208	External Exposure-Determine if Model-Rel SW is U		5	02JUN99	08JUN99
SSPMR205	AP3.10Q Draft (External Exposure Analysis)		25	02JUN99	07JUL99
SSB186	External Exposure-Determine if Data/DTN in TDMS		3	04JUN99	08JUN99
SSB188	External Exposure-Submit Data/DTN to TDMS as Nec		22	09JUN99	09JUL99
SSB210	External Exposure-Place Model-Related SW Under S		10	09JUN99	22JUN99
SSB212	External Exposure-Verify Model-Related Software		44	23JUN99	24AUG99
SSPMR210	AP3.10Q Check (External Exposure Analysis)		20	08JUL99	04AUG99
SSB192	External Exposure-Procurement Related Issues ID'		0		09JUL99



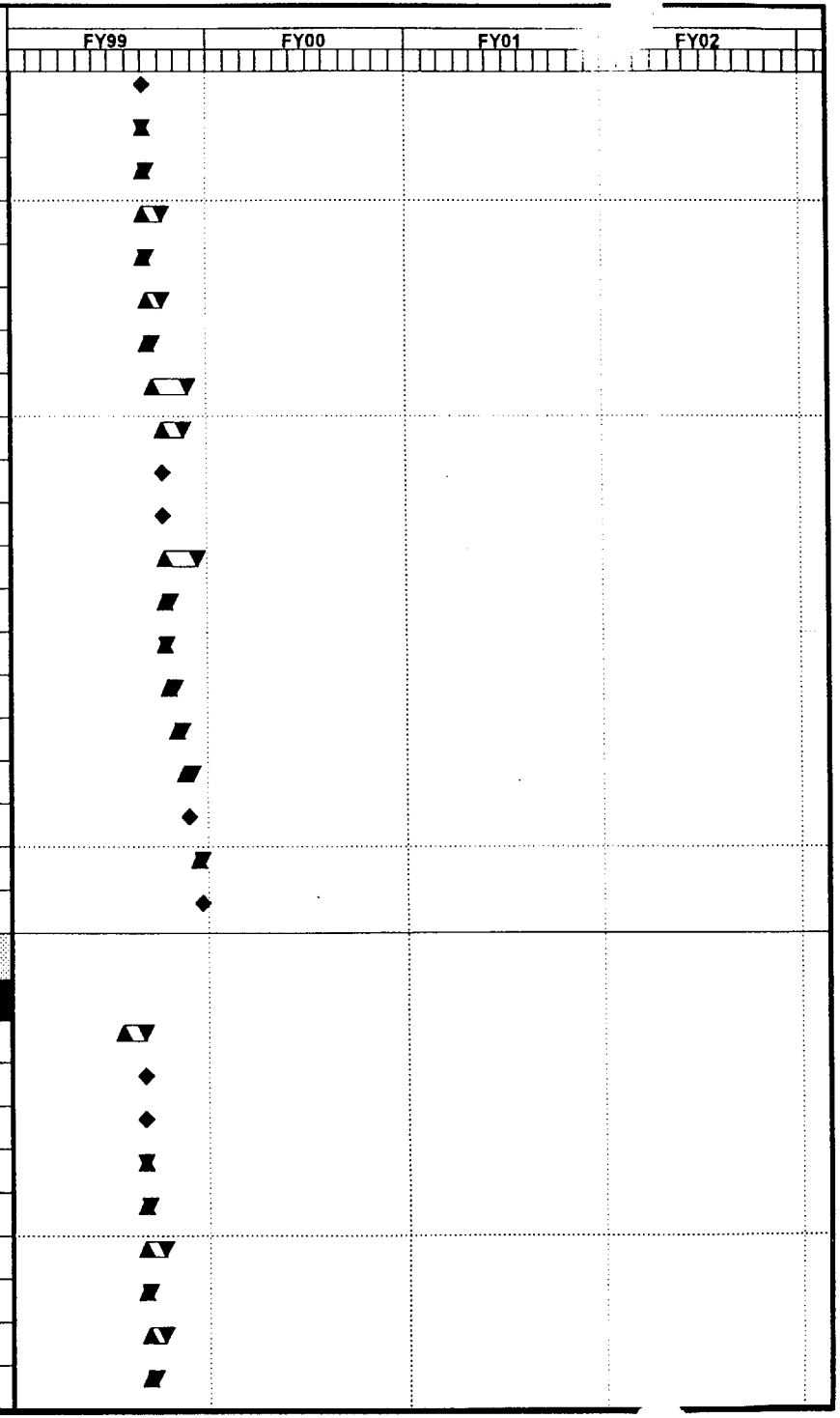
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SSB200	External Exposure-Data Related Software Issues I		0		09JUL99
SSB190	External Exposure-Verify/Trace Data		44	12JUL99	10SEP99
SSB194	External Exposure-Resolve Procurement Related Da		10	12JUL99	23JUL99
SSB202	External Exposure-Determine if Data Rel SW is Un		5	12JUL99	16JUL99
SSB204	External Exposure-Place Under SMS Control as Nec		10	19JUL99	30JUL99
SSB206	External Exposure-Verify Data-Related Software		10	02AUG99	13AUG99
SSPMR215	AP3.10Q Final (External Exposure Analysis)		18	05AUG99	30AUG99
SSB214	External Exposure-Qualified/Verified SW Availabl		0		24AUG99
SSB196	External Exposure-Update TDMS		5	13SEP99	17SEP99
SSB198	External Exposure-Qualified/Verified Data Availa		0		17SEP99
F1062					
150 Support Operations					
SSPMR180	AP3.10Q data (Inhalation Exposure Analysis)		30	26APR99*	07JUN99
SSB144	Inhalation Exposure-Input Parameters and Data Id		0		07JUN99
SSB146	Inhalation Exposure-Models and Codes Identified		0		07JUN99
SSB148	Inhalation Exposure-Determine DTN Assignment		2	08JUN99	09JUN99
SSB172	Inhalation Exposure-Determine if Model-Rel SW is		5	08JUN99	14JUN99
SSPMR185	AP3.10Q Draft (Inhalation Exposure Analysis)		21	08JUN99	07JUL99
SSB150	Inhalation Exposure-Determine if Data/DTN in TDM		3	10JUN99	14JUN99
SSB152	Inhalation Exposure-Submit Data/DTN to TDMS as N		22	15JUN99	15JUL99
SSB174	Inhalation Exposure-Place Model-Related SW Under		10	15JUN99	28JUN99
SSB176	Inhalation Exposure-Verify Model-Related Softwar		44	29JUN99	30AUG99
SSPMR190	AP3.10Q Check (Inhalation Exposure Analysis)		27	08JUL99	13AUG99
SSB156	Inhalation Exposure-Procurement Related Issues I		0		15JUL99
SSB164	Inhalation Exposure-Data Related Software Issues		0		15JUL99
SSB154	Inhalation Exposure-Verify/Trace Data		44	16JUL99	16SEP99
SSB158	Inhalation Exposure-Resolve Procurement Related		10	16JUL99	29JUL99
SSB166	Inhalation Exposure-Determine if Data Rel SW is		5	16JUL99	22JUL99
SSB168	Inhalation Exposure-Place Under SMS Control as N		10	23JUL99	05AUG99
SSB170	Inhalation Exposure-Verify Data-Related Software		10	06AUG99	19AUG99
SSPMR195	AP3.10Q Final (Inhalation Exposure Analysis)		11	16AUG99	30AUG99



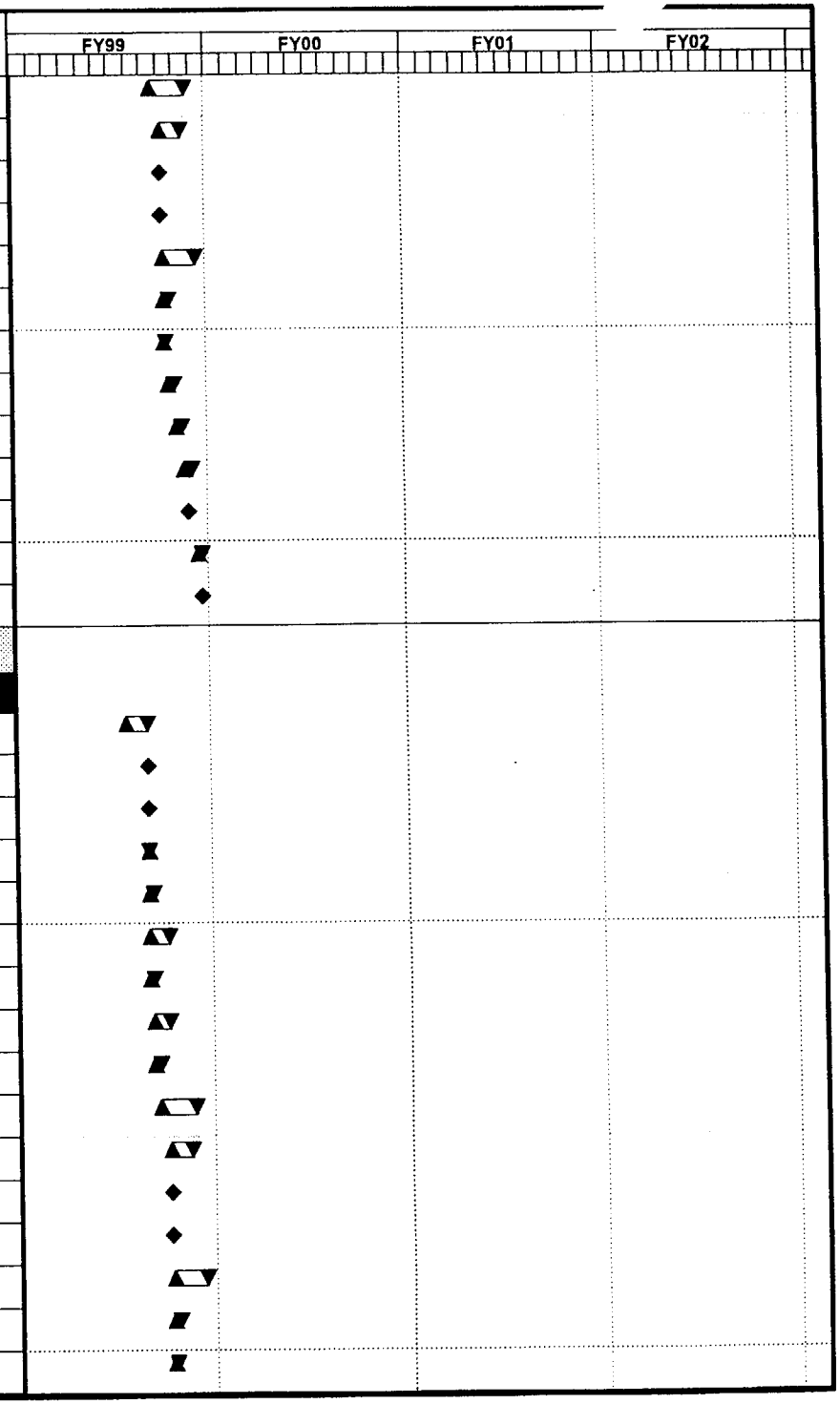
Activit, ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SSB178	Inhalation Exposure-Qualified/Verified SW Availa		0		30AUG99
SSB160	Inhalation Exposure-Update TDMS		5	17SEP99	23SEP99
SSB162	Inhalation Exposure-Qualified/Verified Data Avai		0		23SEP99
F1063					
150 Support Operations					
SSPMR160	AP3.10Q data (Ingestion Exposure Analysis)		30	26APR99*	07JUN99
SSB108	Ingestion Exposure-Input Parameters and Data Ide		0		07JUN99
SSB110	Ingestion Exposure-Models and Codes Identified		0		07JUN99
SSB112	Ingestion Exposure-Determine DTN Assignment		2	08JUN99	09JUN99
SSB136	Ingestion Exposure-Determine if Model-Rel SW is		5	08JUN99	14JUN99
SSPMR165	AP3.10Q Draft (Ingestion Exposure Analysis)		21	08JUN99	07JUL99
SSB114	Ingestion Exposure-Determine if Data/DTN in TDMS		3	10JUN99	14JUN99
SSB116	Ingestion Exposure-Submit Data/DTN to TDMS as Ne		22	15JUN99	15JUL99
SSB138	Ingestion Exposure-Place Model-Related SW Under		10	15JUN99	28JUN99
SSB140	Ingestion Exposure-Verify Model-Related Software		44	29JUN99	30AUG99
SSPMR170	AP3.10Q Check (Ingestion Exposure Analysis)		21	08JUL99	05AUG99
SSB120	Ingestion Exposure-Procurement Related Issues ID		0		15JUL99
SSB128	Ingestion Exposure-Data Related Software Issues		0		15JUL99
SSB118	Ingestion Exposure-Verify/Trace Data		44	16JUL99	16SEP99
SSB122	Ingestion Exposure-Resolve Procurement Related D		10	16JUL99	29JUL99
SSB130	Ingestion Exposure-Determine if Data Rel SW is U		5	16JUL99	22JUL99
SSB132	Ingestion Exposure-Place Under SMS Control as Ne		10	23JUL99	05AUG99
SSPMR175	AP3.10Q Final (Ingestion Exposure Analysis)		17	06AUG99	30AUG99
SSB134	Ingestion Exposure-Verify Data-Related Software		10	06AUG99	19AUG99
SSB142	Ingestion Exposure-Qualified/Verified SW Availab		0		30AUG99
SSB124	Ingestion Exposure-Update TDMS		5	17SEP99	23SEP99
SSB126	Ingestion Exposure-Qualified/Verified Data Avail		0		23SEP99
F1064					
150 Support Operations					
SSPMR140	AP3.10Q Data (Environ. Transport Param.Anal.)		26	26APR99*	01JUN99
SSB072	Environ. Transport-Input Parameters and Data Ide		0		01JUN99



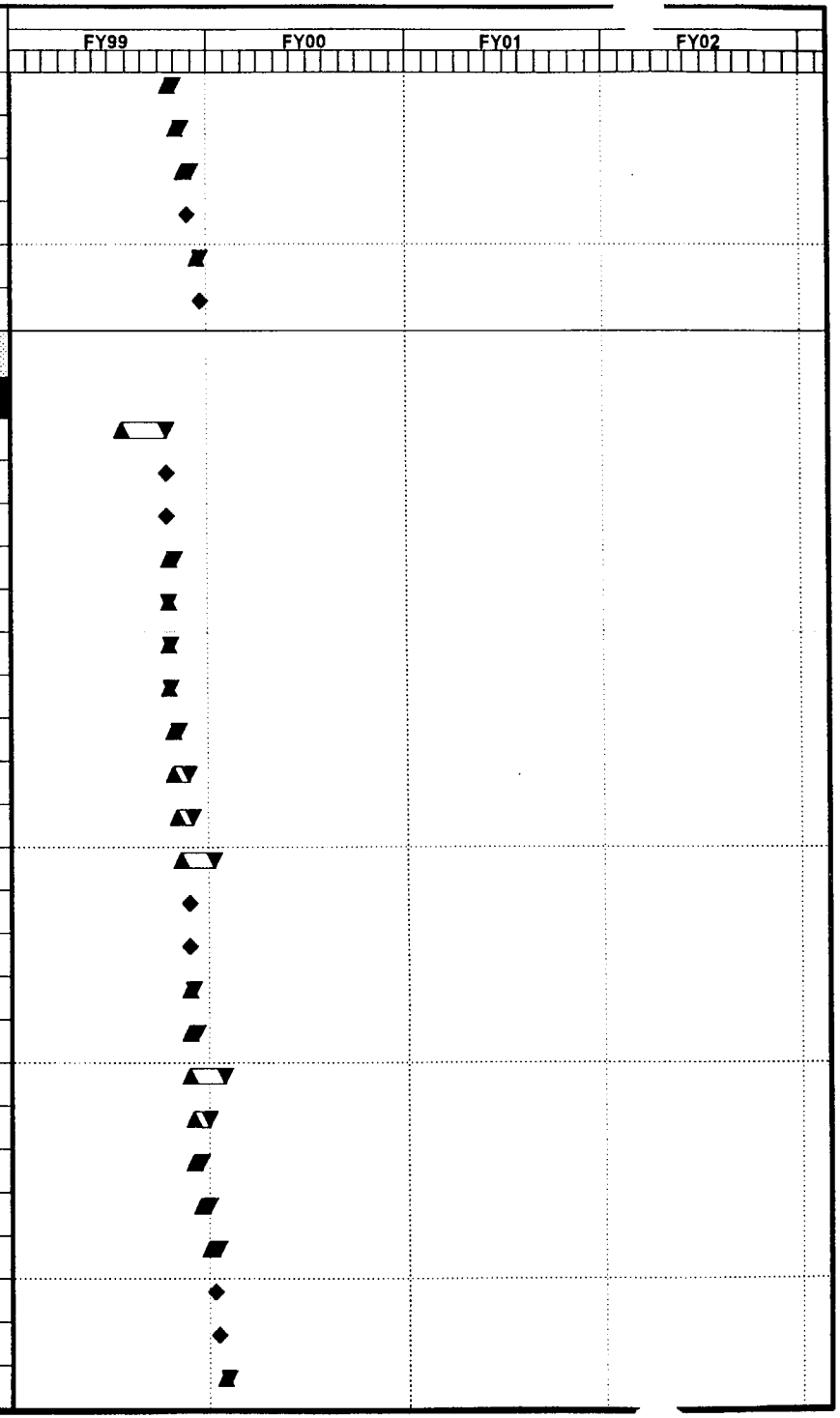
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
[illegible]4	Environ. Transport-Models and Codes Identified		0		01JUN99
SSB076	Environ. Transport-Determine DTN Assignment		2	02JUN99	03JUN99
SSB100	Environ. Transport-Determine if Model-Rel SW is		5	02JUN99	08JUN99
SSPMR145	AP3.10Q Draft (Environ. Transport Param.Anal.)		25	02JUN99	07JUL99
SSB078	Environ. Transport-Determine if Data/DTN in TDMS		3	04JUN99	08JUN99
SSB080	Environ. Transport-Submit Data/DTN to TDMS as Ne		22	09JUN99	09JUL99
SSB102	Environ. Transport-Place Model-Related SW Under		10	09JUN99	22JUN99
SSB104	Environ. Transport-Verify Model-Related Software		44	23JUN99	24AUG99
SSPMR150	AP3.10Q Check (Environ. Transport Param.Anal.)		28	08JUL99	16AUG99
SSB084	Environ. Transport-Procurement Related Issues ID		0		09JUL99
SSB092	Environ. Transport-Data Related Software Issues		0		09JUL99
SSB082	Environ. Transport-Verify/Trace Data		44	12JUL99	10SEP99
SSB086	Environ. Transport-Resolve Procurement Related D		10	12JUL99	23JUL99
SSB094	Environ. Transport-Determine if Data Rel SW is U		5	12JUL99	16JUL99
SSB096	Environ. Transport-Place Under SMS Control as Ne		10	19JUL99	30JUL99
SSB098	Environ. Transport-Verify Data-Related Software		10	02AUG99	13AUG99
SSPMR155	AP3.10Q Final (Environ. Transport Param.Anal.)		10	17AUG99	30AUG99
SSB106	Environ. Transport-Qualified/Verified SW Availab		0		24AUG99
SSB088	Environ. Transport-Update TDMS		5	13SEP99	17SEP99
SSB090	Environ. Transport-Qualified/Verified Data Avail		0		17SEP99
F1065					
150 Support Operations					
SSPMR120	AP3.10Q data (Transfer Coefficient Param. Anal)		26	26APR99*	01JUN99
SSB036	Xfer Coeffic. Param-Input Parameters and Data Id		0		01JUN99
SSB038	Xfer Coeffic. Param-Models and Codes Identified		0		01JUN99
SSB040	Xfer Coeffic. Param-Determine DTN Assignment		2	02JUN99	03JUN99
SSB064	Xfer Coeffic. Param-Determine if Model-Rel SW is		5	02JUN99	08JUN99
SSPMR125	AP3.10Q Draft (Transfer Coefficient Param. Anal)		25	02JUN99	07JUL99
SSB042	Xfer Coeffic. Param-Determine if Data/DTN in TDM		3	04JUN99	08JUN99
SSB044	Xfer Coeffic. Param-Submit Data/DTN to TDMS as N		22	09JUN99	09JUL99
SSB066	Xfer Coeffic. Param-Place Model-Related SW Under		10	09JUN99	22JUN99



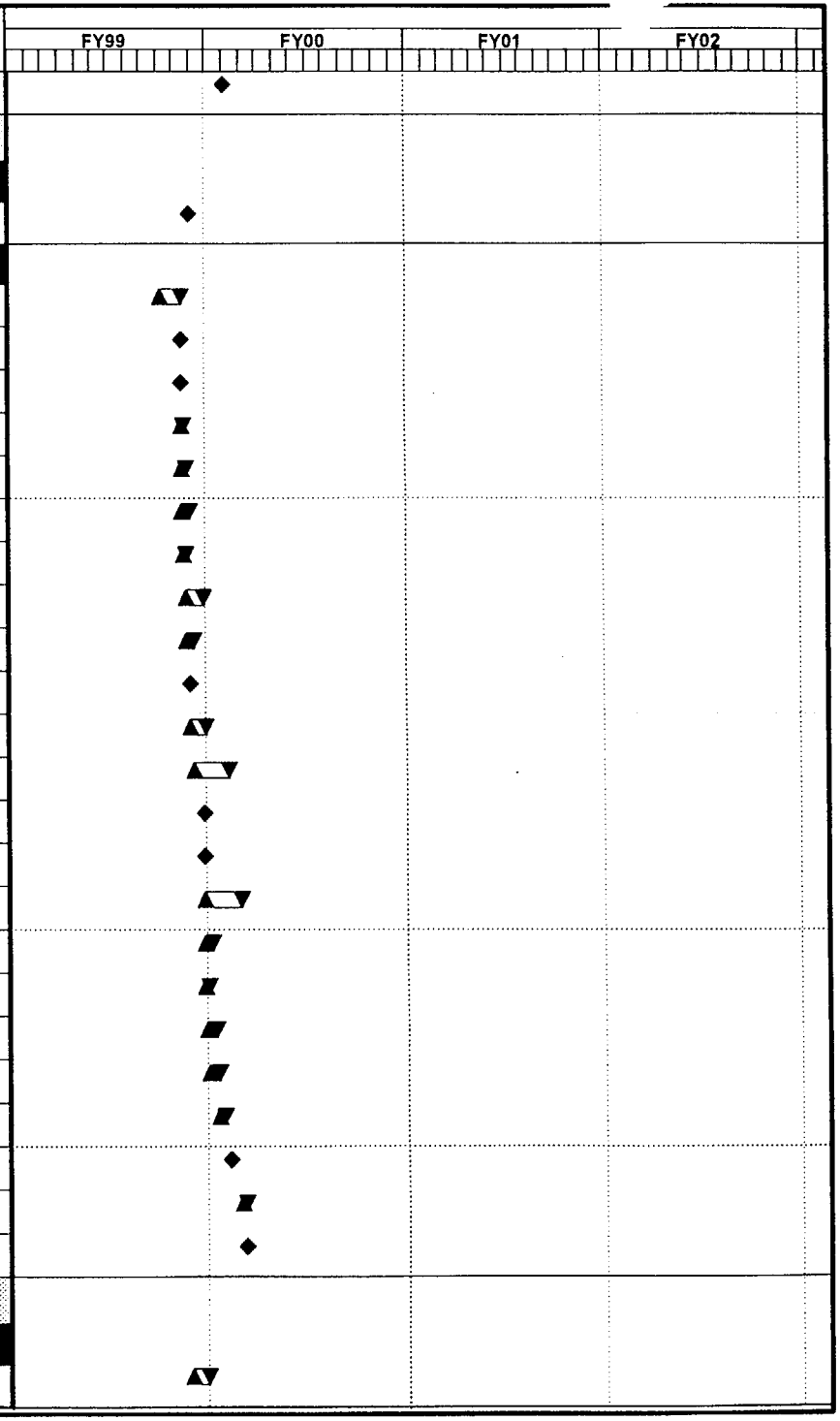
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SSB068	Xfer Coeffic. Param-Verify Model-Related Softwar		44	23JUN99	24AUG99
SSPMR130	AP3.10Q Check (Transfer Coefficient Param. Anal)		28	08JUL99	16AUG99
SSB048	Xfer Coeffic. Param-Procurement Related Issues I		0		09JUL99
SSB056	Xfer Coeffic. Param-Data Related Software Issues		0		09JUL99
SSB046	Xfer Coeffic. Param-Verify/Trace Data		44	12JUL99	10SEP99
SSB050	Xfer Coeffic. Param-Resolve Procurement Related		10	12JUL99	23JUL99
SSB058	Xfer Coeffic. Param-Determine if Data Rel SW is		5	12JUL99	16JUL99
SSB060	Xfer Coeffic. Param-Place Under SMS Control as N		10	19JUL99	30JUL99
SSB062	Xfer Coeffic. Param-Verify Data-Related Software		10	02AUG99	13AUG99
SSPMR135	AP3.10Q Final (Transfer Coefficient Param. Anal)		10	17AUG99	30AUG99
SSB070	Xfer Coeffic. Param-Qualified/Verified SW Availa		0		24AUG99
SSB052	Xfer Coeffic. Param-Update TDMS		5	13SEP99	17SEP99
SSB054	Xfer Coeffic. Param-Qualified/Verified Data Avai		0		17SEP99
F1066					
150 Support Operations					
SSPMR100	AP3.10Q Data (Dose Conversion Factor Analysis)		26	26APR99*	01JUN99
SSB000	Dose Conv Fac-Input Parameters and Data Identifi		0		01JUN99
SSB002	Dose Conv Fac-Models and Codes Identified		0		01JUN99
SSB004	Dose Conv Fac-Determine DTN Assignment		2	02JUN99	03JUN99
SSB028	Dose Conv Fac-Determine if Model-Rel SW is Under		5	02JUN99	08JUN99
SSPMR105	AP3.10Q Draft (Dose Conversion Factor Analysis)		25	02JUN99	07JUL99
SSB006	Dose Conv Fac-Determine if Data/DTN in TDMS		3	04JUN99	08JUN99
SSB008	Dose Conv Fac-Submit Data/DTN to TDMS as Necessa		22	09JUN99	09JUL99
SSB030	Dose Conv Fac-Place Model-Related SW Under SMS C		10	09JUN99	22JUN99
SSB032	Dose Conv Fac-Verify Model-Related Software		44	23JUN99	24AUG99
SSPMR110	AP3.10Q Check (Dose Conversion Factor Analysis)		28	08JUL99	16AUG99
SSB012	Dose Conv Fac-Procurement Related Issues ID'd to		0		09JUL99
SSB020	Dose Conv Fac-Data Related Software Issues Ident		0		09JUL99
SSB010	Dose Conv Fac-Verify/Trace Data		44	12JUL99	10SEP99
SSB014	Dose Conv Fac-Resolve Procurement Related Data I		10	12JUL99	23JUL99
SSB022	Dose Conv Fac-Determine if Data Rel SW is Under		5	12JUL99	16JUL99



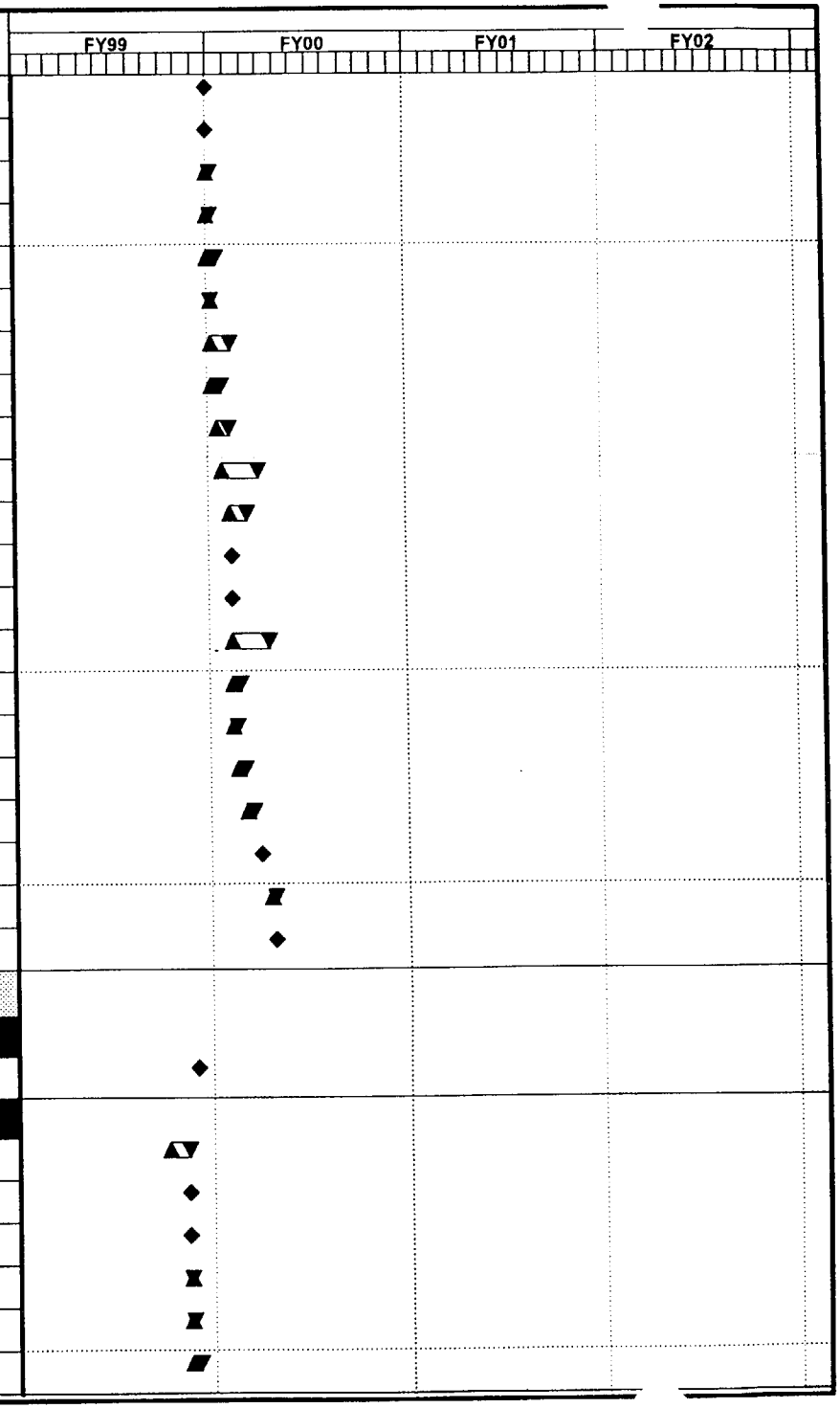
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SSB024	Dose Conv Fac-Place Under SMS Control as Necessa		10	19JUL99	30JUL99
SSB026	Dose Conv Fac-Verify Data-Related Software		10	02AUG99	13AUG99
SSPMR115	AP3.10Q Final (Dose Conversion Factor Analysis)		10	17AUG99	30AUG99
SSB034	Dose Conv Fac-Qualified/Verified SW Available		0		24AUG99
SSB016	Dose Conv Fac-Update TDMS		5	13SEP99	17SEP99
SSB018	Dose Conv Fac-Qualified/Verified Data Available		0		17SEP99
F1068					
130 Performance Assessment Operations					
SLPA1672	AP3.10Q data (Soil Buildup Factor Analysis)		58	26APR99*	16JUL99
SLPA1684	Soil Buildup Factor-Input Parameters and Data Id		0		16JUL99
SLPA1686	Soil Buildup Factor-Models and Codes Identified		0		16JUL99
SLPA1674	AP3.10Q Draft (Soil Buildup Factor Analysis)		10	19JUL99	30JUL99
SLPA1688	Soil Buildup Factor-Determine DTN Assignment		2	19JUL99	20JUL99
SLPA1690	Soil Buildup Factor-Determine if Model-Rel SW is		5	19JUL99	23JUL99
SLPA1692	Soil Buildup Factor-Determine if Data/DTN in TDM		3	21JUL99	23JUL99
SLPA1694	Soil Buildup Factor-Place Model-Related SW Under		10	26JUL99	06AUG99
SLPA1696	Soil Buildup Factor-Submit Data/DTN to TDMS as N		22	26JUL99	24AUG99
SLPA1676	AP3.10Q Check (Soil Buildup Factor Analysis)		22	02AUG99	31AUG99
SLPA1698	Soil Buildup Factor-Verify Model-Related Softwar		44	09AUG99	08OCT99
SLPA1700	Soil Buildup Factor-Procurement Related Issues I		0		24AUG99
SLPA1702	Soil Buildup Factor-Data Related Software Issues		0		24AUG99
SLPA1704	Soil Buildup Factor-Determine if Data Rel SW is		5	25AUG99	31AUG99
SLPA1706	Soil Buildup Factor-Resolve Procurement Related		10	25AUG99	08SEP99
SLPA1708	Soil Buildup Factor-Verify/Trace Data		44	25AUG99	27OCT99
SLPA1678	AP3.10Q Final (Soil Buildup Factor Analysis)		21	01SEP99	30SEP99
SLPA1710	Soil Buildup Factor-Place Under SMS Control as N		10	01SEP99	15SEP99
SLPA1712	Soil Buildup Factor-Verify Data-Related Software		10	16SEP99	29SEP99
SLPA1680	Cont AP3.10Q Final (Soil Buildup Factor Anal)		10	01OCT99	15OCT99
SLPA1714	Soil Buildup Factor-Qualified/Verified SW Availa		0		08OCT99
SLPA1682	AP3.10Q Draft (Soil Buildup Factor Analysis)	M4	0		15OCT99
SLPA1716	Soil Buildup Factor-Update TDMS		5	28OCT99	03NOV99



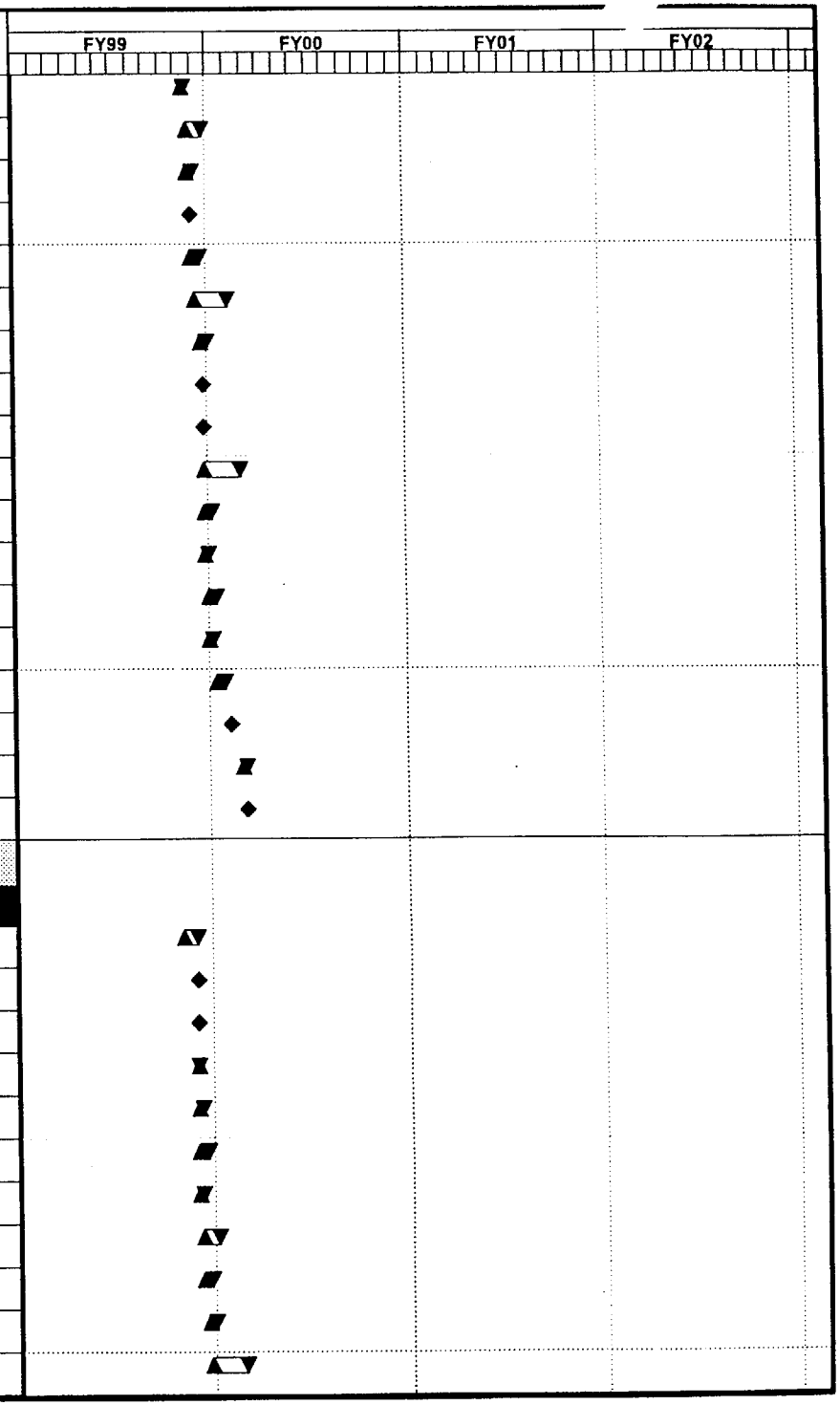
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1718	Soil Buildup Factor-Qualified/Verified Data Avai		0		03NOV99
F1070					
130 Performance Assessment Operations					
SLPA1720	Receive GENII-S Disruptive Event BDCF - AP3.10Q	M4	0		30AUG99
150 Support Operations					
SSPMR340	AP3.10Q data (GENI-S Disruptive Event BDCF)		27	08JUL99	17AUG99
SSB432	GENI-S Disrup-Input Parameters and Data Identifi		0		17AUG99
SSB434	GENI-S Disrup-Models and Codes Identified		0		17AUG99
SSB436	GENI-S Disrup-Determine DTN Assignment		2	18AUG99	19AUG99
SSB460	GENI-S Disrup-Determine if Model-Rel SW is Under		5	18AUG99	24AUG99
SSPMR345	AP3.10Q Draft (GENI-S Disruptive Event BDCF)		11	18AUG99	30AUG99
SSB438	GENI-S Disrup-Determine if Data/DTN in TDMS		3	20AUG99	24AUG99
SSB440	GENI-S Disrup-Submit Data/DTN to TDMS as Necessa		22	25AUG99	24SEP99
SSB462	GENI-S Disrup-Place Model-Related SW Under SMS C		10	25AUG99	08SEP99
SSPMRHM4	AP3.10Q Draft (GENI-S Disruptive Event BDCF)	M4	0		30AUG99
SSPMR350	AP3.10Q Check (GENI-S Disruptive Event BDCF)		22	31AUG99	30SEP99
SSB464	GENI-S Disrup-Verify Model-Related Software		44	09SEP99	10NOV99
SSB444	GENI-S Disrup-Procurement Related Issues ID'd to		0		24SEP99
SSB452	GENI-S Disrup-Data Related Software Issues Ident		0		24SEP99
SSB442	GENI-S Disrup-Verify/Trace Data		44	27SEP99	01DEC99
SSB446	GENI-S Disrup-Resolve Procurement Related Data I		10	27SEP99	08OCT99
SSB454	GENI-S Disrup-Determine if Data Rel SW is Under		5	27SEP99	01OCT99
SSPMR355	AP3.10Q Final (GENI-S Disruptive Event BDCF)		10	01OCT99	15OCT99
SSB456	GENI-S Disrup-Place Under SMS Control as Necessa		10	04OCT99	18OCT99
SSB458	GENI-S Disrup-Verify Data-Related Software		10	19OCT99	01NOV99
SSB466	GENI-S Disrup-Qualified/Verified SW Available		0		10NOV99
SSB448	GENI-S Disrup-Update TDMS		5	02DEC99	08DEC99
SSB450	GENI-S Disrup-Qualified/Verified Data Available		0		08DEC99
F1071					
150 Support Operations					
SSPMR400	AP3.10Q data (Disruptive-Sensitivity Analysis)		22	31AUG99	30SEP99



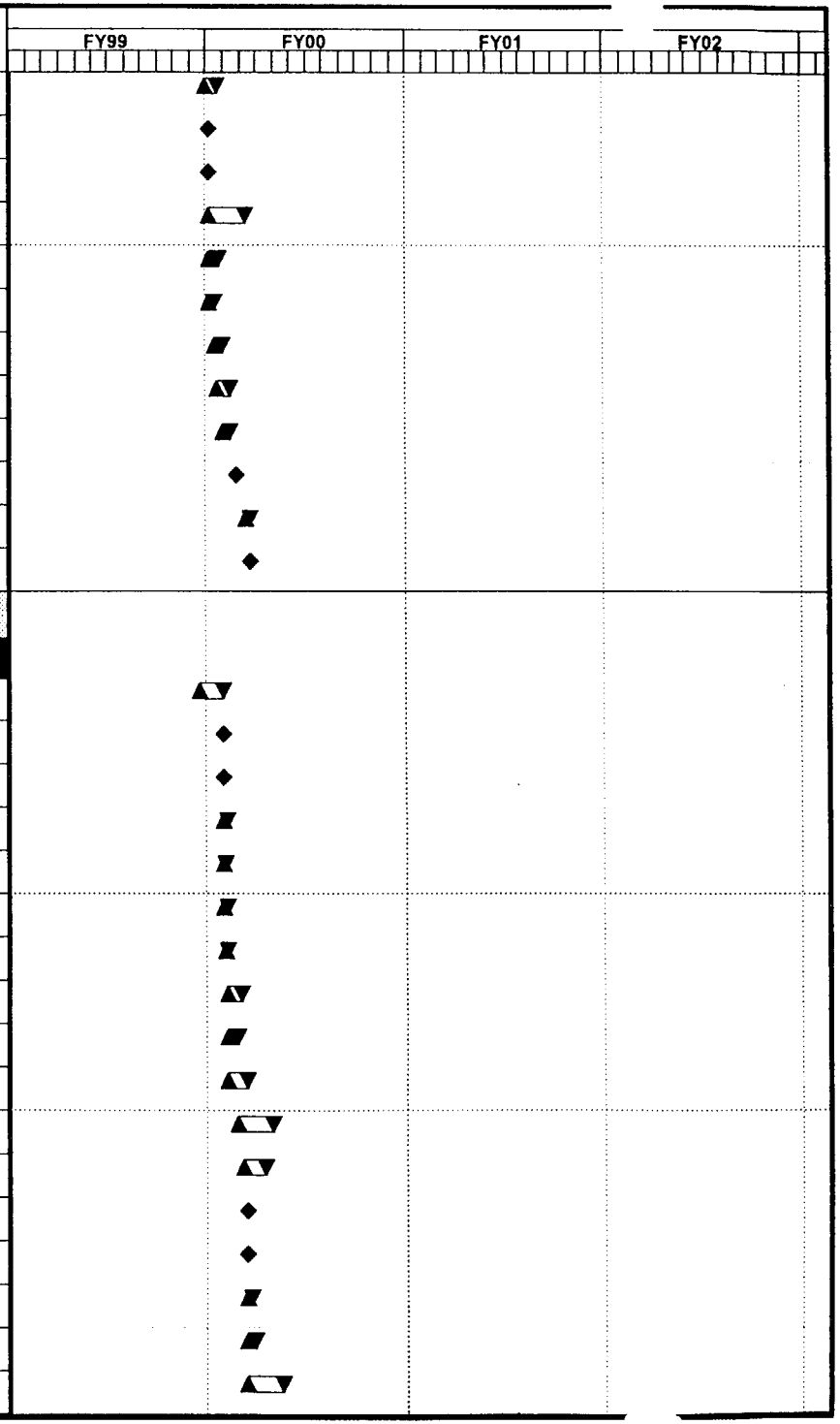
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SSB540	Disr/Sens Analy-Input Parameters and Data Identi		0		30SEP99
SSB542	Disr/Sens Analy-Models and Codes Identified		0		30SEP99
SSB544	Disr/Sens Analy-Determine DTN Assignment		2	01OCT99	04OCT99
SSB568	Disr/Sens Analy-Determine if Model-Rel SW is Und		5	01OCT99	07OCT99
SSPMR405	AP3.10Q Draft (Disruptive-Sensitivity Analysis)		10	01OCT99	15OCT99
SSB546	Disr/Sens Analy-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
SSB548	Disr/Sens Analy-Submit Data/DTN to TDMS as Neces		22	08OCT99	09NOV99
SSB570	Disr/Sens Analy-Place Model-Related SW Under SMS		10	08OCT99	22OCT99
SSPMR410	AP3.10Q Check (Disruptive-Sensitivity Analysis)		15	18OCT99	05NOV99
SSB572	Disr/Sens Analy-Verify Model-Related Software		44	25OCT99	29DEC99
SSPMR415	AP3.10Q Final (Disruptive-Sensitivity Analysis)		19	08NOV99	07DEC99
SSB552	Disr/Sens Analy-Procurement Related Issues ID'd		0		09NOV99
SSB560	Disr/Sens Analy-Data Related Software Issues Ide		0		09NOV99
SSB550	Disr/Sens Analy-Verify/Trace Data		44	10NOV99	17JAN00
SSB554	Disr/Sens Analy-Resolve Procurement Related Data		10	10NOV99	24NOV99
SSB562	Disr/Sens Analy-Determine if Data Rel SW is Unde		5	10NOV99	17NOV99
SSB564	Disr/Sens Analy-Place Under SMS Control as Neces		10	18NOV99	03DEC99
SSB566	Disr/Sens Analy-Verify Data-Related Software		10	06DEC99	17DEC99
SSB574	Disr/Sens Analy-Qualified/Verified SW Available		0		29DEC99
SSB556	Disr/Sens Analy-Update TDMS		5	18JAN00	24JAN00
SSB558	Disr/Sens Analy-Qualified/Verified Data Availabl		0		24JAN00
F1080					
130 Performance Assessment Operations					
SLPA1722	Receive GENII-S Non-Disruptive Event BDCF - AP3.	M4	0		30AUG99
150 Support Operations					
SSPMR260	AP3.10Q data (GENI-S/Non-Disruptive Event BDCF)		27	08JUL99	13AUG99
SSB288	GENI-S/Non-Disrup-Input Parameters and Data Iden		0		13AUG99
SSB290	GENI-S/Non-Disrup-Models and Codes Identified		0		13AUG99
SSB292	GENI-S/Non-Disrup-Determine DTN Assignment		2	16AUG99	17AUG99
SSB316	GENI-S/Non-Disrup-Determine if Model-Rel SW is U		5	16AUG99	20AUG99
SSPMR265	AP3.10Q Draft (GENI-S/Non-Disruptive Event BDCF)		11	16AUG99	30AUG99



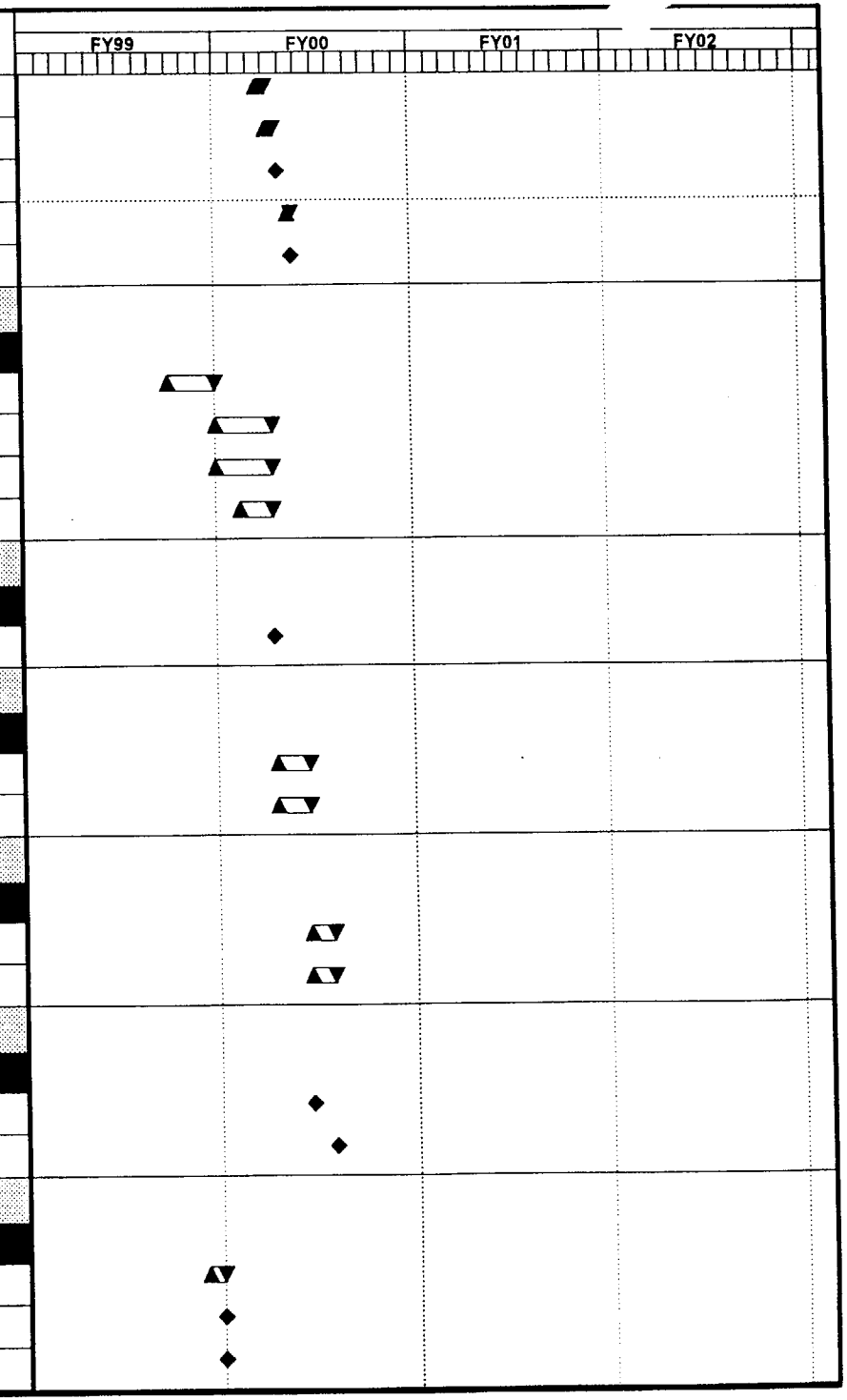
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SSB294	GENI-S/Non-Disrup-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99
SSB296	GENI-S/Non-Disrup-Submit Data/DTN to TDMS as Nec		22	23AUG99	22SEP99
SSB318	GENI-S/Non-Disrup-Place Model-Related SW Under S		10	23AUG99	03SEP99
SSPMRGM4	AP3.10Q Draft (GENI-S/Non-Disruptive Event BCDF)	M4	0		30AUG99
SSPMR270	AP3.10QCheck (GENI-S/Non-Disruptive Event BDCF)		13	31AUG99	17SEP99
SSB320	GENI-S/Non-Disrup-Verify Model-Related Software		44	07SEP99	08NOV99
SSPMR275	AP3.10Q Final (GENI-S/Non-Disruptive Event BDCF)		9	20SEP99	30SEP99
SSB300	GENI-S/Non-Disrup-Procurement Related Issues ID'		0		22SEP99
SSB308	GENI-S/Non-Disrup-Data Related Software Issues I		0		22SEP99
SSB298	GENI-S/Non-Disrup-Verify/Trace Data		44	23SEP99	29NOV99
SSB302	GENI-S/Non-Disrup-Resolve Procurement Related Da		10	23SEP99	06OCT99
SSB310	GENI-S/Non-Disrup-Determine if Data Rel SW is Un		5	23SEP99	29SEP99
SSB312	GENI-S/Non-Disrup-Place Under SMS Control as Nec		10	30SEP99	14OCT99
SSPMR277	AP3.10Q Final (GENI-S/Non-Disruptive Event BDCF)		5	01OCT99	07OCT99
SSB314	GENI-S/Non-Disrup-Verify Data-Related Software		10	15OCT99	28OCT99
SSB322	GENI-S/Non-Disrup-Qualified/Verified SW Availabl		0		08NOV99
SSB304	GENI-S/Non-Disrup-Update TDMS		5	30NOV99	06DEC99
SSB306	GENI-S/Non-Disrup-Qualified/Verified Data Availa		0		06DEC99
F1081					
150 Support Operations					
SSPMR300	AP3.10Q data (Non-Disruptive-Sensitivity Anal.)		18	05AUG99	30AUG99
SSB360	Non-Disrup/Sens Anal-Input Parameters and Data I		0		30AUG99
SSB362	Non-Disrup/Sens Anal-Models and Codes Identified		0		30AUG99
SSB364	Non-Disrup/Sens Anal-Determine DTN Assignment		2	31AUG99	01SEP99
SSB388	Non-Disrup/Sens Anal-Determine if Model-Rel SW i		5	31AUG99	07SEP99
SSPMR305	AP3.10Q Draft (Non-Disruptive-Sensitivity Anal.)		12	31AUG99	16SEP99
SSB366	Non-Disrup/Sens Anal-Determine if Data/DTN in TD		3	02SEP99	07SEP99
SSB368	Non-Disrup/Sens Anal-Submit Data/DTN to TDMS as		22	08SEP99	07OCT99
SSB390	Non-Disrup/Sens Anal-Place Model-Related SW Unde		10	08SEP99	21SEP99
SSPMR310	AP3.10QCheck (Non-Disruptive-Sensitivity Anal.)		10	17SEP99	30SEP99
SSB392	Non-Disrup/Sens Anal-Verify Model-Related Softwa		44	22SEP99	24NOV99



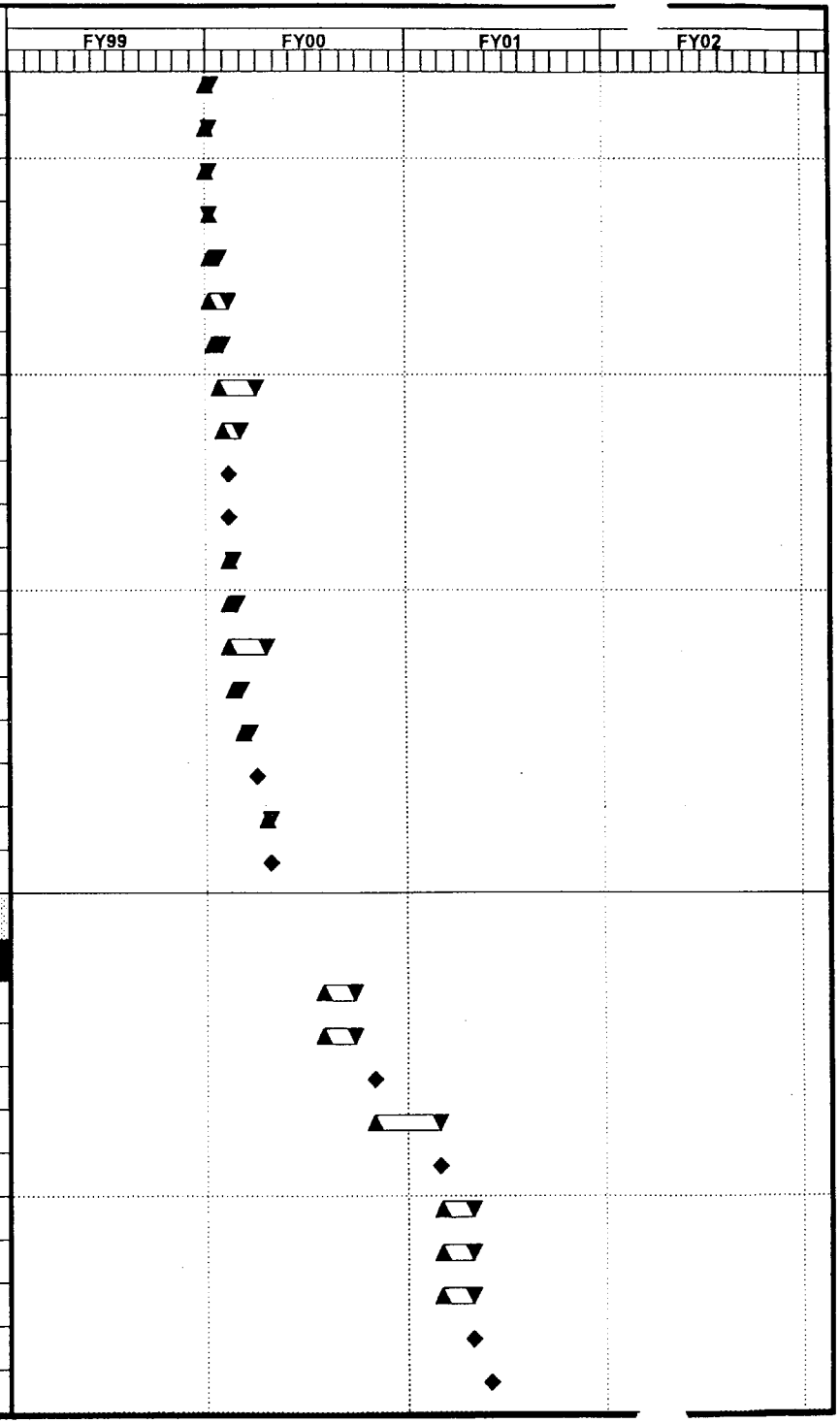
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SSPMR312	Cont AP3.10Q Check (Non-Disrpt-Sensitivity Anal)		12	01OCT99	19OCT99
SSB372	Non-Disrup/Sens Anal-Procurement Related Issues		0		07OCT99
SSB380	Non-Disrup/Sens Anal-Data Related Software Issue		0		07OCT99
SSB370	Non-Disrup/Sens Anal-Verify/Trace Data		44	08OCT99	14DEC99
SSB374	Non-Disrup/Sens Anal-Resolve Procurement Related		10	08OCT99	22OCT99
SSB382	Non-Disrup/Sens Anal-Determine if Data Rel SW is		5	08OCT99	15OCT99
SSB384	Non-Disrup/Sens Anal-Place Under SMS Control as		10	18OCT99	29OCT99
SSPMR315	AP3.10Q Final (Non-Disruptive-Sensitivity Anal.)		18	20OCT99	15NOV99
SSB386	Non-Disrup/Sens Anal-Verify Data-Related Softwar		10	01NOV99	15NOV99
SSB394	Non-Disrup/Sens Anal-Qualified/Verified SW Avail		0		24NOV99
SSB376	Non-Disrup/Sens Anal-Update TDMS		5	15DEC99	21DEC99
SSB378	Non-Disrup/Sens Anal-Qualified/Verified Data Ava		0		21DEC99
F2000A					
130 Performance Assessment Operations					
SLPA1724	AP3.10Q data (Abstraction Soil Buildup on BDCF)		30	20SEP99	01NOV99
SLPA1732	Abs Soil Buildup-Input Parameters and Data Ident		0		01NOV99
SLPA1734	Abs Soil Buildup-Models and Codes Identified		0		01NOV99
SLPA1726	AP3.10Q Draft (Abstraction Soil Buildup on BDCF)		4	02NOV99	05NOV99
SLPA1736	Abs Soil Buildup-Determine DTN Assignment		2	02NOV99	03NOV99
SLPA1738	Abs Soil Buildup-Determine if Model-Rel SW is Un		5	02NOV99	08NOV99
SLPA1740	Abs Soil Buildup-Determine if Data/DTN in TDMS		3	04NOV99	08NOV99
SLPA1728	AP3.10Q Check(Abstraction Soil Buildup on BDCF)		17	08NOV99	03DEC99
SLPA1742	Abs Soil Buildup-Place Model-Related SW Under SM		10	09NOV99	23NOV99
SLPA1744	Abs Soil Buildup-Submit Data/DTN to TDMS as Nece		22	09NOV99	13DEC99
SLPA1746	Abs Soil Buildup-Verify Model-Related Software		44	24NOV99	28JAN00
SLPA1730	AP3.10Q Final (Abstraction Soil Buildup on BDCF)		28	06DEC99	14JAN00
SLPA1748	Abs Soil Buildup-Procurement Related Issues ID'd		0		13DEC99
SLPA1750	Abs Soil Buildup-Data Related Software Issues Id		0		13DEC99
SLPA1752	Abs Soil Buildup-Determine if Data Rel SW is Und		5	14DEC99	20DEC99
SLPA1754	Abs Soil Buildup-Resolve Procurement Related Dat		10	14DEC99	28DEC99
SLPA1756	Abs Soil Buildup-Verify/Trace Data		44	14DEC99	15FEB00



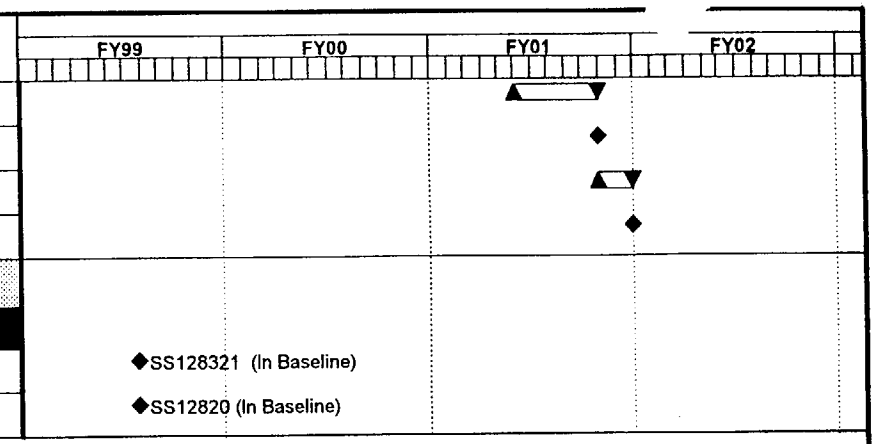
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1758	Abs Soil Buildup-Place Under SMS Control as Nece		10	21DEC99	05JAN00
SLPA1760	Abs Soil Buildup-Verify Data-Related Software		10	06JAN00	19JAN00
SLPA1762	Abs Soil Buildup-Qualified/Verified SW Available		0		28JAN00
SLPA1764	Abs Soil Buildup-Update TDMS		5	16FEB00	23FEB00
SLPA1766	Abs Soil Buildup-Qualified/Verified Data Availab		0		23FEB00
F2100					
150 Support Operations					
BMP100	PIM 3.10Q/PMR Planning & Text Support(Biosphere)		64	01JUL99*	30SEP99
BMP105	Cont.Bio PIM 3.10Q/PMR Planning & Text Support		70	01OCT99	14JAN00
BMP110	PIM Text & M&O Review Prep Support (Biosphere)		70	01OCT99	14JAN00
SSPMR500	Develop Biosphere PMR Text		40	16NOV99	14JAN00
F2110					
150 Support Operations					
SSPMRM4	Biosphere PMR Rev 00A	M4	0		14JAN00
F2120					
150 Support Operations					
SSPMR510	Biosphere PMR M&O Review		44	17JAN00	17MAR00
BMP115	PIM M&O Rev. & DOE Rev. Prep Support (Biosphere)		44	17JAN00	17MAR00
F2140					
150 Support Operations					
SSPMR520	Biosphere PMR DOE Review		30	20MAR00	28APR00
BMP120	PIM DOE Rev. & Final Accept. Support (Biosphere)		30	20MAR00	28APR00
F2150					
300 Regulatory & Licensing					
SLPMRAM3	Biosphere PMR Rev 00	M3	0		17MAR00
SLPMRM3	Rev 01 Biosphere PMR	M3	0		28APR00
P2000					
150 Support Operations					
SLPA1768	AP3.10Q Data (Distribution Fit BDCF)		22	31AUG99	30SEP99
SLPA1776	Distribution Fit-Input Parameters and Data Ident		0		30SEP99
SLPA1778	Distribution Fit-Models and Codes Identified		0		30SEP99



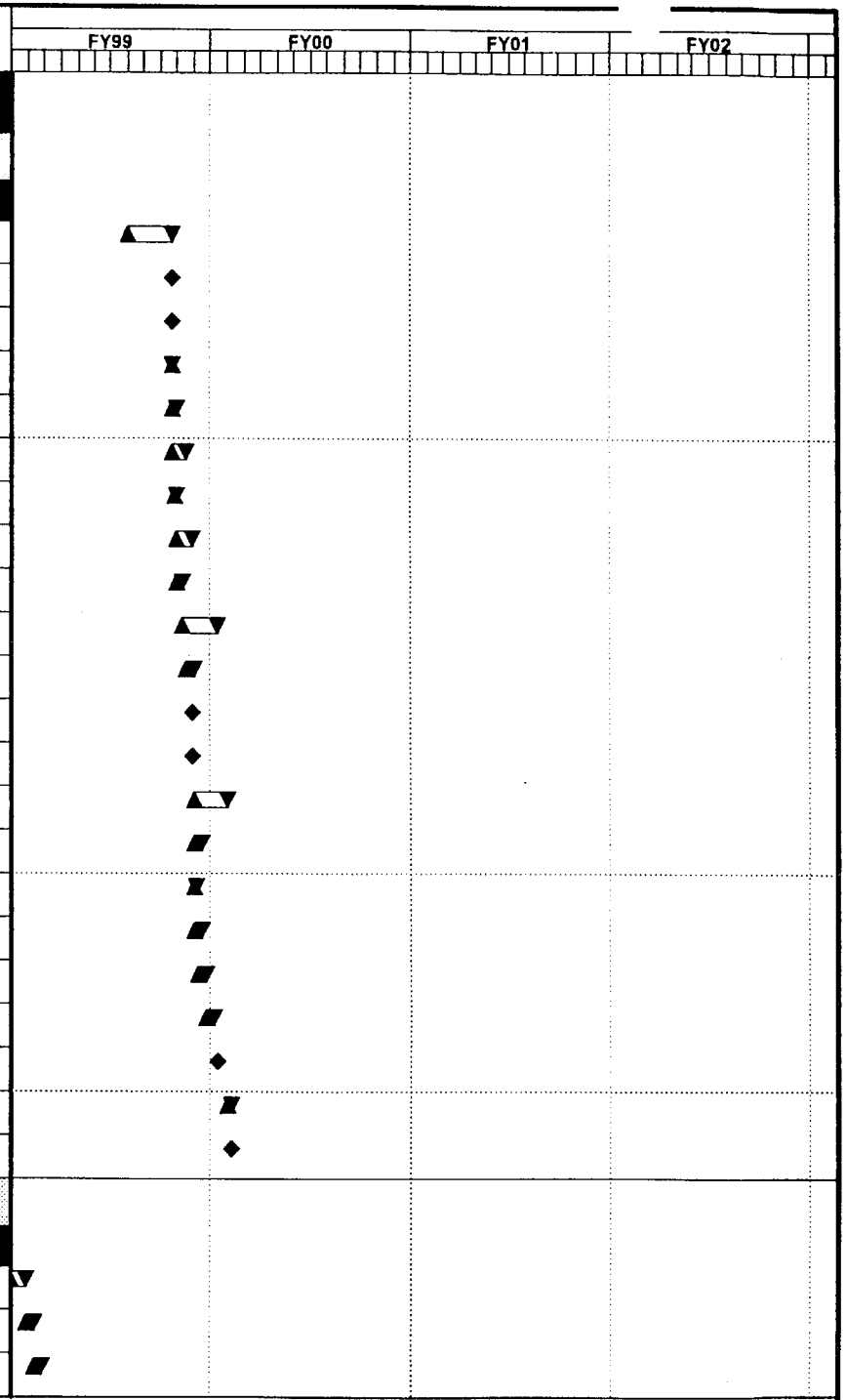
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1770	AP3.10Q Draft (Distribution Fit BDCF)		6	01OCT99	08OCT99
SLPA1780	Distribution Fit-Determine DTN Assignment		2	01OCT99	04OCT99
PA1782	Distribution Fit-Determine if Model-Rel SW is Un		5	01OCT99	07OCT99
SLPA1784	Distribution Fit-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
SLPA1786	Distribution Fit-Place Model-Related SW Under SM		10	08OCT99	22OCT99
SLPA1788	Distribution Fit-Submit Data/DTN to TDMS as Nece		22	08OCT99	09NOV99
SLPA1772	AP3.10Q Checking (Distribution Fit BDCF)		15	12OCT99	01NOV99
SLPA1790	Distribution Fit-Verify Model-Related Software		44	25OCT99	29DEC99
SLPA1774	AP3.10Q Final (Distribution Fit BDCF)		19	02NOV99	01DEC99
SLPA1792	Distribution Fit-Procurement Related Issues ID'd		0		09NOV99
SLPA1794	Distribution Fit-Data Related Software Issues Id		0		09NOV99
SLPA1796	Distribution Fit-Determine if Data Rel SW is Und		5	10NOV99	17NOV99
SLPA1798	Distribution Fit-Resolve Procurement Related Dat		10	10NOV99	24NOV99
SLPA1800	Distribution Fit-Verify/Trace Data		44	10NOV99	17JAN00
SLPA1802	Distribution Fit-Place Under SMS Control as Nece		10	18NOV99	03DEC99
SLPA1804	Distribution Fit-Verify Data-Related Software		10	06DEC99	17DEC99
SLPA1806	Distribution Fit-Qualified/Verified SW Available		0		29DEC99
SLPA1808	Distribution Fit-Update TDMS		5	18JAN00	24JAN00
SLPA1810	Distribution Fit-Qualified/Verified Data Availab		0		24JAN00
Z9999 PMR Rev 02 thru Rev 05					
300 Regulatory & Licensing					
SSB00A	Revise Bio PMR AP 3.10Q's for SR		41	01MAY00	27JUN00
SSB00B	Prepare Bio PMR REV-02A for SR		41	01MAY00	27JUN00
SSB00BM4	Bio PMR Rev-02A for SR	M4	0		01AUG00*
SSB00C	M&O Review Bio PMR Rev-02A for SR		83	02AUG00	01DEC00
SSB00CM3	Bio PMR Rev-02 for SR	M3	0		01DEC00
SSB00D	DOE Review Bio PMR 02 for SR		41	04DEC00	31JAN01
SSB00P	Revise Bio PMR AP 3.10Q's for LA		41	04DEC00	31JAN01
SSB00Q	Prepare Bio PMR REV-04A for LA		41	04DEC00	31JAN01
SSB00EM3	Rev 03 Bio PMR for SR	M3	0		31JAN01
SSB00QM4	Bio PMR Rev-04A for LA	M4	0		01MAR01*



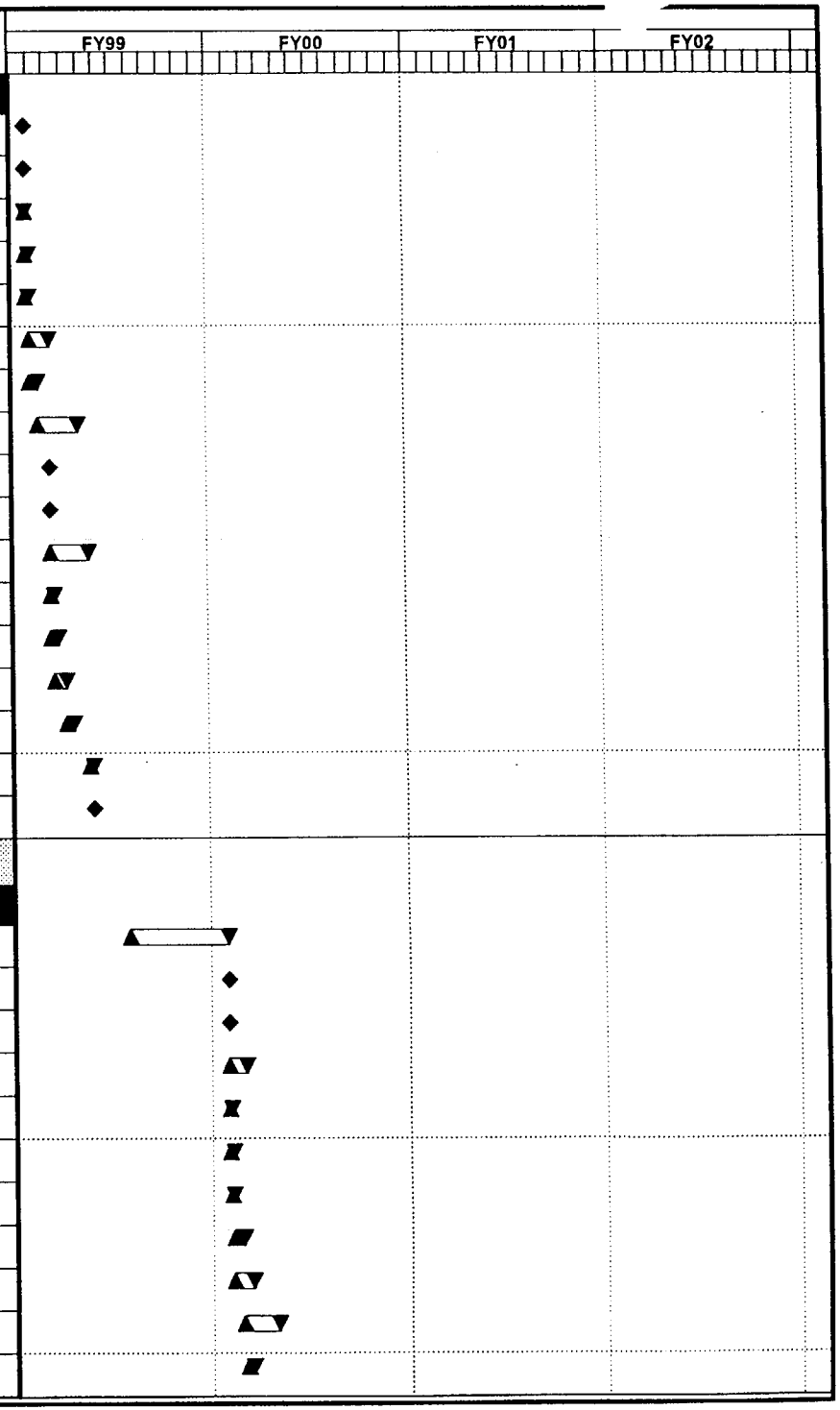
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SSB00R	M&O Review Bio PMR Rev-04A for LA		106	02MAR01	31JUL01
SSB00RM3	Bio PMR Rev-04 for LA	M3	0		31JUL01
SSB00S	DOE Review Bio PMR 04 for LA		42	01AUG01	28SEP01
SSB00SM3	Rev 05 Bio PMR for LA	M3	0		28SEP01
150 Support Operations					
SSPMAM5	Submit Data for AP3.10Q Analysis	M5	0		26APR99*
SSPMM5	Submit Data for AP3.10Q Analysis	M5	0		26APR99*



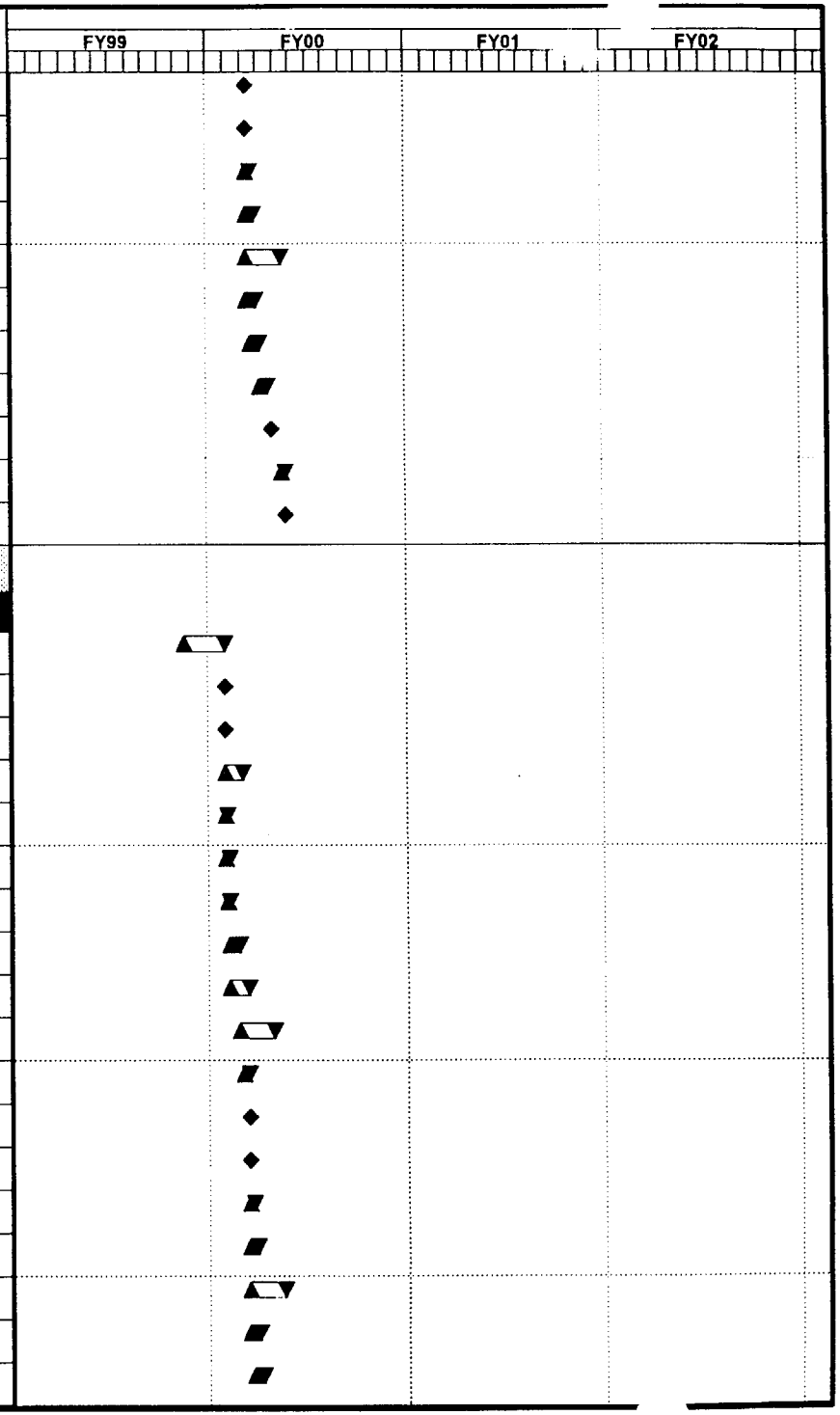
Activit, ID	Activity Description	MILE	Orig dur	Ear1, Start	Early Finish
E EBS PMR					
EB010 Invert Diffusion Model					
120 Engineered Barrier System Operations					
RPPM120A	Invert Diffusion Properties Model AP 3.10Q		56	03MAY99*	21JUL99
RPE792	Invert Diffus Predict-Input Parameters and Data		0		21JUL99
RPE794	Invert Diffus Predict-Models and Codes Identifie		0		21JUL99
RPE796	Invert Diffus Predict-Determine DTN Assignment		2	22JUL99	23JUL99
RPE820	Invert Diffus Predict-Determine if Model-Rel SW		5	22JUL99	28JUL99
RPPM120B	Prep 3.10Q Drft Doc(Invert Diffus Predict Model)		18	22JUL99	16AUG99
RPE798	Invert Diffus Predict-Determine if Data/DTN in T		3	26JUL99	28JUL99
RPE800	Invert Diffus Predict-Submit Data/DTN to TDMS as		22	29JUL99	27AUG99
RPE822	Invert Diffus Predict-Place Model-Related SW Und		10	29JUL99	11AUG99
RPE824	Invert Diffus Predict-Verify Model-Related Softw		44	12AUG99	14OCT99
RPPM120C	3.10Q Chkg/Revw(Invert Diffus Predictive Model)		10	17AUG99	30AUG99
RPE804	Invert Diffus Predict-Procurement Related Issues		0		27AUG99
RPE812	Invert Diffus Predict-Data Related Software Issu		0		27AUG99
RPE802	Invert Diffus Predict-Verify/Trace Data		44	30AUG99	01NOV99
RPE806	Invert Diffus Predict-Resolve Procurement Relate		10	30AUG99	13SEP99
RPE814	Invert Diffus Predict-Determine if Data Rel SW i		5	30AUG99	03SEP99
RPPM120D	Prep Fnl 3.10Q Rpt(Invert Diffus Predict Model)		10	31AUG99	14SEP99
RPE816	Invert Diffus Predict-Place Under SMS Control as		10	07SEP99	20SEP99
RPE818	Invert Diffus Predict-Verify Data-Related Softwa		10	21SEP99	04OCT99
RPE826	Invert Diffus Predict-Qualified/Verified SW Avai		0		14OCT99
RPE808	Invert Diffus Predict-Update TDMS		5	02NOV99	08NOV99
RPE810	Invert Diffus Predict-Qualified/Verified Data Av		0		08NOV99
EB015 PCE Model Validation Experiment/Analysis					
120 Engineered Barrier System Operations					
RPPM115B	Prep 3.10Q Drft Doc(PCE Model Valid Exper/Analy)		18	01OCT98	27OCT98
RPPM115C	3.10Q Chkg/Revw(PCE Model Valid Exper/Analysis)		10	28OCT98	10NOV98
RPPM115D	Prep Fnl 3.10Q Rpt(PCE Model Valid Exper/Analys)		10	12NOV98	25NOV98



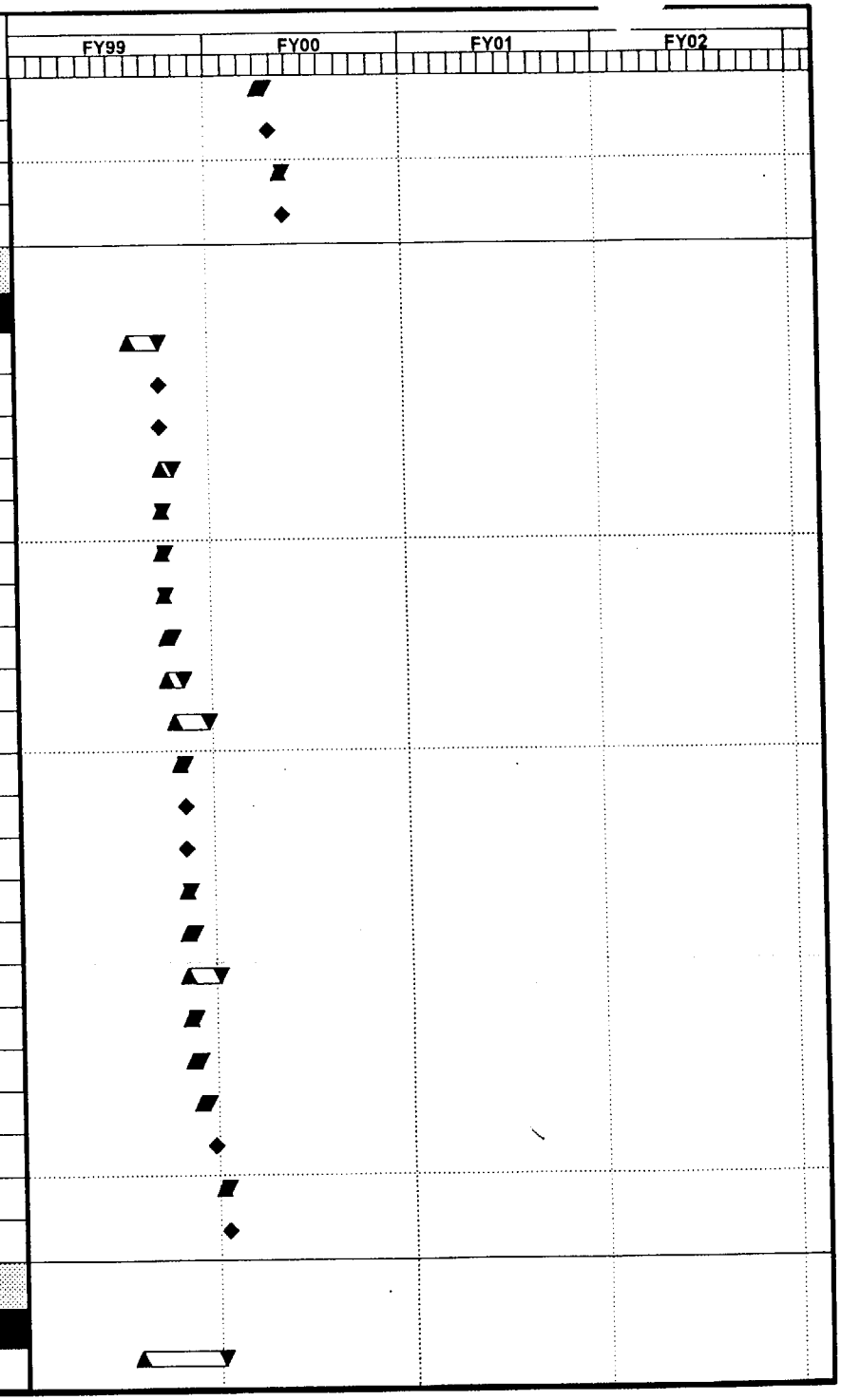
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
130 Performance Assessment Operations					
RPQ1000	PCE Model Val-Input Parameters and Data Identifi		0		27OCT98
RPQ1002	PCE Model Val-Models and Codes Identified		0		27OCT98
RPQ1004	PCE Model Val-Determine DTN Assignment		2	28OCT98	29OCT98
RPQ1006	PCE Model Val-Determine if Model-Rel SW is Under		5	28OCT98	03NOV98
RPQ1008	PCE Model Val-Determine if Data/DTN in TDMS		3	30OCT98	03NOV98
RPQ1010	PCE Model Val-Submit Data/DTN to TDMS as Necessa		22	04NOV98	08DEC98
RPQ1012	PCE Model Val-Place Model-Related SW Under SMS C		10	04NOV98	18NOV98
RPQ1014	PCE Model Val-Verify Model-Related Software		44	19NOV98	01FEB99
RPQ1016	PCE Model Val-Data Related Software Issues Ident		0		08DEC98
RPQ1018	PCE Model Val-Procurement Related Issues ID'd to		0		08DEC98
RPQ1020	PCE Model Val-Verify/Trace Data		44	09DEC98	18FEB99
RPQ1022	PCE Model Val-Determine if Data Rel SW is Under		5	09DEC98	15DEC98
RPQ1024	PCE Model Val-Rxesolve Procurement Related Data		10	09DEC98	22DEC98
RPQ1026	PCE Model Val-Place Under SMS Control as Necessa		10	16DEC98	07JAN99
RPQ1028	PCE Model Val-Verify Data-Related Software		10	08JAN99	21JAN99
RPQ1030	PCE Model Val-Update TDMS		5	19FEB99	25FEB99
RPQ1032	PCE Model Val-Qualified/Verified Data Available		0		25FEB99
EB115 Phy/Chem Abstraction					
120 Engineered Barrier System Operations					
SLPA1000	Phy/Chem Abstraction - AP3.10Q		127	03MAY99*	01NOV99
SLPA1008	Phy/Chem Abst-Input Parameters and Data Identifi		0		01NOV99
SLPA1010	Phy/Chem Abst-Models and Codes Identified		0		01NOV99
SLPA1002	Prep 3.10Q Drft Doc (Phy/Chem Abstraction)		18	02NOV99	30NOV99
SLPA1012	Phy/Chem Abst-Determine DTN Assignment		2	02NOV99	03NOV99
SLPA1014	Phy/Chem Abst-Determine if Model-Rel SW is Under		5	02NOV99	08NOV99
SLPA1016	Phy/Chem Abst-Determine if Data/DTN in TDMS		3	04NOV99	08NOV99
SLPA1018	Phy/Chem Abst-Place Model-Related SW Under SMS C		10	09NOV99	23NOV99
SLPA1020	Phy/Chem Abst-Submit Data/DTN to TDMS as Necessa		22	09NOV99	13DEC99
SLPA1022	Phy/Chem Abst-Verify Model-Related Software		44	24NOV99	28JAN00
SLPA1004	3.10Q Chkg/Revw (Phy Chem Abstraction)		10	01DEC99	14DEC99



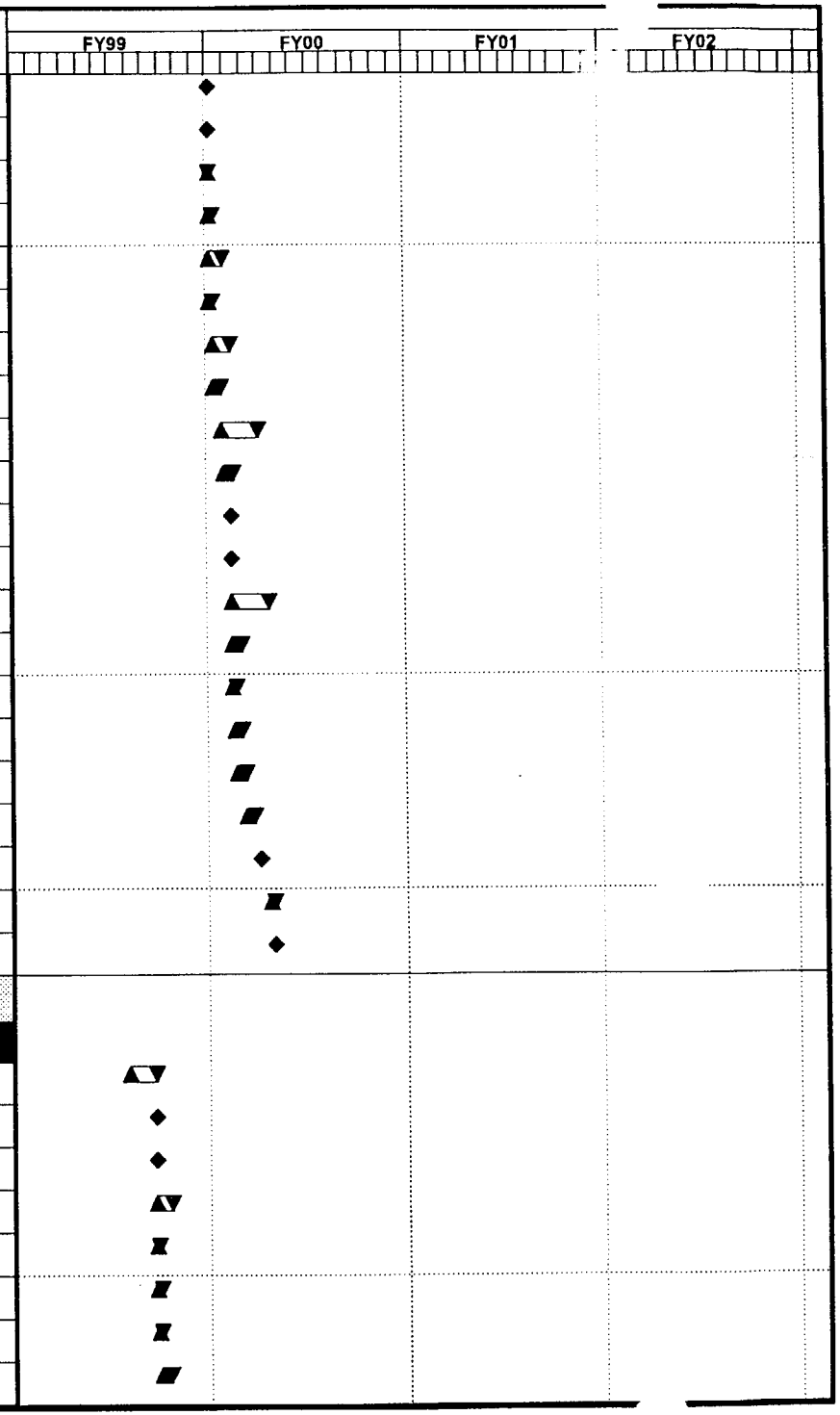
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1024	Phy/Chem Abst-Procurement Related Issues ID'd to		0		13DEC99
SLPA1026	Phy/Chem Abst-Data Related Software Issues Ident		0		13DEC99
SLPA1028	Phy/Chem Abst-Determine if Data Rel SW is Under		5	14DEC99	20DEC99
SLPA1030	Phy/Chem Abst-Resolve Procurement Related Data I		10	14DEC99	28DEC99
SLPA1032	Phy/Chem Abst-Verify/Trace Data		44	14DEC99	15FEB00
SLPA1006	Prep Fnl 3.10Q Rpt (Phy/Chem Abstraction)		10	15DEC99	29DEC99
SLPA1034	Phy/Chem Abst-Place Under SMS Control as Necessa		10	21DEC99	05JAN00
SLPA1036	Phy/Chem Abst-Verify Data-Related Software		10	06JAN00	19JAN00
SLPA1038	Phy/Chem Abst-Qualified/Verified SW Available		0		28JAN00
SLPA1040	Phy/Chem Abst-Update TDMS		5	16FEB00	23FEB00
SLPA1042	Phy/Chem Abst-Qualified/Verified Data Available		0		23FEB00
EB125 EBS Degr. Modes & FEPs Abstractions					
120 Engineered Barrier System Operations					
SLPA1044	EBS Degr. Modes & FEPs Abstraction - AP3.10Q		54	16AUG99*	01NOV99
SLPA1052	Degr [illegible] Input Parameters and Data Identi		0		01NOV99
SLPA1054	Degr. [illegible]bst-Models and Codes Identified		0		01NOV99
SLPA1046	Prep 3.10Q Drft Doc (Degr. Mode Abstraction)		18	02NOV99	30NOV99
SLPA1056	Degr. Mode Abst-Determine DTN Assignment		2	02NOV99	03NOV99
SLPA1058	Degr. Mode Abst-Determine if Model-Rel SW is Und		5	02NOV99	08NOV99
SLPA1060	Degr. Mode Abst-Determine if Data/DTN in TDMS		3	04NOV99	08NOV99
SLPA1062	Degr. Mode Abst-Place Model-Related SW Under SMS		10	09NOV99	23NOV99
SLPA1064	Degr. Mode Abst-Submit Data/DTN to TDMS as Neces		22	09NOV99	13DEC99
SLPA1066	Degr. Mode Abst-Verify Model-Related Software		44	24NOV99	28JAN00
SLPA1048	3.10Q Chkg/Revw (Degr. Mode Abstraction)		10	01DEC99	14DEC99
SLPA1068	Degr. Mode Abst-Procurement Related Issues ID'd		0		13DEC99
SLPA1070	Degr. Mode Abst-Data Related Software Issues Ide		0		13DEC99
SLPA1072	Degr. Mode Abst-Determine if Data Rel SW is Unde		5	14DEC99	20DEC99
SLPA1074	Degr. Mode Abst-Resolve Procurement Related Data		10	14DEC99	28DEC99
SLPA1076	Degr. Mode Abst-Verify/Trace Data		44	14DEC99	15FEB00
SLPA1050	Prep Fnl 3.10Q Rpt (Degr. Mode Abstraction)		10	15DEC99	29DEC99
SLPA1078	Degr. Mode Abst-Place Under SMS Control as Neces		10	21DEC99	05JAN00



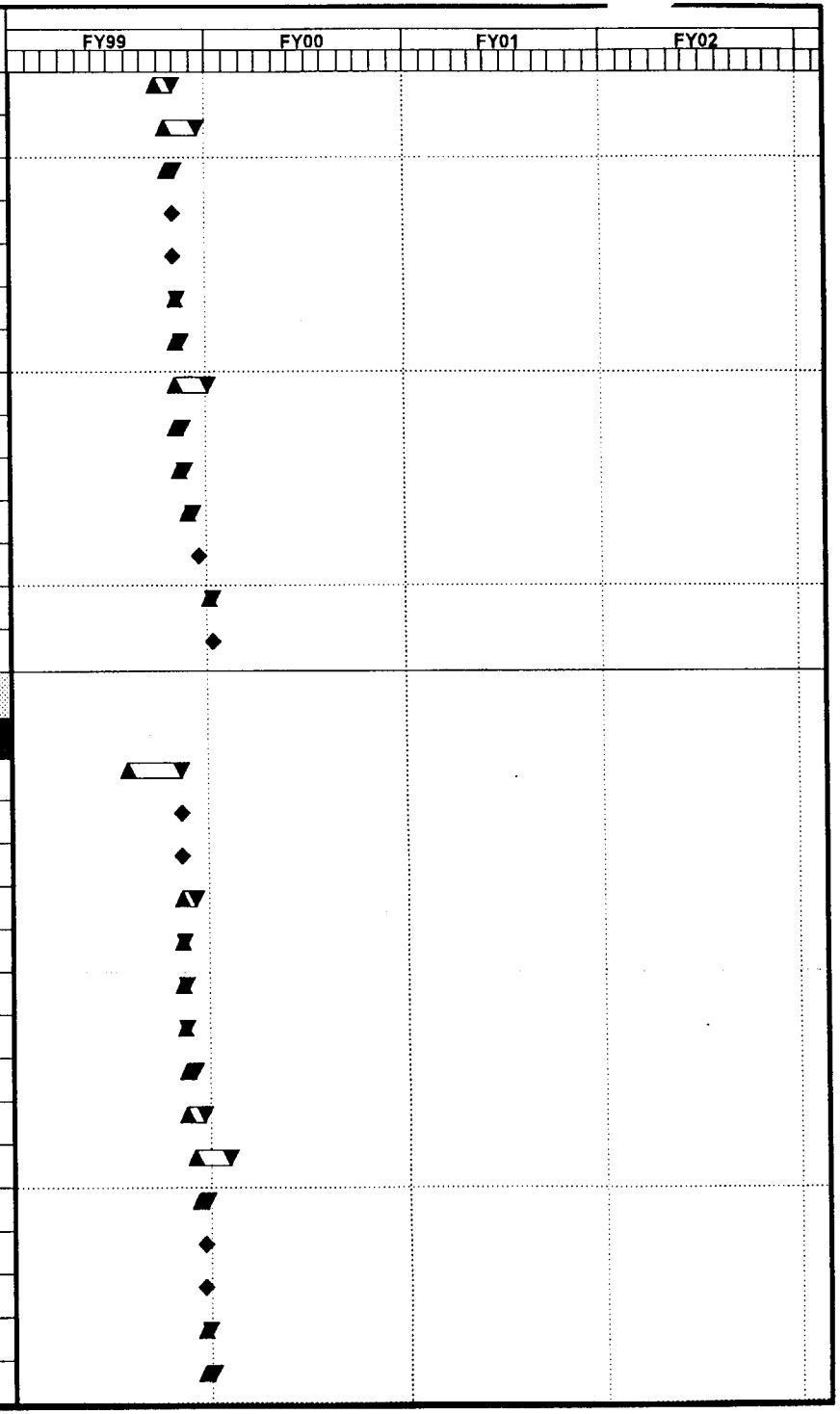
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1080	Degr. Mode Abst-Verify Data-Related Software		10	06JAN00	19JAN00
SLPA1082	Degr. Mode Abst-Qualified/Verified SW Available		0		28JAN00
SLPA1084	Degr. Mode Abst-Update TDMS		5	16FEB00	23FEB00
SLPA1086	Degr. Mode Abst-Qualified/Verified Data Availabl		0		23FEB00
EB135 Corrosion Products					
120 Engineered Barrier System Operations					
SLPA1088	Corrosion Products - AP3.10Q		40	03MAY99*	28JUN99
SLPA1096	Corrosion Prod-Input Parameters and Data Identif		0		28JUN99
SLPA1098	Corrosion Prod-Models and Codes Identified		0		28JUN99
SLPA1090	Prep 3.10Q Drft Doc(Corrosion Products)		18	29JUN99	23JUL99
SLPA1100	Corrosion Prod-Determine DTN Assignment		2	29JUN99	30JUN99
SLPA1102	Corrosion Prod-Determine if Model-Rel SW is Unde		5	29JUN99	06JUL99
SLPA1104	Corrosion Prod-Determine if Data/DTN in TDMS		3	01JUL99	06JUL99
SLPA1106	Corrosion Prod-Place Model-Related SW Under SMS		10	07JUL99	20JUL99
SLPA1108	Corrosion Prod-Submit Data/DTN to TDMS as Necess		22	07JUL99	05AUG99
SLPA1110	Corrosion Prod-Verify Model-Related Software		44	21JUL99	21SEP99
SLPA1092	3.10Q Chkg/Revw(Corrosion Products)		10	26JUL99	06AUG99
SLPA1112	Corrosion Prod-Procurement Related Issues ID'd t		0		05AUG99
SLPA1114	Corrosion Prod-Data Related Software Issues Iden		0		05AUG99
SLPA1116	Corrosion Prod-Determine if Data Rel SW is Under		5	06AUG99	12AUG99
SLPA1118	Corrosion Prod-Resolve Procurement Related Data		10	06AUG99	19AUG99
SLPA1120	Corrosion Prod-Verify/Trace Data		44	06AUG99	07OCT99
SLPA1094	Prep Fnl 3.10Q Rpt(Corrosion Products)		10	09AUG99	20AUG99
SLPA1122	Corrosion Prod-Place Under SMS Control as Necess		10	13AUG99	26AUG99
SLPA1124	Corrosion Prod-Verify Data-Related Software		10	27AUG99	10SEP99
SLPA1126	Corrosion Prod-Qualified/Verified SW Available		0		21SEP99
SLPA1128	Corrosion Prod-Update TDMS		5	08OCT99	15OCT99
SLPA1130	Corrosion Prod-Qualified/Verified Data Available		0		15OCT99
EB155 Water Distr/Removal Model					
120 Engineered Barrier System Operations					
RPPM050A	Water Distrib/Removal Model - AP3.10Q		109	03MAY99*	05OCT99



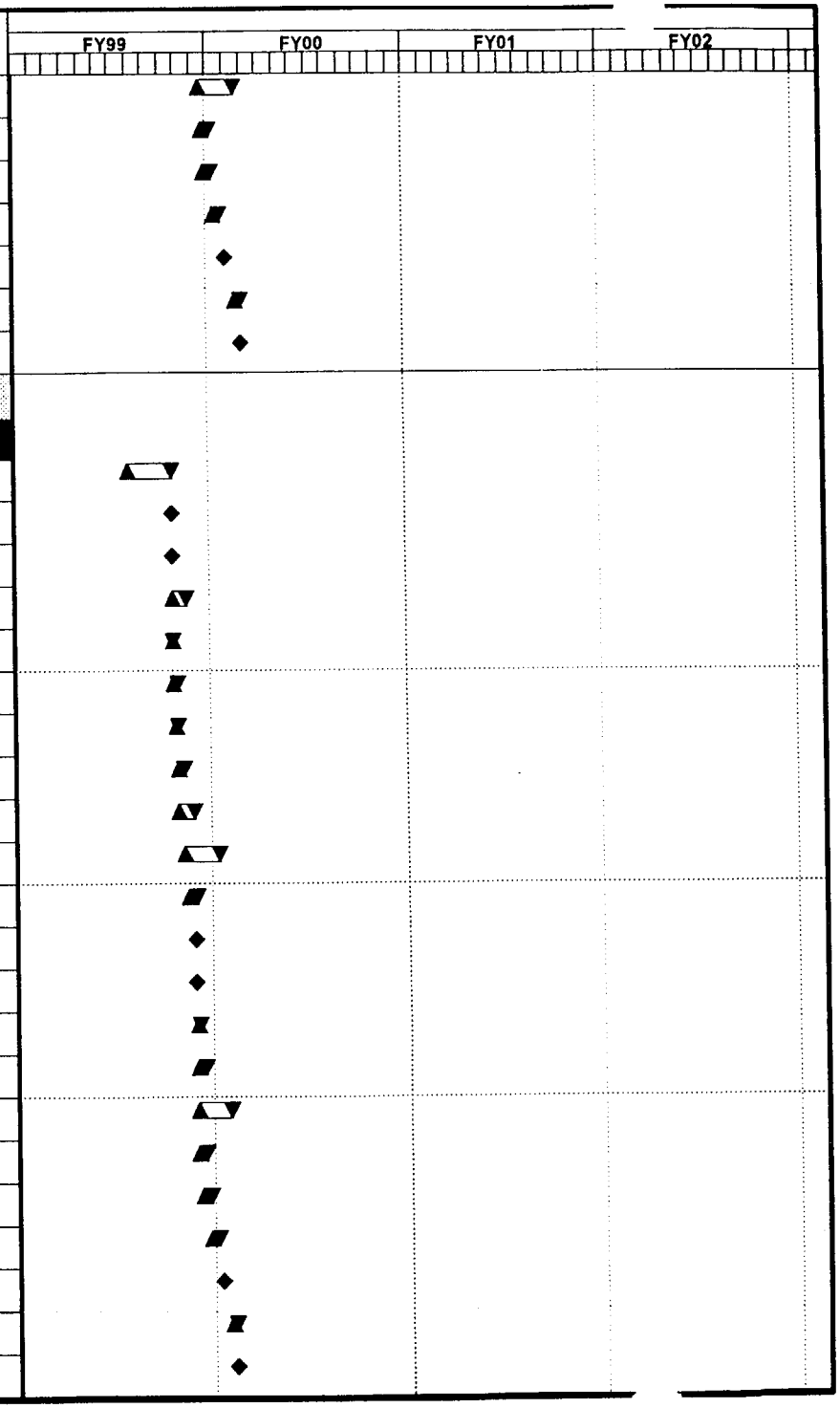
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
RPE288	Water Distr/Rem-Input Parameters and Data Identi		0		05OCT99
RPE290	Water Distr/Rem-Models and Codes Identified		0		05OCT99
RPE292	Water Distr/Rem-Determine DTN Assignment		2	06OCT99	07OCT99
RPE316	Water Distr/Rem-Determine if Model-Rel SW is Und		5	06OCT99	13OCT99
RPPM050B	Prep 3.10Q Drft Doc (Water Distr/Removal Model)		18	06OCT99	01NOV99
RPE294	Water Distr/Rem-Determine if Data/DTN in TDMS		3	08OCT99	13OCT99
RPE296	Water Distr/Rem-Submit Data/DTN to TDMS as Neces		22	14OCT99	15NOV99
RPE318	Water Distr/Rem-Place Model-Related SW Under SMS		10	14OCT99	27OCT99
RPE320	Water Distr/Rem-Verify Model-Related Software		44	28OCT99	04JAN00
RPPM050C	3.10Q Chkg/Revw (Water Distr/Removal Model)		10	02NOV99	16NOV99
RPE300	Water Distr/Rem-Procurement Related Issues ID'd		0		15NOV99
RPE308	Water Distr/Rem-Data Related Software Issues Ide		0		15NOV99
RPE298	Water Distr/Rem-Verify/Trace Data		44	16NOV99	[illegible]JAN00
RPE302	Water Distr/Rem-Resolve Procurement Related Data		10	16NOV99	01DEC99
RPE310	Water Distr/Rem-Determine if Data Rel SW is Unde		5	16NOV99	22NOV99
RPPM050D	Prep Fnl 3.10Q Rpt (Water Distr/Removal Model)		10	17NOV99	02DEC99
RPE312	Water Distr/Rem-Place Under SMS Control as Neces		10	23NOV99	08DEC99
RPE314	Water Distr/Rem-Verify Data-Related Software		10	09DEC99	22DEC99
RPE322	Water Distr/Rem-Qualified/Verified SW Available		0		04JAN00
RPE304	Water Distr/Rem-Update TDMS		5	21JAN00	27JAN00
RPE306	Water Distr/Rem-Qualified/Verified Data Availabl		0		27JAN00
EB165 Seepage/Backfill Interaction					
120 Engineered Barrier System Operations					
SLPA1132	Seepage/Backfill Interaction - AP3.10Q		36	03MAY99*	22JUN99
SLPA1140	Sepg/Bkfill Intr-Input Parameters and Data Ident		0		22JUN99
SLPA1142	Sepg/Bkfill Intr-Models and Codes Identified		0		22JUN99
SLPA1134	Prep 3.10Q Drft Doc (Sepg/Bkfill Intractn)		18	23JUN99	19JUL99
SLPA1144	Sepg/Bkfill Intr-Determine DTN Assignment		2	23JUN99	24JUN99
SLPA1146	Sepg/Bkfill Intr-Determine if Model-Rel SW is Un		5	23JUN99	29JUN99
SLPA1148	Sepg/Bkfill Intr-Determine if Data/DTN in TDMS		3	25JUN99	29JUN99
SLPA1150	Sepg/Bkfill Intr-Place Model-Related SW Under SM		10	30JUN99	14JUL99



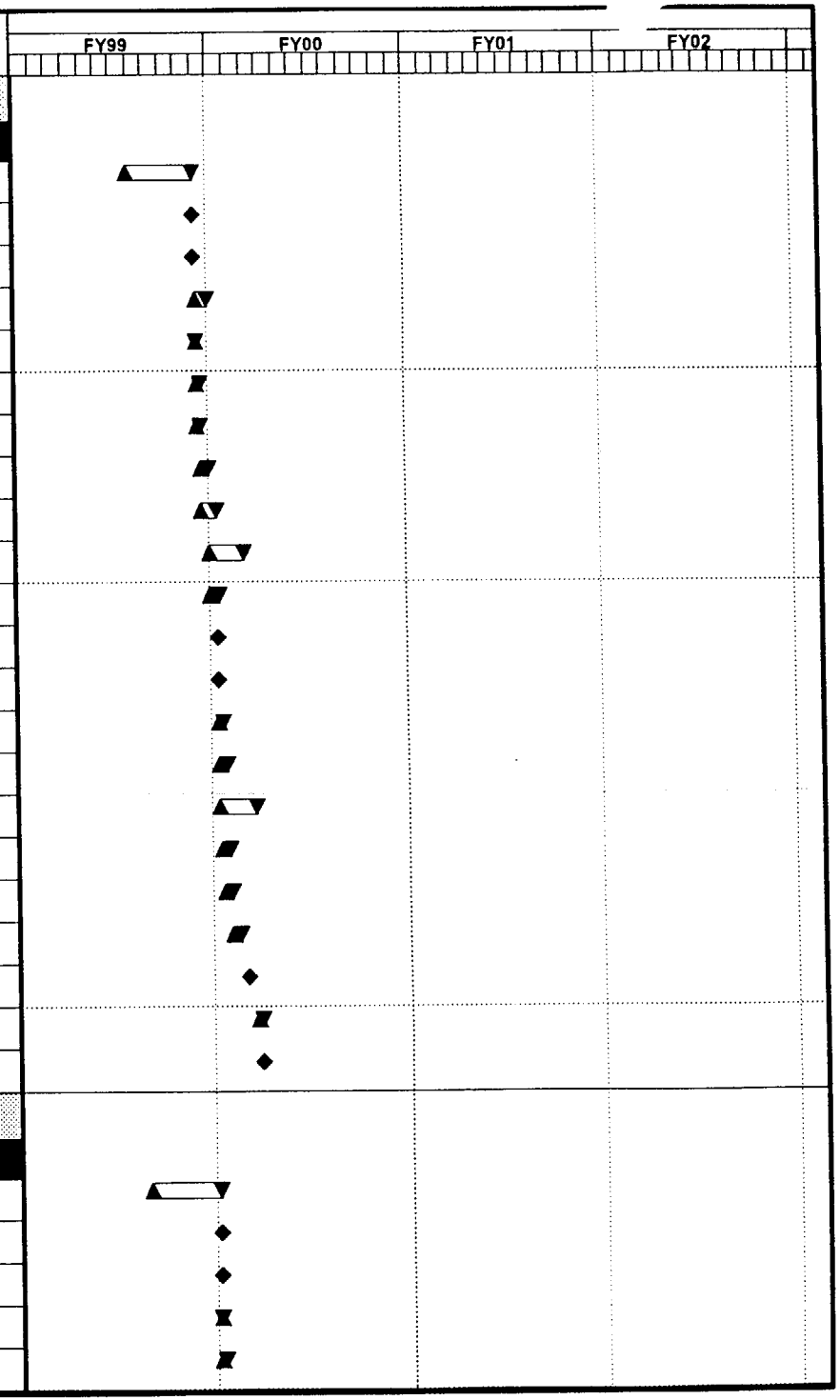
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1152	Sepg/Bkfill Intr-Submit Data/DTN to TDMS as Nece		22	30JUN99	30JUL99
SLPA1154	Sepg/Bkfill Intr-Verify Model-Related Software		44	15JUL99	15SEP99
SLPA1136	3.10Q Chkg/Revw (Sepg/Bkfill Intractn)		10	20JUL99	02AUG99
SLPA1156	Sepg/Bkfill Intr-Procurement Related Issues ID'd		0		30JUL99
SLPA1158	Sepg/Bkfill Intr-Data Related Software Issues Id		0		30JUL99
SLPA1160	Sepg/Bkfill Intr-Determine if Data Rel SW is Und		5	02AUG99	06AUG99
SLPA1162	Sepg/Bkfill Intr-Resolve Procurement Related Dat		10	02AUG99	13AUG99
SLPA1164	Sepg/Bkfill Intr-Verify/Trace Data		44	02AUG99	01OCT99
SLPA1138	Prep Fnl 3.10Q Rpt (Sepg/Bkfill Intractn)		10	03AUG99	16AUG99
SLPA1166	Sepg/Bkfill Intr-Place Under SMS Control as Nece		10	09AUG99	20AUG99
SLPA1168	Sepg/Bkfill Intr-Verify Data-Related Software		10	23AUG99	03SEP99
SLPA1170	Sepg/Bkfill Intr-Qualified/Verified SW Available		0		15SEP99
SLPA1172	Sepg/Bkfill Intr-Update TDMS		5	04OCT99	08OCT99
SLPA1174	Sepg/Bkfill Intr-Qualified/Verified Data Availab		0		08OCT99
EB175 Gas Flux & Composition					
120 Engineered Barrier System Operations					
SLPA1176	Gas Flux & Composition - AP3.10Q		70	03MAY99*	10AUG99
SLPA1184	Gas Flux & Comp-Input Parameters and Data Identi		0		10AUG99
SLPA1186	Gas Flux & Comp-Models and Codes Identified		0		10AUG99
SLPA1178	Prep 3.10Q Drft Doc (Gas Flux & Composition)		18	11AUG99	03SEP99
SLPA1188	Gas Flux & Comp-Determine DTN Assignment		2	11AUG99	12AUG99
SLPA1190	Gas Flux & Comp-Determine if Model-Rel SW is Und		5	11AUG99	17AUG99
SLPA1192	Gas Flux & Comp-Determine if Data/DTN in TDMS		3	13AUG99	17AUG99
SLPA1194	Gas Flux & Comp-Place Model-Related SW Under SMS		10	18AUG99	31AUG99
SLPA1196	Gas Flux & Comp-Submit Data/DTN to TDMS as Neces		22	18AUG99	17SEP99
SLPA1198	Gas Flux & Comp-Verify Model-Related Software		44	01SEP99	03NOV99
SLPA1180	3.10Q Chkg/Revw (Gas Flux & Composition)		10	07SEP99	20SEP99
SLPA1200	Gas Flux & Comp-Procurement Related Issues ID'd		0		17SEP99
SLPA1202	Gas Flux & Comp-Data Related Software Issues Ide		0		17SEP99
SLPA1204	Gas Flux & Comp-Determine if Data Rel SW is Unde		5	20SEP99	24SEP99
SLPA1206	Gas Flux & Comp-Resolve Procurement Related Data		10	20SEP99	01OCT99



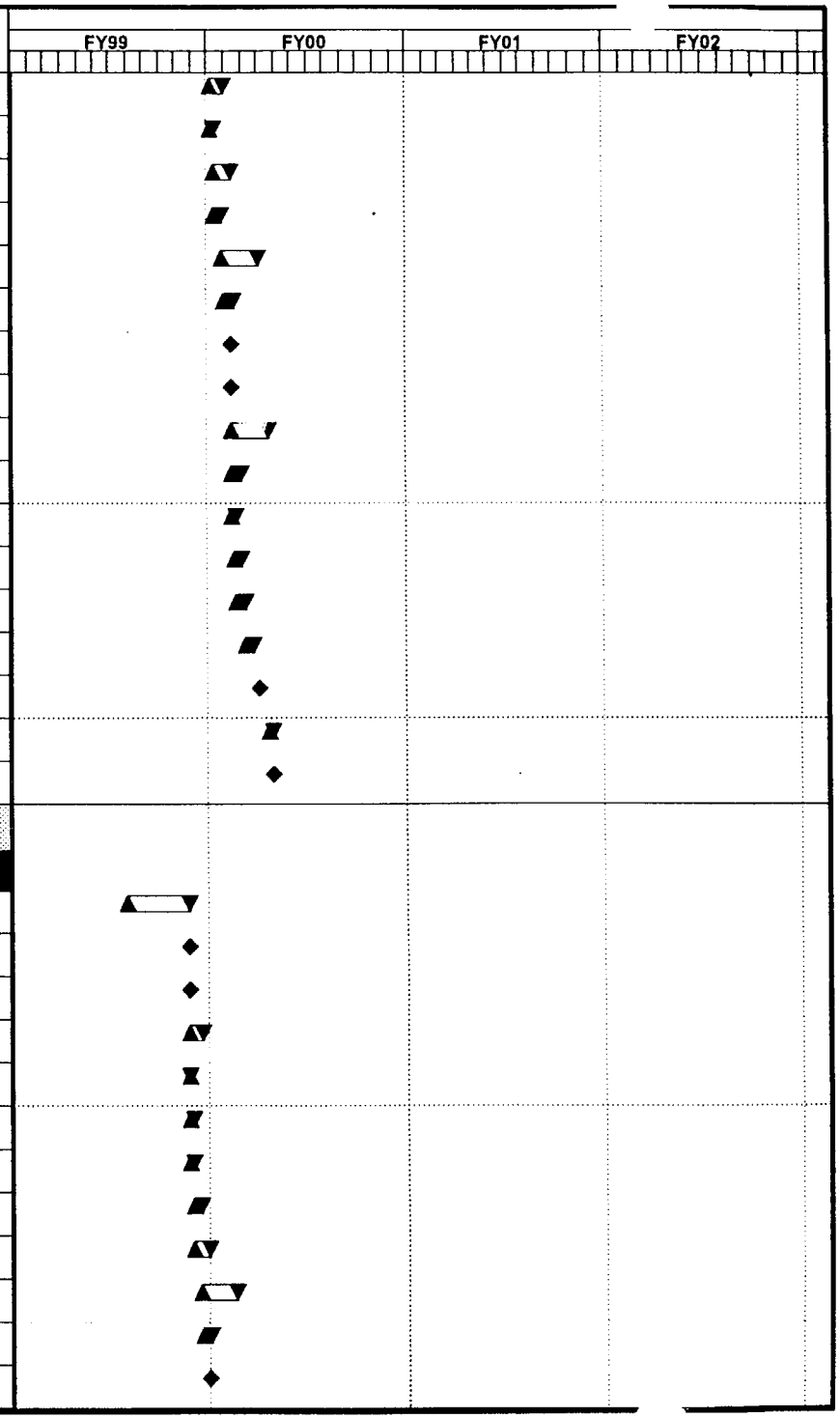
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1208	Gas Flux & Comp-Verify/Trace Data		44	20SEP99	22NOV99
SLPA1182	Prep Fnl 3.10Q Rpt (Gas Flux & Composition)		10	21SEP99	04OCT99
SLPA1210	Gas Flux & Comp-Place Under SMS Control as Neces		10	27SEP99	08OCT99
SLPA1212	Gas Flux & Comp-Verify Data-Related Software		10	12OCT99	25OCT99
SLPA1214	Gas Flux & Comp-Qualified/Verified SW Available		0		03NOV99
SLPA1216	Gas Flux & Comp-Update TDMS		5	23NOV99	01DEC99
SLPA1218	Gas Flux & Comp-Qualified/Verified Data Availabl		0		01DEC99
EB185 Microbial Communities					
120 Engineered Barrier System Operations					
SLPA1220	Microbial Communities - AP3.10Q		56	03MAY99*	21JUL99
SLPA1228	Microb Comm-Input Parameters and Data Identified		0		21JUL99
SLPA1230	Microb Comm-Models and Codes Identified		0		21JUL99
SLPA1222	Prep 3.10Q Drft Doc (Microb Communities)		18	22JUL99	16AUG99
SLPA1232	Microb Comm-Determine DTN Assignment		2	22JUL99	23JUL99
SLPA1234	Microb Comm-Determine if Model-Rel SW is Under S		5	22JUL99	28JUL99
SLPA1236	Microb Comm-Determine if Data/DTN in TDMS		3	26JUL99	28JUL99
SLPA1238	Microb Comm-Place Model-Related SW Under SMS Con		10	29JUL99	11AUG99
SLPA1240	Microb Comm-Submit Data/DTN to TDMS as Necessary		22	29JUL99	27AUG99
SLPA1242	Microb Comm-Verify Model-Related Software		44	12AUG99	14OCT99
SLPA1224	3.10Q Chkg/Revw (Microb Communities)		10	17AUG99	30AUG99
SLPA1244	Microb Comm-Procurement Related Issues ID'd to C		0		27AUG99
SLPA1246	Microb Comm-Data Related Software Issues Identif		0		27AUG99
SLPA1248	Microb Comm-Determine if Data Rel SW is Under SM		5	30AUG99	03SEP99
SLPA1250	Microb Comm-Resolve Procurement Related Data Iss		10	30AUG99	13SEP99
SLPA1252	Microb Comm-Verify/Trace Data		44	30AUG99	01NOV99
SLPA1226	Prep Fnl 3.10Q Rpt (Microb Communities)		10	31AUG99	14SEP99
SLPA1254	Microb Comm-Place Under SMS Control as Necessary		10	07SEP99	20SEP99
SLPA1256	Microb Comm-Verify Data-Related Software		10	21SEP99	04OCT99
SLPA1258	Microb Comm-Qualified/Verified SW Available		0		14OCT99
SLPA1260	Microb Comm-Update TDMS		5	02NOV99	08NOV99
SLPA1262	Microb Comm-Qualified/Verified Data Available		0		08NOV99



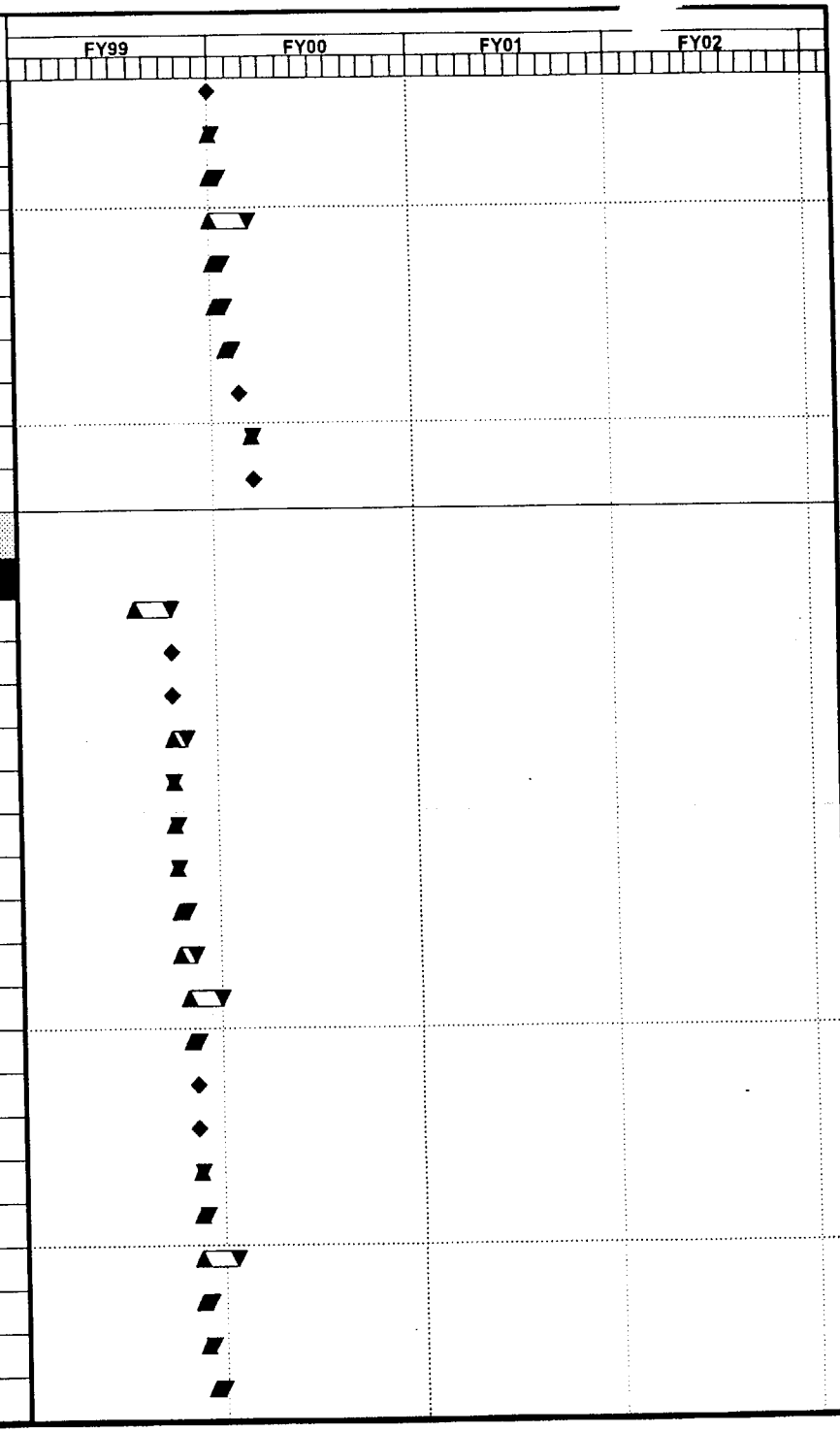
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
EB195 Colloid Concentration					
120 Engineered Barrier System Operations					
SLPA1264	Colloid Concentration - AP3.10Q		88	03MAY99*	03SEP99
SLPA1272	Colloidal Con-Input Parameters and Data Identifi		0		03SEP99
SLPA1274	Colloidal Con-Models and Codes Identified		0		03SEP99
SLPA1266	Prep 3.10Q Drft Doc (Colloidal Concentration)		18	07SEP99	30SEP99
SLPA1276	Colloidal Con-Determine DTN Assignment		2	07SEP99	08SEP99
SLPA1278	Colloidal Con-Determine if Model-Rel SW is Under		5	07SEP99	13SEP99
SLPA1280	Colloidal Con-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99
SLPA1282	Colloidal Con-Place Model-Related SW Under SMS C		10	14SEP99	27SEP99
SLPA1284	Colloidal Con-Submit Data/DTN to TDMS as Necessa		22	14SEP99	14OCT99
SLPA1286	Colloidal Con-Verify Model-Related Software		44	28SEP99	02DEC99
SLPA1268	3.10Q Chkg/Revw (Colloidal Concentration)		10	01OCT99	15OCT99
SLPA1288	Colloidal Con-Procurement Related Issues ID'd to		0		14OCT99
SLPA1290	Colloidal Con-Data Related Software Issues Ident		0		14OCT99
SLPA1292	Colloidal Con-Determine if Data Rel SW is Under		5	15OCT99	21OCT99
SLPA1294	Colloidal Con-Resolve Procurement Related Data I		10	15OCT99	28OCT99
SLPA1296	Colloidal Con-Verify/Trace Data		44	15OCT99	20DEC99
SLPA1270	Prep Fnl 3.10Q Rpt (Colloidal Concentration)		10	18OCT99	29OCT99
SLPA1298	Colloidal Con-Place Under SMS Control as Necessa		10	22OCT99	04NOV99
SLPA1300	Colloidal Con-Verify Data-Related Software		10	05NOV99	19NOV99
SLPA1302	Colloidal Con-Qualified/Verified SW Available		0		02DEC99
SLPA1304	Colloidal Con-Update TDMS		5	21DEC99	28DEC99
SLPA1306	Colloidal Con-Qualified/Verified Data Available		0		28DEC99
EB205 EBS Radinuclide Transport Model					
120 Engineered Barrier System Operations					
RPPM060A	EBS Radinuclide Transport Model - AP3.10Q		89	01JUN99*	05OCT99
RPE360	EBS Rad Trans-Input Parameters and Data Identifi		0		05OCT99
RPE362	EBS Rad Trans-Models and Codes Identified		0		05OCT99
RPE364	EBS Rad Trans-Determine DTN Assignment		2	06OCT99	07OCT99
RPE388	EBS Rad Trans-Determine if Model-Rel SW is Under		5	06OCT99	13OCT99



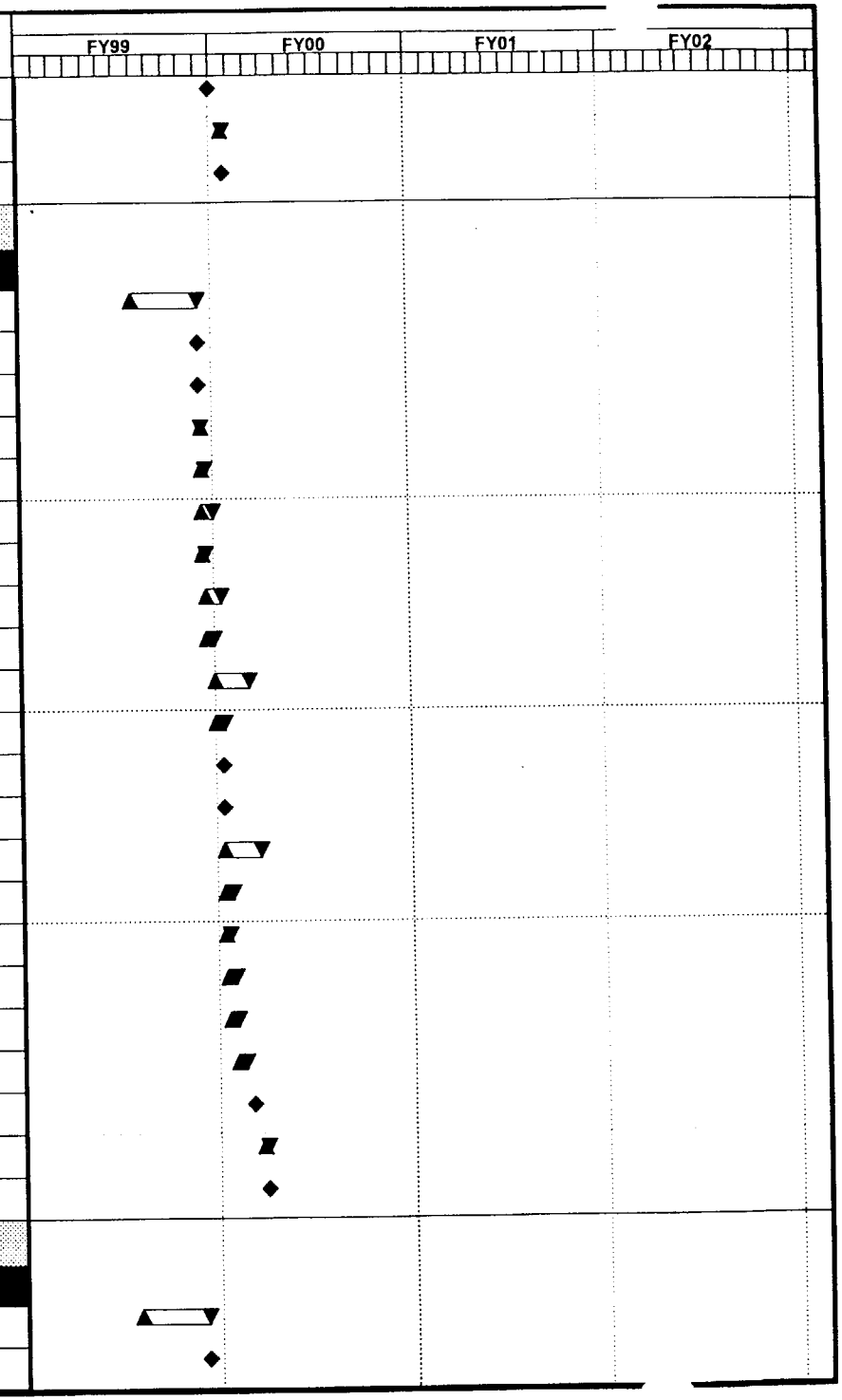
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
RPPM060B	Prep 3.10Q Drft Doc(EBS Radinuclide Trans Model)		18	06OCT99	01NOV99
RPE366	EBS Rad Trans-Determine if Data/DTN in TDMS		3	08OCT99	13OCT99
RPE368	EBS Rad Trans-Submit Data/DTN to TDMS as Necessa		22	14OCT99	15NOV99
RPE390	EBS Rad Trans-Place Model-Related SW Under SMS C		10	14OCT99	27OCT99
RPE392	EBS Rad Trans-Verify Model-Related Software		44	28OCT99	04JAN00
RPPM060C	3.10Q Chkg/Revw (EBS Radinuclide Trans Model)		10	02NOV99	16NOV99
RPE372	EBS Rad Trans-Procurement Related Issues ID'd to		0		15NOV99
RPE380	EBS Rad Trans-Data Related Software Issues Ident		0		15NOV99
RPE370	EBS Rad Trans-Verify/Trace Data		44	16NOV99	20JAN00
RPE374	EBS Rad Trans-Resolve Procurement Related Data I		10	16NOV99	01DEC99
RPE382	EBS Rad Trans-Determine if Data Rel SW is Under		5	16NOV99	22NOV99
RPPM060D	Prep Fnl 3.10Q Rpt (EBS Radinuclide Trans Model)		10	17NOV99	02DEC99
RPE384	EBS Rad Trans-Place Under SMS Control as Necessa		10	23NOV99	08DEC99
RPE386	EBS Rad Trans-Verify Data-Related Software		10	09DEC99	22DEC99
RPE394	EBS Rad Trans-Qualified/Verified SW Available		0		04JAN00
RPE376	EBS Rad Trans-Update TDMS		5	21JAN00	27JAN00
RPE378	EBS Rad Trans-Qualified/Verified Data Available		0		27JAN00
EB208 Seepage/Cement Interaction					
120 Engineered Barrier System Operations					
SLPA1308	Seepage/Cement Interaction - AP3.10Q		79	03MAY99*	23AUG99
SLPA1316	Sepg/Cemnt Int-Input Parameters and Data Identif		0		23AUG99
SLPA1318	Sepg/Cemnt Int-Models and Codes Identified		0		23AUG99
SLPA1310	Prep 3.10Q Drft Doc (Sepg/Cemnt Interaction)		18	24AUG99	17SEP99
SLPA1320	Sepg/Cemnt Int-Determine DTN Assignment		2	24AUG99	25AUG99
SLPA1322	Sepg/Cemnt Int-Determine if Model-Rel SW is Unde		5	24AUG99	30AUG99
SLPA1324	Sepg/Cemnt Int-Determine if Data/DTN in TDMS		3	26AUG99	30AUG99
SLPA1326	Sepg/Cemnt Int-Place Model-Related SW Under SMS		10	31AUG99	14SEP99
SLPA1328	Sepg/Cemnt Int-Submit Data/DTN to TDMS as Necess		22	31AUG99	30SEP99
SLPA1330	Sepg/Cemnt Int-Verify Model-Related Software		44	15SEP99	17NOV99
SLPA1312	3.10Q Chkg/Revw (Sepg/Cemnt Interaction)		10	20SEP99	01OCT99
SLPA1332	Sepg/Cemnt Int-Procurement Related Issues ID'd t		0		30SEP99



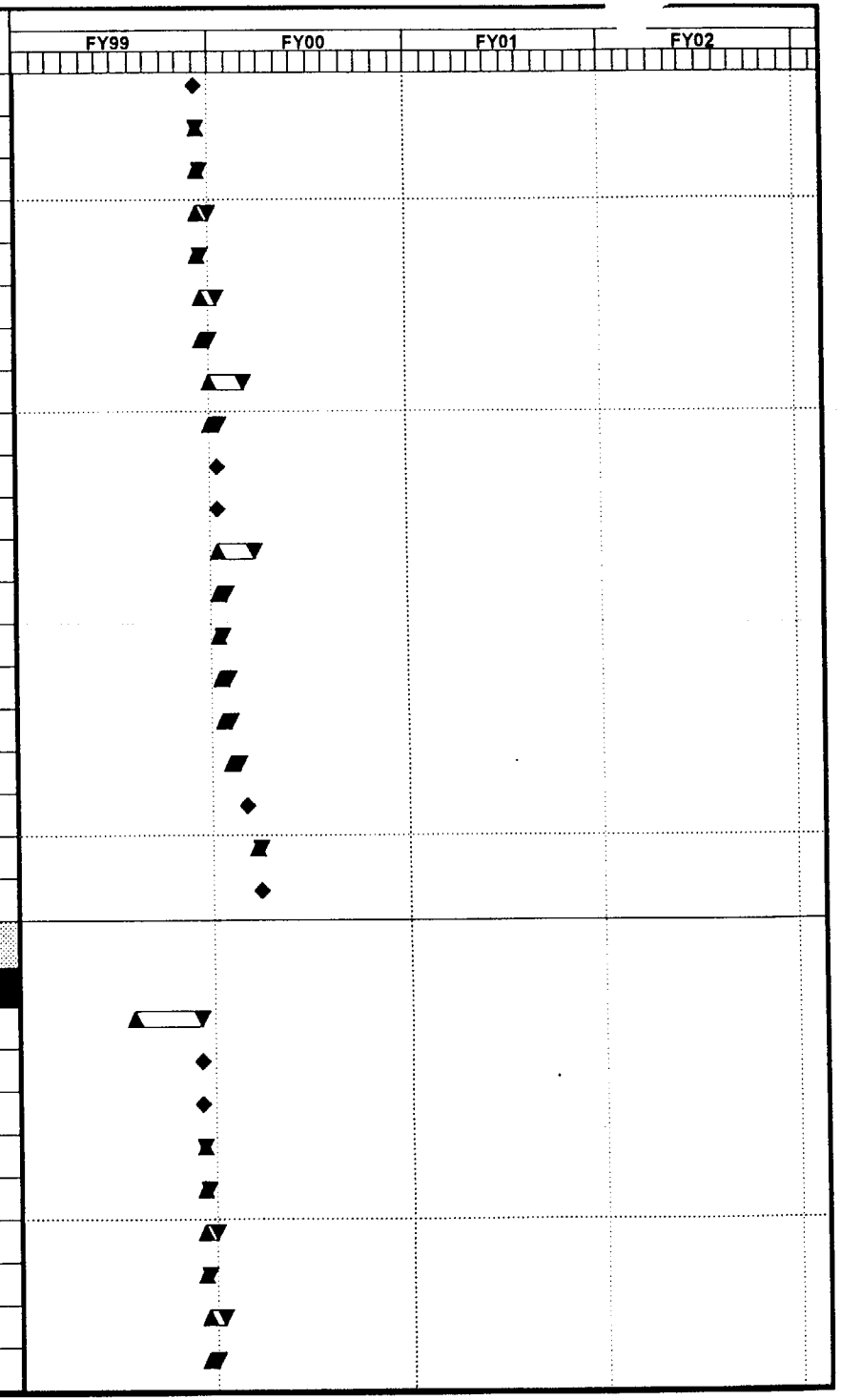
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1334	Sepg/Cemnt Int-Data Related Software Issues Iden		0		30SEP99
SLPA1336	Sepg/Cemnt Int-Determine if Data Rel SW is Under		5	01OCT99	07OCT99
SLPA1338	Sepg/Cemnt Int-Resolve Procurement Related Data		10	01OCT99	15OCT99
SLPA1340	Sepg/Cemnt Int-Verify/Trace Data		44	01OCT99	07DEC99
SLPA1314	Prep Fnl 3.10Q Rpt (Sepg/Cemnt Interaction)		10	04OCT99	18OCT99
SLPA1342	Sepg/Cemnt Int-Place Under SMS Control as Necess		10	08OCT99	22OCT99
SLPA1344	Sepg/Cemnt Int-Verify Data-Related Software		10	25OCT99	05NOV99
SLPA1346	Sepg/Cemnt Int-Qualified/Verified SW Available		0		17NOV99
SLPA1348	Sepg/Cemnt Int-Update TDMS		5	08DEC99	14DEC99
SLPA1350	Sepg/Cemnt Int-Qualified/Verified Data Available		0		14DEC99
EB215 Seepage/Invert Interaction					
120 Engineered Barrier System Operations					
SLPA1352	Seepage/Invert Interaction - Ap3.10Q		46	03MAY99*	07JUL99
SLPA1360	Sepg/Invert Int-Input Parameters and Data Identi		0		07JUL99
SLPA1362	Sepg/Invert Int-Models and Codes Identified		0		07JUL99
SLPA1354	Prep 3.10Q Drft Doc (Sepg/Invert Interaction)		18	08JUL99	02AUG99
SLPA1364	Sepg/Invert Int-Determine DTN Assignment		2	08JUL99	09JUL99
SLPA1366	Sepg/Invert Int-Determine if Model-Rel SW is Und		5	08JUL99	14JUL99
SLPA1368	Sepg/Invert Int-Determine if Data/DTN in TDMS		3	12JUL99	14JUL99
SLPA1370	Sepg/Invert Int-Place Model-Related SW Under SMS		10	15JUL99	28JUL99
SLPA1372	Sepg/Invert Int-Submit Data/DTN to TDMS as Neces		22	15JUL99	13AUG99
SLPA1374	Sepg/Invert Int-Verify Model-Related Software		44	29JUL99	29SEP99
SLPA1356	3.10Q Chkg/Revw (Sepg/Invert Interaction)		10	03AUG99	16AUG99
SLPA1376	Sepg/Invert Int-Procurement Related Issues ID'd		0		13AUG99
SLPA1378	Sepg/Invert Int-Data Related Software Issues Ide		0		13AUG99
SLPA1380	Sepg/Invert Int-Determine if Data Rel SW is Unde		5	16AUG99	20AUG99
SLPA1382	Sepg/Invert Int-Resolve Procurement Related Data		10	16AUG99	27AUG99
SLPA1384	Sepg/Invert Int-Verify/Trace Data		44	16AUG99	18OCT99
SLPA1358	Prep Fnl 3.10Q Rpt (Sepg/Invert Interaction)		10	17AUG99	30AUG99
SLPA1386	Sepg/Invert Int-Place Under SMS Control as Neces		10	23AUG99	03SEP99
SLPA1388	Sepg/Invert Int-Verify Data-Related Software		10	07SEP99	20SEP99



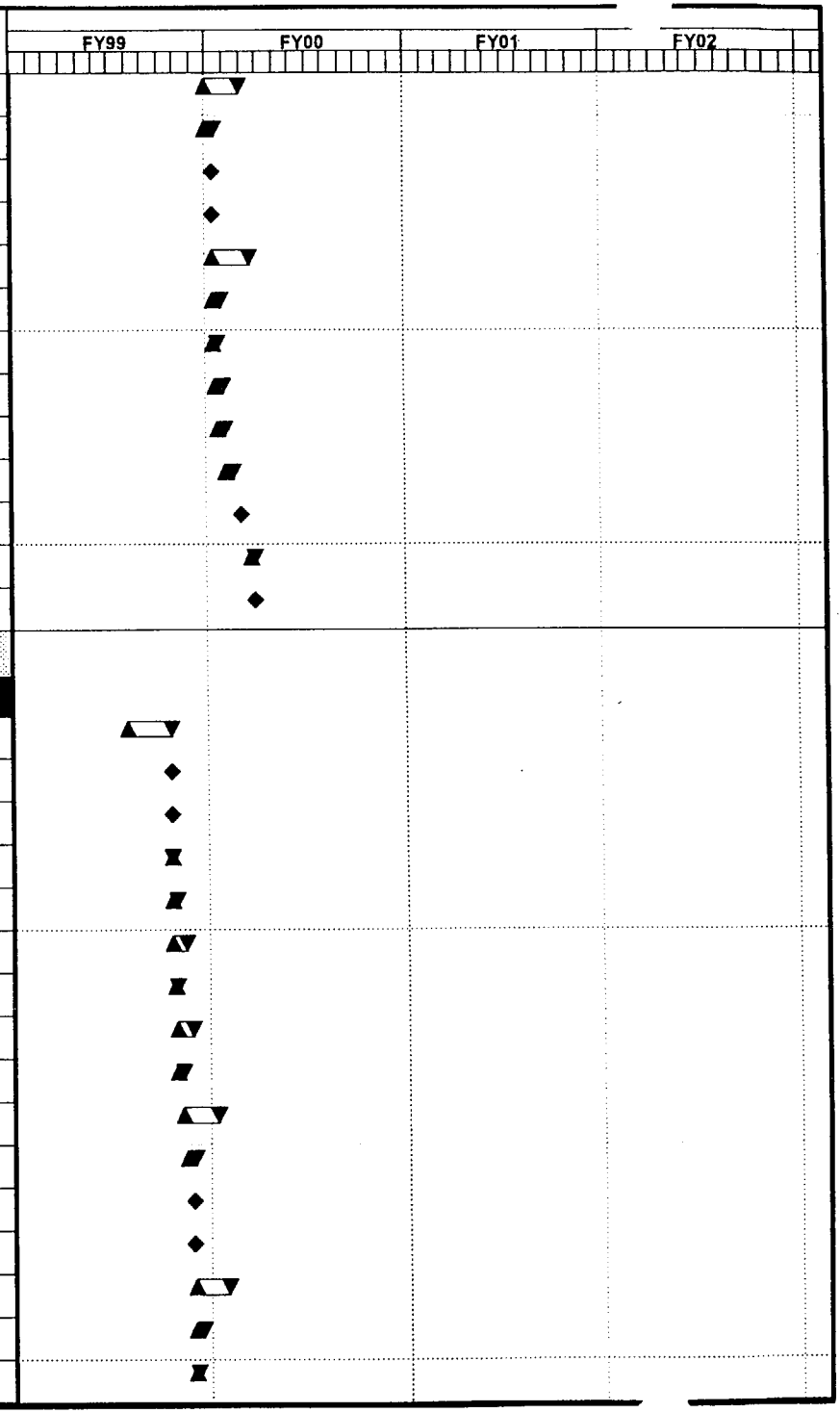
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1390	Sepg/Invert Int-Qualified/Verified SW Available		0		29SEP99
SLPA1392	Sepg/Invert Int-Update TDMS		5	19OCT99	25OCT99
SLPA1394	Sepg/Invert Int-Qualified/Verified Data Availabl		0		25OCT99
EB225 IN-Drift THC Analysis					
120 Engineered Barrier System Operations					
RPPM065A	In-Drift THC Analysis - AP3.10Q		88	03MAY99*	03SEP99
RPE396	In-Drift THC-Input Parameters and Data Identifie		0		03SEP99
RPE398	In-Drift THC-Models and Codes Identified		0		03SEP99
RPE400	In-Drift THC-Determine DTN Assignment		2	07SEP99	08SEP99
RPE424	In-Drift THC-Determine if Model-Rel SW is Under		5	07SEP99	13SEP99
RPPM065B	Prep 3.10Q Drft Doc(In-Drift THC Analysis)		18	07SEP99	30SEP99
RPE402	In-Drift THC-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99
RPE404	In-Drift THC-Submit Data/DTN to TDMS as Necessar		22	14SEP99	14OCT99
RPE426	In-Drift THC-Place Model-Related SW Under SMS Co		10	14SEP99	27SEP99
RPE428	In-Drift THC-Verify Model-Related Software		44	28SEP99	02DEC99
RPPM065C	3.10Q Chkg/Revw (In-Drift THC Analysis)		10	01OCT99	15OCT99
RPE408	In-Drift THC-Procurement Related Issues ID'd to		0		14OCT99
RPE416	In-Drift THC-Data Related Software Issues Identi		0		14OCT99
RPE406	In-Drift THC-Verify/Trace Data		44	15OCT99	20DEC99
RPE410	In-Drift THC-Resolve Procurement Related Data Is		10	15OCT99	28OCT99
RPE418	In-Drift THC-Determine if Data Rel SW is Under S		5	15OCT99	21OCT99
RPPM065D	Prep Fnl 3.10Q Rpt (In-Drift THC Analysis)		10	18OCT99	29OCT99
RPE420	In-Drift THC-Place Under SMS Control as Necessar		10	22OCT99	04NOV99
RPE422	In-Drift THC-Verify Data-Related Software		10	05NOV99	19NOV99
RPE430	In-Drift THC-Qualified/Verified SW Available		0		02DEC99
RPE412	In-Drift THC-Update TDMS		5	21DEC99	28DEC99
RPE414	In-Drift THC-Qualified/Verified Data Available		0		28DEC99
EB227 Drainage					
120 Engineered Barrier System Operations					
RPPM070A	Drainage - AP3.10Q		88	03MAY99*	03SEP99
RPE432	Drainage-Input Parameters and Data Identified		0		03SEP99



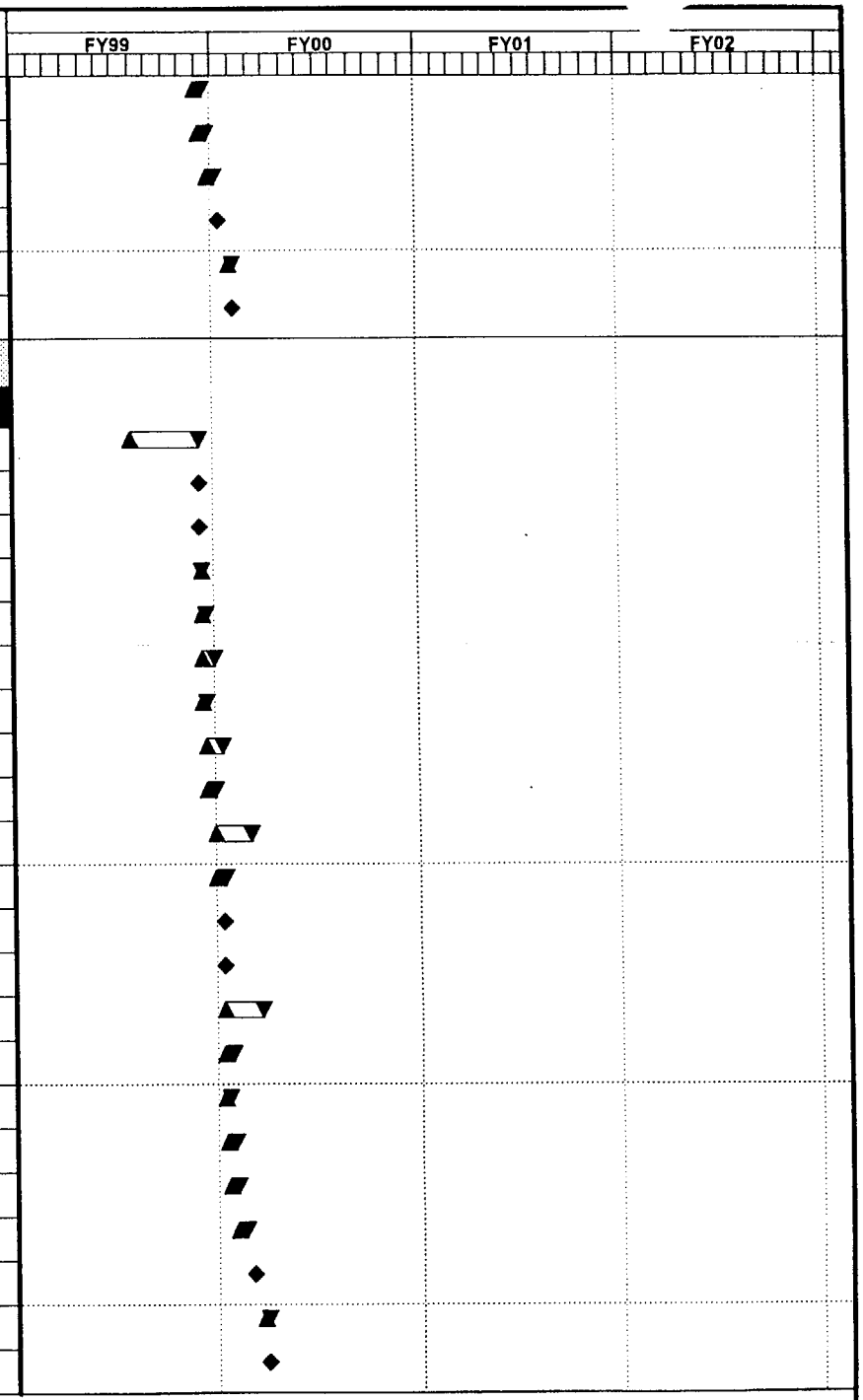
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
RPE434	Drainage-Models and Codes Identified		0		03SEP99
RPE436	Drainage-Determine DTN Assignment		2	07SEP99	08SEP99
RPE460	Drainage-Determine if Model-Rel SW is Under SMS		5	07SEP99	13SEP99
RPPM070B	Prep 3.10Q Drft Doc(Drainage)		18	07SEP99	30SEP99
RPE438	Drainage-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99
RPE440	Drainage-Submit Data/DTN to TDMS as Necessary		22	14SEP99	14OCT99
RPE462	Drainage-Place Model-Related SW Under SMS Contro		10	14SEP99	27SEP99
RPE464	Drainage-Verify Model-Related Software		44	28SEP99	02DEC99
RPPM070C	3.10Q Chkg/Revw (Drainage)		10	01OCT99	15OCT99
RPE444	Drainage-Procurement Related Issues ID'd to Car		0		14OCT99
RPE452	Drainage-Data Related Software Issues Identified		0		14OCT99
RPE442	Drainage-Verify/Trace Data		44	15OCT99	20DEC99
RPE446	Drainage-Resolve Procurement Related Data Issues		10	15OCT99	28OCT99
RPE454	Drainage-Determine if Data Rel SW is Under SMS C		5	15OCT99	21OCT99
RPPM070D	Prep Fnl 3.10Q Rpt (Drainage)		10	18OCT99	29OCT99
RPE456	Drainage-Place Under SMS Control as Necessary		10	22OCT99	04NOV99
RPE458	Drainage-Verify Data-Related Software		10	05NOV99	19NOV99
RPE466	Drainage-Qualified/Verified SW Available		0		02DEC99
RPE448	Drainage-Update TDMS		5	21DEC99	28DEC99
RPE450	Drainage-Qualified/Verified Data Available		0		28DEC99
EB229 Ventilation					
120 Engineered Barrier System Operations					
RPPM075A	Ventilation - AP3.10Q		88	03MAY99*	03SEP99
RPE828	Ventilation-Input Parameters and Data Identified		0		03SEP99
RPE830	Ventilation-Models and Codes Identified		0		03SEP99
RPE832	Ventilation-Determine DTN Assignment		2	07SEP99	08SEP99
RPE856	Ventilation-Determine if Model-Rel SW is Under S		5	07SEP99	13SEP99
RPPM075B	Prep 3.10Q Drft Doc(Ventilation)		18	07SEP99	30SEP99
RPE834	Ventilation-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99
RPE836	Ventilation-Submit Data/DTN to TDMS as Necessary		22	14SEP99	14OCT99
RPE858	Ventilation-Place Model-Related SW Under SMS Con		10	14SEP99	27SEP99



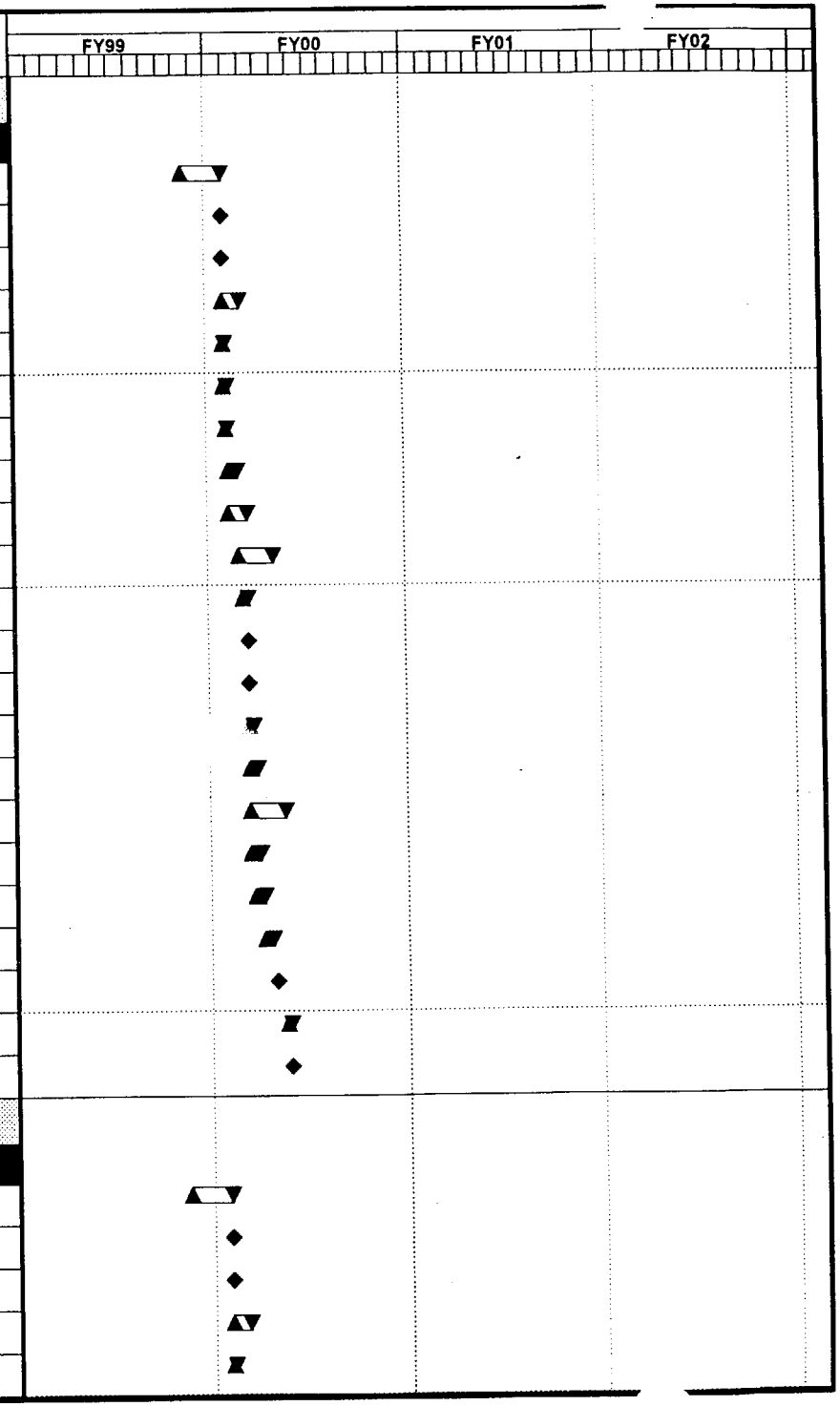
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
RPE860	Ventilation-Verify Model-Related Software		44	28SEP99	02DEC99
RPPM075C	3.10Q Chkg/Revw (Ventilation)		10	01OCT99	15OCT99
RPE840	Ventilation-Procurement Related Issues ID'd to C		0		14OCT99
RPE848	Ventilation-Data Related Software Issues Identif		0		14OCT99
RPE838	Ventilation-Verify/Trace Data		44	15OCT99	20DEC99
RPE842	Ventilation-Resolve Procurement Related Data Iss		10	15OCT99	28OCT99
RPE850	Ventilation-Determine if Data Rel SW is Under SM		5	15OCT99	21OCT99
RPPM075D	Prep Fnl 3.10Q Rpt (Ventilation)		10	18OCT99	29OCT99
RPE852	Ventilation-Place Under SMS Control as Necessary		10	22OCT99	04NOV99
RPE854	Ventilation-Verify Data-Related Software		10	05NOV99	19NOV99
RPE862	Ventilation-Qualified/Verified SW Available		0		02DEC99
RPE844	Ventilation-Update TDMS		5	21DEC99	28DEC99
RPE846	Ventilation-Qualified/Verified Data Available		0		28DEC99
EB231 Drift Stability					
120 Engineered Barrier System Operations					
RPPM080A	Drift Stability - AP3.10Q		56	03MAY99*	21JUL99
RPE504	Drift Stability-Input Parameters and Data Identi		0		21JUL99
RPE506	Drift Stability-Models and Codes Identified		0		21JUL99
RPE508	Drift Stability-Determine DTN Assignment		2	22JUL99	23JUL99
RPE532	Drift Stability-Determine if Model-Rel SW is Und		5	22JUL99	28JUL99
RPPM080B	Prep 3.10Q Drft Doc(Drift Stability)		18	22JUL99	16AUG99
RPE510	Drift Stability-Determine if Data/DTN in TDMS		3	26JUL99	28JUL99
RPE512	Drift Stability-Submit Data/DTN to TDMS as Neces		22	29JUL99	27AUG99
RPE534	Drift Stability-Place Model-Related SW Under SMS		10	29JUL99	11AUG99
RPE536	Drift Stability-Verify Model-Related Software		44	12AUG99	14OCT99
RPPM080C	3.10Q Chkg/Revw (Drift Stability)		10	17AUG99	30AUG99
RPE516	Drift Stability-Procurement Related Issues ID'd		0		27AUG99
RPE524	Drift Stability-Data Related Software Issues Ide		0		27AUG99
RPE514	Drift Stability-Verify/Trace Data		44	30AUG99	01NOV99
RPE518	Drift Stability-Resolve Procurement Related Data		10	30AUG99	13SEP99
RPE526	Drift Stability-Determine if Data Rel SW is Unde		5	30AUG99	03SEP99



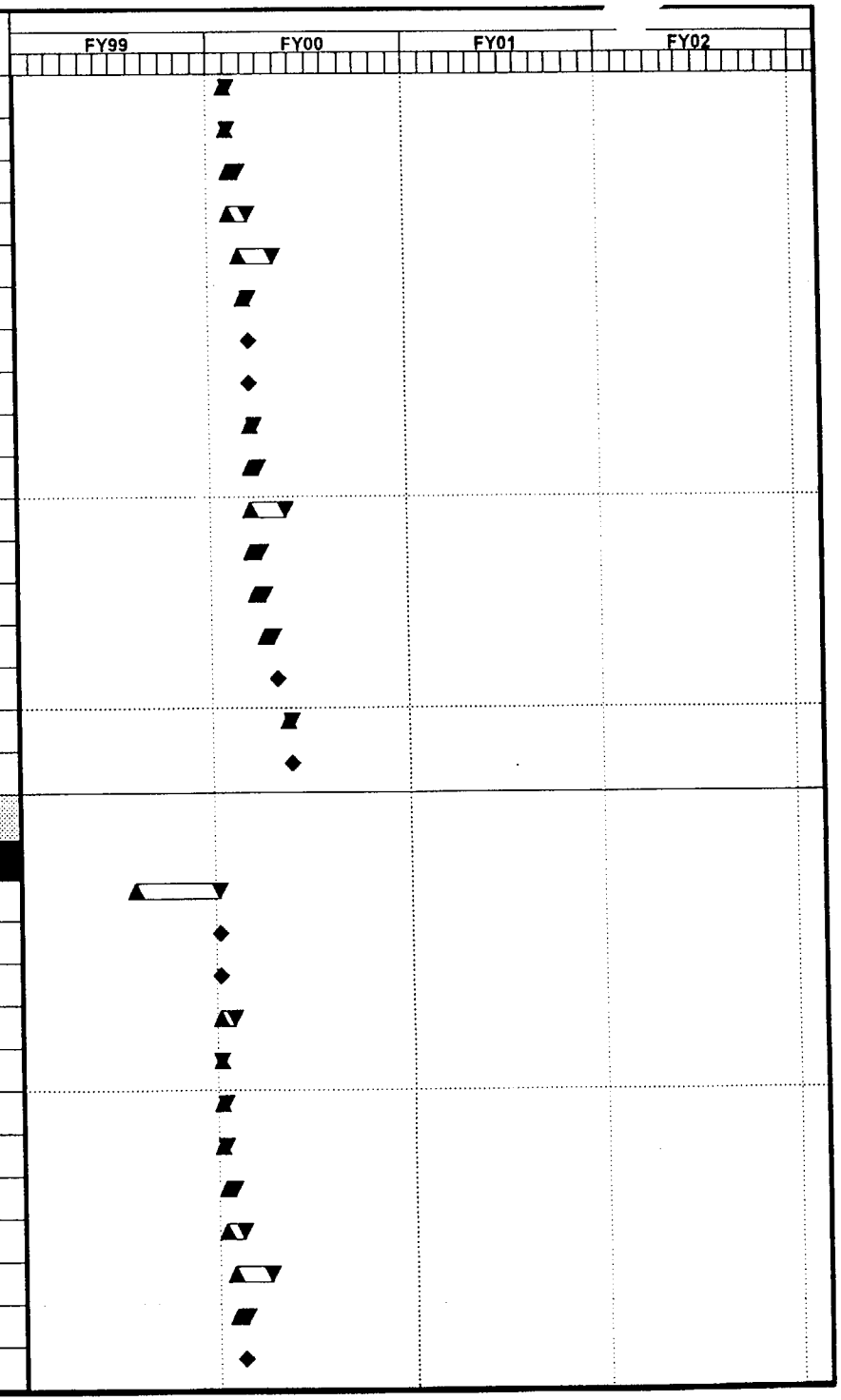
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
RPPM080D	Prep Fnl 3.10Q Rpt (Drift Stability)		10	31AUG99	14SEP99
RPE528	Drift Stability-Place Under SMS Control as Neces		10	07SEP99	20SEP99
RPE530	Drift Stability-Verify Data-Related Software		10	21SEP99	04OCT99
RPE538	Drift Stability-Qualified/Verified SW Available		0		14OCT99
RPE520	Drift Stability-Update TDMS		5	02NOV99	08NOV99
RPE522	Drift Stability-Qualified/Verified Data Availabl		0		08NOV99
EB235 Diversion Features					
120 Engineered Barrier System Operations					
RPPM085A	Diversion Features - AP3.10Q		88	03MAY99*	03SEP99
RPE540	Diversion Feat-Input Parameters and Data Identif		0		03SEP99
RPE542	Diversion Feat-Models and Codes Identified		0		03SEP99
RPE544	Diversion Feat-Determine DTN Assignment		2	07SEP99	08SEP99
RPE568	Diversion Feat-Determine if Model-Rel SW is Unde		5	07SEP99	13SEP99
RPPM085B	Prep 3.10Q Drft Doc(Diversion Features)		18	07SEP99	30SEP99
RPE546	Diversion Feat-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99
RPE548	Diversion Feat-Submit Data/DTN to TDMS as Necess		22	14SEP99	14OCT99
RPE570	Diversion Feat-Place Model-Related SW Under SMS		10	14SEP99	27SEP99
RPE572	Diversion Feat-Verify Model-Related Software		44	28SEP99	02DEC99
RPPM085C	3.10Q Chkg/Revw (Diversion Features)		10	01OCT99	15OCT99
RPE552	Diversion Feat-Procurement Related Issues ID'd t		0		14OCT99
RPE560	Diversion Feat-Data Related Software Issues Iden		0		14OCT99
RPE550	Diversion Feat-Verify/Trace Data		44	15OCT99	20DEC99
RPE554	Diversion Feat-Resolve Procurement Related Data		10	15OCT99	28OCT99
RPE562	Diversion Feat-Determine if Data Rel SW is Under		5	15OCT99	21OCT99
RPPM085D	Prep Fnl 3.10Q Rpt (Diversion Features)		10	18OCT99	29OCT99
RPE564	Diversion Feat-Place Under SMS Control as Necess		10	22OCT99	04NOV99
RPE566	Diversion Feat-Verify Data-Related Software		10	05NOV99	19NOV99
RPE574	Diversion Feat-Qualified/Verified SW Available		0		02DEC99
RPE556	Diversion Feat-Update TDMS		5	21DEC99	28DEC99
RPE558	Diversion Feat-Qualified/Verified Data Available		0		28DEC99



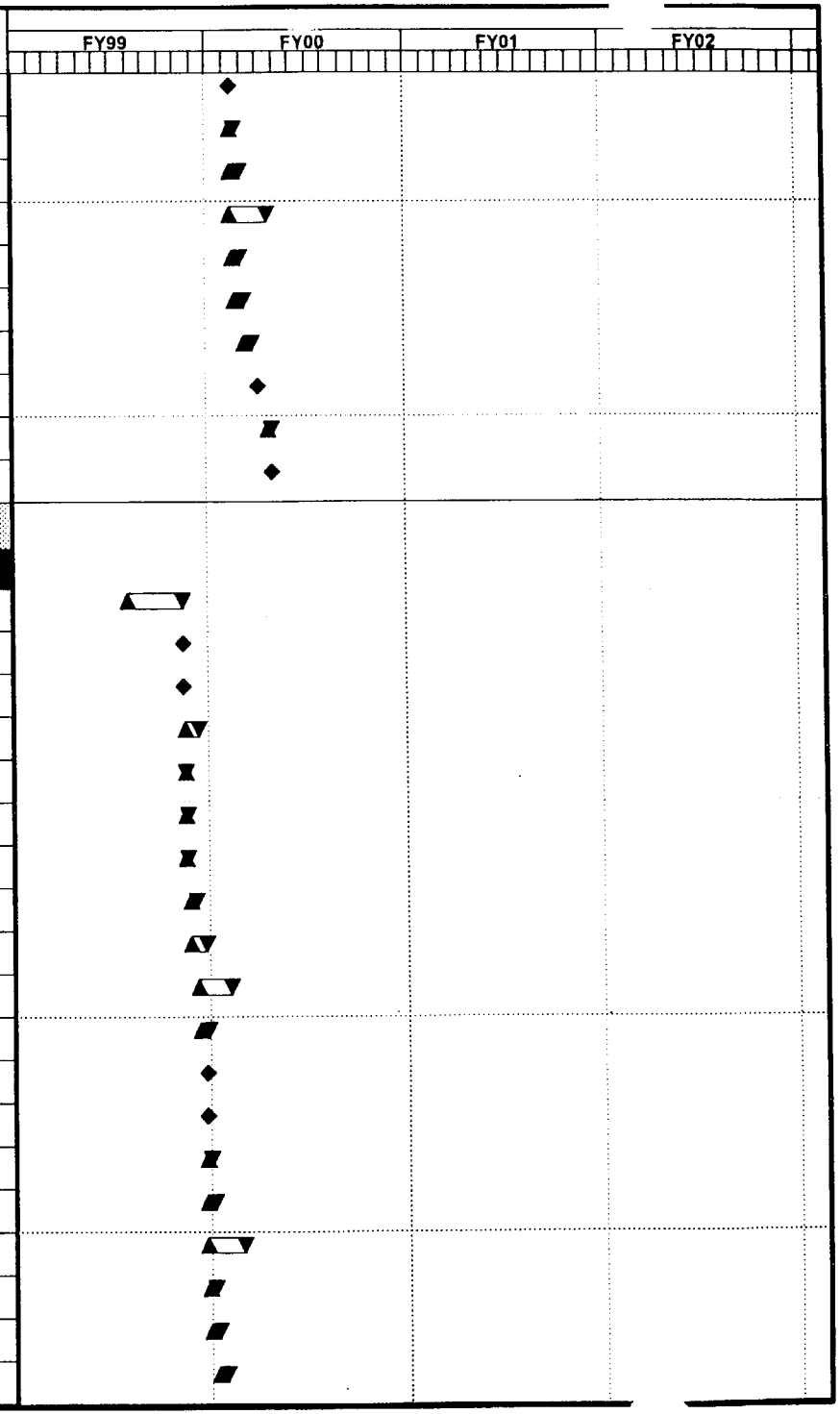
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
EB245 Water Distr/Rem Abstraction					
120 Engineered Barrier System Operations					
SLPA1396	Water Distr/Rem Abstraction - AP3.10Q		54	16AUG99*	01NOV99
SLPA1404	Water Distr/Rem Abst-Input Parameters and Data I		0		01NOV99
SLPA1406	Water Distr/Rem Abst-Models and Codes Identified		0		01NOV99
SLPA1398	Prep 3.10Q Drft Doc(Water Distr/Rem Abstraction)		18	02NOV99	30NOV99
SLPA1408	Water Distr/Rem Abst-Determine DTN Assignment		2	02NOV99	03NOV99
SLPA1410	Water Distr/Rem Abst-Determine if Model-Rel SW i		5	02NOV99	08NOV99
SLPA1412	Water Distr/Rem Abst-Determine if Data/DTN in TD		3	04NOV99	08NOV99
SLPA1414	Water Distr/Rem Abst-Place Model-Related SW Unde		10	09NOV99	23NOV99
SLPA1416	Water Distr/Rem Abst-Submit Data/DTN to TDMS as		22	09NOV99	3DEC99
SLPA1418	Water Distr/Rem Abst-Verify Model-Related Softwa		44	24NOV99	28JAN00
SLPA1400	3.10Q Chkg/Revw (Water Distr/Rem Abstraction)		10	01DEC99	14DEC99
SLPA1420	Water Distr/Rem Abst-Procurement Related Issues		0		13DEC99
SLPA1422	Water Distr/Rem Abst-Data Related Software Issue		0		13DEC99
SLPA1424	Water Distr/Rem Abst-Determine if Data Rel SW is		5	14DEC99	20DEC99
SLPA1426	Water Distr/Rem Abst-Resolve Procurement Related		10	14DEC99	28DEC99
SLPA1428	Water Distr/Rem Abst-Verify/Trace Data		44	14DEC99	15FEB00
SLPA1402	Prep Fnl 3.10Q Rpt (Water Distr/Rem Abstraction)		10	15DEC99	29DEC99
SLPA1430	Water Distr/Rem Abst-Place Under SMS Control as		10	21DEC99	05JAN00
SLPA1432	Water Distr/Rem Abst-Verify Data-Related Softwar		10	06JAN00	19JAN00
SLPA1434	Water Distr/Rem Abst-Qualified/Verified SW Avail		0		28JAN00
SLPA1436	Water Distr/Rem Abst-Update TDMS		5	16FEB00	23FEB00
SLPA1438	Water Distr/Rem Abst-Qualified/Verified Data Ava		0		23FEB00
EB255 EBS Rad. Trans. Abstraction					
120 Engineered Barrier System Operations					
SLPA1440	EBS Rad. Trans. Abstraction - AP3.10Q		54	16AUG99*	01NOV99
SLPA1448	EBS Rad. Trans. Abst-Input Parameters and Data I		0		01NOV99
SLPA1450	EBS Rad. Trans. Abst-Models and Codes Identified		0		01NOV99
SLPA1442	Prep 3.10Q Drft Doc(EBS Rad. Trans. Abstraction)		18	02NOV99	30NOV99
SLPA1452	EBS Rad. Trans. Abst-Determine DTN Assignment		2	02NOV99	03NOV99



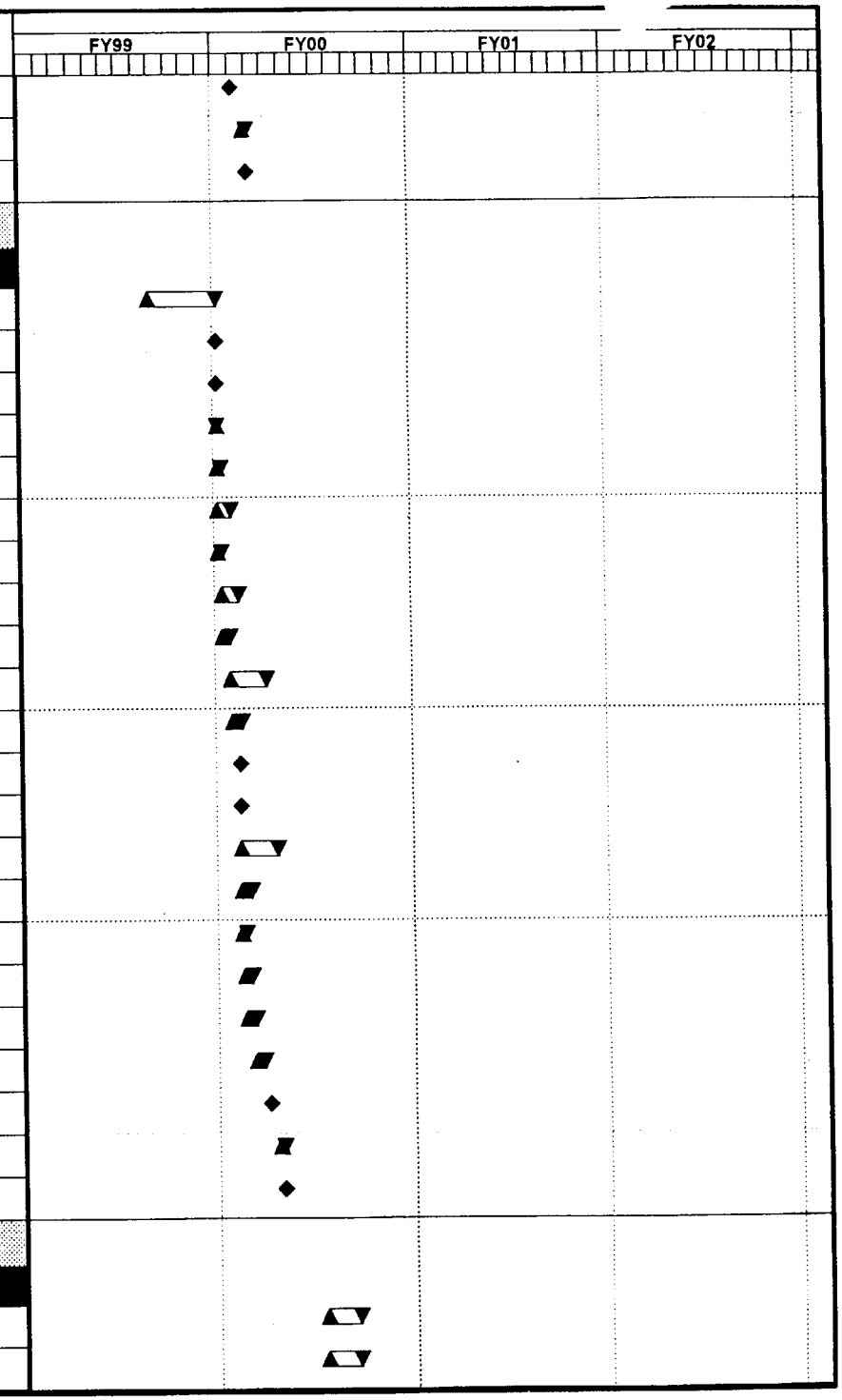
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1454	EBS Rad. Trans. Abst-Determine if Model-Rel SW i		5	02NOV99	08NOV99
SLPA1456	EBS Rad. Trans. Abst-Determine if Data/DTN in TD		3	04NOV99	08NOV99
SLPA1458	EBS Rad. Trans. Abst-Place Model-Related SW Unde		10	09NOV99	23NOV99
SLPA1460	EBS Rad. Trans. Abst-Submit Data/DTN to TDMS as		22	09NOV99	13DEC99
SLPA1462	EBS Rad. Trans. Abst-Verify Model-Related Softwa		44	24NOV99	28JAN00
SLPA1444	3.10Q Chkg/Revw (EBS Rad. Trans. Abstraction)		10	01DEC99	14DEC99
SLPA1464	EBS Rad. Trans. Abst-Procurement Related Issues		0		13DEC99
SLPA1466	EBS Rad. Trans. Abst-Data Related Software Issue		0		13DEC99
SLPA1468	EBS Rad. Trans. Abst-Determine if Data Rel SW is		5	14DEC99	20DEC99
SLPA1470	EBS Rad. Trans. Abst-Resolve Procurement Related		10	14DEC99	28DEC99
SLPA1472	EBS Rad. Trans. Abst-Verify/Trace Data		44	14DEC99	15FEB00
SLPA1446	Prep Fnl 3.10Q Rpt (EBS Rad. Trans. Abstraction)		10	15DEC99	29DEC99
SLPA1474	EBS Rad. Trans. Abst-Place Under SMS Control as		10	21DEC99	05JAN00
SLPA1476	EBS Rad. Trans. Abst-Verify Data-Related Softwar		10	06JAN00	19JAN00
SLPA1478	EBS Rad. Trans. Abst-Qualified/Verified SW Avail		0		28JAN00
SLPA1480	EBS Rad. Trans. Abst-Update TDMS		5	16FEB00	23FEB00
SLPA1482	EBS Rad. Trans. Abst-Qualified/Verified Data Ava		0		23FEB00
EB35 Phy/Chem Process Model					
120 Engineered Barrier System Operations					
SLPA1484	Phy/Chem Process Model - AP3.10Q		109	03MAY99*	05OCT99
SLPA1492	Phy/Chem Proc-Input Parameters and Data Identifi		0		05OCT99
SLPA1494	Phy/Chem Proc-Models and Codes Identified		0		05OCT99
SLPA1486	Prep 3.10Q Drft Doc(Phy/Chem Process Model)		18	06OCT99	01NOV99
SLPA1496	Phy/Chem Proc-Determine DTN Assignment		2	06OCT99	07OCT99
SLPA1498	Phy/Chem Proc-Determine if Model-Rel SW is Under		5	06OCT99	13OCT99
SLPA1500	Phy/Chem Proc-Determine if Data/DTN in TDMS		3	08OCT99	13OCT99
SLPA1502	Phy/Chem Proc-Place Model-Related SW Under SMS C		10	14OCT99	27OCT99
SLPA1504	Phy/Chem Proc-Submit Data/DTN to TDMS as Necessa		22	14OCT99	15NOV99
SLPA1506	Phy/Chem Proc-Verify Model-Related Software		44	28OCT99	04JAN00
SLPA1488	3.10Q Chkg/Revw(Phy/Chem Process Model)		10	02NOV99	16NOV99
SLPA1508	Phy/Chem Proc-Procurement Related Issues ID'd to		0		15NOV99



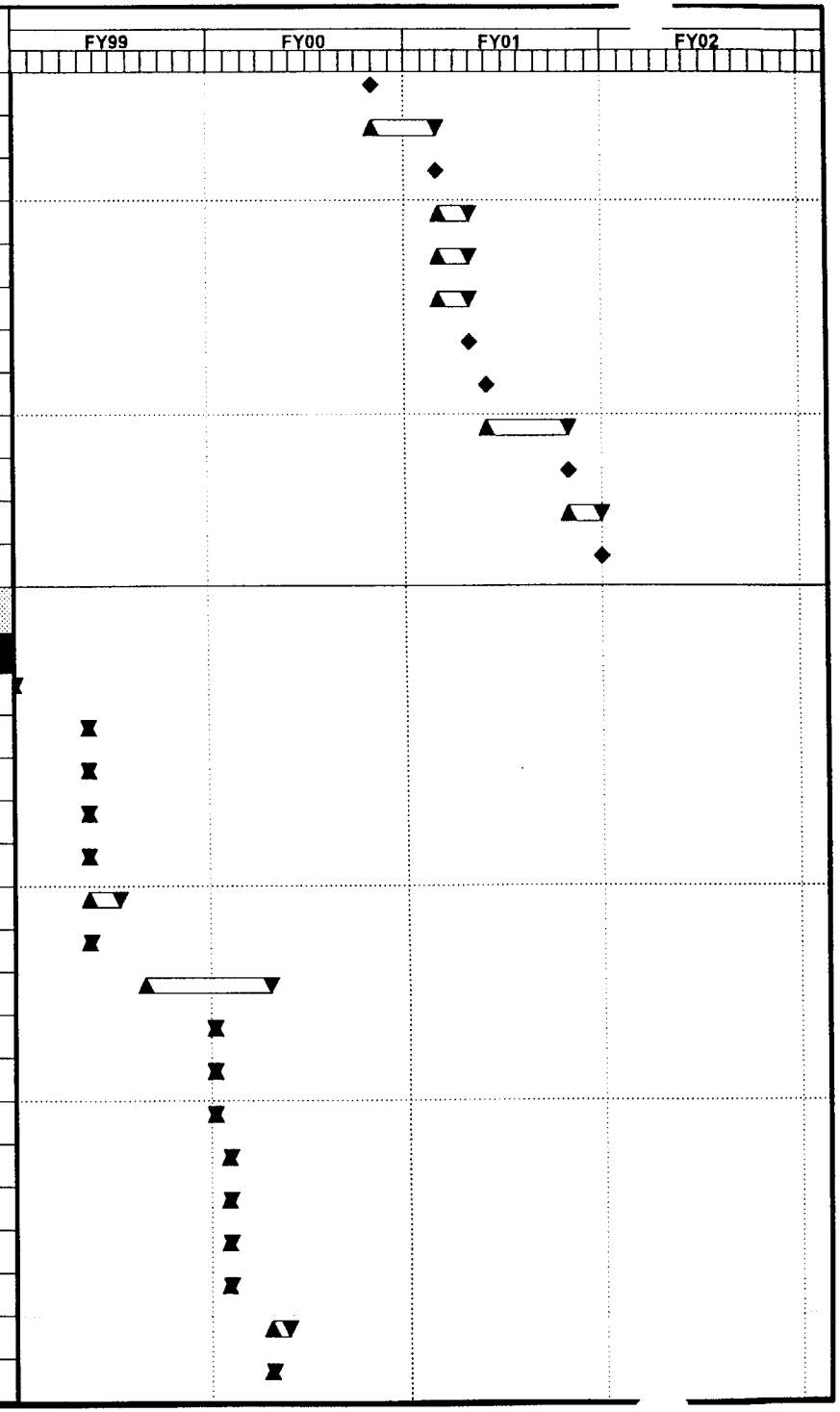
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1510	Phy/Chem Proc-Data Related Software Issues Ident		0		15NOV99
SLPA1512	Phy/Chem Proc-Determine if Data Rel SW is Under		5	16NOV99	22NOV99
SLPA1514	Phy/Chem Proc-Resolve Procurement Related Data I		10	16NOV99	01DEC99
SLPA1516	Phy/Chem Proc-Verify/Trace Data		44	16NOV99	20JAN00
SLPA1490	Prep Fnl 3.10Q Rpt(Phy/Chem Process Model)		10	17NOV99	02DEC99
SLPA1518	Phy/Chem Proc-Place Under SMS Control as Necessa		10	23NOV99	08DEC99
SLPA1520	Phy/Chem Proc-Verify Data-Related Software		10	09DEC99	22DEC99
SLPA1522	Phy/Chem Proc-Qualified/Verified SW Available		0		04JAN00
SLPA1524	Phy/Chem Proc-Update TDMS		5	21JAN00	27JAN00
SLPA1526	Phy/Chem Proc-Qualified/Verified Data Available		0		27JAN00
EB45 Precipitate Salts Analysis					
120 Engineered Barrier System Operations					
SLPA1528	Precipitate Salts Analysis - AP3.10Q		73	03MAY99*	13AUG99
SLPA1536	Precip Salts-Input Parameters and Data Identifie		0		13AUG99
SLPA1538	Precip Salts-Models and Codes Identified		0		13AUG99
SLPA1530	Prep 3.10Q Drft Doc(Precipitate Salts Analysis)		18	16AUG99	09SEP99
SLPA1540	Precip Salts-Determine DTN Assignment		2	16AUG99	17AUG99
SLPA1542	Precip Salts-Determine if Model-Rel SW is Under		5	16AUG99	20AUG99
SLPA1544	Precip Salts-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99
SLPA1546	Precip Salts-Place Model-Related SW Under SMS Co		10	23AUG99	03SEP99
SLPA1548	Precip Salts-Submit Data/DTN to TDMS as Necessar		22	23AUG99	22SEP99
SLPA1550	Precip Salts-Verify Model-Related Software		44	07SEP99	08NOV99
SLPA1532	3.10Q Chkg/Revw(Precipitate Salts Analysis)		10	10SEP99	23SEP99
SLPA1552	Precip Salts-Procurement Related Issues ID'd to		0		22SEP99
SLPA1554	Precip Salts-Data Related Software Issues Identi		0		22SEP99
SLPA1556	Precip Salts-Determine if Data Rel SW is Under S		5	23SEP99	29SEP99
SLPA1558	Precip Salts-Resolve Procurement Related Data Is		10	23SEP99	06OCT99
SLPA1560	Precip Salts-Verify/Trace Data		44	23SEP99	29NOV99
SLPA1534	Prep Fnl 3.10Q Rpt(Precipitates Salts Analysis)		10	24SEP99	07OCT99
SLPA1562	Precip Salts-Place Under SMS Control as Necessar		10	30SEP99	14OCT99
SLPA1564	Precip Salts-Verify Data-Related Software		10	15OCT99	28OCT99



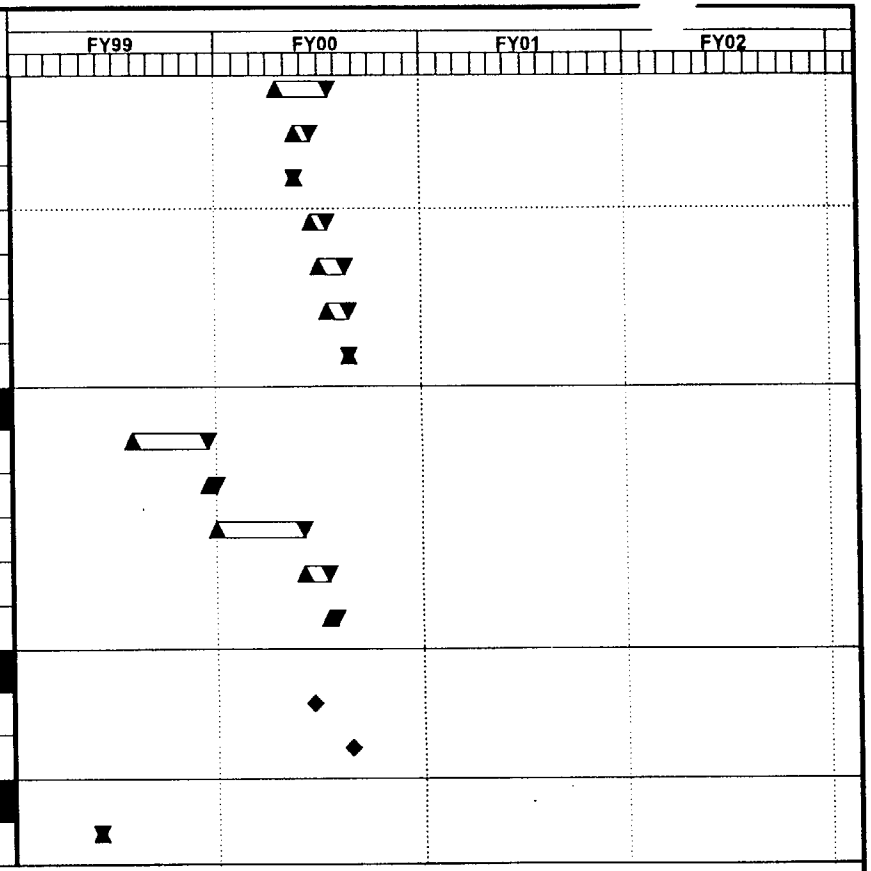
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1566	Precip Salts-Qualified/Verified SW Available		0		08NOV99
SLPA1568	Precip Salts-Update TDMS		5	30NOV99	06DEC99
SLPA1570	Precip Salts-Qualified/Verified Data Available		0		06DEC99
EB95 EBS Degradation Modes & FEPs Analysis					
120 Engineered Barrier System Operations					
RPPM110A	EBS FEPs/Degradation Modes Analysis - AP3.10Q		89	01JUN99*	05OCT99
RPE720	EBS Degrad Modes-Input Parameters and Data Ident		0		05OCT99
RPE722	EBS Degrad Modes-Models and Codes Identified		0		05OCT99
RPE724	EBS Degrad Modes-Determine DTN Assignment		2	06OCT99	07OCT99
RPE748	EBS Degrad Modes-Determine if Model-Rel SW is Un		5	06OCT99	13OCT99
RPPM110B	Prep 3.10Q Drft Doc(EBS Degrad Modes&FEPs Analy)		18	06OCT99	01NOV99
RPE726	EBS Degrad Modes-Determine if Data/DTN in TDMS		3	08OCT99	13OCT99
RPE728	EBS Degrad Modes-Submit Data/DTN to TDMS as Nece		22	14OCT99	15NOV99
RPE750	EBS Degrad Modes-Place Model-Related SW Under SM		10	14OCT99	27OCT99
RPE752	EBS Degrad Modes-Verify Model-Related Software		44	28OCT99	04JAN00
RPPM110C	3.10Q Chkg/Revw(EBS Degrad Modes&FEPs Analysis)		10	02NOV99	16NOV99
RPE732	EBS Degrad Modes-Procurement Related Issues ID'd		0		15NOV99
RPE740	EBS Degrad Modes-Data Related Software Issues Id		0		15NOV99
RPE730	EBS Degrad Modes-Verify/Trace Data		44	16NOV99	20JAN00
RPE734	EBS Degrad Modes-Resolve Procurement Related Dat		10	16NOV99	01DEC99
RPE742	EBS Degrad Modes-Determine if Data Rel SW is Und		5	16NOV99	22NOV99
RPPM110D	Prep Fnl 3.10Q Rpt(EBS Degrad Modes&FEPs Analy)		10	17NOV99	02DEC99
RPE744	EBS Degrad Modes-Place Under SMS Control as Nece		10	23NOV99	08DEC99
RPE746	EBS Degrad Modes-Verify Data-Related Software		10	09DEC99	22DEC99
RPE754	EBS Degrad Modes-Qualified/Verified SW Available		0		04JAN00
RPE736	EBS Degrad Modes-Update TDMS		5	21JAN00	27JAN00
RPE738	EBS Degrad Modes-Qualified/Verified Data Availab		0		27JAN00
Z9999 PMR Rev 02 thru Rev 05					
300 Regulatory & Licensing					
RPE00A	Revise EBS PMR AP 3.10Q's for SR		41	18APR00	14JUN00
RPE00B	Prepare EBS PMR REV-02A for SR		41	18APR00	14JUN00



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
RPE00BM4	EBS PMR Rev-02A for SR	M4	0		01AUG00*
RPE00C	M&O Review EBS PMR Rev-02A for SR		83	02AUG00	01DEC00
RPE00CM3	EBS PMR Rev-02 for SR	M3	0		01DEC00
RPE00D	DOE Review EBS PMR 02 for SR		41	04DEC00	31JAN01
RPE00P	Revise EBS PMR AP 3.10Q's for LA		41	04DEC00	31JAN01
RPE00Q	Prepare EBS PMR REV-04A for LA		41	04DEC00	31JAN01
RPE00EM3	Rev 03 EBS PMR for SR	M3	0		31JAN01
RPE00QM4	EBS PMR Rev-04A for LA	M4	0		01MAR01*
RPE00R	M&O Review EBS PMR Rev-04A for LA		106	02MAR01	31JUL01
RPE00RM3	EBS PMR Rev-04 for LA	M3	0		31JUL01
RPE00S	DOE Review EBS PMR 04 for LA		42	01AUG01	28SEP01
RPE00SM3	Rev 05 EBS PMR for LA	M3	0		28SEP01
120 Engineered Barrier System Operations					
RPEB267	WP Data (Input)		1	01OCT98*	01OCT98
RPEB266	Laboratory Test Data (Input)		1	17FEB99*	17FEB99
RPEB272	NF Data (Input)		1	17FEB99*	17FEB99
RPEB273	EBS Test Data (Input)		1	17FEB99*	17FEB99
RPEB274	EBS Design Data (Input)		1	17FEB99*	17FEB99
RPEB5	Write TDPP for Overall Process Model		41	17FEB99*	14APR99
RPEB275	Test & Supporting Data (Input)		1	18FEB99	18FEB99*
RPEB100	Develop EBS PMR Rev. 00A	ZZ	158	01JUN99*	18JAN00
RPEB300	H2O Compos to NF/WP (Output)		1	06OCT99	06OCT99*
RPEB310	RN Release to NF (Output)		1	06OCT99	06OCT99*
RPEB320	Water Volume to NF/WP (Output)		1	06OCT99	06OCT99*
RPPM125A	Feed to TSPA(Water Distr/Rem Abstraction)	ZZ	1	02NOV99	02NOV99
RPPM130A	Feed to TSPA (Phy/Chem Abstraction)	ZZ	1	02NOV99	02NOV99
RPPM135A	Feed to TSPA (Degr. Mode Abstraction)	ZZ	1	02NOV99	02NOV99
RPPM140A	Feed to TSPA(EBS Rad. Trans Abstraction)	ZZ	1	02NOV99	02NOV99
RPEB75	EBS PMR M&O Review (Rev 00A)		22	19JAN00	17FEB00
RPE5100	Feed to TSPA	ZZ	1	19JAN00	19JAN00*



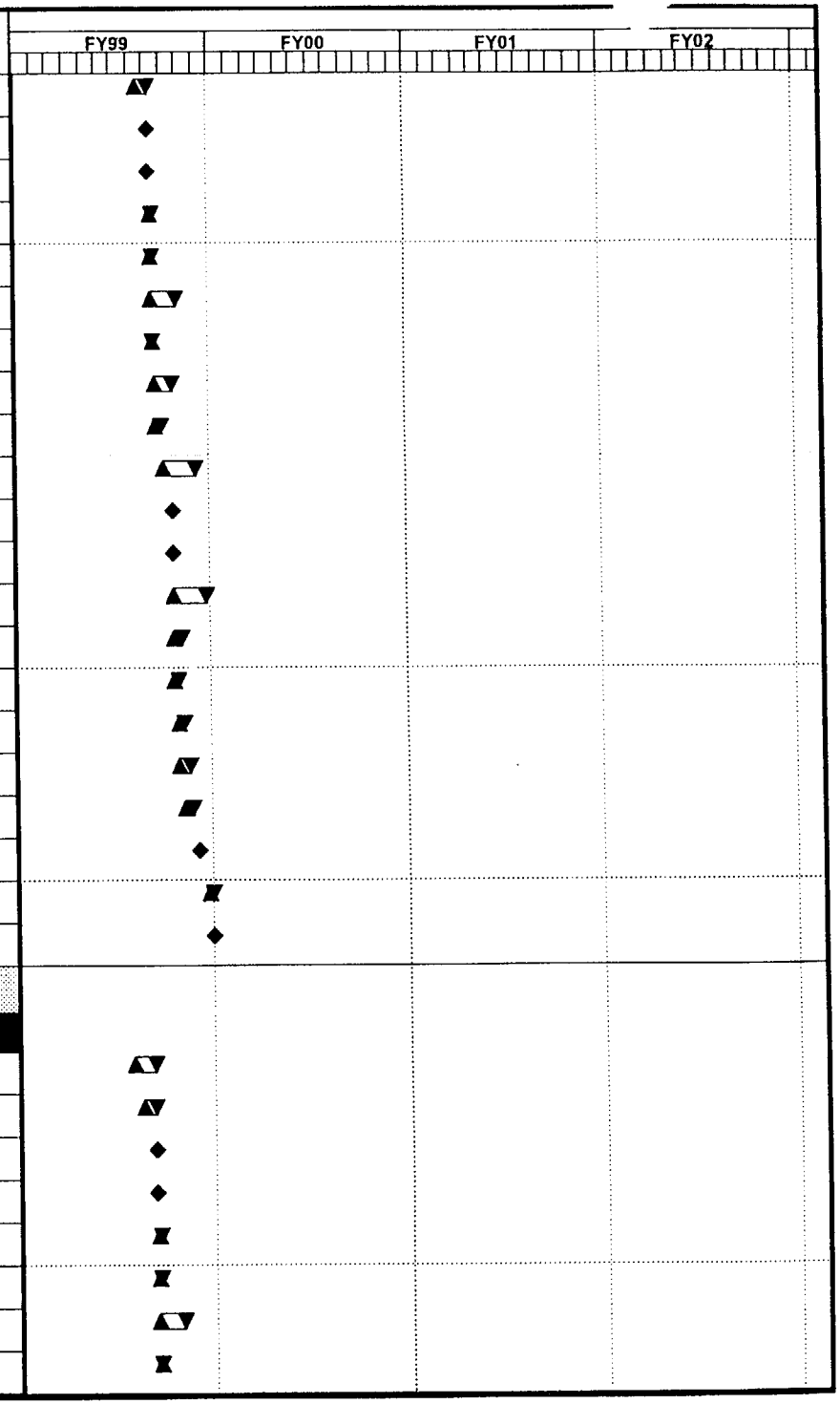
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
RPEB25	EBS Traceability Team		64	19JAN00*	18APR00
RPEB145	Prepare EBS PMR Rev. 00B		20	18FEB00	17MAR00
RPEB65	Information Feed to TDMS	ZZ	1	18FEB00	18FEB00
RPEB85	EBS PMR DOE Review (Rev. 00B)	ZZ	21	20MAR00	17APR00
WPPMRA20	Waste Forms PMR DOE Review		35	03APR00	19MAY00
RPEB105	EBS PMR Rev. 01 (Incorp DOE Comments)		26	18APR00	23MAY00
RPE5000	EIS Chapter 5	ZZ	1	24MAY00	24MAY00*
150 Support Operations					
BMP140	PIM 3.10Q/PMR Planning & Text Support(EBS)		94	03MAY99*	14SEP99
BMP144	PIM Text & M&O Review Prep Support (EBS)		12	15SEP99	30SEP99
BMP148	Cont PIM Text & M&O Review Prep Support (EBS)		103	01OCT99	02MAR00
BMP152	PIM M&O Rev. & DOE Rev. Prep Support (EBS)		31	03MAR00	14APR00
BMP156	PIM DOE Rev. & Final Accept. Support (EBS)		11	17APR00	01MAY00
300 Regulatory & Licensing					
SLEB145M3	EBS PMR Rev. 00	M3	0		17MAR00
SLEB105M3	Rev 01 EBS PMR	M3	0		23MAY00
W2013	Feed to EBS PMR		1	01MAR99	01MAR99*



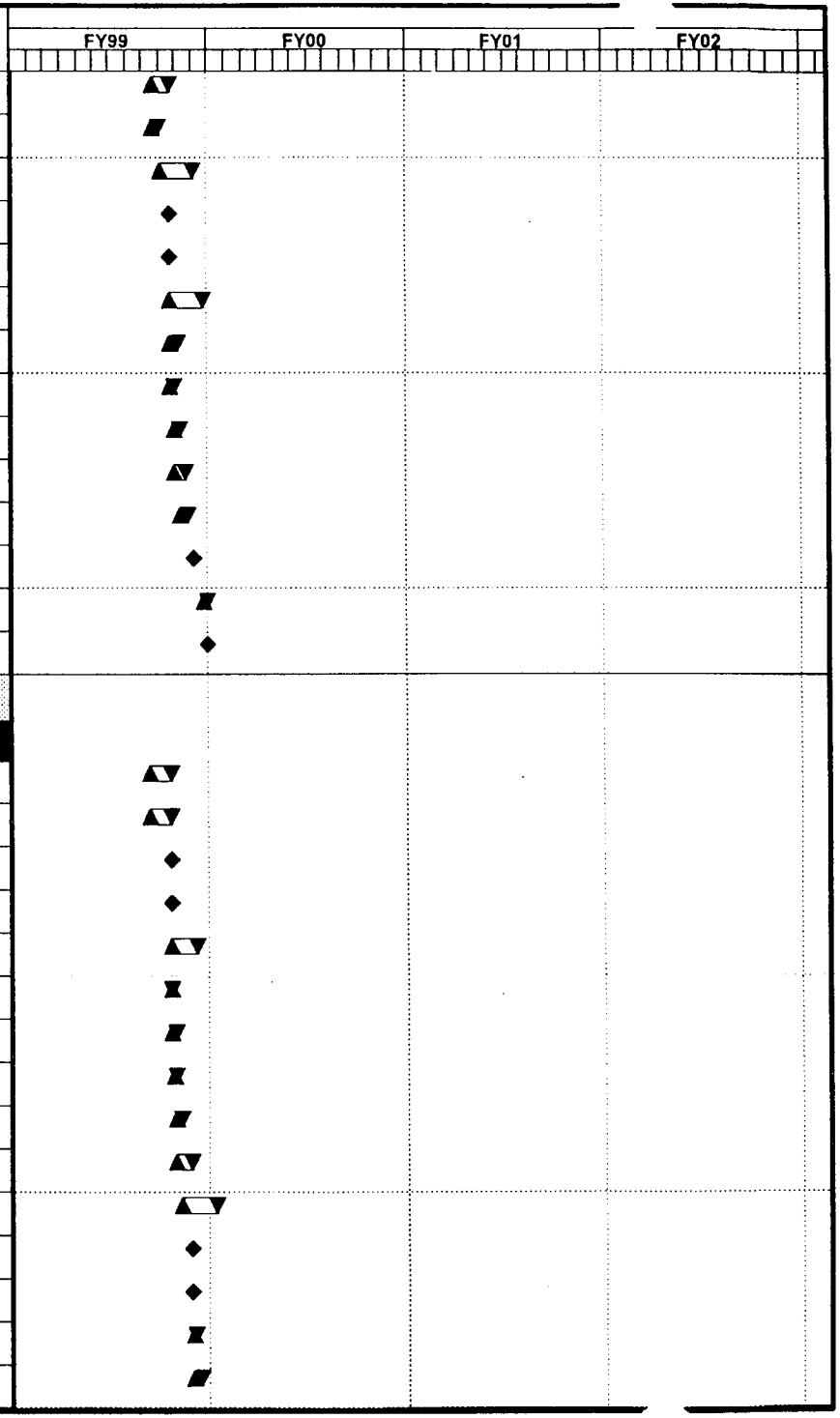
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
F WFD PMR					
G1005					
110 Waste Package Operations					
WPPMRI0	3.10Q Data (Inventory-CSNF)		29	03MAY99*	11JUN99
WPPMRI5	Prepare Draft Inventory CSNF - 00A		17	19MAY99*	11JUN99
SLPA1812	Receive Draft Inventory CSNF - 00A		0		11JUN99*
WPG008	Inventory-CSNF-Input Parameters and Data Identif		0		11JUN99
WPG010	Inventory-CSNF-Models and Codes Identified		0		11JUN99
WPP700M4	Provide Draft Inventory CSNF Data to PA		0		11JUN99
WPG012	Inventory-CSNF-Determine DTN Assignment		2	14JUN99	15JUN99
WPG036	Inventory-CSNF-Determine if Model-Rel SW is Unde		5	14JUN99	18JUN99
WPPMRJ0	3.10Q Checking/Review (Inventory-CSNF)		33	14JUN99	29JUL99
WPG014	Inventory-CSNF-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99
WPG016	Inventory-CSNF-Submit Data/DTN to TDMS as Necess		22	21JUN99	21JUL99
WPG038	Inventory-CSNF-Place Model-Related SW Under SMS		10	21JUN99	02JUL99
WPG040	Inventory [illegible]F-Verify Model-Related Software		44	06JUL99	03SEP99
WPG020	Inventory-CSNF-Procurement Related Issues ID'd t		0		21JUL99
WPG028	Inventory-CSNF-Data Related Software Issues Iden		0		21JUL99
WPG018	Inventory-CSNF-Verify/Trac[illegible]		44	22JUL99	22SEP99
WPG022	Inventory CSNF-Resolve Procurement Related Data		10	22JUL99	04AUG99
WPG030	Inventory-CSNF-Determine if Data Rel SW is Under		5	22JUL99	28JUL99
WPG032	Inventory-CSNF-Place Under SMS Control as Necess		10	29JUL99	11AUG99
WPPMRJ5	Prepare Final 3.10Q Report (Inventory-CSNF)		15	30JUL99	19AUG99
WPG034	Inventory-CSNF-Verify Data-Related Software		10	12AUG99	25AUG99
WPG042	Inventory-CSNF-Qualified/Verified SW Available		0		03SEP99
WPG024	Inventory-CSNF-Update TDMS		5	23SEP99	29SEP99
WPG026	Inventory-CSNF-Qualified/Verified Data Available		0		29SEP99
G1010					
110 Waste Package Operations					
WPPMRG0	3.10Q Data (Inventory-DSNF)		29	03MAY99*	11JUN99

FY99 FY00 FY01 FY02

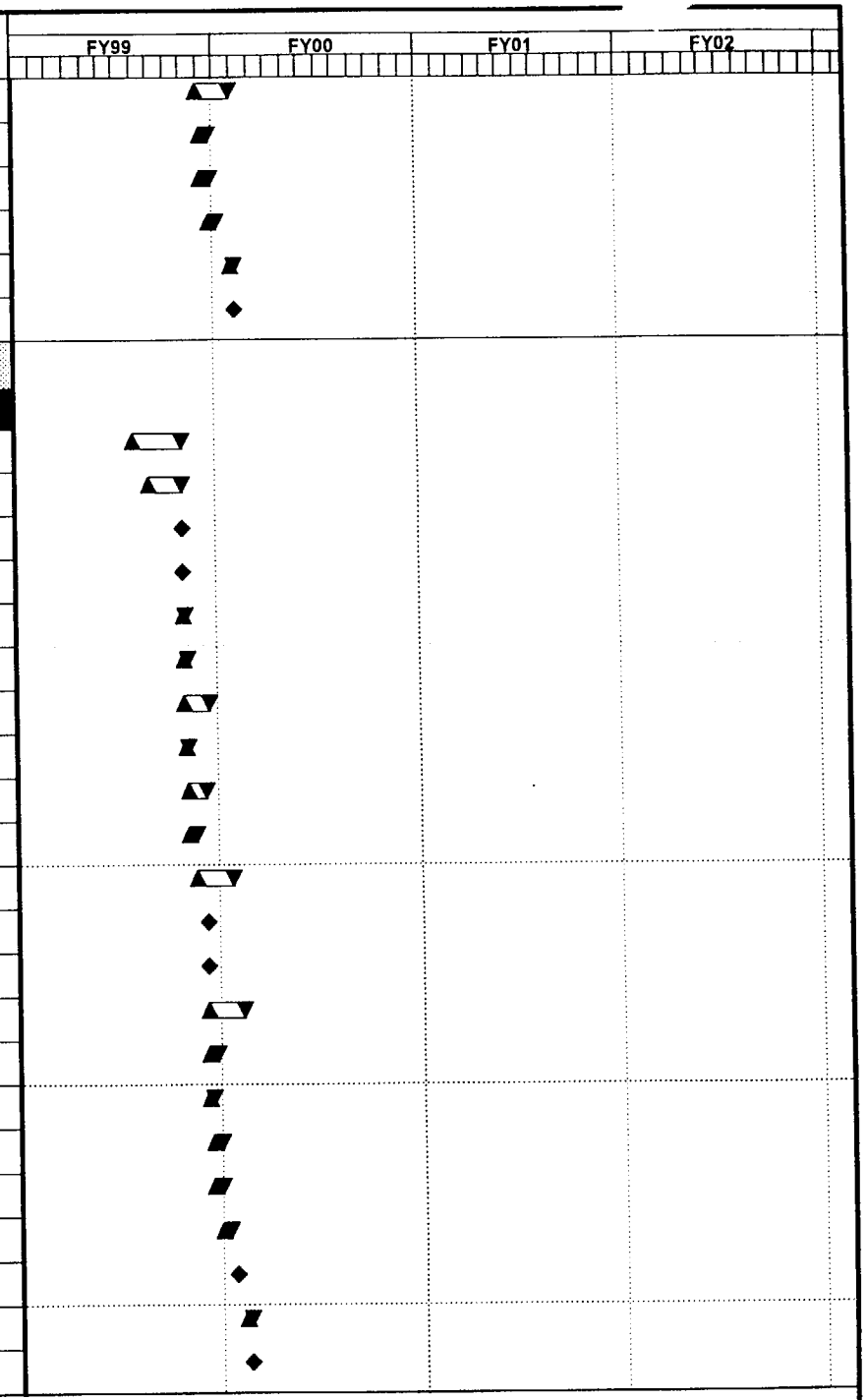
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPPMRG5	Prepare Draft Inventory DSNF - 00A		17	19MAY99*	11JUN99
WPF972	Inventory DSNF-Input Parameters and Data Identif		0		11JUN99
WPF974	Inventory DSNF-Models and Codes Identified		0		11JUN99
WPF976	Inventory DSNF-Determine DTN Assignment		2	14JUN99	15JUN99
WPG000	Inventory DSNF-Determine if Model-Rel SW is Unde		5	14JUN99	18JUN99
WPPMRH0	3.10Q Checking/Review Inventory DSNF - 00A		33	14JUN99	29JUL99
WPF978	Inventory DSNF-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99
WPF980	Inventory DSNF-Submit Data/DTN to TDMS as Necess		22	21JUN99	21JUL99
WPG002	Inventory DSNF-Place Model-Related SW Under SMS		10	21JUN99	02JUL99
WPG004	Inventory DSNF-Verify Model-Related Software		44	06JUL99	03SEP99
WPF984	Inventory DSNF-Procurement Related Issues ID'd t		0		21JUL99
WPF992	Inventory DSNF-Data Related Software Issues Iden		0		21JUL99
WPF982	Inventory DSNF-Verify/Trace Data		44	22JUL99	22SEP99
WPF986	Inventory DSNF-Resolve Procurement Related Data		10	22JUL99	04AUG99
WPF994	Inventory DSNF-Determine if Data Rel SW is Under		5	22JUL99	28JUL99
WPF996	Inventory DSNF-Place Under SMS Control as Necess		10	29JUL99	11AUG99
WPPMRH5	Prepare Final 3.10Q Report Inventory DSNF - 00A		15	30JUL99	19AUG99
WPF998	Inventory DSNF-Verify Data-Related Software		10	12AUG99	25AUG99
WPG006	Inventory DSNF-Qualified/Verified SW Available		0		03SEP99
WPF988	Inventory DSNF-Update TDMS		5	23SEP99	29SEP99
WPF990	Inventory DSNF-Qualified/Verified Data Available		0		29SEP99
G1015					
110 Waste Package Operations					
WPPMRE0	3.10Q Data (Inventory-HLW)		29	03MAY99*	11JUN99
WPPMRE5	Prepare Draft Inventory HLW - 00A		17	19MAY99*	11JUN99
WPF684	Inventory HLW-Input Parameters and Data Identifi		0		11JUN99
WPF686	Inventory HLW-Models and Codes Identified		0		11JUN99
WPF688	Inventory HLW-Determine DTN Assignment		2	14JUN99	15JUN99
WPF712	Inventory HLW-Determine if Model-Rel SW is Under		5	14JUN99	18JUN99
WPPMRF0	3.10Q Checking/Review Inventory HLW - 00A		33	14JUN99	29JUL99
WPF690	Inventory HLW-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99



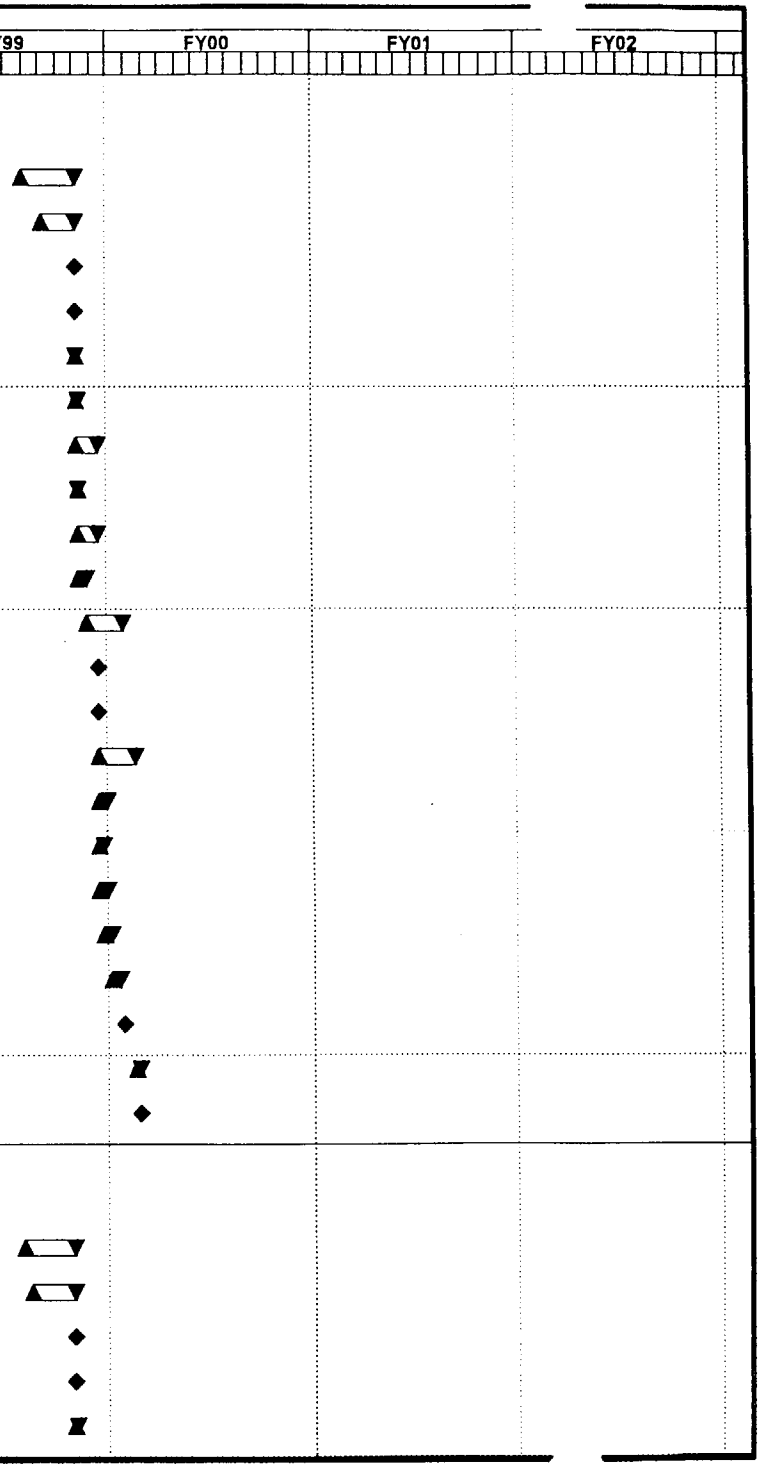
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPF692	Inventory HLW-Submit Data/DTN to TDMS as Necessa		22	21JUN99	21JUL99
WPF714	Inventory HLW-Place Model-Related SW Under SMS C		10	21JUN99	02JUL99
WPF716	Inventory HLW-Verify Model-Related Software		44	06JUL99	03SEP99
WPF696	Inventory HLW-Procurement Related Issues ID'd to		0		21JUL99
WPF704	Inventory HLW-Data Related Software Issues Ident		0		21JUL99
WPF694	Inventory HLW-Verify/Trace Data		44	22JUL99	22SEP99
WPF698	Inventory HLW-Resolve Procurement Related Data I		10	22JUL99	04AUG99
WPF706	Inventory HLW-Determine if Data Rel SW is Under		5	22JUL99	28JUL99
WPF708	Inventory HLW-Place Under SMS Control as Necessa		10	29JUL99	11AUG99
WPPMRF5	Prepare Final 3.10Q Report Inventory HLW - 00A		15	30JUL99	19AUG99
WPF710	Inventory HLW-Verify Data-Related Software		10	12AUG99	25AUG99
WPF718	Inventory HLW-Qualified/Verified SW Available		0		03SEP99
WPF700	Inventory HLW-Update TDMS		5	23SEP99	29SEP99
WPF702	Inventory HLW-Qualified/Verified Data Available		0		29SEP99
G1025					
130 Performance Assessment Operations					
SLPA1814	Prepare Draft Inventory Abstraction - 00A		27	14JUN99	21JUL99
SLPA1816	Perform Inventory Abstraction		27	14JUN99*	21JUL99
SLPA1822	Inventory Abstraction-Input Parameters and Data		0		21JUL99
SLPA1824	Inventory Abstraction-Models and Codes Identifie		0		21JUL99
SLPA1818	3.10Q Checking/Review Inventory Abstraction -00A		33	22JUL99	07SEP99
SLPA1826	Inventory Abstraction-Determine DTN Assignment		2	22JUL99	23JUL99
SLPA1828	Inventory Abstraction-Determine if Model-Rel SW		5	22JUL99	28JUL99
SLPA1830	Inventory Abstraction-Determine if Data/DTN in T		3	26JUL99	28JUL99
SLPA1832	Inventory Abstraction-Place Model-Related SW Und		10	29JUL99	11AUG99
SLPA1834	Inventory Abstraction-Submit Data/DTN to TDMS as		22	29JUL99	27AUG99
SLPA1836	Inventory Abstraction-Verify Model-Related Softw		44	12AUG99	14OCT99
SLPA1838	Inventory Abstraction-Data Related Software Issu		0		27AUG99
SLPA1840	Inventory Abstraction-Procurement Related Issues		0		27AUG99
SLPA1842	Inventory Abstraction-Determine if Data Rel SW i		5	30AUG99	03SEP99
SLPA1844	Inventory Abstraction-Rxesolve Procurement Relat		10	30AUG99	13SEP99



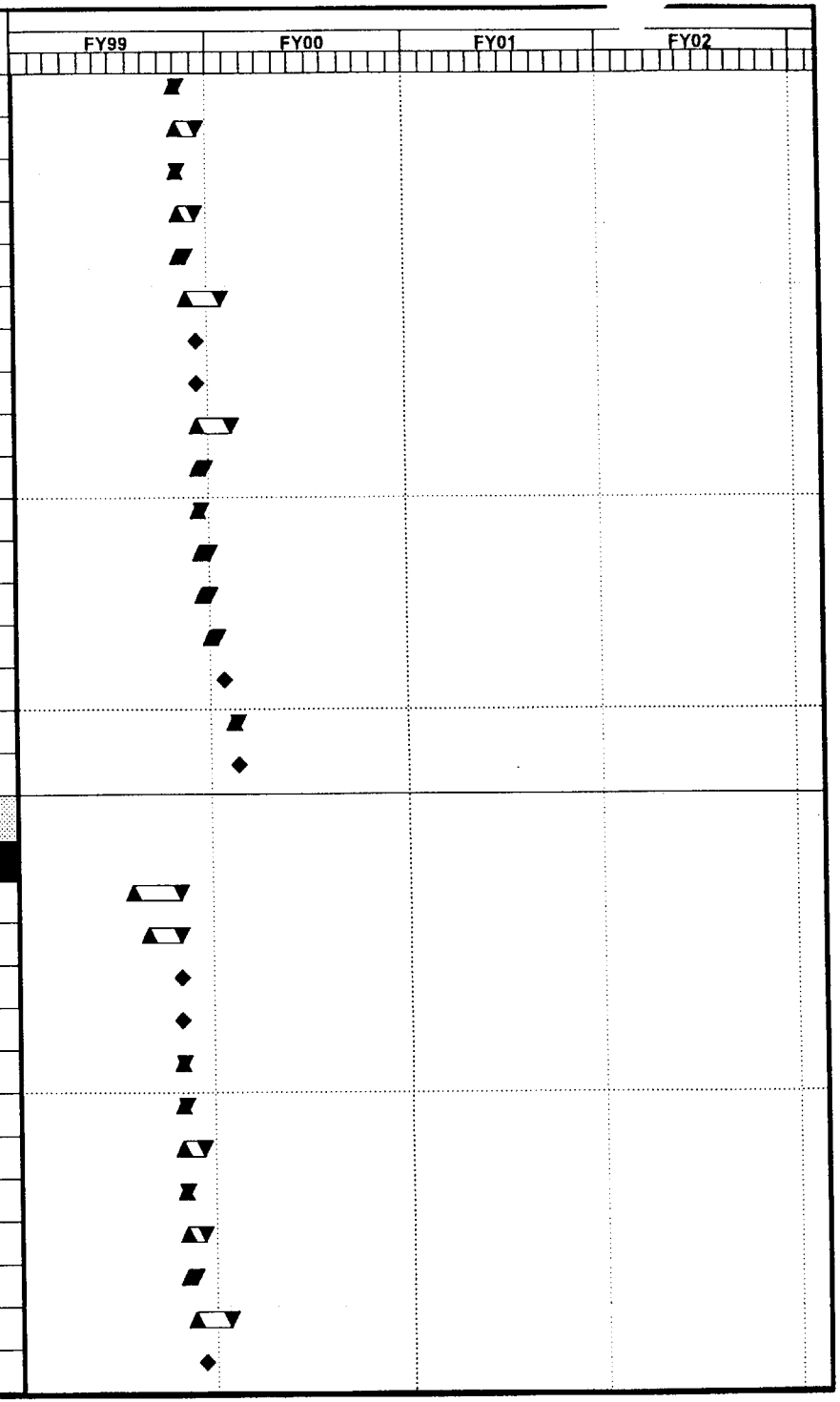
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1846	Inventory Abstraction-Verify/Trace Data		44	30AUG99	01NOV99
SLPA1848	Inventory Abstraction-Place Under SMS Control as		10	07SEP99	20SEP99
SLPA1820	Prepare Final 3.10Q Report Inventory Abstraction		13	08SEP99	24SEP99
SLPA1850	Inventory Abstraction-Verify Data-Related Softwa		10	21SEP99	04OCT99
SLPA1852	Inventory Abstraction-Update TDMS		5	02NOV99	08NOV99
SLPA1854	Inventory Abstraction-Qualified/Verified Data Av		0		08NOV99
G1055					
110 Waste Package Operations					
WPPMRFM5	Data (CLAD - Mechanical)		62	03MAY99*	29JUL99
WPPMRFN0	Prepare Draft (CLAD - Mechanical)		42	01JUN99*	29JUL99
WPG140	CLAD - Mech-Input Parameters and Data Identified		0		29JUL99
WPG142	CLAD - Mech-Models and Codes Identified		0		29JUL99
WPG144	CLAD - Mech-Determine DTN Assignment		2	30JUL99	02AUG99
WPG168	CLAD - Mech-Determine if Model-Rel SW is Under S		5	30JUL99	05AUG99
WPPMRFN5	Checking/Review (CLAD - Mechanical)		33	30JUL99	15SEP99
WPG146	CLAD - Mech-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPG148	CLAD - Mech-Submit Data/DTN to TDMS as Necessary		22	06AUG99	07SEP99
WPG170	CLAD - Mech-Place Model-Related SW Under SMS Con		10	06AUG99	19AUG99
WPG172	CLAD - Mech-Verify Model-Related Software		44	20AUG99	22OCT99
WPG152	CLAD - Mech-Procurement Related Issues ID'd to C		0		07SEP99
WPG160	CLAD - Mech-Data Related Software Issues Identif		0		07SEP99
WPG150	CLAD - Mech-Verify/Trace Data		44	08SEP99	09NOV99
WPG154	CLAD - Mech-Resolve Procurement Related Data Iss		10	08SEP99	21SEP99
WPG162	CLAD - Mech-Determine if Data Rel SW is Under SM		5	08SEP99	14SEP99
WPG164	CLAD - Mech-Place Under SMS Control as Necessary		10	15SEP99	28SEP99
WPPMRFO0	Prepare Final Report (CLAD - Mechanical)		11	16SEP99	30SEP99
WPG166	CLAD - Mech-Verify Data-Related Software		10	29SEP99	13OCT99
WPG174	CLAD - Mech-Qualified/Verified SW Available		0		22OCT99
WPG156	CLAD - Mech-Update TDMS		5	10NOV99	17NOV99
WPG158	CLAD - Mech-Qualified/Verified Data Available		0		17NOV99



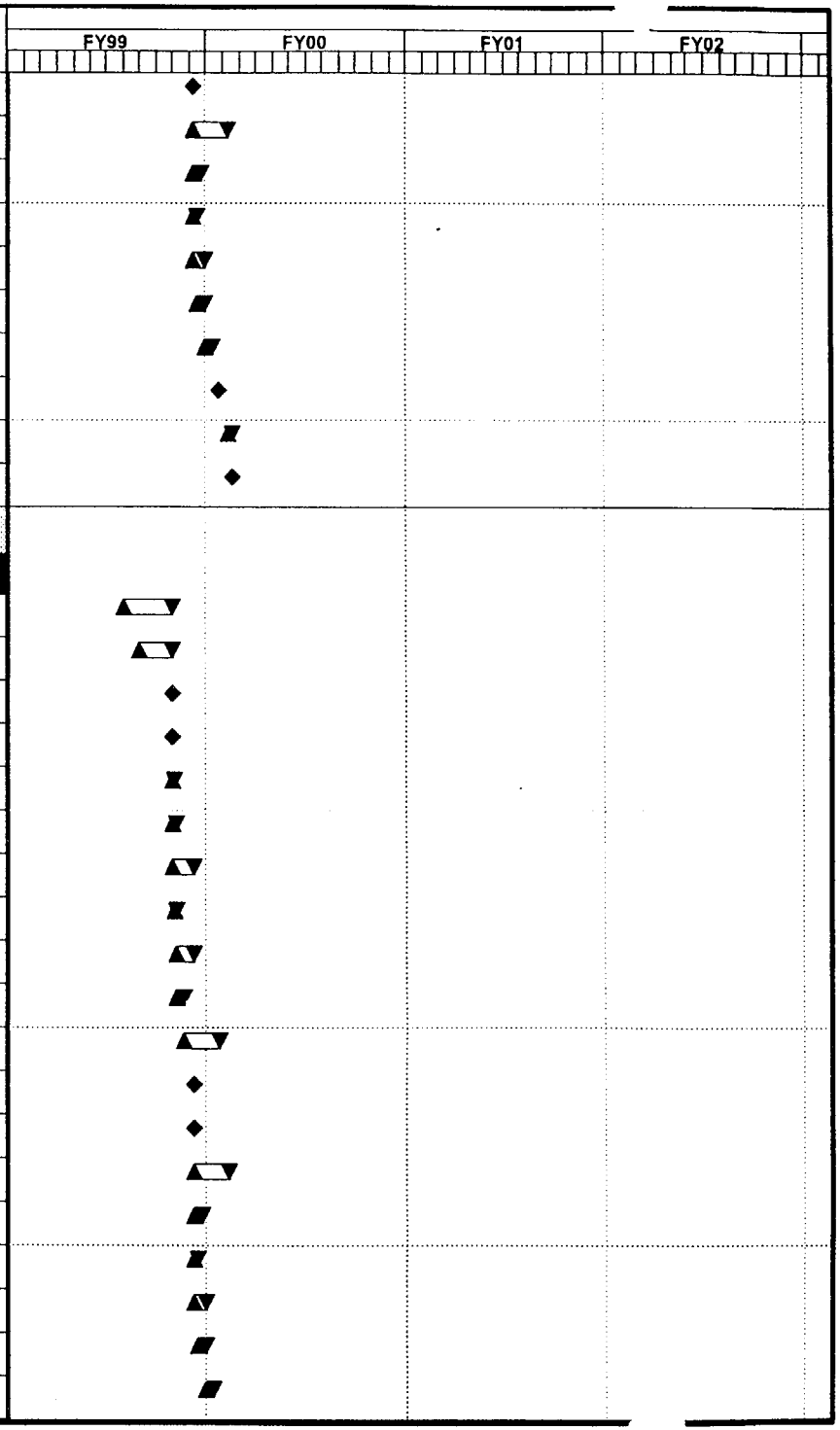
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
G1060					
110 Waste Package Operations					
WPPMRFC5	3.10Q Data (WET UNZIPPING)		66	03MAY99*	04AUG99
WPPMRFD0	Prepare Draft Document (WET UNZIPPING)		42	07JUN99*	04AUG99
WPF900	WET UNZIPPING-Input Parameters and Data Identifi		0		04AUG99
WPF902	WET UNZIPPING-Models and Codes Identified		0		04AUG99
WPF904	WET UNZIPPING-Determine DTN Assignment		2	05AUG99	06AUG99
WPF928	WET UNZIPPING-Determine if Model-Rel SW is Under		5	05AUG99	11AUG99
WPPMRFD5	3.10Q Checking/Review (WET UNZIPPING)		28	05AUG99	14SEP99
WPF906	WET UNZIPPING-Determine if Data/DTN in TDMS		3	09AUG99	11AUG99
WPF908	WET UNZIPPING-Submit Data/DTN to TDMS as Necessa		22	12AUG99	13SEP99
WPF930	WET UNZIPPING-Place Model-Related SW Under SMS C		10	12AUG99	25AUG99
WPF932	WET UNZIPPING-Verify Model-Related Software		44	26AUG99	28OCT99
WPF912	WET UNZIPPING-Procurement Related Issues ID'd to		0		13SEP99
WPF920	WET UNZIPPING-Data Related Software Issues Ident		0		13SEP99
WPF910	WET UNZIPPING-Verify/Trace Data		44	14SEP99	16NOV99
WPF914	WET UNZIPPING-Resolve Procurement Related Data I		10	14SEP99	27SEP99
WPF922	WET UNZIPPING-Determine if Data Rel SW is Under		5	14SEP99	20SEP99
WPPMRFE0	Prepare Final 3.10Q Report (WET UNZIPPING)		12	15SEP99	30SEP99
WPF924	WET UNZIPPING-Place Under SMS Control as Necessa		10	21SEP99	04OCT99
WPF926	WET UNZIPPING-Verify Data-Related Software		10	05OCT99	19OCT99
WPF934	WET UNZIPPING-Qualified/Verified SW Available		0		28OCT99
WPF916	WET UNZIPPING-Update TDMS		5	17NOV99	23NOV99
WPF918	WET UNZIPPING-Qualified/Verified Data Available		0		23NOV99
G1065					
110 Waste Package Operations					
WPPMRFA5	3.10Q Data (DRY UNZIPPING)		62	03MAY99*	29JUL99
WPPMRFB0	Prepare Draft DRY UNZIPPING Document		53	17MAY99*	30JUL99
WPF864	DRY UNZIPPING-Input Parameters and Data Identifi		0		29JUL99
WPF866	DRY UNZIPPING-Models and Codes Identified		0		29JUL99
WPF868	DRY UNZIPPING-Determine DTN Assignment		2	30JUL99	02AUG99



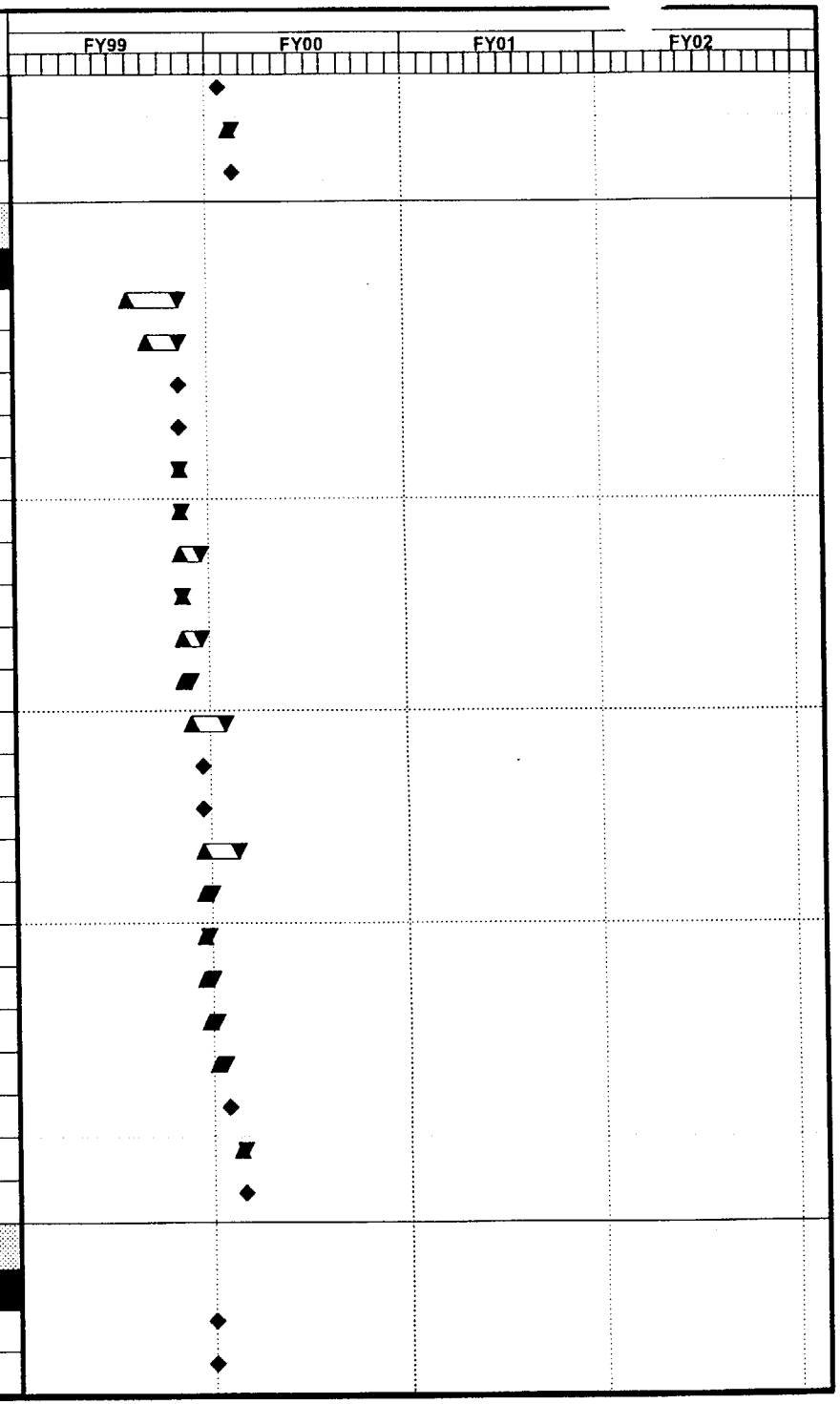
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPF892	DRY UNZIPPING-Determine if Model-Rel SW is Under		5	30JUL99	05AUG99
WPPMRFB5	3.10Q Checking/Review (DRY UNZIPPING)		28	02AUG99	09SEP99
WPF870	DRY UNZIPPING-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPF872	DRY UNZIPPING-Submit Data/DTN to TDMS as Necessa		22	06AUG99	07SEP99
WPF894	DRY UNZIPPING-Place Model-Related SW Under SMS C		10	06AUG99	19AUG99
WPF896	DRY UNZIPPING-Verify Model-Related Software		44	20AUG99	22OCT99
WPF876	DRY UNZIPPING-Procurement Related Issues ID'd to		0		07SEP99
WPF884	DRY UNZIPPING-Data Related Software Issues Ident		0		07SEP99
WPF874	DRY UNZIPPING-Verify/Trace Data		44	08SEP99	09NOV99
WPF878	DRY UNZIPPING-Resolve Procurement Related Data I		10	08SEP99	21SEP99
WPF886	DRY UNZIPPING-Determine if Data Rel SW is Under		5	08SEP99	14SEP99
WPPMRFC0	Prepare Final 3.10Q Report (DRY UNZIPPING)		15	10SEP99	30SEP99
WPF888	DRY UNZIPPING-Place Under SMS Control as Necessa		10	15SEP99	28SEP99
WPF890	DRY UNZIPPING-Verify Data-Related Software		10	29SEP99	13OCT99
WPF898	DRY UNZIPPING-Qualified/Verified SW Available		0		22OCT99
WPF880	DRY UNZIPPING-Update TDMS		5	10NOV99	17NOV99
WPF882	DRY UNZIPPING-Qualified/Verified Data Available		0		17NOV99
G1070					
110 Waste Package Operations					
WPPMRFK5	Data (CLAD LOCAL CORROSION)		62	03MAY99*	29JUL99
WPPMRFL0	Prepare Draft Document (CLAD LOCAL CORROSION)		42	01JUN99*	29JUL99
WPG100	CLAD LOCAL CORR-Input Parameters and Data Identi		0		29JUL99
WPG1021	CLAD LOCAL CORR-Models and Codes Identified		0		29JUL99
WPG104	CLAD LOCAL CORR-Determine DTN Assignment		2	30JUL99	02AUG99
WPG128	CLAD LOCAL CORR-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99
WPPMRFL5	Checking/Review (CLAD LOCAL CORROSION)		28	30JUL99	08SEP99
WPG106	CLAD LOCAL CORR-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPG108	CLAD LOCAL CORR-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99
WPG130	CLAD LOCAL CORR-Place Model-Related SW Under SMS		10	06AUG99	19AUG99
WPG132	CLAD LOCAL CORR-Verify Model-Related Software		44	20AUG99	22OCT99
WPG112	CLAD LOCAL CORR-Procurement Related Issues ID'd		0		07SEP99



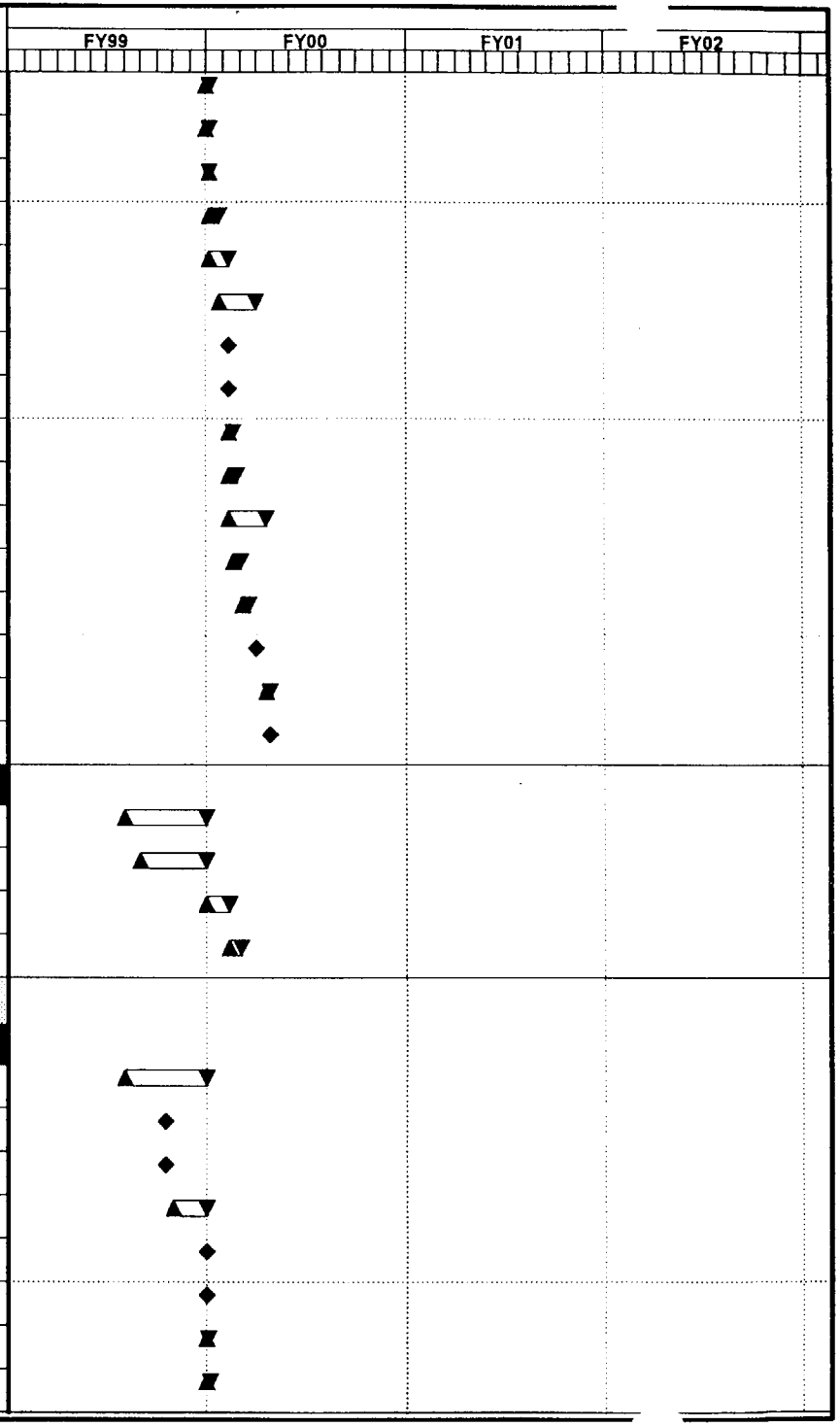
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPG120	CLAD LOCAL CORR-Data Related Software Issues Ide		0		07SEP99
WPG110	CLAD LOCAL CORR-Verify/Trace Data		44	08SEP99	09NOV99
WPG114	CLAD LOCAL CORR-Resolve Procurement Related Data		10	08SEP99	21SEP99
WPG122	CLAD LOCAL CORR-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99
WPPMRFM0	Prepare Final Report (CLAD LOCAL CORROSION)		16	09SEP99	30SEP99
WPG124	CLAD LOCAL CORR-Place Under SMS Control as Neces		10	15SEP99	28SEP99
WPG126	CLAD LOCAL CORR-Verify Data-Related Software		10	29SEP99	13OCT99
WPG134	CLAD LOCAL CORR-Qualified/Verified SW Available		0		22OCT99
WPG116	CLAD LOCAL CORR-Update TDMS		5	10NOV99	17NOV99
WPG118	CLAD LOCAL CORR-Qualified/Verified Data Availabl		0		17NOV99
G1075					
110 Waste Package Operations					
WPPMRFE5	3.10Q Data (CLAD - DHC)		62	03MAY99*	29JUL99
WPPMRFF0	Prepare Draft Document (CLAD - DHC)		42	01JUN99*	29JUL99
WPF936	CLAD - DHC-Input Parameters and Data Identified		0		29JUL99
WPF938	CLAD - DHC-Models and Codes Identified		0		29JUL99
WPF940	CLAD - DHC-Determine DTN Assignment		2	30JUL99	02AUG99
WPF964	CLAD - DHC-Determine if Model-Rel SW is Under SM		5	30JUL99	05AUG99
WPPMRFF5	3.10Q Checking/Review (CLAD - DHC)		28	30JUL99	08SEP99
WPF942	CLAD - DHC-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPF944	CLAD - DHC-Submit Data/DTN to TDMS as Necessary		22	06AUG99	07SEP99
WPF966	CLAD - DHC-Place Model-Related SW Under SMS Cont		10	06AUG99	19AUG99
WPF968	CLAD - DHC-Verify Model-Related Software		44	20AUG99	22OCT99
WPF948	CLAD - DHC-Procurement Related Issues ID'd to Ca		0		07SEP99
WPF956	CLAD - DHC-Data Related Software Issues Identifi		0		07SEP99
WPF946	CLAD - DHC-Verify/Trace Data		44	08SEP99	09NOV99
WPF950	CLAD - DHC-Resolve Procurement Related Data Issu		10	08SEP99	21SEP99
WPF958	CLAD - DHC-Determine if Data Rel SW is Under SMS		5	08SEP99	14SEP99
WPPMRFG0	Prepare Final 3.10Q Report (CLAD - DHC)		16	09SEP99	30SEP99
WPF960	CLAD - DHC-Place Under SMS Control as Necessary		10	15SEP99	28SEP99
WPF962	CLAD - DHC-Verify Data-Related Software		10	29SEP99	13OCT99



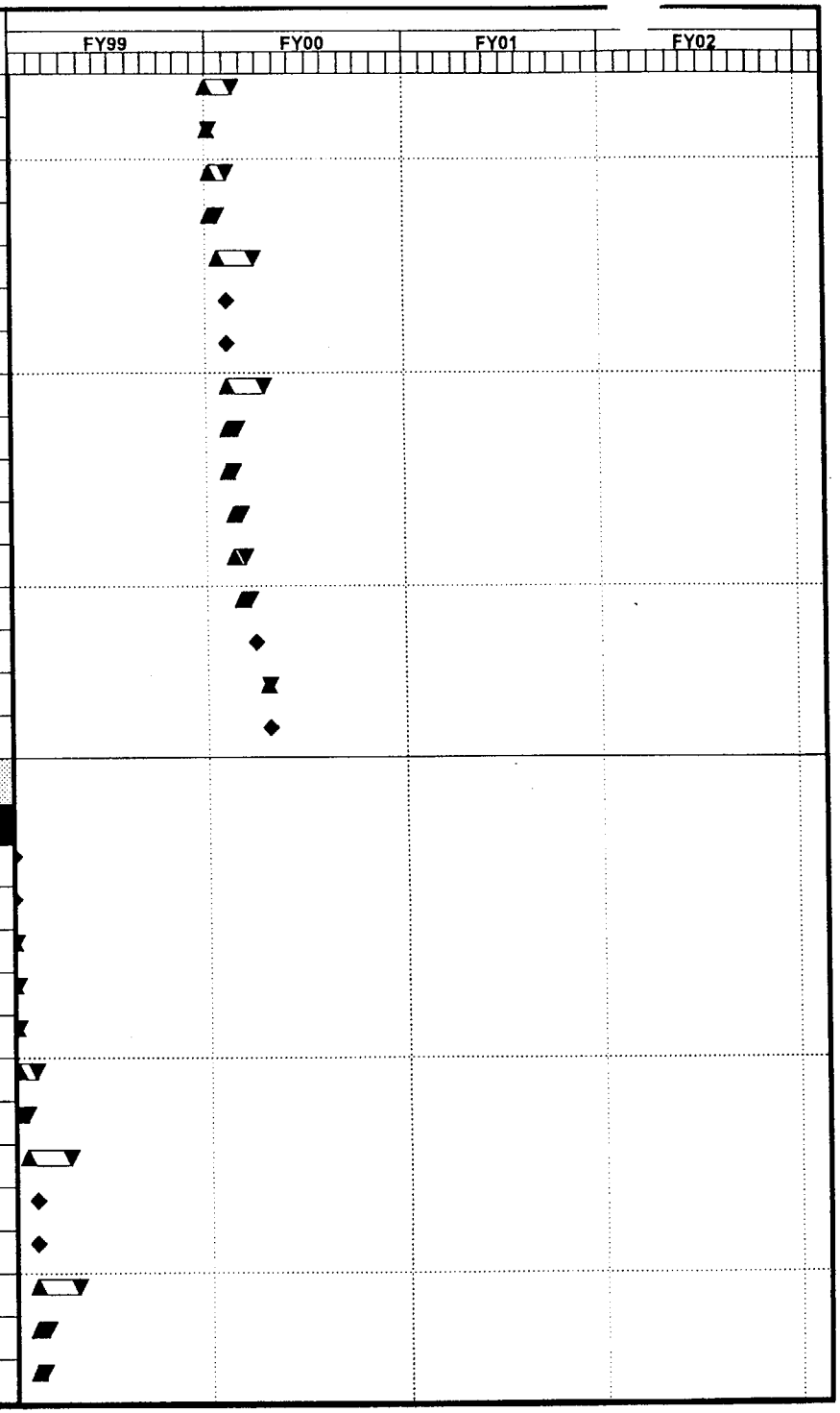
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPF970	CLAD - DHC-Qualified/Verified SW Available		0		22OCT99
WPF952	CLAD - DHC-Update TDMS		5	10NOV99	17NOV99
WPF954	CLAD - DHC-Qualified/Verified Data Available		0		17NOV99
G1080					
110 Waste Package Operations					
WPPMRFI5	Data (CLAD - INITIAL STATE)		66	03MAY99*	04AUG99
WPPMRFJ0	Prepare Draft Document (CLAD - INITIAL STATE)		42	07JUN99*	04AUG99
WPG600	CLAD - INITIAL-Input Parameters and Data Identif		0		04AUG99
WPG602	CLAD - INITIAL-Models and Codes Identified		0		04AUG99
WPG604	CLAD - INITIAL-Determine DTN Assignment		2	05AUG99	06AUG99
WPG628	CLAD - INITIAL-Determine if Model-Rel SW is Unde		5	05AUG99	11AUG99
WPPMRFJ5	Checking/Review (CLAD - INITIAL STATE)		28	05AUG99	14SEP99
WPG606	CLAD - INITIAL-Determine if Data/DTN in TDMS		3	09AUG99	11AUG99
WPG608	CLAD - INITIAL-Submit Data/DTN to TDMS as Necess		22	12AUG99	13SEP99
WPG630	CLAD - INITIAL-Place Model-Related SW Under SMS		10	12AUG99	25AUG99
WPG632	CLAD - INITIAL-Verify Model-Related Software		44	26AUG99	28OCT99
WPG612	CLAD - INITIAL-Procurement Related Issues ID'd t		0		13SEP99
WPG620	CLAD - INITIAL-Data Related Software Issues Iden		0		13SEP99
WPG610	CLAD - INITIAL-Verify/Trace Data		44	14SEP99	16NOV99
WPG614	CLAD - INITIAL-Resolve Procurement Related Data		10	14SEP99	27SEP99
WPG622	CLAD - INITIAL-Determine if Data Rel SW is Under		5	14SEP99	20SEP99
WPPMRFK0	Prepare Final Report (CLAD - INITIAL STATE)		12	15SEP99	30SEP99
WPG624	CLAD - INITIAL-Place Under SMS Control as Necess		10	21SEP99	04OCT99
WPG626	CLAD - INITIAL-Verify Data-Related Software		10	05OCT99	19OCT99
WPG634	CLAD - INITIAL-Qualified/Verified SW Available		0		28OCT99
WPG616	CLAD - INITIAL-Update TDMS		5	17NOV99	23NOV99
WPG618	CLAD - INITIAL-Qualified/Verified Data Available		0		23NOV99
G1090					
110 Waste Package Operations					
SLPA1864	FEB Screen/CLAD-Input Parameters and Data Identi		0		30SEP99
SLPA1866	FEB Screen/CLAD-Models and Codes Identified		0		30SEP99



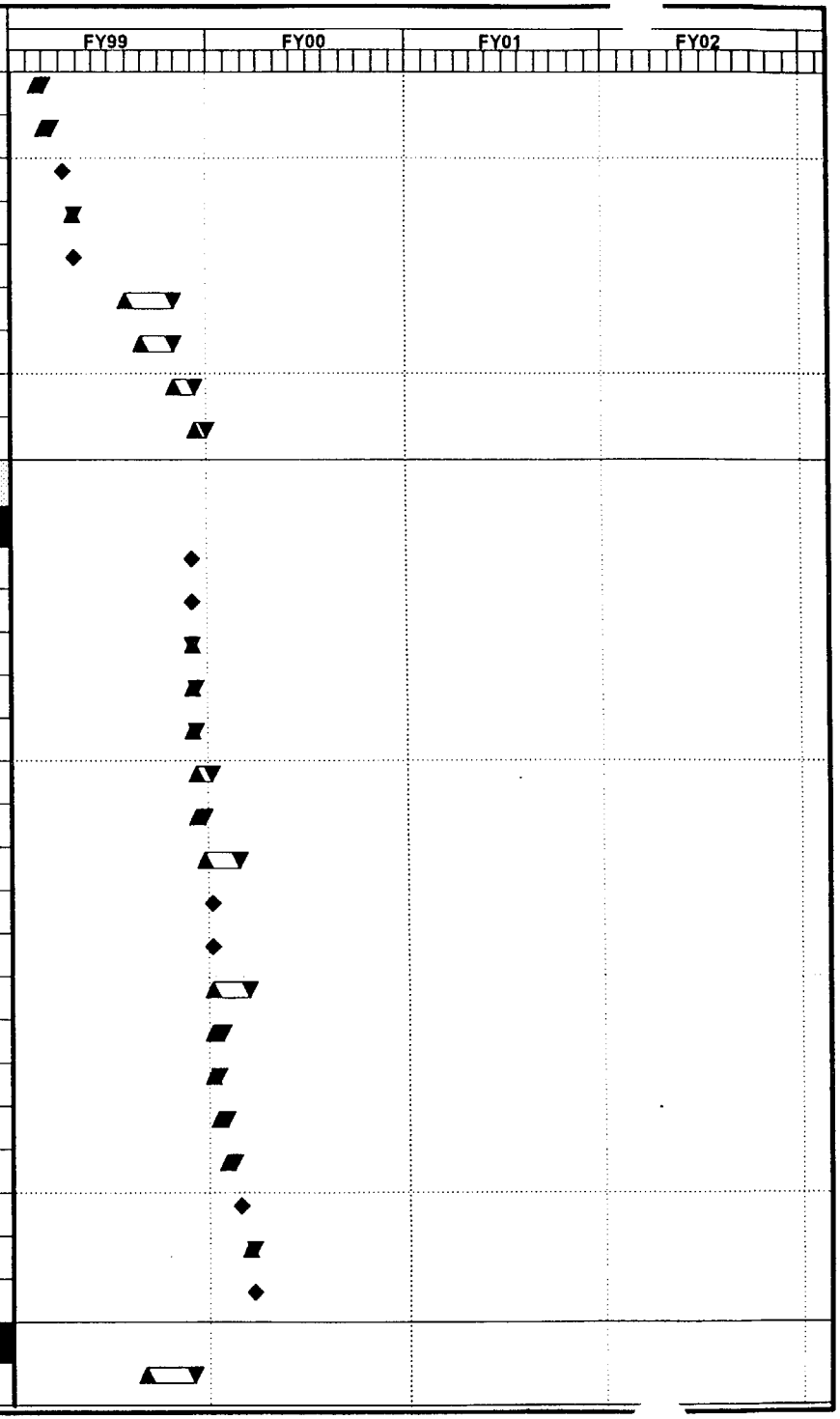
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1868	FEB Screen/CLAD-Determine DTN Assignment		2	01OCT99	04OCT99
SLPA1870	FEB Screen/CLAD-Determine if Model-Rel SW is Und		5	01OCT99	07OCT99
SLPA1872	FEB Screen/CLAD-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
SLPA1874	FEB Screen/CLAD-Place Model-Related SW Under SMS		10	08OCT99	22OCT99
SLPA1876	FEB Screen/CLAD-Submit Data/DTN to TDMS as Neces		22	08OCT99	09NOV99
SLPA1878	FEB Screen/CLAD-Verify Model-Related Software		44	25OCT99	29DEC99
SLPA1880	FEB Screen/CLAD-Procurement Related Issues ID'd		0		09NOV99
SLPA1882	FEB Screen/CLAD-Data Related Software Issues Ide		0		09NOV99
SLPA1884	FEB Screen/CLAD-Determine if Data Rel SW is Unde		5	10NOV99	17NOV99
SLPA1886	FEB Screen/CLAD-Resolve Procurement Related Data		10	10NOV99	24NOV99
SLPA1888	FEB Screen/CLAD-Verify/Trace Data		44	10NOV99	17JAN00
SLPA1890	FEB Screen/CLAD-Place Under SMS Control as Neces		10	18NOV99	03DEC99
SLPA1892	FEB Screen/CLAD-Verify Data-Related Software		10	06DEC99	17DEC99
SLPA1894	FEB Screen/CLAD-Qualified/Verified SW Available		0		29DEC99
SLPA1896	FEB Screen/CLAD-Update TDMS		5	18JAN00	24JAN00
SLPA1898	FEB Screen/CLAD-Qualified/Verified Data Availabl		0		24JAN00
130 Performance Assessment Operations					
[illegible]56	3.10Q Data (FEP Screening)-CLAD		106	03MAY99*	30SEP99
SLPA1858	Prepare Draft Document - FEB Screen - CLAD		86	01JUN99*	30SEP99
SLPA1860	3.10Q Checking/Review FEB Screen - CLAD		28	01OCT99	10NOV99
SLPA1862	Prepare Final 3.10Q Report FEB Screen - CLAD		12	12NOV99	01DEC99
G2030					
110 Waste Package Operations					
WPPMR405	3.10Q Data (CSNF Degradation Model)		105	03MAY99*	29SEP99
WPPMR4M4	ANL Provide Unsat Drip test Data	M4	0		14JUL99*
WPPMR5M4	PNL Provide initial HBU/SF flow through Data -	M4	0		14JUL99*
WPPMR415	Prepare Draft (CSNF Degradation Model)		42	30JUL99	29SEP99
WPF180	CSNF Degrad-Input Parameters and Data Identified		0		29SEP99
WPF182	CSNF Degrad-Models and Codes Identified		0		29SEP99
WPF184	CSNF Degrad-Determine DTN Assignment		2	30SEP99	01OCT99
WPF208	CSNF Degrad-Determine if Model-Rel SW is Under S		5	30SEP99	06OCT99



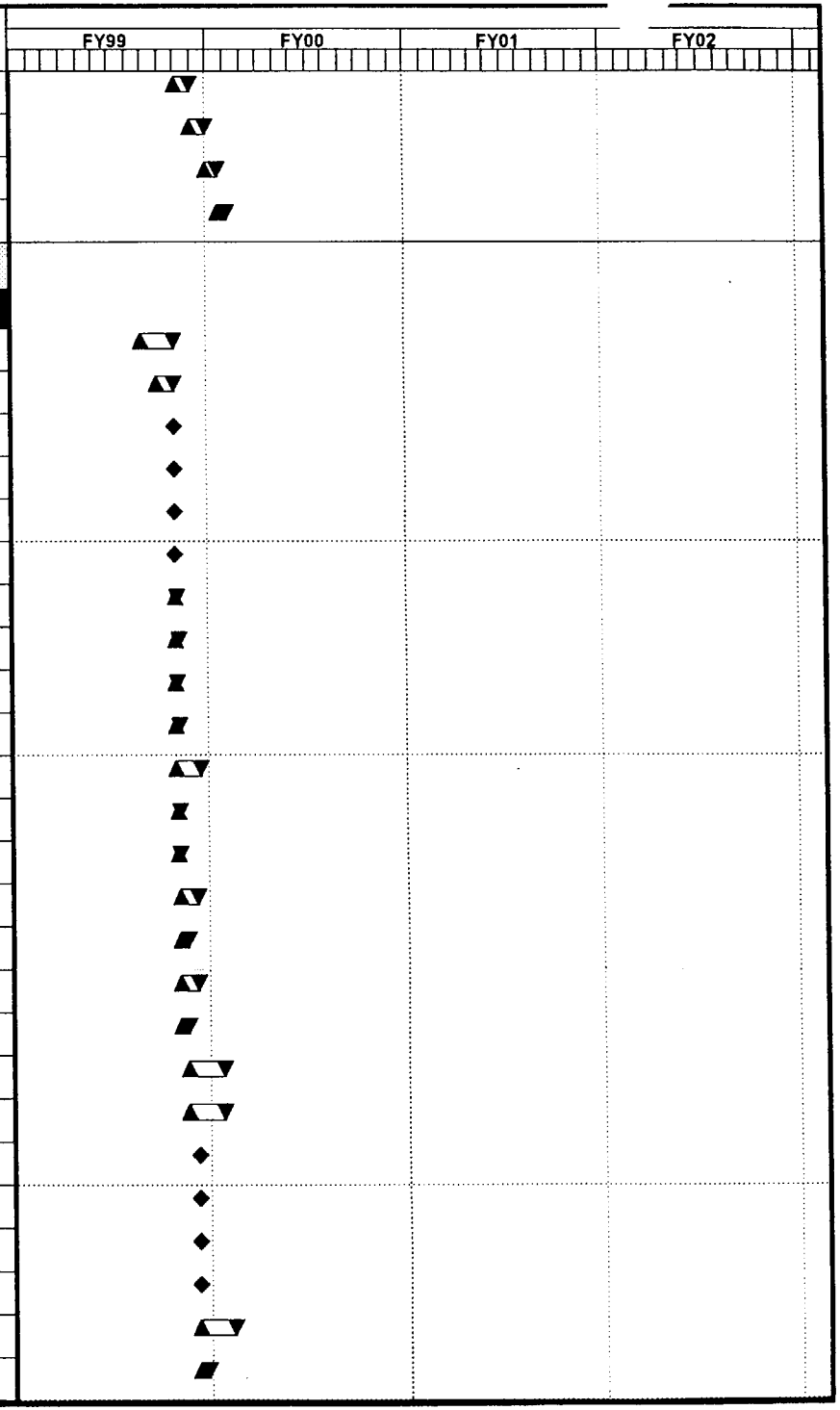
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPPMR425	3.10Q Checking/Review (CSNF Degradation Model)		33	30SEP99	17NOV99
WPF186	CSNF Degrad-Determine if Data/DTN in TDMS		3	04OCT99	06OCT99
WPF188	CSNF Degrad-Submit Data/DTN to TDMS as Necessary		22	07OCT99	08NOV99
WPF210	CSNF Degrad-Place Model-Related SW Under SMS Con		10	07OCT99	21OCT99
WPF212	CSNF Degrad-Verify Model-Related Software		44	22OCT99	28DEC99
WPF192	CSNF Degrad-Procurement Related Issues ID'd to C		0		08NOV99
WPF200	CSNF Degrad-Data Related Software Issues Identif		0		08NOV99
WPF190	CSNF Degrad-Verify/Trace Data		44	09NOV99	14JAN00
WPF194	CSNF Degrad-Resolve Procurement Related Data Iss		10	09NOV99	23NOV99
WPF202	CSNF Degrad-Determine if Data Rel SW is Under SM		5	09NOV99	16NOV99
WPF204	CSNF Degrad-Place Under SMS Control as Necessary		10	17NOV99	02DEC99
WPPMR430	Prepare Final 3.10Q Report (CSNF Degradation Mod		15	18NOV99	10DEC99
WPF206	CSNF Degrad-Verify Data-Related Software		10	03DEC99	16DEC99
WPF214	CSNF Degrad-Qualified/Verified SW Available		0		28DEC99
WPF196	CSNF Degrad-Update TDMS		5	17JAN00	21JAN00
WPF198	CSNF Degrad-Qualified/Verified Data Available		0		21JAN00
G2050					
110 Waste Package Operations					
WPF252	HLW Glass Degr-Input Parameters and Data Identif		0		30SEP98
WPF254	HLW Glass Degr-Models and Codes Identified		0		30SEP98
WPF256	HLW Glass Degr-Determine DTN Assignment		2	01OCT98*	02OCT98
WPF280	HLW Glass Degr-Determine if Model-Rel SW is Unde		5	01OCT98*	07OCT98
WPF258	HLW Glass Degr-Determine if Data/DTN in TDMS		3	05OCT98	07OCT98
WPF260	HLW Glass Degr-Submit Data/DTN to TDMS as Necess		22	08OCT98	09NOV98
WPF282	HLW Glass Degr-Place Model-Related SW Under SMS		10	08OCT98	22OCT98
WPF284	HLW Glass Degr-Verify Model-Related Software		44	23OCT98	06JAN99
WPF264	HLW Glass Degr-Procurement Related Issues ID'd t		0		09NOV98
WPF272	HLW Glass Degr-Data Related Software Issues Iden		0		09NOV98
WPF262	HLW Glass Degr-Verify/Trace Data		44	10NOV98	22JAN99
WPF266	HLW Glass Degr-Resolve Procurement Related Data		10	10NOV98	24NOV98
WPF274	HLW Glass Degr-Determine if Data Rel SW is Under		5	10NOV98	17NOV98



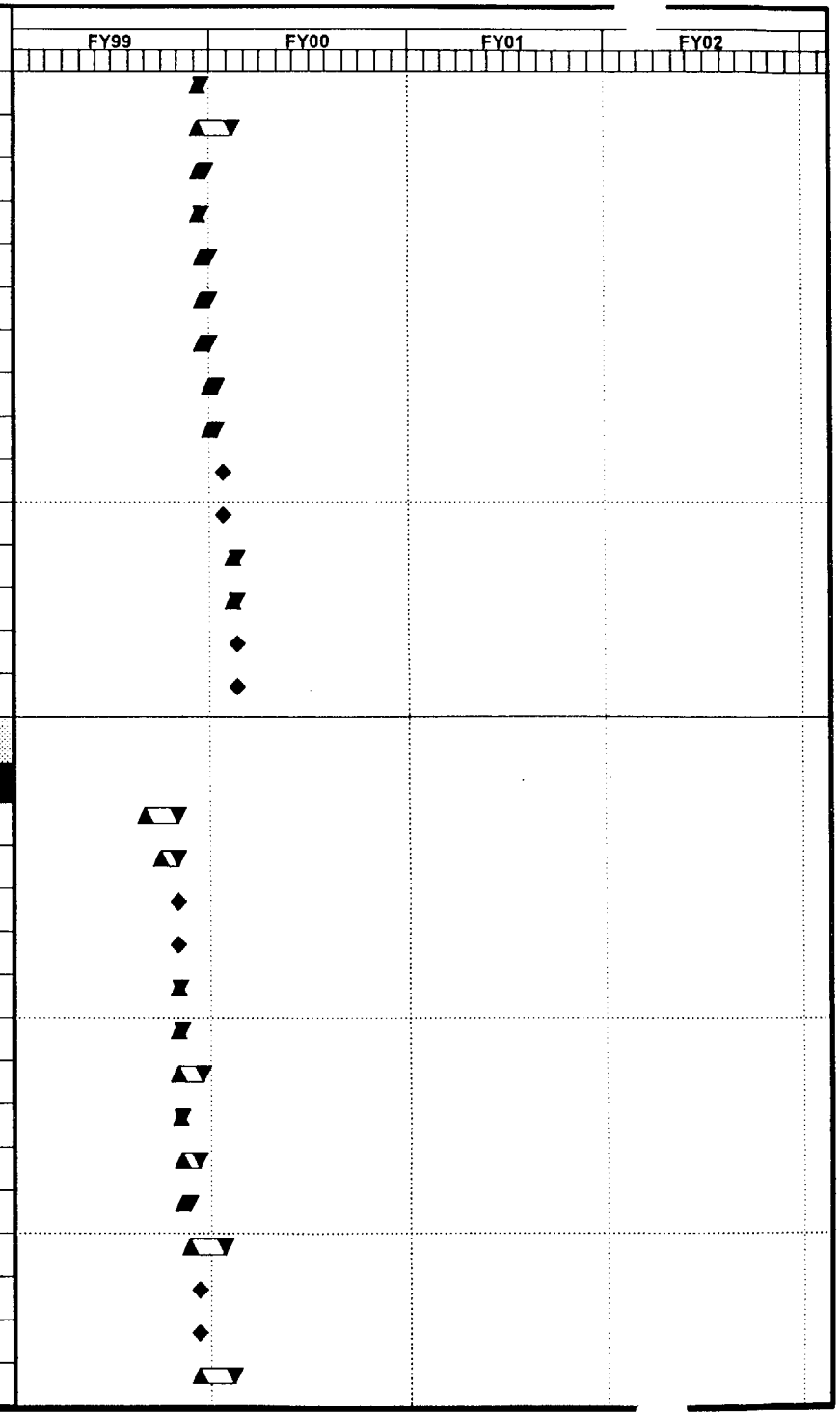
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPF276	HLW Glass Degr-Place Under SMS Control as Necess		10	18NOV98	03DEC98
WPF278	HLW Glass Degr-Verify Data-Related Software		10	04DEC98	17DEC98
WPF286	HLW Glass Degr-Qualified/Verified SW Available		0		06JAN99
WPF268	HLW Glass Degr-Update TDMS		5	25JAN99	29JAN99
WPF270	HLW Glass Degr-Qualified/Verified Data Available		0		29JAN99
WPPMR465	3.10Q Data (HLW Glass Degradation)		62	03MAY99*	29JUL99
WPPMR475	Prepare Draft Document (HLW Glass Degradation)		42	01JUN99*	29JUL99
WPPMR485	3.10Q Checking/Review (HLW Glass Degradation)		28	30JUL99	08SEP99
WPPMR490	Prepare Final 3.10Q Report (HLW Glass Degradatio		16	09SEP99	30SEP99
G2080					
110 Waste Package Operations					
WPF216	Other Waste Form Abs-Input Parameters and Data I		0		30AUG99
WPF218	Other Waste Form Abs-Models and Codes Identified		0		30AUG99
WPF220	Other Waste Form Abs-Determine DTN Assignment		2	31AUG99	01SEP99
WPF244	Other Waste Form Abs-Determine if Model-Rel SW i		5	31AUG99	07SEP99
WPF222	Other Waste Form Abs-Determine if Data/DTN in TD		3	02SEP99	07SEP99
WPF224	Other Waste Form Abs-Submit Data/DTN to TDMS as		22	08SEP99	07OCT99
WPF246	Other Waste Form Abs-Place Model-Related SW Unde		10	08SEP99	21SEP99
WPF248	Other Waste Form Abs-Verify Model-Related Softwa		44	22SEP99	24NOV99
WPF228	Other Waste Form Abs-Procurement Related Issues		0		07OCT99
WPF236	Other Waste Form Abs-Data Related Software Issue		0		07OCT99
WPF226	Other Waste Form Abs-Verify/Trace Data		44	08OCT99	14DEC99
WPF230	Other Waste Form Abs-Resolve Procurement Related		10	08OCT99	22OCT99
WPF238	Other Waste Form Abs-Determine if Data Rel SW is		5	08OCT99	15OCT99
WPF240	Other Waste Form Abs-Place Under SMS Control as		10	18OCT99	29OCT99
WPF242	Other Waste Form Abs-Verify Data-Related Softwar		10	01NOV99	15NOV99
WPF250	Other Waste Form Abs-Qualified/Verified SW Avail		0		24NOV99
WPF232	Other Waste Form Abs-Update TDMS		5	15DEC99	21DEC99
WPF234	Other Waste Form Abs-Qualified/Verified Data Ava		0		21DEC99
130 Performance Assessment Operations					
SLPA1900	3.10Q Data (Other Waste Form Abstraction)		63	02JUN99*	30AUG99



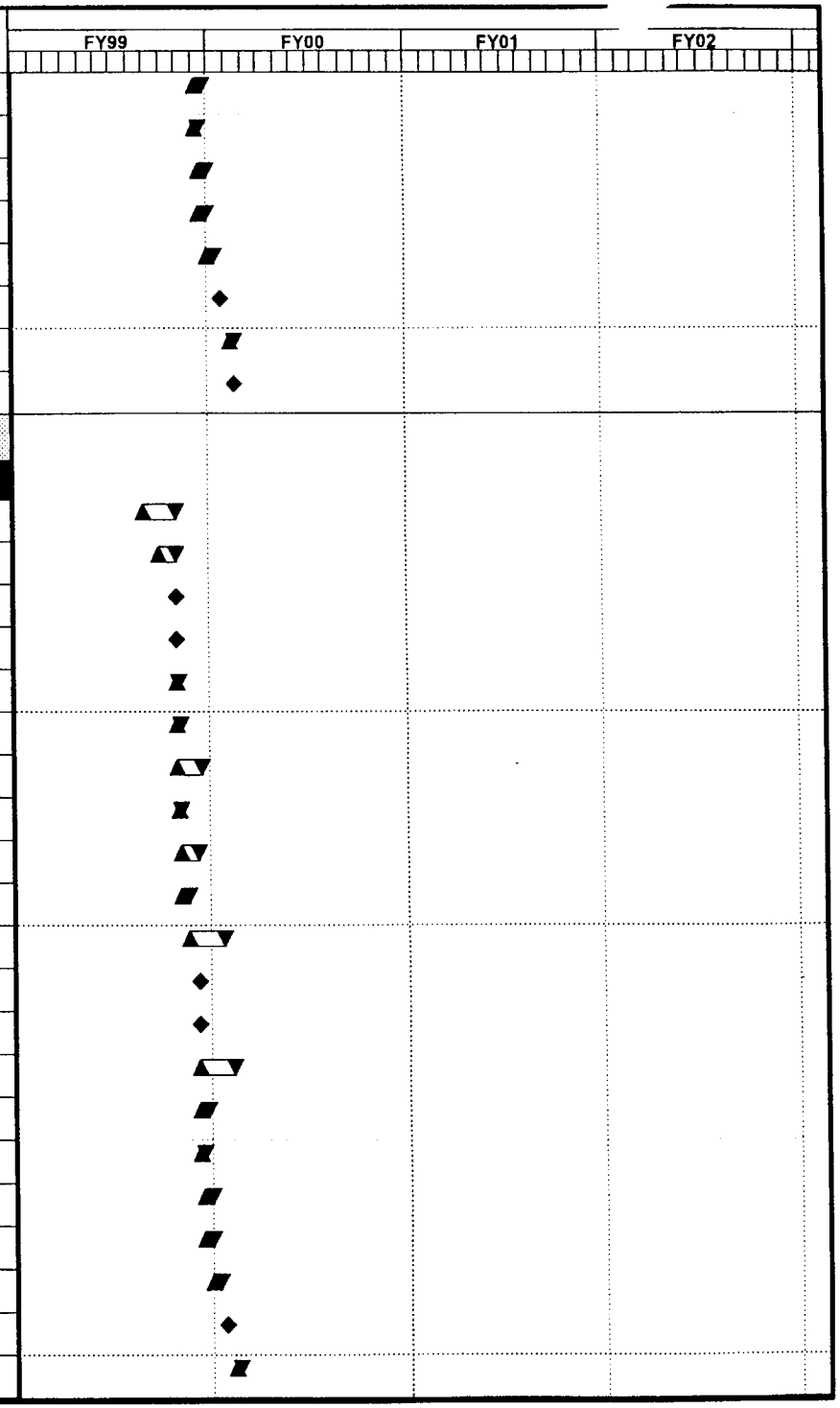
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1902	Prepare Draft (Other Waste Form Abstraction)		21	02AUG99*	30AUG99
SLPA1904	3.10Q Checking/Review (Other Waste Form Abstract		22	31AUG99	30SEP99
SLPA1906	3.10Q Checking/Review (Other Waste Form Abstract		11	01OCT99	18OCT99
SLPA1908	Prepare Final 3.10Q Report (Other Waste Form Abs		15	19OCT99	08NOV99
G3000					
110 Waste Package Operations					
WPPMRD96	3.10Q Data (U-Silicate Data)		42	01JUN99*	29JUL99
WPPMRD97	Prepare Draft (U-Silicate Data)		21	30JUN99*	29JUL99
WPF000	U-Silicate Data-Input Parameters and Data Identi		0		29JUL99
WPF002	U-Silicate Data-Models and Codes Identified		0		29JUL99
WPF648	U-Silicate Data-Input Parameters and Data Identi		0		29JUL99
WPF650	U-Silicate Data-Models and Codes Identified		0		29JUL99
WPF004	U-Silicate Data-Determine DTN Assignment		2	30JUL99	02AUG99
WPF028	U-Silicate Data-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99
WPF652	U-Silicate Data-Determine DTN Assignment		2	30JUL99	02AUG99
WPF676	U-Silicate Data-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99
WPPMRD98	3.10Q Checking/Review (U-Silicate Data)		33	30JUL99	15SEP99
WPF006	U-Silicate Data-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPF654	U-Silicate Data-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPF008	U-Silicate Data-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99
WPF030	U-Silicate Data-Place Model-Related SW Under SMS		10	06AUG99	19AUG99
WPF656	U-Silicate Data-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99
WPF678	U-Silicate Data-Place Model-Related SW Under SMS		10	06AUG99	19AUG99
WPF032	U-Silicate Data-Verify Model-Related Software		44	20AUG99	22OCT99
WPF680	U-Silicate Data-Verify Model-Related Software		44	20AUG99	22OCT99
WPF012	U-Silicate Data-Procurement Related Issues ID'd		0		07SEP99
WPF020	U-Silicate Data-Data Related Software Issues Ide		0		07SEP99
WPF660	U-Silicate Data-Procurement Related Issues ID'd		0		07SEP99
WPF668	U-Silicate Data-Data Related Software Issues Ide		0		07SEP99
WPF010	U-Silicate Data-Verify/Trace Data		44	08SEP99	09NOV99
WPF014	U-Silicate Data-Resolve Procurement Related Data		10	08SEP99	21SEP99



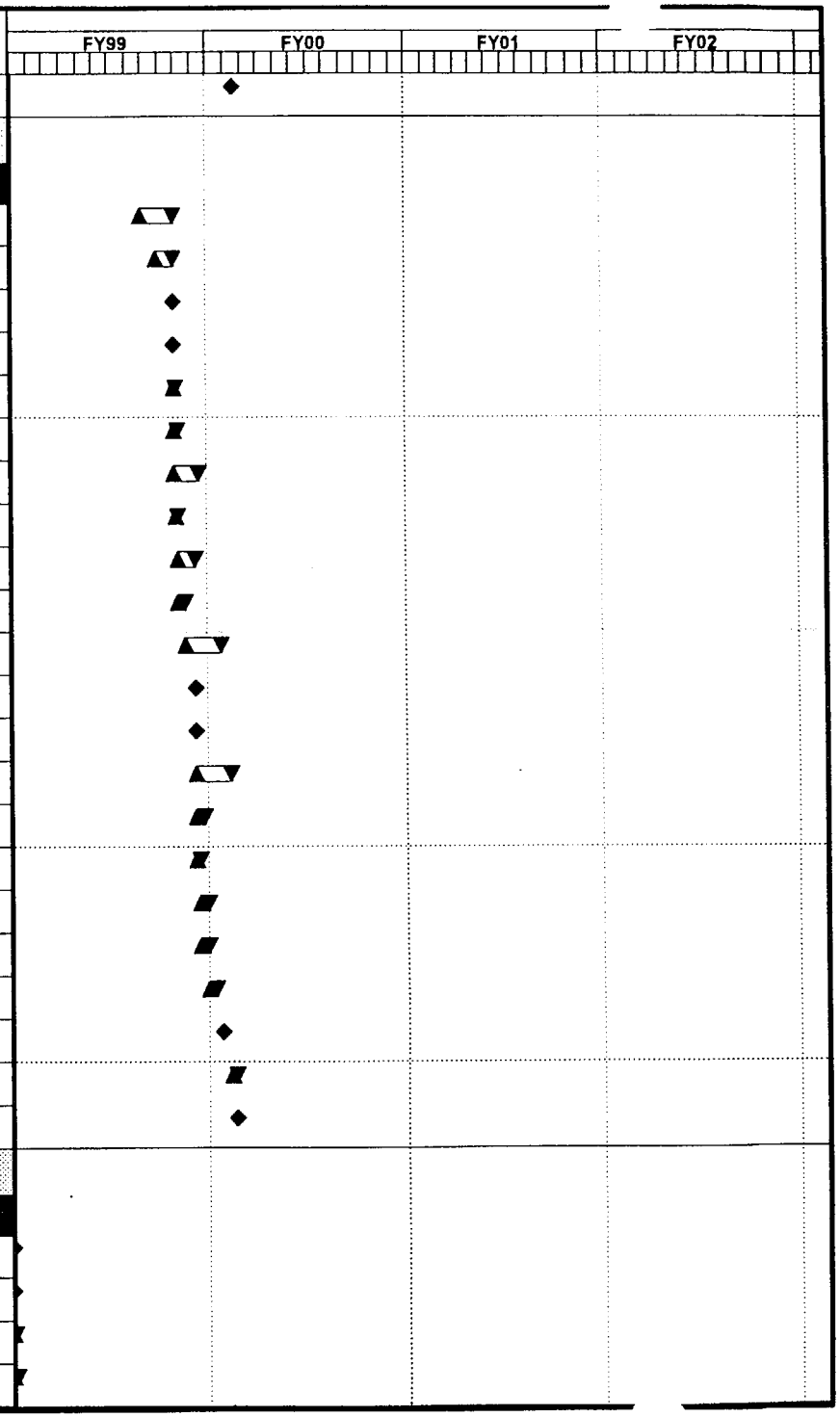
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPF022	U-Silicate Data-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99
WPF658	U-Silicate Data-Verify/Trace Data		44	08SEP99	09NOV99
WPF662	U-Silicate Data-Resolve Procurement Related Data		10	08SEP99	21SEP99
WPF670	U-Silicate Data-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99
WPF024	U-Silicate Data-Place Under SMS Control as Neces		10	15SEP99	28SEP99
WPF672	U-Silicate Data-Place Under SMS Control as Neces		10	15SEP99	28SEP99
WPPMRD99	Prepare Final 3.10Q Report (U-Silicate Data)		11	16SEP99	30SEP99
WPF026	U-Silicate Data-Verify Data-Related Software		10	29SEP99	13OCT99
WPF674	U-Silicate Data-Verify Data-Related Software		10	29SEP99	13OCT99
WPF034	U-Silicate Data-Qualified/Verified SW Available		0		22OCT99
WPF682	U-Silicate Data-Qualified/Verified SW Available		0		22OCT99
WPF016	U-Silicate Data-Update TDMS		5	10NOV99	17NOV99
WPF664	U-Silicate Data-Update TDMS		5	10NOV99	17NOV99
WPF018	U-Silicate Data-Qualified/Verified Data Availabl		0		17NOV99
WPF666	U-Silicate Data-Qualified/Verified Data Availabl		0		17NOV99
G3005					
110 Waste Package Operations					
WPPMRE15	3.10Q Data (2nd Phase Modeling)		42	01JUN99*	29JUL99
WPPMRE20	Prepare Draft Document (2nd Phase Modeling)		21	30JUN99*	29JUL99
WPF756	2nd Phase Model-Input Parameters and Data Identi		0		29JUL99
WPF758	2nd Phase Model-Models and Codes Identified		0		29JUL99
WPF760	2nd Phase Model-Determine DTN Assignment		2	30JUL99	02AUG99
WPF784	2nd Phase Model-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99
WPPMRE25	3.10Q Checking/Review (2nd Phase Modeling)		33	30JUL99	15SEP99
WPF762	2nd Phase Model-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPF764	2nd Phase Model-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99
WPF786	2nd Phase Model-Place Model-Related SW Under SMS		10	06AUG99	19AUG99
WPF788	2nd Phase Model-Verify Model-Related Software		44	20AUG99	22OCT99
WPF768	2nd Phase Model-Procurement Related Issues ID'd		0		07SEP99
WPF776	2nd Phase Model-Data Related Software Issues Ide		0		07SEP99
WPF766	2nd Phase Model-Verify/Trace Data		44	08SEP99	09NOV99



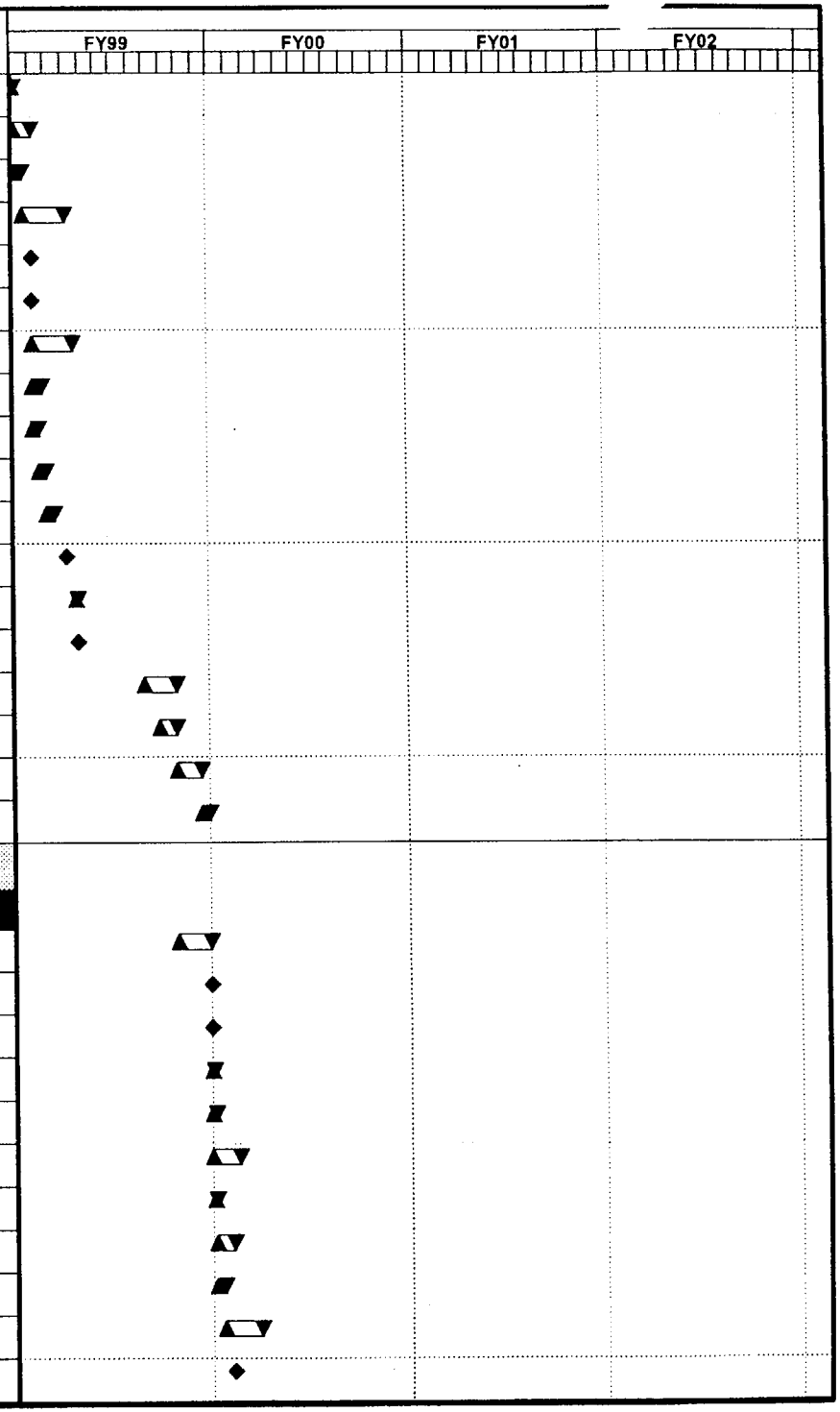
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPF770	2nd Phase Model-Resolve Procurement Related Data		10	08SEP99	21SEP99
WPF778	2nd Phase Model-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99
WPF780	2nd Phase Model-Place Under SMS Control as Neces		10	15SEP99	28SEP99
WPPMRE30	Prepare Final 3.10Q Report (2nd Phase Modeling)		11	16SEP99	30SEP99
WPF782	2nd Phase Model-Verify Data-Related Software		10	29SEP99	13OCT99
WPF790	2nd Phase Model-Qualified/Verified SW Available		0		22OCT99
WPF772	2nd Phase Model-Update TDMS		5	10NOV99	17NOV99
WPF774	2nd Phase Model-Qualified/Verified Data Availabl		0		17NOV99
G3010					
110 Waste Package Operations					
WPPMRE01	3.10Q Data (2nd Phases - ANL)		42	01JUN99*	29JUL99
WPPMRE02	Prepare Draft (2nd Phases - ANL)		21	30JUN99*	29JUL99
WPF720	2nd Phases - ANL-Input Parameters and Data Ident		0		29JUL99
WPF722	2nd Phases - ANL-Models and Codes Identified		0		29JUL99
WPF724	2nd Phases - ANL-Determine DTN Assignment		2	30JUL99	02AUG99
WPF748	2nd Phases - ANL-Determine if Model-Rel SW is Un		5	30JUL99	05AUG99
WPPMRE03	3.10Q Checking/Review (2nd Phases - ANL)		33	30JUL99	15SEP99
WPF726	2nd Phases - ANL-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPF728	2nd Phases - ANL-Submit Data/DTN to TDMS as Nece		22	06AUG99	07SEP99
WPF750	2nd Phases - ANL-Place Model-Related SW Under SM		10	06AUG99	19AUG99
WPF752	2nd Phases - ANL-Verify Model-Related Software		44	20AUG99	22OCT99
WPF732	2nd Phases - ANL-Procurement Related Issues ID'd		0		07SEP99
WPF740	2nd Phases - ANL-Data Related Software Issues Id		0		07SEP99
WPF730	2nd Phases - ANL-Verify/Trace Data		44	08SEP99	09NOV99
WPF734	2nd Phases - ANL-Resolve Procurement Related Dat		10	08SEP99	21SEP99
WPF742	2nd Phases - ANL-Determine if Data Rel SW is Und		5	08SEP99	14SEP99
WPF744	2nd Phases - ANL-Place Under SMS Control as Nece		10	15SEP99	28SEP99
WPPMRE04	Prepare Final 3.10Q Report (2nd Phases - ANL)		11	16SEP99	30SEP99
WPF746	2nd Phases - ANL-Verify Data-Related Software		10	29SEP99	13OCT99
WPF754	2nd Phases - ANL-Qualified/Verified SW Available		0		22OCT99
WPF736	2nd Phases - ANL-Update TDMS		5	10NOV99	17NOV99



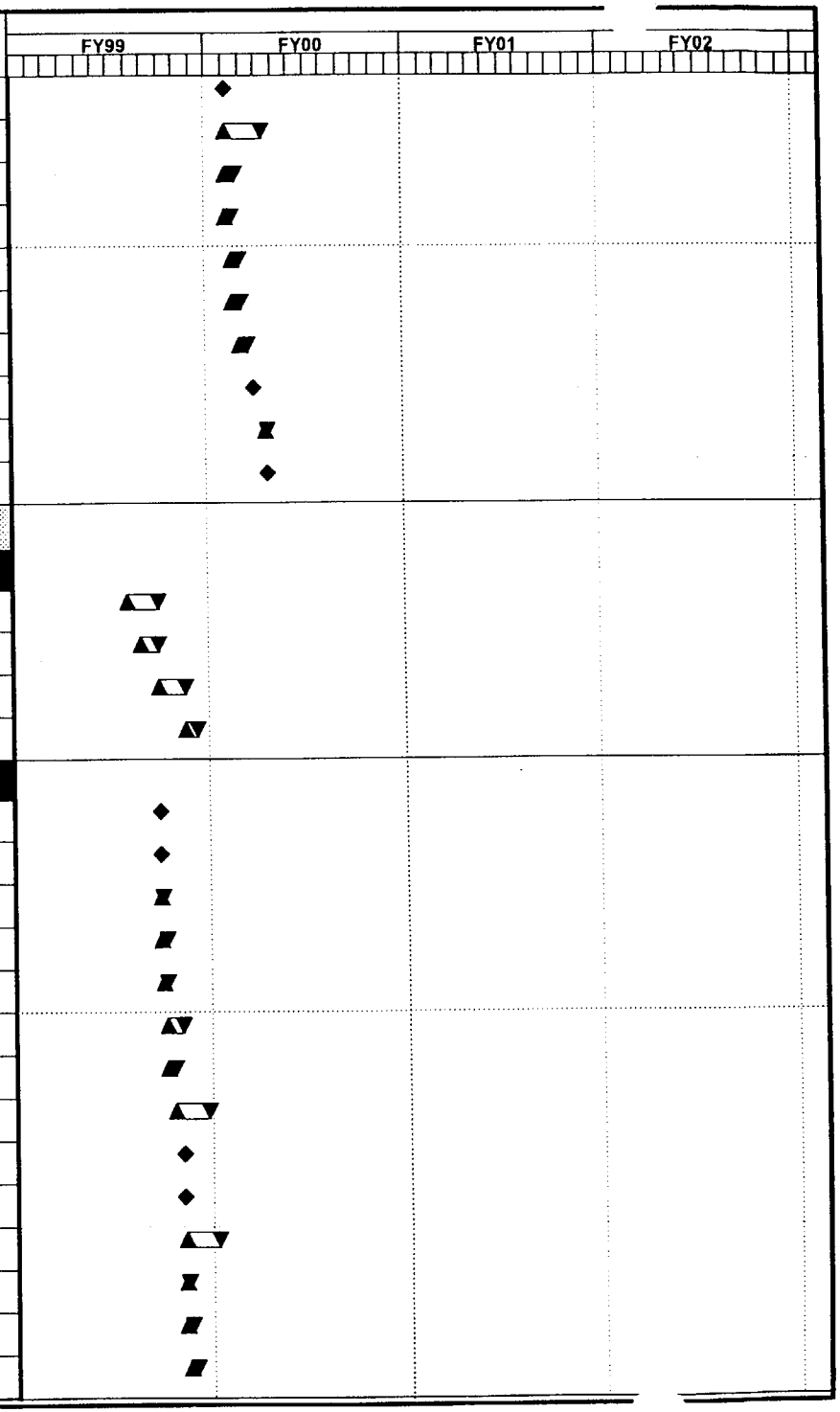
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPF738	2nd Phases - ANL-Qualified/Verified Data Availab		0		17NOV99
G3015					
110 Waste Package Operations					
WPPMRE35	3.10Q Data (Solubility LANL)		42	01JUN99*	29JUL99
WPPMRE40	Prepare Draft (Solubility LANL)		21	30JUN99*	29JUL99
WPF792	Solubility LANL-Input Parameters and Data Identi		0		29JUL99
WPF794	Solubility LANL-Models and Codes Identified		0		29JUL99
WPF796	Solubility LANL-Determine DTN Assignment		2	30JUL99	02AUG99
WPF820	Solubility LANL-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99
WPPMRE45	3.10Q Checking/Review (Solubility LANL)		33	30JUL99	15SEP99
WPF798	Solubility LANL-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPF800	Solubility LANL-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99
WPF822	Solubility LANL-Place Model-Related SW Under SMS		10	06AUG99	19AUG99
WPF824	Solubility LANL-Verify Model-Related Software		44	20AUG99	22OCT99
WPF804	Solubility LANL-Procurement Related Issues ID'd		0		07SEP99
WPF812	Solubility LANL-Data Related Software Issues Ide		0		07SEP99
WPF802	Solubility LANL-Verify/Trace Data		44	08SEP99	09NOV99
WPF806	Solubility LANL-Resolve Procurement Related Data		10	08SEP99	21SEP99
WPF814	Solubility LANL-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99
WPF816	Solubility LANL-Place Under SMS Control as Neces		10	15SEP99	28SEP99
WPPMRE50	Prepare Final 3.10Q Report (Solubility LANL)		11	16SEP99	30SEP99
WPF818	Solubility LANL-Verify Data-Related Software		10	29SEP99	13OCT99
WPF826	Solubility LANL-Qualified/Verified SW Available		0		22OCT99
WPF808	Solubility LANL-Update TDMS		5	10NOV99	17NOV99
WPF810	Solubility LANL-Qualified/Verified Data Availabl		0		17NOV99
G3020					
110 Waste Package Operations					
WPF828	Solubility LANL-Input Parameters and Data Identi		0		30SEP98
WPF830	Solubility LANL-Models and Codes Identified		0		30SEP98
WPF832	Solubility LANL-Determine DTN Assignment		2	01OCT98*	02OCT98
WPF856	Solubility LANL-Determine if Model-Rel SW is Und		5	01OCT98*	07OCT98



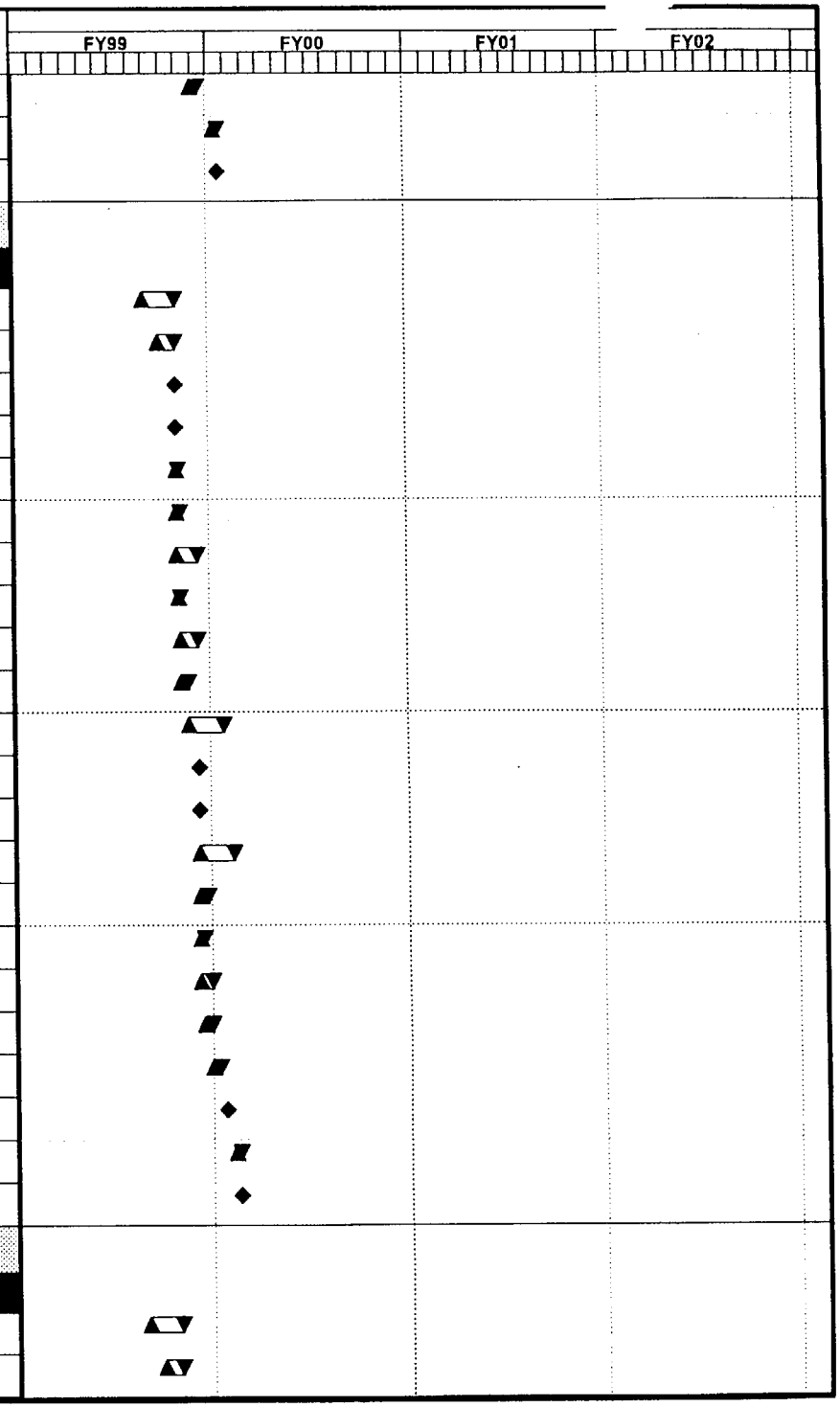
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPF834	Solubility LANL-Determine if Data/DTN in TDMS		3	05OCT98	07OCT98
WPF836	Solubility LANL-Submit Data/DTN to TDMS as Neces		22	08OCT98	09NOV98
WPF858	Solubility LANL-Place Model-Related SW Under SMS		10	08OCT98	22OCT98
WPF860	Solubility LANL-Verify Model-Related Software		44	23OCT98	06JAN99
WPF840	Solubility LANL-Procurement Related Issues ID'd		0		09NOV98
WPF848	Solubility LANL-Data Related Software Issues Ide		0		09NOV98
WPF838	Solubility LANL-Verify/Trace Data		44	10NOV98	22JAN99
WPF842	Solubility LANL-Resolve Procurement Related Data		10	10NOV98	24NOV98
WPF850	Solubility LANL-Determine if Data Rel SW is Unde		5	10NOV98	17NOV98
WPF852	Solubility LANL-Place Under SMS Control as Neces		10	18NOV98	03DEC98
WPF854	Solubility LANL-Verify Data-Related Software		10	04DEC98	17DEC98
WPF862	Solubility LANL-Qualified/Verified SW Available		0		06JAN99
WPF844	Solubility LANL-Update TDMS		5	25JAN99	29JAN99
WPF846	Solubility LANL-Qualified/Verified Data Availabl		0		29JAN99
WPPMRE55	3.10Q Data (Solubility LLNL)		42	01JUN99*	29JUL99
WPPMRE60	Prepare Draft (Solubility LANL)		21	30JUN99*	29JUL99
WPPMRE65	3.10Q Checking/Review (Solubility LANL)		33	30JUL99	15SEP99
WPPMRE70	Prepare Final 3.10Q Report (Solubility LANL)		11	16SEP99	30SEP99
G3025					
110 Waste Package Operations					
WPPMR505	Prepare Dft Document Dissolve Concen Limits Abs.		43	30JUL99*	29SEP99
WPG180	Dissolve Concen-Input Parameters and Data Identi		0		29SEP99
WPG182	Dissolve Concen-Models and Codes Identified		0		29SEP99
WPG184	Dissolve Concen-Determine DTN Assignment		2	30SEP99	01OCT99
WPG208	Dissolve Concen-Determine if Model-Rel SW is Und		5	30SEP99	06OCT99
WPPMR515	3.10Q Checking/Review Dissolve Concen Limits Abs		33	01OCT99	18NOV99
WPG186	Dissolve Concen-Determine if Data/DTN in TDMS		3	04OCT99	06OCT99
WPG188	Dissolve Concen-Submit Data/DTN to TDMS as Neces		22	07OCT99	08NOV99
WPG210	Dissolve Concen-Place Model-Related SW Under SMS		10	07OCT99	21OCT99
WPG212	Dissolve Concen-Verify Model-Related Software		44	22OCT99	28DEC99
WPG192	Dissolve Concen-Procurement Related Issues ID'd		0		08NOV99



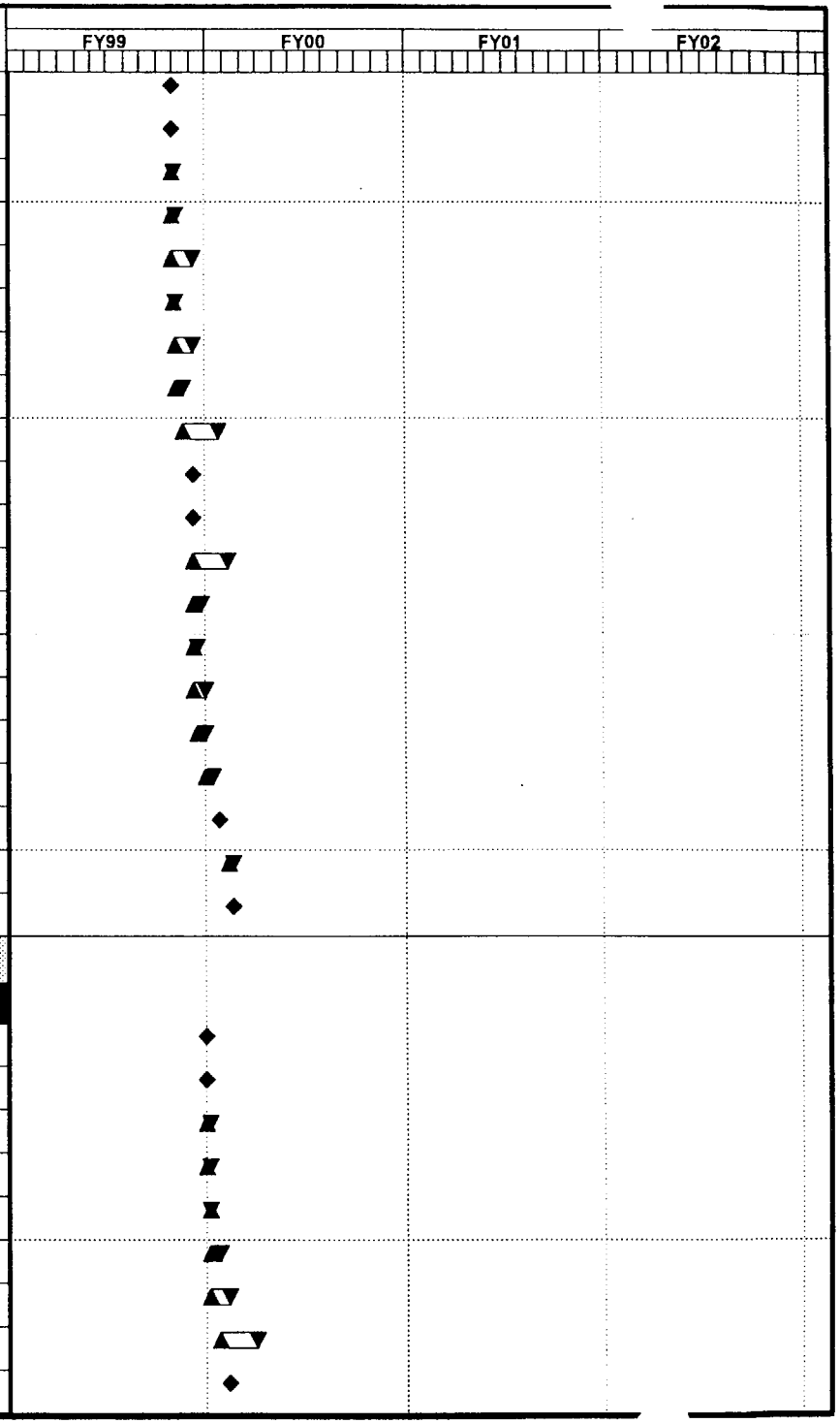
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPG200	Dissolve Concen-Data Related Software Issues Ide		0		08NOV99
WPG190	Dissolve Concen-Verify/Trace Data		44	09NOV99	14JAN00
WPG194	Dissolve Concen-Resolve Procurement Related Data		10	09NOV99	23NOV99
WPG202	Dissolve Concen-Determine if Data Rel SW is Unde		5	09NOV99	16NOV99
WPG204	Dissolve Concen-Place Under SMS Control as Neces		10	17NOV99	02DEC99
WPPMR620	Prepare Final 3.10Q Report Dissolve Concen Limit		10	19NOV99	06DEC99
WPG206	Dissolve Concen-Verify Data-Related Software		10	03DEC99	16DEC99
WPG214	Dissolve Concen-Qualified/Verified SW Available		0		28DEC99
WPG196	Dissolve Concen-Update TDMS		5	17JAN00	21JAN00
WPG198	Dissolve Concen-Qualified/Verified Data Availabl		0		21JAN00
G3030					
110 Waste Package Operations					
WPPMRD55	Data (Send Colloids to LANL)		41	03MAY99*	29JUN99
WPPMRD60	Prepare Draft Document (Send Colloids to LANL)		22	28MAY99*	29JUN99
WPPMRD65	Checking/Review (Send Colloids to LANL)		33	30JUN99	16AUG99
WPPMRD70	Prepare Final Report (Send Colloids to LANL)		15	17AUG99	07SEP99
130 Performance Assessment Operations					
WPQ1100	Colloids to LANL-Input Parameters and Data Ident		0		29JUN99
WPQ1102	Colloids to LANL-Models and Codes Identified		0		29JUN99
WPQ1104	Colloids to LANL-Determine DTN Assignment		2	30JUN99	01JUL99
WPQ1106	Colloids to LANL-Determine if Model-Rel SW is Un		5	30JUN99	07JUL99
WPQ1108	Colloids to LANL-Determine if Data/DTN in TDMS		3	02JUL99	07JUL99
WPQ1110	Colloids to LANL-Submit Data/DTN to TDMS as Nece		22	08JUL99	06AUG99
WPQ1112	Colloids to LANL-Place Model-Related SW Under SM		10	08JUL99	21JUL99
WPQ1114	Colloids to LANL-Verify Model-Related Software		44	22JUL99	22SEP99
WPQ1116	Colloids to LANL-Data Related Software Issues Id		0		06AUG99
WPQ1118	Colloids to LANL-Procurement Related Issues ID'd		0		06AUG99
WPQ1120	Colloids to LANL-Verify/Trace Data		44	09AUG99	08OCT99
WPQ1122	Colloids to LANL-Determine if Data Rel SW is Und		5	09AUG99	13AUG99
WPQ1124	Colloids to LANL-Rxesolve Procurement Related Da		10	09AUG99	20AUG99
WPQ1126	Colloids to LANL-Place Under SMS Control as Nece		10	16AUG99	27AUG99



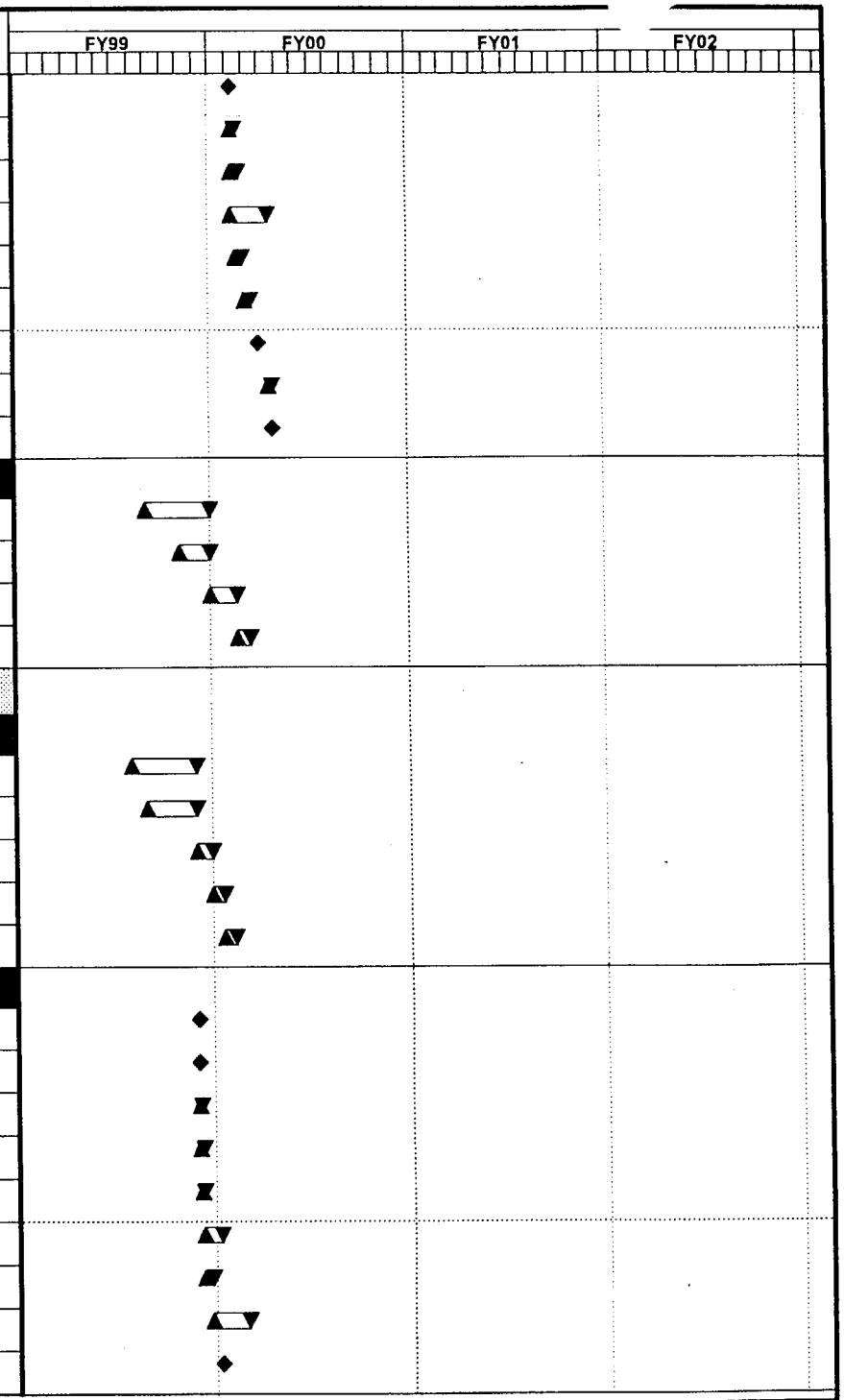
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPQ1128	Colloids to LANL-Verify Data-Related Software		10	30AUG99	13SEP99
WPQ1130	Colloids to LANL-Update TDMS		5	12OCT99	18OCT99
WPQ1132	Colloids to LANL-Qualified/Verified Data Availab		0		18OCT99
G3035					
110 Waste Package Operations					
WPPMRD35	3.10Q Data(Colloid Source term LANL Data & Mod)		42	01JUN99*	29JUL99
WPPMRD40	Prepare Draft (Colloid Source term LANL Data & M		21	30JUN99*	29JUL99
WPF576	Colloid Source term-Input Parameters and Data Id		0		29JUL99
WPF578	Colloid Source term-Models and Codes Identified		0		29JUL99
WPF580	Colloid Source term-Determine DTN Assignment		2	30JUL99	02AUG99
WPF604	Colloid Source term-Determine if Model-Rel SW is		5	30JUL99	05AUG99
WPPMRD45	3.10Q Checking/Review (Colloid Source term LANL		28	30JUL99	08SEP99
WPF582	Colloid Source term-Determine if Data/DTN in TDM		3	03AUG99	05AUG99
WPF584	Colloid Source term-Submit Data/DTN to TDMS as N		22	06AUG99	07SEP99
WPF606	Colloid Source term-Place Model-Related SW Under		10	06AUG99	19AUG99
WPF608	Colloid Source term-Verify Model-Related Softwar		44	20AUG99	22OCT99
WPF588	Colloid Source term-Procurement Related Issues I		0		07SEP99
WPF596	Colloid Source term-Data Related Software Issues		0		07SEP99
WPF586	Colloid Source term-Verify/Trace Data		44	08SEP99	09NOV99
WPF590	Colloid Source term-Resolve Procurement Related		10	08SEP99	21SEP99
WPF598	Colloid Source term-Determine if Data Rel SW is		5	08SEP99	14SEP99
WPPMRD50	Prepare Final 3.10Q Report (Colloid Source term		16	09SEP99	30SEP99
WPF600	Colloid Source term-Place Under SMS Control as N		10	15SEP99	28SEP99
WPF602	Colloid Source term-Verify Data-Related Software		10	29SEP99	13OCT99
WPF610	Colloid Source term-Qualified/Verified SW Availa		0		22OCT99
WPF592	Colloid Source term-Update TDMS		5	10NOV99	17NOV99
WPF594	Colloid Source term-Qualified/Verified Data Avai		0		17NOV99
G3040					
110 Waste Package Operations					
WPPMRD05	3.10Q Data (Colloid source Term ANL)		42	01JUN99*	29JUL99
WPPMRD10	Prepare Draft (Colloid source Term ANL)		21	30JUN99*	29JUL99



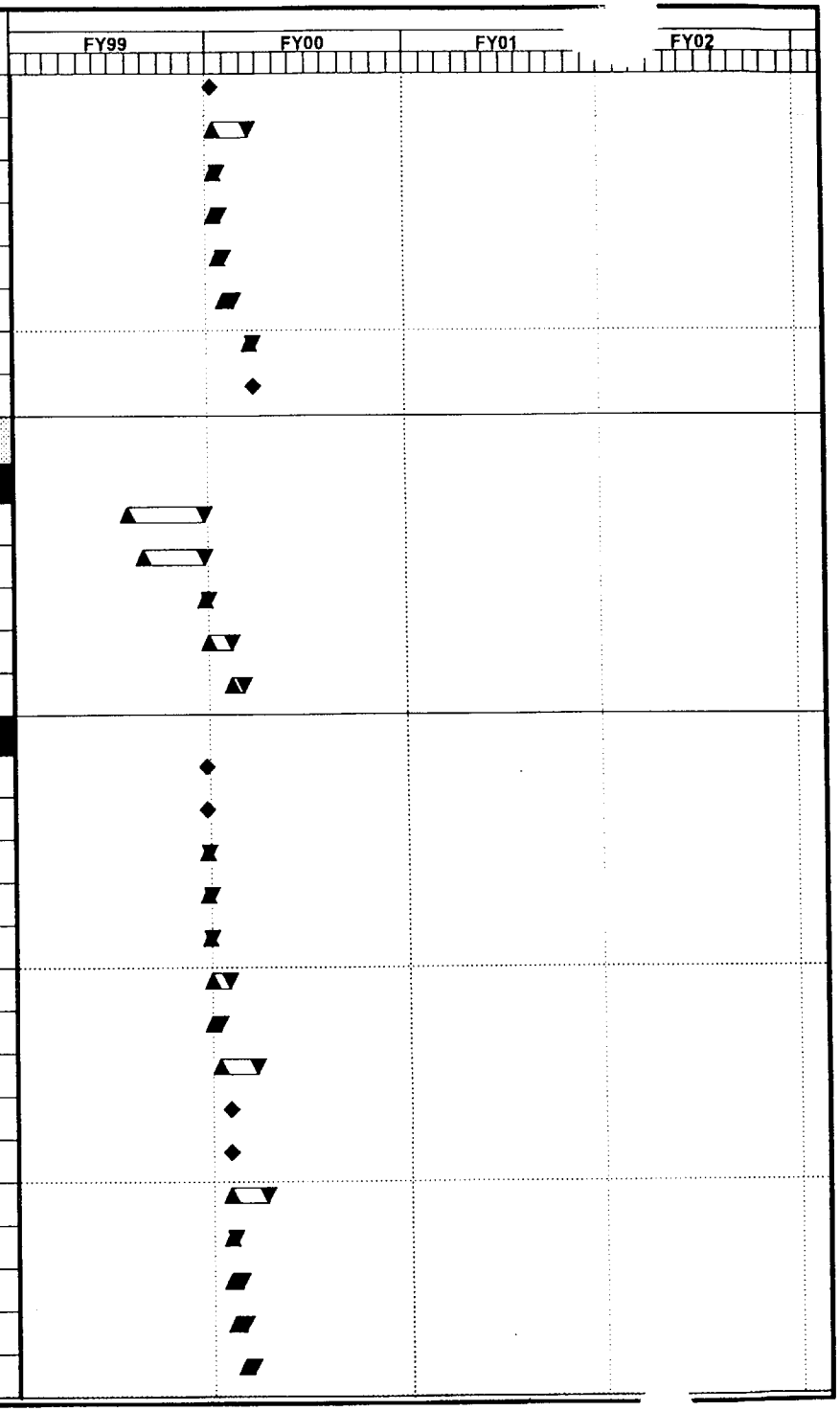
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPF540	Colloid source Term-Input Parameters and Data Id		0		29JUL99
WPF542	Colloid source Term-Models and Codes Identified		0		29JUL99
WPF544	Colloid source Term-Determine DTN Assignment		2	30JUL99	02AUG99
WPF568	Colloid source Term-Determine if Model-Rel SW is		5	30JUL99	05AUG99
WPPMRD15	3.10Q Checking/Review (Colloid source Term ANL)		28	30JUL99	08SEP99
WPF546	Colloid source Term-Determine if Data/DTN in TDM		3	03AUG99	05AUG99
WPF548	Colloid source Term-Submit Data/DTN to TDMS as N		22	06AUG99	07SEP99
WPF570	Colloid source Term-Place Model-Related SW Under		10	06AUG99	19AUG99
WPF572	Colloid source Term-Verify Model-Related Softwar		44	20AUG99	22OCT99
WPF552	Colloid source Term-Procurement Related Issues I		0		07SEP99
WPF560	Colloid source Term-Data Related Software Issues		0		07SEP99
WPF550	Colloid source Term-Verify/Trace Data		44	08SEP99	09NOV99
WPF554	Colloid source Term-Resolve Procurement Related		10	08SEP99	21SEP99
WPF562	Colloid source Term-Determine if Data Rel SW is		5	08SEP99	14SEP99
WPPMRD20	Prepare Final 3.10Q Report (Colloid source Term		16	09SEP99	30SEP99
WPF564	Colloid source Term-Place Under SMS Control as N		10	15SEP99	28SEP99
WPF566	Colloid source Term-Verify Data-Related Software		10	29SEP99	13OCT99
WPF574	Colloid source Term-Qualified/Verified SW Availa		0		22OCT99
WPF556	Colloid source Term-Update TDMS		5	10NOV99	17NOV99
WPF558	Colloid source Term-Qualified/Verified Data Avai		0		17NOV99
G3050					
110 Waste Package Operations					
SLPA1918	Colloid source-Input Parameters and Data Identif		0		30SEP99
SLPA1920	Colloid source-Models and Codes Identified		0		30SEP99
SLPA1922	Colloid source-Determine DTN Assignment		2	01OCT99	04OCT99
SLPA1924	Colloid source-Determine if Model-Rel SW is Unde		5	01OCT99	07OCT99
SLPA1926	Colloid source-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
SLPA1928	Colloid source-Place Model-Related SW Under SMS		10	08OCT99	22OCT99
SLPA1930	Colloid source-Submit Data/DTN to TDMS as Necess		22	08OCT99	09NOV99
SLPA1932	Colloid source-Verify Model-Related Software		44	25OCT99	29DEC99
SLPA1934	Colloid source-Procurement Related Issues ID'd t		0		09NOV99



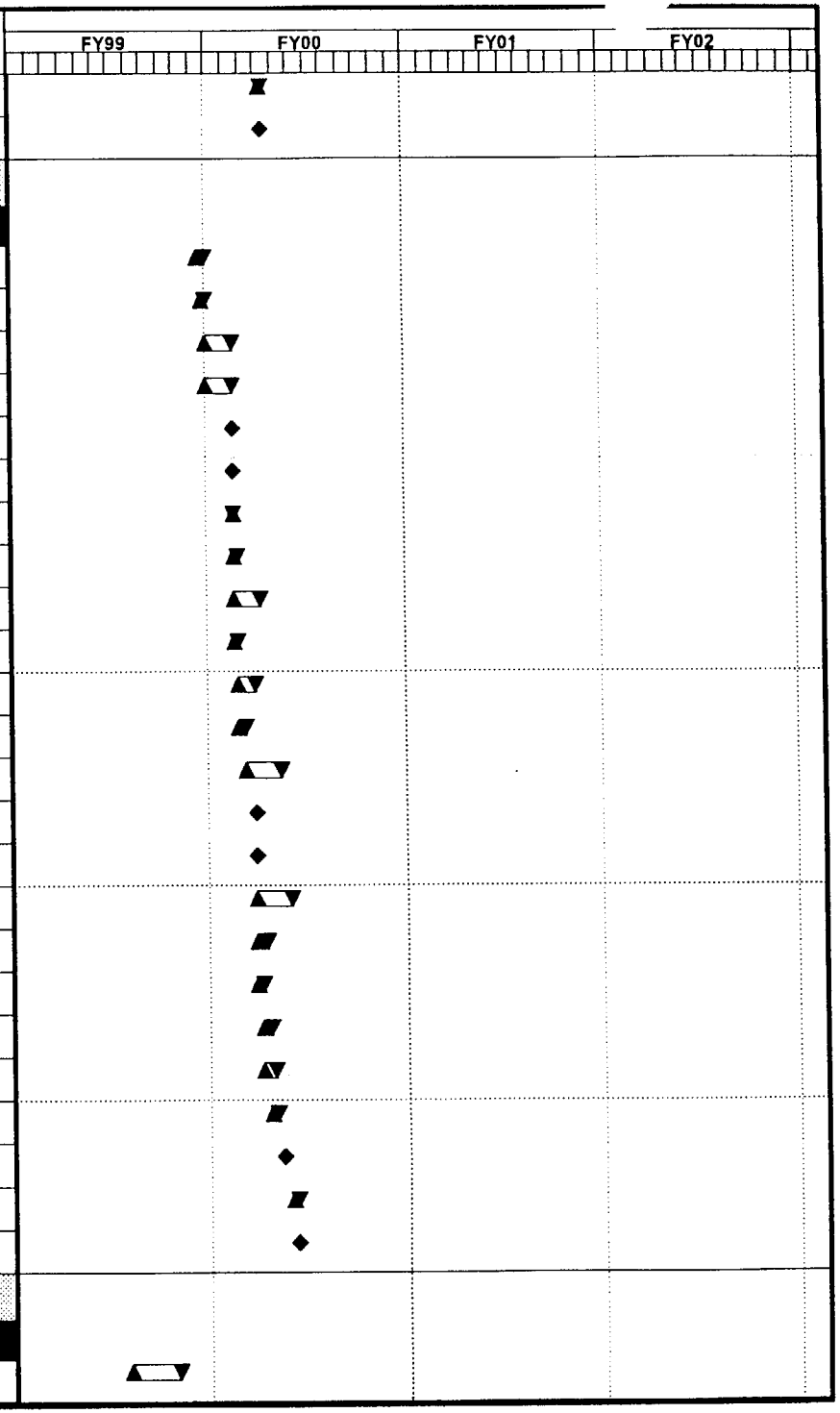
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1936	Colloid source-Data Related Software Issues Iden		0		09NOV99
SLPA1938	Colloid source-Determine if Data Rel SW is Under		5	10NOV99	17NOV99
SLPA1940	Colloid source-Resolve Procurement Related Data		10	10NOV99	24NOV99
SLPA1942	Colloid source-Verify/Trace Data		44	10NOV99	17JAN00
SLPA1944	Colloid source-Place Under SMS Control as Necess		10	18NOV99	03DEC99
SLPA1946	Colloid source-Verify Data-Related Software		10	06DEC99	17DEC99
SLPA1948	Colloid source-Qualified/Verified SW Available		0		29DEC99
SLPA1950	Colloid source-Update TDMS		5	18JAN00	24JAN00
SLPA1952	Colloid source-Qualified/Verified Data Available		0		24JAN00
130 Performance Assessment Operations					
SLPA1910	Perform Abstract (Colloid source Term)		86	01JUN99*	30SEP99
SLPA1912	Prepare Draft (Colloid source Term Abstract) 00A		43	02AUG99*	30SEP99
SLPA1914	3.10Q Checking/Review (Colloid source Term Abstr		33	01OCT99	18NOV99
SLPA1916	Prepare Final 3.10Q Report (Colloid source Term		15	19NOV99	13DEC99
G3060					
110 Waste Package Operations					
WPPMRM0	Data (In-Package Chemistry - CSNF)		85	03MAY99*	31AUG99
WPPMRM5	Prepare Draft Inventory CSNF 00A		65	01JUN99*	31AUG99
WPPMRN0	Checking/Review Inventory CSNF 00A FY99		21	01SEP99	30SEP99
WPPMRN0Z	Checking/Review Inventory CSNF 00A FY00		12	01OCT99	19OCT99
WPPMRN5	Prepare Final Report Inventory CSNF 00A		15	20OCT99	09NOV99
130 Performance Assessment Operations					
WPQ1200	Inventory CSNF-Input Parameters and Data Identif		0		31AUG99
WPQ1202	Inventory CSNF-Models and Codes Identified		0		31AUG99
WPQ1204	Inventory CSNF-Determine DTN Assignment		2	01SEP99	02SEP99
WPQ1206	Inventory CSNF-Determine if Model-Rel SW is Unde		5	01SEP99	08SEP99
WPQ1208	Inventory CSNF-Determine if Data/DTN in TDMS		3	03SEP99	08SEP99
WPQ1210	Inventory CSNF-Submit Data/DTN to TDMS as Necess		22	09SEP99	08OCT99
WPQ1212	Inventory CSNF-Place Model-Related SW Under SMS		10	09SEP99	22SEP99
WPQ1214	Inventory CSNF-Verify Model-Related Software		44	23SEP99	29NOV99
WPQ1216	Inventory CSNF-Data Related Software Issues Iden		0		08OCT99



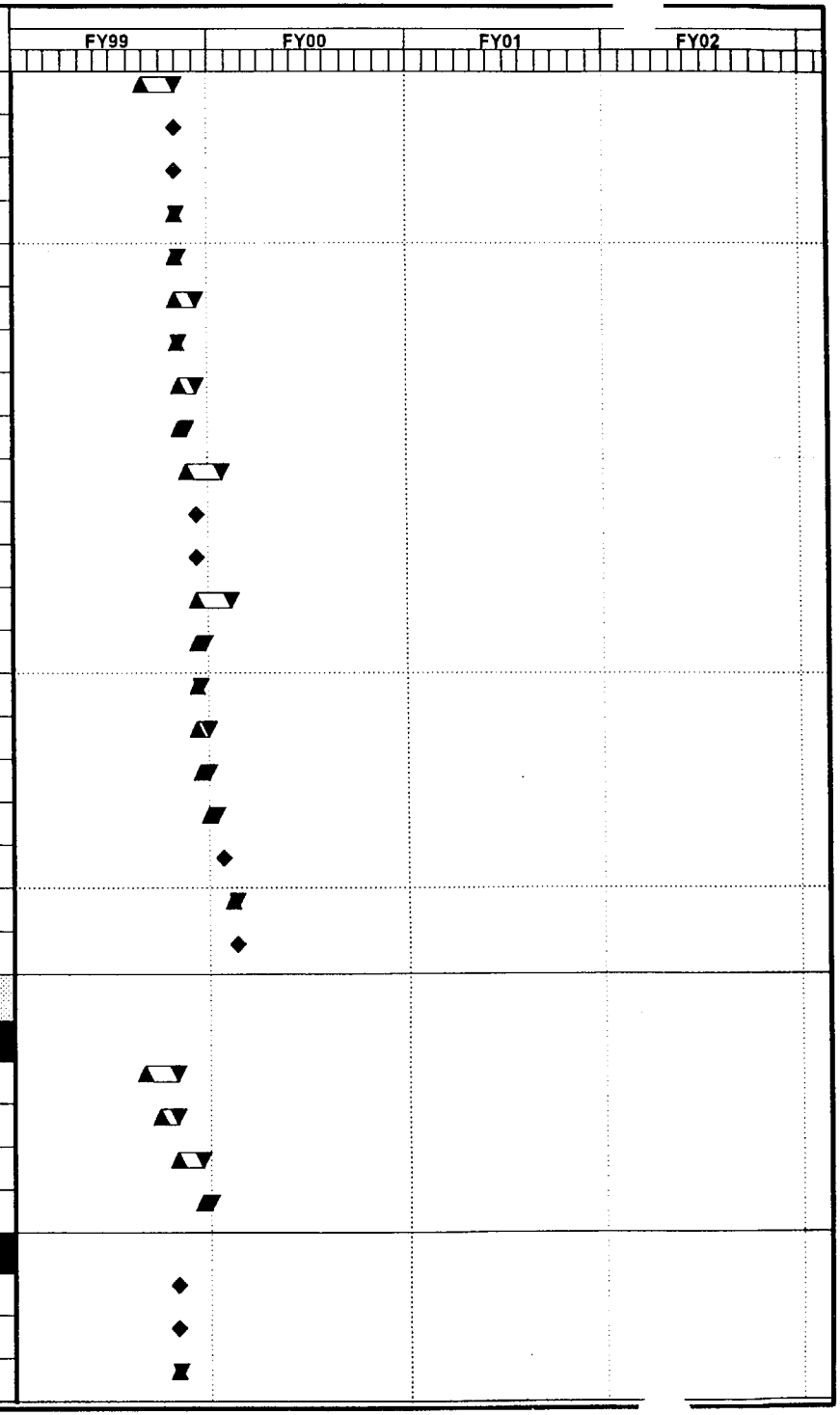
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPQ1218	Inventory CSNF-Procurement Related Issues ID'd t		0		08OCT99
WPQ1220	Inventory CSNF-Verify/Trace Data		44	12OCT99	15DEC99
WPQ1222	Inventory CSNF-Determine if Data Rel SW is Under		5	12OCT99	18OCT99
WPQ1224	Inventory CSNF-Rxesolve Procurement Related Data		10	12OCT99	25OCT99
WPQ1226	Inventory CSNF-Place Under SMS Control as Necess		10	19OCT99	01NOV99
WPQ1228	Inventory CSNF-Verify Data-Related Software		10	02NOV99	16NOV99
WPQ1230	Inventory CSNF-Update TDMS		5	16DEC99	22DEC99
WPQ1232	Inventory CSNF-Qualified/Verified Data Available		0		22DEC99
G3070					
110 Waste Package Operations					
WPPMRK0	Data (In-Package Chemistry - Co Dosposal)		100	03MAY99*	22SEP99
WPPMRK5	Prepare Draft Co Dosposal		80	01JUN99*	22SEP99
WPPMRL0	Checking/Review Co Dosposal FY99		6	23SEP99	30SEP99
WPPMRL0Z	Checking/Review Co Dosposal FY00		27	01OCT99	09NOV99
WPPMRL5	Prepare Final Report Co Dosposal		15	10NOV99	03DEC99
130 Performance Assessment Operations					
WPQ1250	Co Dosposal-Input Parameters and Data Identified		0		22SEP99
WPQ1252	Co Dosposal-Models and Codes Identified		0		22SEP99
WPQ1254	Co Dosposal-Determine DTN Assignment		2	23SEP99	24SEP99
WPQ1256	Co Dosposal-Determine if Model-Rel SW is Under S		5	23SE[illegible]9	29SEP99
WPQ1258	Co Dosposal-Determine if Data/DTN in TDMS		3	27SEP99	29SEP99
WPQ1260	Co Dosposal-Submit Data/DTN to TDMS as Necessary		22	30SEP99	01NOV99
WPQ1262	Co Dosposal-Place Model-Related SW Under SMS Con		10	30SEP99	14OCT99
WPQ1264	Co Dosposal-Verify Model-Related Software		44	15OCT99	20DEC99
WPQ1266	Co Dosposal-Data Related Software Issues Identif		0		01NOV99
WPQ1268	Co Dosposal-Procurement Related Issues ID'd to C		0		01NOV99
WPQ1270	Co Dosposal-Verify/Trace Data		44	02NOV99	07JAN00
WPQ1272	Co Dosposal-Determine if Data Rel SW is Under SM		5	02NOV99	08NOV99
WPQ1274	Co Dosposal-Rxesolve Procurement Related Data Is		10	02NOV99	16NOV99
WPQ1276	Co Dosposal-Place Under SMS Control as Necessary		10	09NOV99	23NOV99
WPQ1278	Co Dosposal-Verify Data-Related Software		10	24NOV99	09DEC99



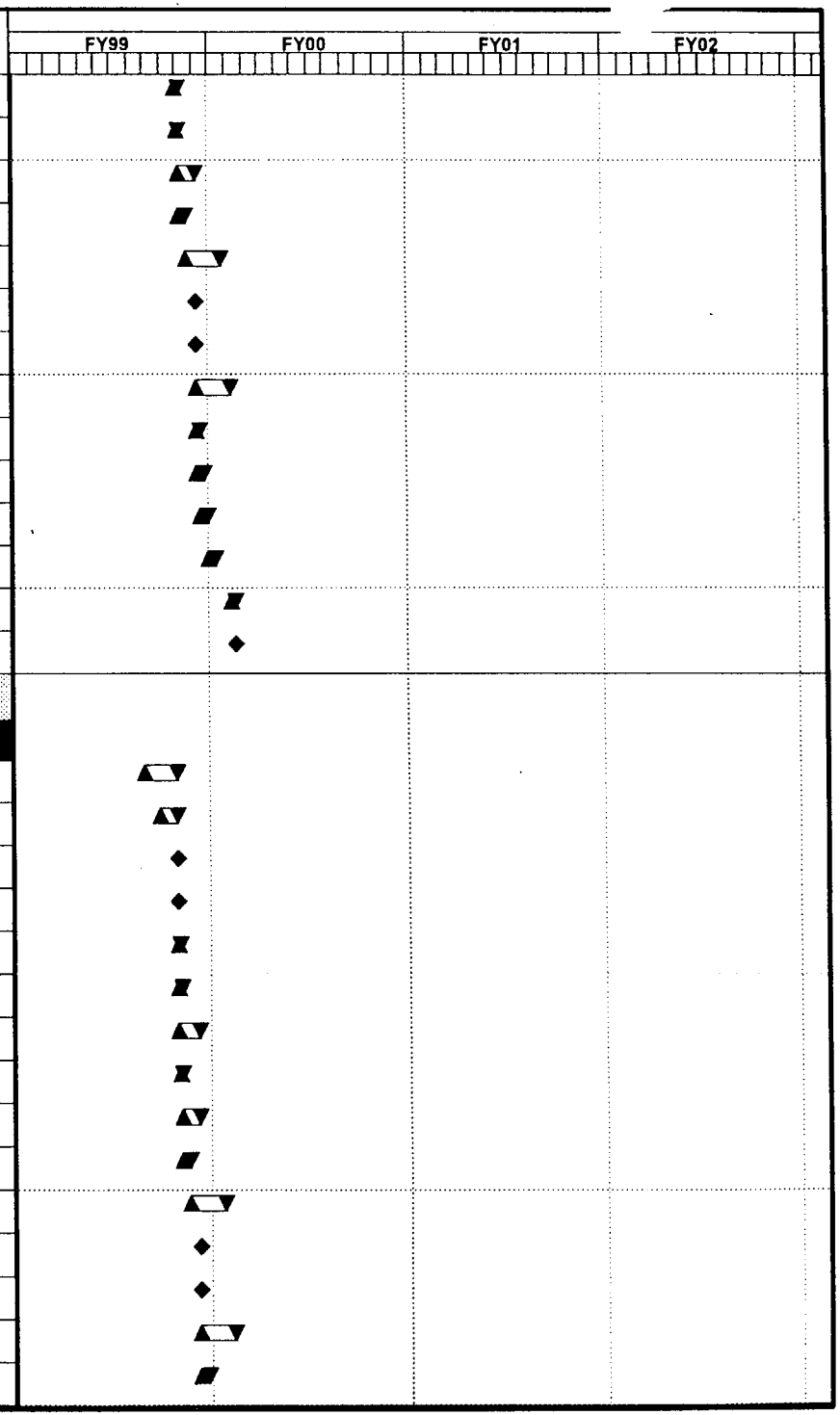
Activit, ID	Activity Description	MILE	Orig dur	Earl, Start	Early Finish
WPQ1280	Co Dosposal-Update TDMS		5	10JAN00	14JAN00
WPQ1282	Co Dosposal-Qualified/Verified Data Available		0		14JAN00
G3075					
110 Waste Package Operations					
WPPMR555	3.10Q Data (In-Package Chemistry Summary)FY99		12	15SEP99*	30SEP99
WPPMR565	Prepare Draft (In-Package Chemistry Summary)FY99		6	23SEP99	30SEP99
WPPMR55Z	3.10Q Data (In-Package Chemistry Summary)FY00		31	01OCT99	16NOV99
WPPMR56Z	Prepare Draft (In-Package Chemistry Summary)FY00		31	01OCT99	16NOV99
WPF360	In-Package Chem-Input Parameters and Data Identi		0		16NOV99
WPF362	In-Package Chem-Models and Codes Identified		0		16NOV99
WPF364	In-Package Chem-Determine DTN Assignment		2	17NOV99	18NOV99
WPF388	In-Package Chem-Determine if Model-Rel SW is Und		5	17NOV99	23NOV99
WPPMR575	3.10Q Checking/Review (In-Package Chemistry Summ		33	17NOV99	06JAN00
WPF366	In-Package Chem-Determine if Data/DTN in TDMS		3	19NOV99	23NOV99
WPF368	In-Package Chem-Submit Data/DTN to TDMS as Neces		22	24NOV99	28DEC99
WPF390	In-Package Chem-Place Model-Related SW Under SMS		10	24NOV99	09DEC99
WPF392	In-Package Chem-Verify Model-Related Software		44	10DEC99	11FEB00
WPF372	In-Package Chem-Procurement Related Issues ID'd		0		28DEC99
WPF380	In-Package Chem-Data Related Software Issues Ide		0		28DEC99
WPF370	In-Package Chem-Verify/Trace Data		44	29DEC99	01MAR00
WPF374	In-Package Chem-Resolve Procurement Related Data		10	29DEC99	12JAN00
WPF382	In-Package Chem-Determine if Data Rel SW is Unde		5	29DEC99	05JAN00
WPF384	In-Package Chem-Place Under SMS Control as Neces		10	06JAN00	19JAN00
WPPMR580	Prepare Final 3.10Q Report (In-Package Chemistry		15	07JAN00	27JAN00
WPF386	In-Package Chem-Verify Data-Related Software		10	20JAN00	02FEB00
WPF394	In-Package Chem-Qualified/Verified SW Available		0		11FEB00
WPF376	In-Package Chem-Update TDMS		5	02MAR00	08MAR00
WPF378	In-Package Chem-Qualified/Verified Data Availabl		0		08MAR00
G3080					
110 Waste Package Operations					
WPPMRFG5	Data (IN-WP TEMPERATURE HISTORY)		62	03MAY99*	29JUL99



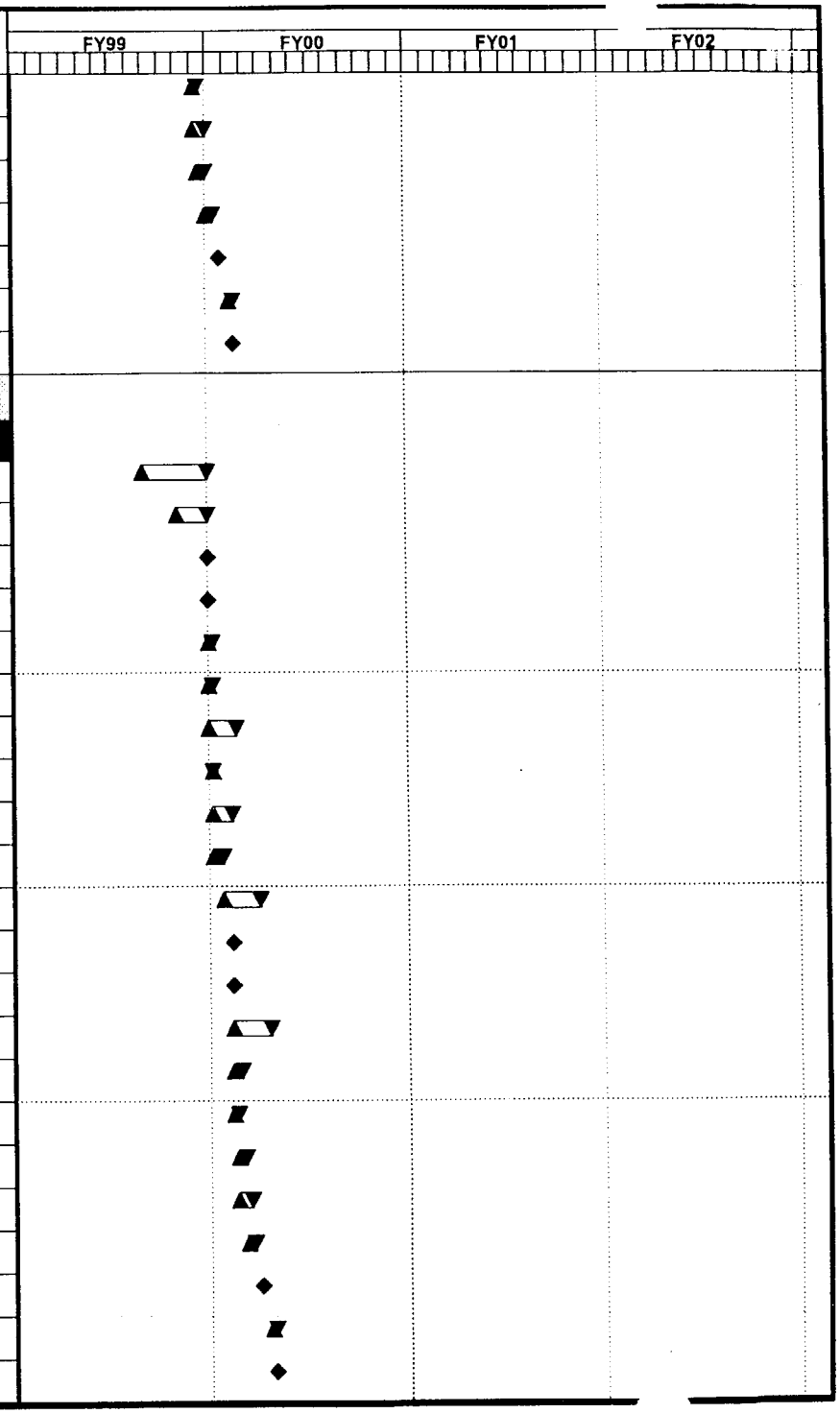
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPPMRFH0	Prepare Draft Document (IN-WP TEMP HISTORY) 00A		42	01JUN99*	29JUL99
WPG240	IN-WP TEMP HIST-Input Parameters and Data Identi		0		29JUL99
WPG242	IN-WP TEMP HIST-Models and Codes Identified		0		29JUL99
WPG244	IN-WP TEMP HIST-Determine DTN Assignment		2	30JUL99	02AUG99
WPG268	IN-WP TEMP HIST-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99
WPPMRFH5	Checking/Review (IN-WP TEMPERATURE HISTORY)		28	30JUL99	08SEP99
WPG246	IN-WP TEMP HIST-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPG248	IN-WP TEMP HIST-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99
WPG270	IN-WP TEMP HIST-Place Model-Related SW Under SMS		10	06AUG99	19AUG99
WPG272	IN-WP TEMP HIST-Verify Model-Related Software		44	20AUG99	22OCT99
WPG252	IN-WP TEMP HIST-Procurement Related Issues ID'd		0		07SEP99
WPG260	IN-WP TEMP HIST-Data Related Software Issues Ide		0		07SEP99
WPG250	IN-WP TEMP HIST-Verify/Trace Data		44	08SEP99	09NOV99
WPG254	IN-WP TEMP HIST-Resolve Procurement Related Data		10	08SEP99	21SEP99
WPG262	IN-WP TEMP HIST-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99
WPPMRFI0	Prepare Final Report (IN-WP TEMPERATURE HISTORY		16	09SEP99	30SEP99
WPG264	IN-WP TEMP HIST-Place Under SMS Control as Neces		10	15SEP99	28SEP99
WPG266	IN-WP TEMP HIST-Verify Data-Related Software		10	29SEP99	13OCT99
WPG274	IN-WP TEMP HIST-Qualified/Verified SW Available		0		22OCT99
WPG256	IN-WP TEMP HIST-Update TDMS		5	10NOV99	17NOV99
WPG258	IN-WP TEMP HIST-Qualified/Verified Data Availabl		0		17NOV99
G3085					
110 Waste Package Operations					
WPPMRC05	Data (In-WP Sorption)		42	01JUN99*	29JUL99
WPPMRC10	Prepare Draft In WP Sorption - 00A		21	30JUN99*	29JUL99
WPPMRC15	Checking/Review In-WP Sorption		33	30JUL99	15SEP99
WPPMRC20	Prepare Final Report In-WP Sorption		11	16SEP99	30SEP99
130 Performance Assessment Operations					
WPQ1300	WP Sorption-Input Parameters and Data Identified		0		29JUL99
WPQ1302	WP Sorption-Models and Codes Identified		0		29JUL99
WPQ1304	WP Sorption-Determine DTN Assignment		2	30JUL99	02AUG99



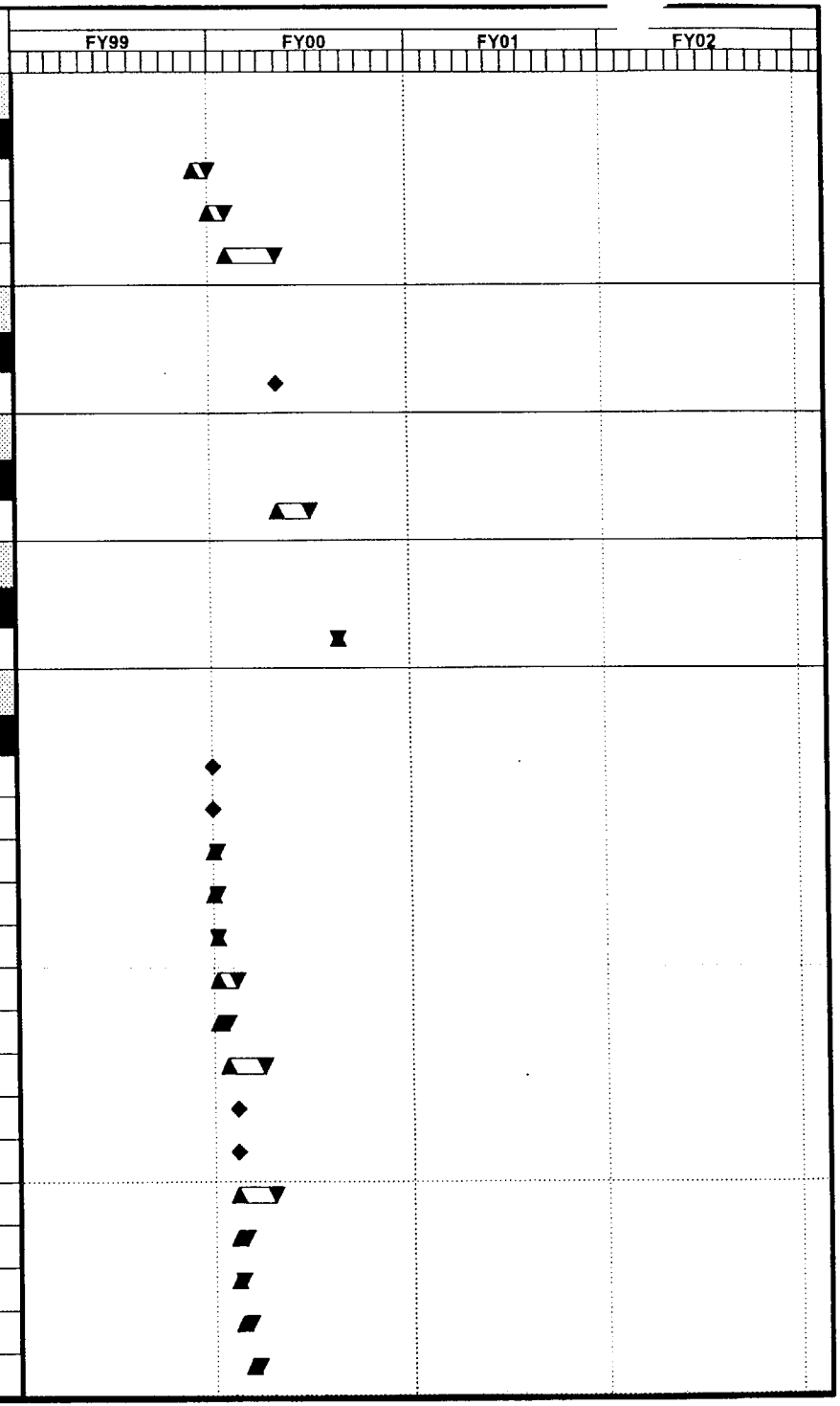
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPQ1306	WP Sorption-Determine if Model-Rel SW is Under S		5	30JUL99	05AUG99
WPQ1308	WP Sorption-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPQ1310	WP Sorption-Submit Data/DTN to TDMS as Necessary		22	06AUG99	07SEP99
WPQ1312	WP Sorption-Place Model-Related SW Under SMS Con		10	06AUG99	19AUG99
WPQ1314	WP Sorption-Verify Model-Related Software		44	20AUG99	22OCT99
WPQ1316	WP Sorption-Data Related Software Issues Identif		0		07SEP99
WPQ1318	WP Sorption-Procurement Related Issues ID'd to C		0		07SEP99
WPQ1320	WP Sorption-Verify/Trace Data		44	08SEP99	09NOV99
WPQ1322	WP Sorption-Determine if Data Rel SW is Under SM		5	08SEP99	14SEP99
WPQ1324	WP Sorption-Rxesolve Procurement Related Data Is		10	08SEP99	21SEP99
WPQ1326	WP Sorption-Place Under SMS Control as Necessary		10	15SEP99	28SEP99
WPQ1328	WP Sorption-Verify Data-Related Software		10	29SEP99	13OCT99
WPQ1330	WP Sorption-Update TDMS		5	10NOV99	17NOV99
WPQ1332	WP Sorption-Qualified/Verified Data Available		0		17NOV99
G3090					
110 Waste Package Operations					
WPPMRBO5	3.10Q Data (Basket Degradation & WP Setting)		42	01JUN99*	29JUL99
WPPMRBP0	Prepare Draft (Basket Degradation & WP Setting)		21	30JUN99*	29JUL99
WPG280	Basket Degradation-Input Parameters and Data Ide		0		29JUL99
WPG282	Basket Degradation-Models and Codes Identified		0		29JUL99
WPG284	Basket Degradation-Determine DTN Assignment		2	30JUL99	02AUG99
WPG308	Basket Degradation-Determine if Model-Rel SW is		5	30JUL99	05AUG99
WPPMRBP5	3.10Q Checking/Review (Basket Degradation & WP S		28	30JUL99	08SEP99
WPG286	Basket Degradation-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPG288	Basket Degradation-Submit Data/DTN to TDMS as Ne		22	06AUG99	07SEP99
WPG310	Basket Degradation-Place Model-Related SW Under		10	06AUG99	19AUG99
WPG312	Basket Degradation-Verify Model-Related Software		44	20AUG99	22OCT99
WPG292	Basket Degradation-Procurement Related Issues ID		0		07SEP99
WPG300	Basket Degradation-Data Related Software Issues		0		07SEP99
WPG290	Basket Degradation-Verify/Trace Data		44	08SEP99	09NOV99
WPG294	Basket Degradation-Resolve Procurement Related D		10	08SEP99	21SEP99



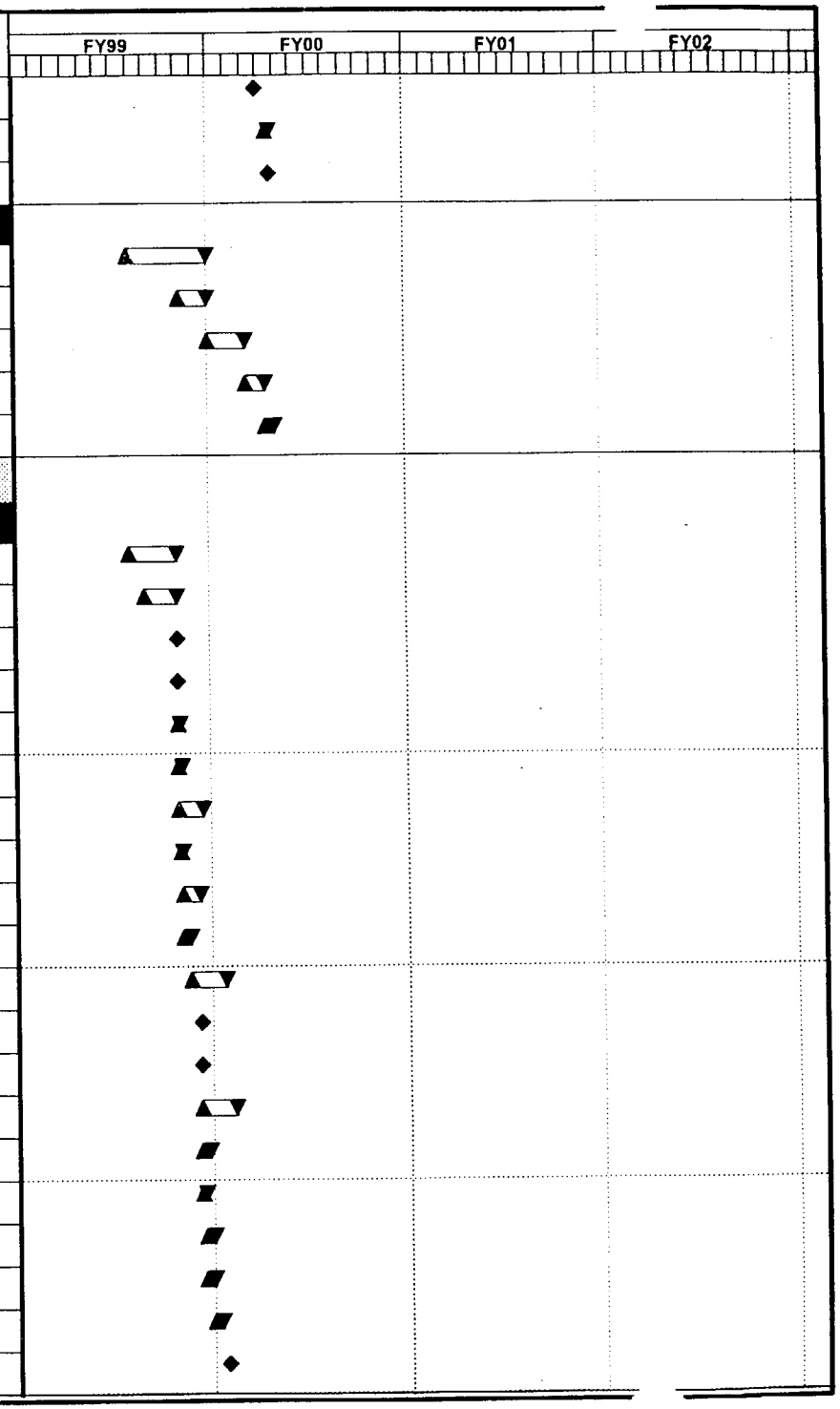
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPG302	Basket Degradation-Determine if Data Rel SW is U		5	08SEP99	14SEP99
WPPMRBQ0	Prepare Final 3.10Q Report (Basket Degradation &		16	09SEP99	30SEP99
WPG304	Basket Degradation-Place Under SMS Control as Ne		10	15SEP99	28SEP99
WPG306	Basket Degradation-Verify Data-Related Software		10	29SEP99	13OCT99
WPG314	Basket Degradation-Qualified/Verified SW Availab		0		22OCT99
WPG296	Basket Degradation-Update TDMS		5	10NOV99	17NOV99
WPG298	Basket Degradation-Qualified/Verified Data Avail		0		17NOV99
G3095					
110 Waste Package Operations					
WPPMR585	3.10Q In-Pkg Source Trm & Radio Nuc Trans Sumry		86	01JUN99*	30SEP99
WPPMR595	Prepare Draft (In-Pkg Source Trm & Radio Nuc)		43	02AUG99	30SEP99
WPF396	WP Transport Summ-Input Parameters and Data Iden		0		30SEP99
WPF398	WP Transport Summ-Models and Codes Identified		0		30SEP99
WPF400	WP Transport Summ-Determine DTN Assignment		2	01OCT99	04OCT99
WPF424	WP Transport Summ-Determine if Model-Rel SW is U		5	01OCT99	07OCT99
WPPMR605	3.10Q Checking/Review (In-Pkg Source Trm & Radi)		33	01OCT99	18NOV99
WPF402	WP Transport Summ-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
WPF404	WP Transport Summ-Submit Data/DTN to TDMS as Nec		22	08OCT99	09NOV99
WPF426	WP Transport Summ-Place Model-Related SW Under S		10	08OCT99	22OCT99
WPF428	WP Transport Summ-Verify Model-Related Software		44	25OCT99	29DEC99
WPF408	WP Transport Summ-Procurement Related Issues ID'		0		09NOV99
WPF416	WP Transport Summ-Data Related Software Issues I		0		09NOV99
WPF406	WP Transport Summ-Verify/Trace Data		44	10NOV99	17JAN00
WPF410	WP Transport Summ-Resolve Procurement Related Da		10	10NOV99	24NOV99
WPF418	WP Transport Summ-Determine if Data Rel SW is Un		5	10NOV99	17NOV99
WPF420	WP Transport Summ-Place Under SMS Control as Nec		10	18NOV99	03DEC99
WPPMR710	Prepare Final 3.10Q Report (In-Pkg Source Trm &		15	19NOV99	13DEC99
WPF422	WP Transport Summ-Verify Data-Related Software		10	06DEC99	17DEC99
WPF430	WP Transport Summ-Qualified/Verified SW Availabl		0		29DEC99
WPF412	WP Transport Summ-Update TDMS		5	18JAN00	24JAN00
WPF414	WP Transport Summ-Qualified/Verified Data Availa		0		24JAN00



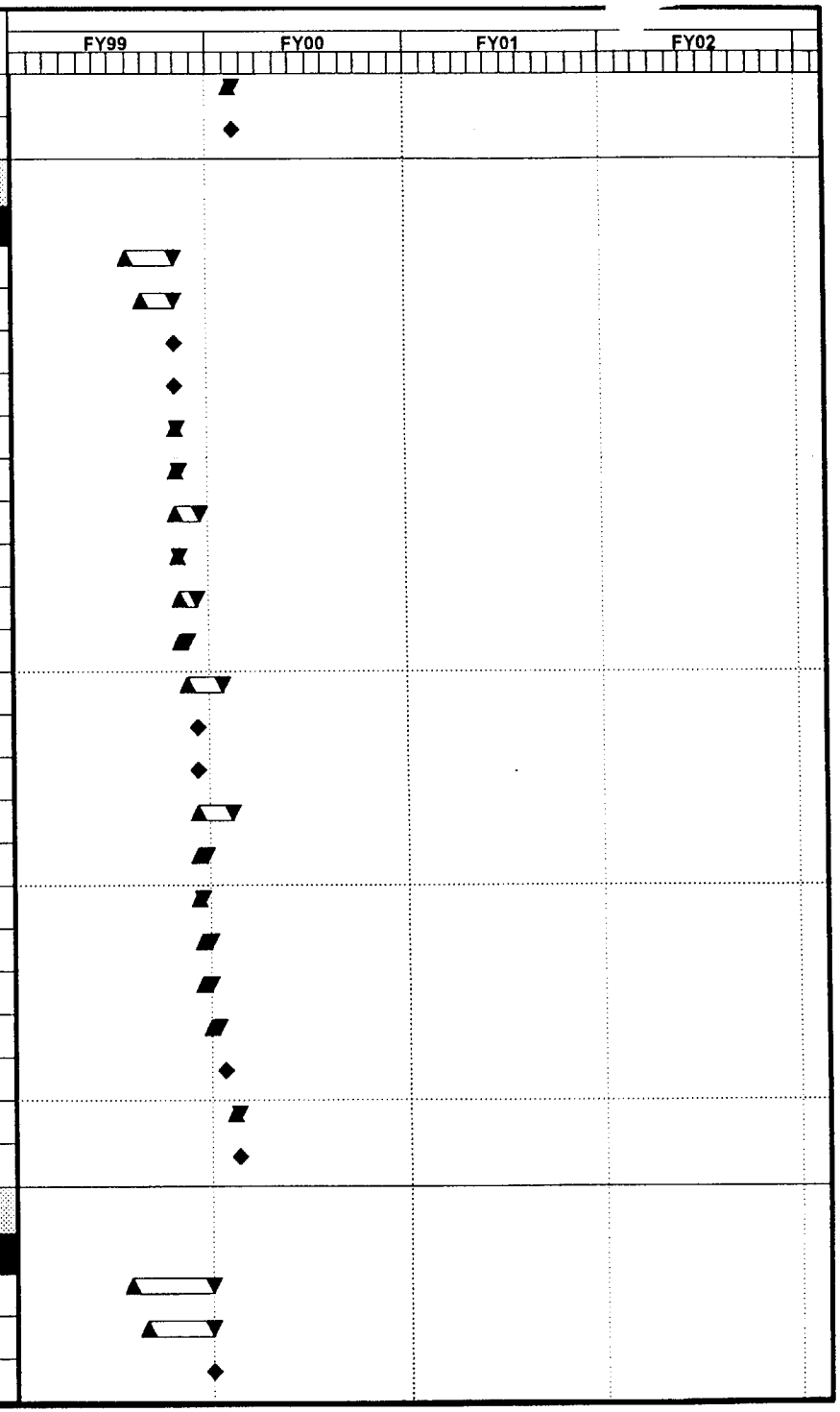
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
G4010					
110 Waste Package Operations					
WPPMR498	Initiate Developmemt WP PMR Rev 00A Text FY99		22	31AUG99*	30SEP99
WPPMR49Z	Initiate Developmemt WP PMR Rev 00A Text FY00		20	01OCT99	29OCT99
WPPMRA00	Develop Waste Form PMR -Rev 00A Text		61	01NOV99*	31JAN00
G4020					
110 Waste Package Operations					
WPPMRCM4	Waste Forms PMR Rev 00A	M4	0		31JAN00
G4030					
110 Waste Package Operations					
WPPMRA10	Waste Forms PMR M&O Review		43	01FEB00	31MAR00
G5000					
110 Waste Package Operations					
G5000	EIS Chapter 5	ZZ	1	22MAY00	22MAY00
GNEWA					
110 Waste Package Operations					
WPG320	Summ Abs-Input Parameters and Data Identified		0		30SEP99
WPG322	Summ Abs-Models and Codes Identified		0		30SEP99
WPG324	Summ Abs-Determine DTN Assignment		2	01OCT99	04OCT99
WPG348	Summ Abs-Determine if Model-Rel SW is Under SMS		5	01OCT99	07OCT99
WPG326	Summ Abs-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
WPG328	Summ Abs-Submit Data/DTN to TDMS as Necessary		22	08OCT99	09NOV99
WPG350	Summ Abs-Place Model-Related SW Under SMS Contro		10	08OCT99	22OCT99
WPG352	Summ Abs-Verify Model-Related Software		44	25OCT99	29DEC99
WPG332	Summ Abs-Procurement Related Issues ID'd to Car		0		09NOV99
WPG340	Summ Abs-Data Related Software Issues Identified		0		09NOV99
WPG330	Summ Abs-Verify/Trace Data		44	10NOV99	17JAN00
WPG334	Summ Abs-Resolve Procurement Related Data Issues		10	10NOV99	24NOV99
WPG342	Summ Abs-Determine if Data Rel SW is Under SMS C		5	10NOV99	17NOV99
WPG344	Summ Abs-Place Under SMS Control as Necessary		10	18NOV99	03DEC99
WPG346	Summ Abs-Verify Data-Related Software		10	06DEC99	17DEC99



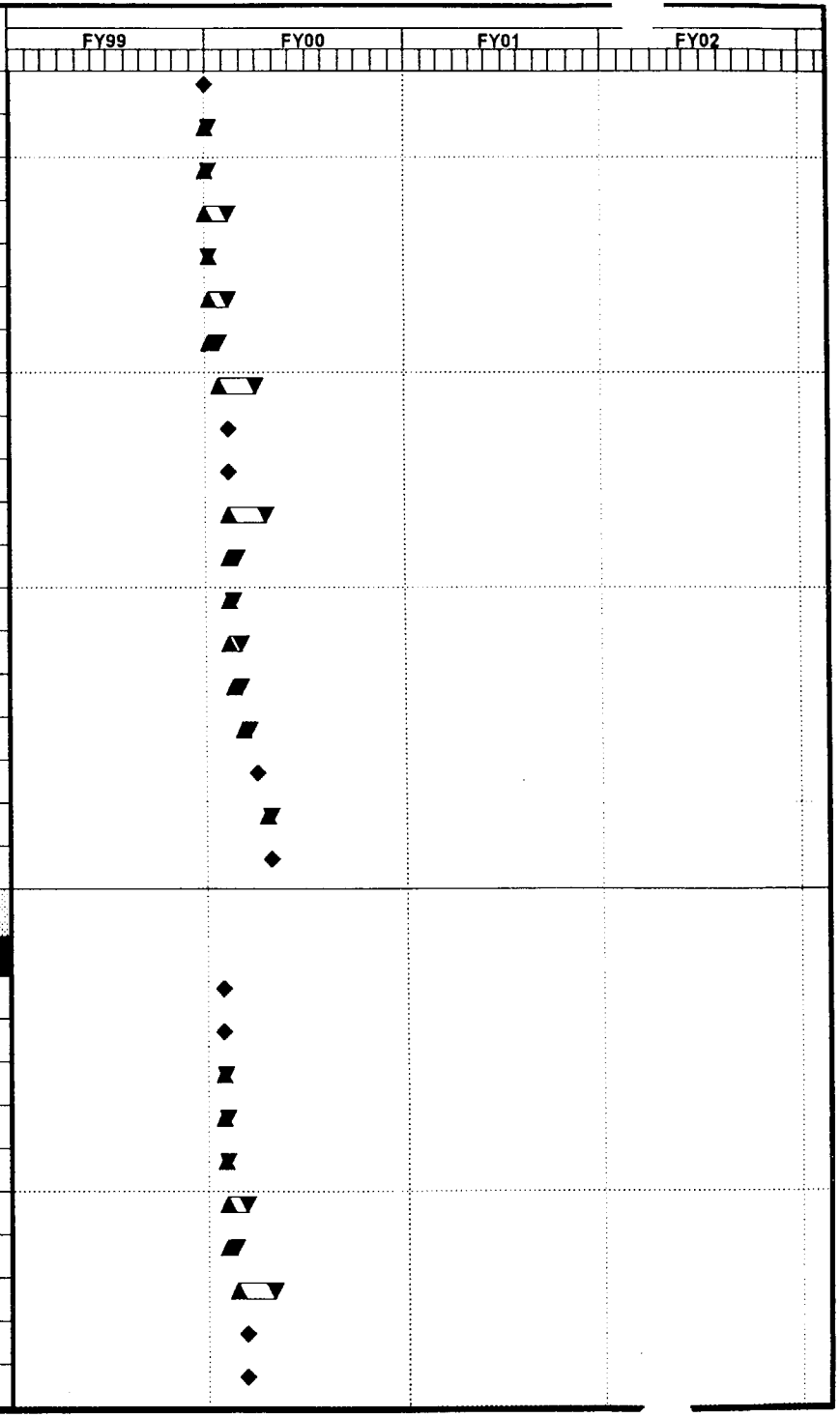
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPG354	Summ Abs-Qualified/Verified SW Available		0		29DEC99
WPG336	Summ Abs-Update TDMS		5	18JAN00	24JAN00
WPG338	Summ Abs-Qualified/Verified Data Available		0		24JAN00
130 Performance Assessment Operations					
SLPA1954	3.10Q Summary Abstraction - CLAD Degrad		106	03MAY99*	30SEP99
SLPA1956	Prepare Draft Document (Summary Abstraction)FY99		40	05AUG99*	30SEP99
SLPA1958	Prepare Draft Document (Summary Abstraction)FY00		46	01OCT99	09DEC99
SLPA1960	3.10Q Checking/Review (Summary Abstraction) - CL		23	10DEC99	13JAN00
SLPA1962	Prepare Final 3.10Q Report (Summary Abstraction)		12	14JAN00	31JAN00
GNEWB					
110 Waste Package Operations					
WPPMRXC0	3.10Q Data (In-WP Evaporation)		62	03MAY99*	29JUL99
WPPMRXC5	Prepare Draft Document (In-WP Evaporation)		42	01JUN99*	29JUL99
WPG360	In-WP Evaporation-Input Parameters and Data Iden		0		29JUL99
WPG362	In-WP Evaporation-Models and Codes Identified		0		29JUL99
WPG364	In-WP Evaporation-Determine DTN Assignment		2	30JUL99	02AUG99
WPG388	In-WP Evaporation-Determine if Model-Rel SW is U		5	30JUL99	05AUG99
WPPMRXD0	3.10Q Checking/Review (In-WP Evaporation)		33	30JUL99	15SEP99
WPG366	In-WP Evaporation-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPG368	In-WP Evaporation-Submit Data/DTN to TDMS as Nec		22	06AUG99	07SEP99
WPG390	In-WP Evaporation-Place Model-Related SW Under S		10	06AUG99	19AUG99
WPG392	In-WP Evaporation-Verify Model-Related Software		44	20AUG99	22OCT99
WPG372	In-WP Evaporation-Procurement Related Issues ID'		0		07SEP99
WPG380	In-WP Evaporation-Data Related Software Issues I		0		07SEP99
WPG370	In-WP Evaporation-Verify/Trace Data		44	08SEP99	09NOV99
WPG374	In-WP Evaporation-Resolve Procurement Related Da		10	08SEP99	21SEP99
WPG382	In-WP Evaporation-Determine if Data Rel SW is Un		5	08SEP99	14SEP99
WPG384	In-WP Evaporation-Place Under SMS Control as Nec		10	15SEP99	28SEP99
WPPMRXD5	Prepare Final 3.10Q Report (In-WP Evaporation)		11	16SEP99	30SEP99
WPG386	In-WP Evaporation-Verify Data-Related Software		10	29SEP99	13OCT99
WPG394	In-WP Evaporation-Qualified/Verified SW Availabl		0		22OCT99



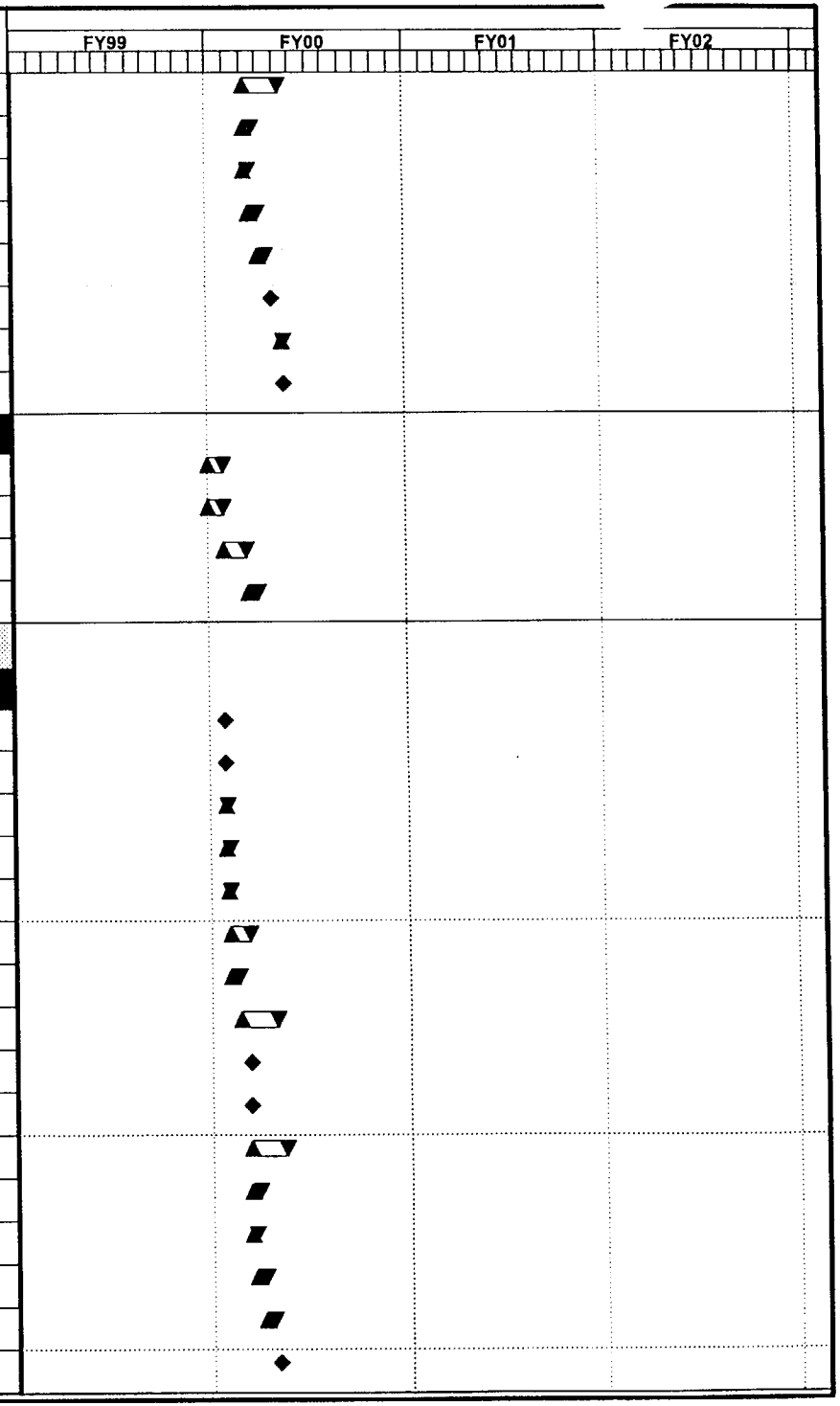
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPG376	In-WP Evaporation-Update TDMS		5	10NOV99	17NOV99
WPG378	In-WP Evaporation-Qualified/Verified Data Availa		0		17NOV99
GNEWC					
110 Waste Package Operations					
WPPMRXE0	3.10Q Data (In-WP Hydrology)		62	03MAY99*	29JUL99
WPPMRXE5	Prepare Draft Document (In-WP Hydrology)		42	01JUN99*	29JUL99
WPG400	In-WP Hydrology-Input Parameters and Data Identi		0		29JUL99
WPG402	In-WP Hydrology-Models and Codes Identified		0		29JUL99
WPG404	In-WP Hydrology-Determine DTN Assignment		2	30JUL99	02AUG99
WPG428	In-WP Hydrology-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99
WPPMRXF0	3.10Q Checking/Review (In-WP Hydrology)		33	30JUL99	15SEP99
WPG406	In-WP Hydrology-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99
WPG408	In-WP Hydrology-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99
WPG430	In-WP Hydrology-Place Model-Related SW Under SMS		10	06AUG99	19AUG99
WPG432	In-WP Hydrology-Verify Model-Related Software		44	20AUG99	22OCT99
WPG412	In-WP Hydrology-Procurement Related Issues ID'd		0		07SEP99
WPG420	In-WP Hydrology-Data Related Software Issues Ide		0		07SEP99
WPG410	In-WP Hydrology-Verify/Trace Data		44	08SEP99	09NOV99
WPG414	In-WP Hydrology-Resolve Procurement Related Data		10	08SEP99	21SEP99
WPG422	In-WP Hydrology-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99
WPG424	In-WP Hydrology-Place Under SMS Control as Neces		10	15SEP99	28SEP99
WPPMRXF5	Prepare Final 3.10Q Report (In-WP Hydrology)		11	16SEP99	30SEP99
WPG426	In-WP Hydrology-Verify Data-Related Software		10	29SEP99	13OCT99
WPG434	In-WP Hydrology-Qualified/Verified SW Available		0		22OCT99
WPG416	In-WP Hydrology-Update TDMS		5	10NOV99	17NOV99
WPG418	In-WP Hydrology-Qualified/Verified Data Availabl		0		17NOV99
GNEWD					
110 Waste Package Operations					
WPPMRYA0	3.10Q Data (In-Package Chemistry Abstraction)		106	03MAY99*	30SEP99
WPPMRYA5	Prepare Draft Document (In-Package Chemistry Ab		86	01JUN99*	30SEP99
WPG440	In-Package Chemistry-Input Parameters and Data I		0		30SEP99



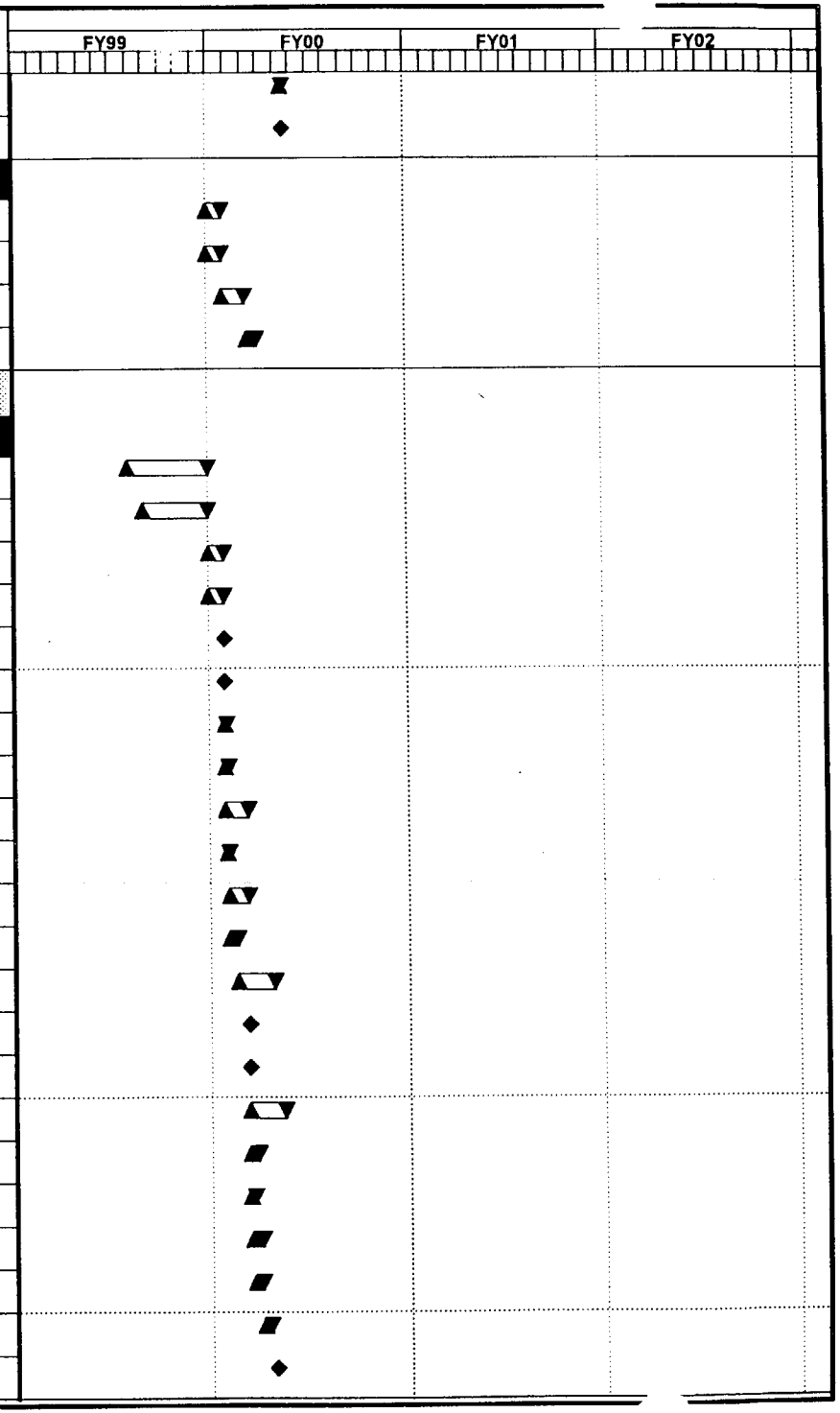
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPG442	In-Package Chemistry-Models and Codes Identified		0		30SEP99
WPG444	In-Package Chemistry-Determine DTN Assignment		2	01OCT99	04OCT99
WPG470	In-Package Chemistry-Determine if Model-Rel SW i		5	01OCT99	07OCT99
WPPMRYB0	3.10Q Checking/Review (In-Package Chemistry	Abs	28	01OCT99	10NOV99
WPG446	In-Package Chemistry-Determine if Data/DTN in TD		3	05OCT99	07OCT99
WPG448	In-Package Chemistry-Submit Data/DTN to TDMS as		22	08OCT99	09NOV99
WPG472	In-Package Chemistry-Place Model-Related SW Unde		10	08OCT99	22OCT99
WPG474	In-Package Chemistry-Verify Model-Related Softwa		44	25OCT99	29DEC99
WPG452	In-Package Chemistry-Procurement Related Issues		0		09NOV99
WPG460	In-Package Chemistry-Data Related Software Issue		0		09NOV99
WPG450	In-Package Chemistry-Verify/Trace Data		44	10NOV99	17JAN00
WPG454	In-Package Chemistry-Resolve Procurement Related		10	10NOV99	24NOV99
WPG462	In-Package Chemistry-Determine if Data Rel SW is		5	10NOV99	17NOV99
WPPMRYB5	Prepare Final 3.10Q Report (In-Package Chemistry		12	12NOV99	01DEC99
WPG464	In-Package Chemistry-Place Under SMS Control as		10	18NOV99	03DEC99
WPG468	In-Package Chemistry-Verify Data-Related Softwar		10	06DEC99	17DEC99
WPG476	In-Package Chemistry-Qualified/Verified SW Avail		0		29DEC99
WPG456	In-Package Chemistry-Update TDMS		5	18JAN00	24JAN00
WPG458	In-Package Chemistry-Qualified/Verified Data Ava		0		24JAN00
GNEWF					
110 Waste Package Operations					
WPG480	In-Package Source-Input Parameters and Data Iden		0		28OCT99
WPG482	In-Package Source-Models and Codes Identified		0		28OCT99
WPG484	In-Package Source-Determine DTN Assignment		2	29OCT99	01NOV99
WPG508	In-Package Source-Determine if Model-Rel SW is U		5	29OCT99	04NOV99
WPG486	In-Package Source-Determine if Data/DTN in TDMS		3	02NOV99	04NOV99
WPG488	In-Package Source-Submit Data/DTN to TDMS as Nec		22	05NOV99	09DEC99
WPG510	In-Package Source-Place Model-Related SW Under S		10	05NOV99	19NOV99
WPG512	In-Package Source-Verify Model-Related Software		44	22NOV99	26JAN00
WPG492	In-Package Source-Procurement Related Issues ID'		0		09DEC99
WPG500	In-Package Source-Data Related Software Issues I		0		09DEC99



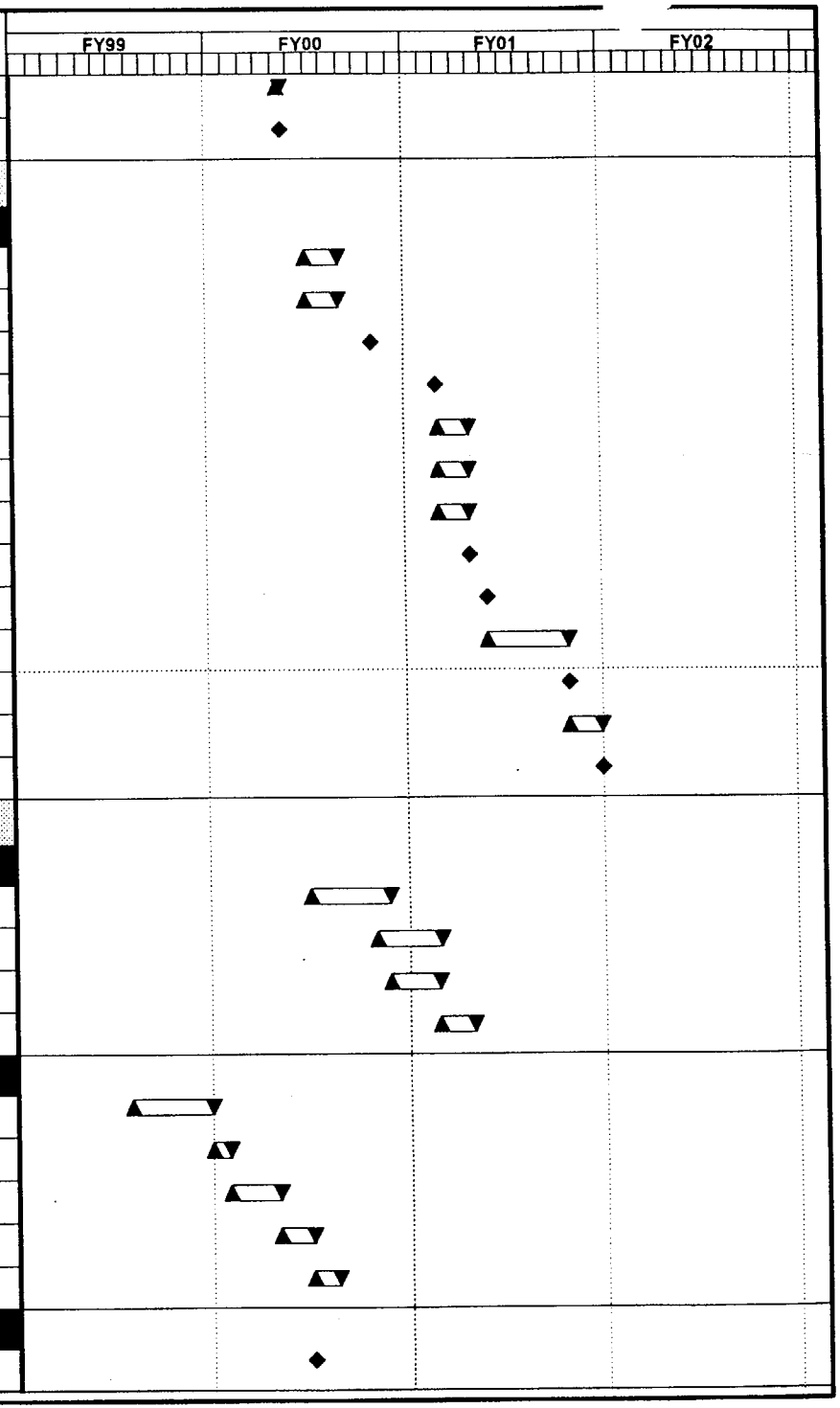
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPG490	In-Package Source-Verify/Trace Data		44	10DEC99	11FEB00
WPG494	In-Package Source-Resolve Procurement Related Da		10	10DEC99	23DEC99
WPG502	In-Package Source-Determine if Data Rel SW is Un		5	10DEC99	16DEC99
WPG504	In-Package Source-Place Under SMS Control as Nec		10	17DEC99	03JAN00
WPG506	In-Package Source-Verify Data-Related Software		10	04JAN00	17JAN00
WPG514	In-Package Source-Qualified/Verified SW Availabl		0		26JAN00
WPG496	In-Package Source-Update TDMS		5	14FEB00	18FEB00
WPG498	In-Package Source-Qualified/Verified Data Availa		0		18FEB00
130 Performance Assessment Operations					
SLPA1964	Perform Abstra(In-Package Source Term Abstract)		19	01OCT99*	28OCT99
SLPA1966	Prepare Draft Document (In-Package Source Term		19	01OCT99	28OCT99
SLPA1968	3.10Q Checking/Review (In-Package Source Term A		28	29OCT99	10DEC99
SLPA1970	Prepare Final 3.10Q Report (In-Package Source Te		12	13DEC99	29DEC99
GNEWG					
110 Waste Package Operations					
WPG520	In-Pack Radion-Input Parameters and Data Identif		0		28OCT99
WPG522	In-Pack Radion-Models and Codes Identified		0		28OCT99
WPG524	In-Pack Radion-Determine DTN Assignment		2	29OCT99	01NOV99
WPG548	In-Pack Radion-Determine if Model-Rel SW is Unde		5	29OCT99	04NOV99
WPG526	In-Pack Radion-Determine if Data/DTN in TDMS		3	02NOV99	04NOV99
WPG528	In-Pack Radion-Submit Data/DTN to TDMS as Necess		22	05NOV99	09DEC99
WPG550	In-Pack Radion-Place Model-Related SW Under SMS		10	05NOV99	19NOV99
WPG552	In-Pack Radion-Verify Model-Related Software		44	22NOV99	26JAN00
WPG532	In-Pack Radion-Procurement Related Issues ID'd t		0		09DEC99
WPG540	In-Pack Radion-Data Related Software Issues Iden		0		09DEC99
WPG530	In-Pack Radion-Verify/Trace Data		44	10DEC99	11FEB00
WPG534	In-Pack Radion-Resolve Procurement Related Data		10	10DEC99	23DEC99
WPG542	In-Pack Radion-Determine if Data Rel SW is Under		5	10DEC99	16DEC99
WPG544	In-Pack Radion-Place Under SMS Control as Necess		10	17DEC99	03JAN00
WPG546	In-Pack Radion-Verify Data-Related Software		10	04JAN00	17JAN00
WPG554	In-Pack Radion-Qualified/Verified SW Available		0		26JAN00



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPG536	In-Pack Radion-Update TDMS		5	14FEB00	18FEB00
WPG538	In-Pack Radion-Qualified/Verified Data Available		0		18FEB00
130 Performance Assessment Operations					
SLPA1972	Peform Abstra(In-Pack Radionuclid Trans Abstrac)		19	01OCT99*	28OCT99
SLPA1974	Prepare Draft Document (In-Pack Radionuclid Tran		19	01OCT99*	28OCT99
SLPA1976	3.10Q Checking/Review (In-Pack Radionuclid Trans		28	29OCT99	10DEC99
SLPA1978	Prepare Final 3.10Q Report (In-Pack Radionuclid		12	13DEC99	29DEC99
GNEWH					
110 Waste Package Operations					
WPPMRTG0	3.10Q Data (In-WF FEP's Screening Summary)		105	03MAY99*	29SEP99
WPPMRTG5	Prepare Draft Document (In-WF FEP's Screening Su		86	01JUN99*	30SEP99
WPPMRG0Z	3.10Q Data (In-WF FEP's Screening Summary)		19	30SEP99	27OCT99
WPPMRG5Z	Prepare Draft Document (In-WF FEP's Screening Su		19	01OCT99	28OCT99
WPG560	In-WF FEP's-Input Parameters and Data Identified		0		27OCT99
WPG562	In-WF FEP's-Models and Codes Identified		0		27OCT99
WPG564	In-WF FEP's-Determine DTN Assignment		2	28OCT99	29OCT99
WPG588	In-WF FEP's-Determine if Model-Rel SW is Under S		5	28OCT99	03NOV99
WPPMRTH0	3.10Q Checking/Review (In-WF FEP's Screening Sum		28	29OCT99	10DEC99
WPG566	In-WF FEP's-Determine if Data/DTN in TDMS		3	01NOV99	03NOV99
WPG568	In-WF FEP's-Submit Data/DTN to TDMS as Necessary		22	04NOV99	08DEC99
WPG590	In-WF FEP's-Place Model-Related SW Under SMS Con		10	04NOV99	18NOV99
WPG592	In-WF FEP's-Verify Model-Related Software		44	19NOV99	25JAN00
WPG572	In-WF FEP's-Procurement Related Issues ID'd to C		0		08DEC99
WPG580	In-WF FEP's-Data Related Software Issues Identif		0		08DEC99
WPG570	In-WF FEP's-Verify/Trace Data		44	09DEC99	10FEB00
WPG574	In-WF FEP's-Resolve Procurement Related Data Iss		10	09DEC99	22DEC99
WPG582	In-WF FEP's-Determine if Data Rel SW is Under SM		5	09DEC99	15DEC99
WPPMRTH5	Prepare Final 3.10Q Report (In-WF FEP's Screenin		12	13DEC99	29DEC99
WPG584	In-WF FEP's-Place Under SMS Control as Necessary		10	16DEC99	30DEC99
WPG586	In-WF FEP's-Verify Data-Related Software		10	03JAN00	14JAN00
WPG594	In-WF FEP's-Qualified/Verified SW Available		0		25JAN00

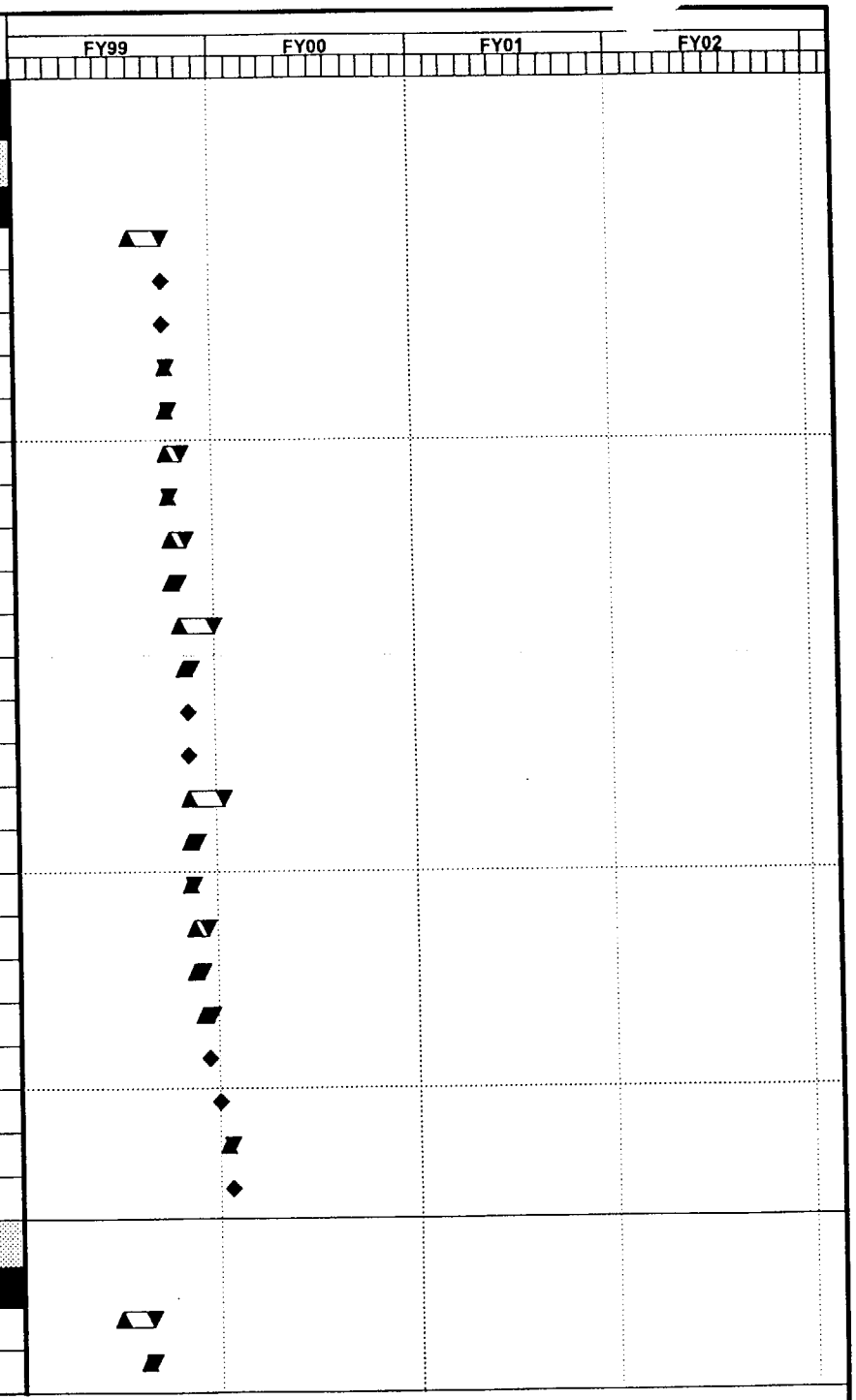


Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPG576	In-WF FEP's-Update TDMS		5	11FEB00	17FEB00
WPG578	In-WF FEP's-Qualified/Verified Data Available		0		17FEB00
Z9999 PMR Rev 02 thru Rev 05					
300 Regulatory & Licensing					
WPF00A	Revise WF PMR AP 3.10Q's for SR		41	03APR00	30MAY00
WPF00B	Prepare WF PMR REV-02A for SR		41	03APR00	30MAY00
WPF00BM4	WF PMR Rev-02A for SR	M4	0		01AUG00*
WPF00CM3	WF PMR Rev-02 for SR	M3	0		01DEC00
WPF00D	DOE Review WF PMR 02 for SR		41	04DEC00	31JAN01
WPF00P	Revise WF PMR AP 3.10Q's for LA		41	04DEC00	31JAN01
WPF00Q	Prepare WF PMR REV-04A for LA		41	04DEC00	31JAN01
WPF00EM3	Rev 03 WF PMR for SR	M3	0		31JAN01
WPF00QM4	WF PMR Rev-04A for LA	M4	0		01MAR01*
WPF00R	M&O Review WF PMR Rev-04A for LA		106	02MAR01	31JUL01
WPF00RM3	WF PMR Rev-04 for LA	M3	0		31JUL01
WPF00S	DOE Review WF PMR 04 for LA		42	01AUG01	28SEP01
WPF00SM3	Rev 05 WF PMR for LA	M3	0		28SEP01
110 Waste Package Operations					
WPPMR005	Revise WF 3.10Q's As Appropriate		102	03APR00	24AUG00
WPF00C	M&O Review WF PMR Rev-02A for SR		83	02AUG00	01DEC00
WPPMR010	Revise WP PMR		63	25AUG00	28NOV00
WPPMR015	WF PMR Rev 01A M&O Review		42	29NOV00	29JAN01
150 Support Operations					
BMP160	PIM 3.10Q/PMR Planning & Text Support (WF)		106	03MAY99*	30SEP99
BMP161	Cont.WF PIM 3.10Q/PMR Planning & Text Support		20	01OCT99	29OCT99
BMP162	PIM Text & M&O Review Prep Support (WF)		61	01NOV99	31JAN00
BMP163	PIM M&O Rev. & DOE Rev. Prep Support (WF)		43	01FEB00	31MAR00
BMP164	PIM DOE Rev. & Final Accept. Support (WF)		35	03APR00	19MAY00
300 Regulatory & Licensing					
SLPMRDM3	Waste Forms PMR Rev 00 To DOE	M3	0		31MAR00

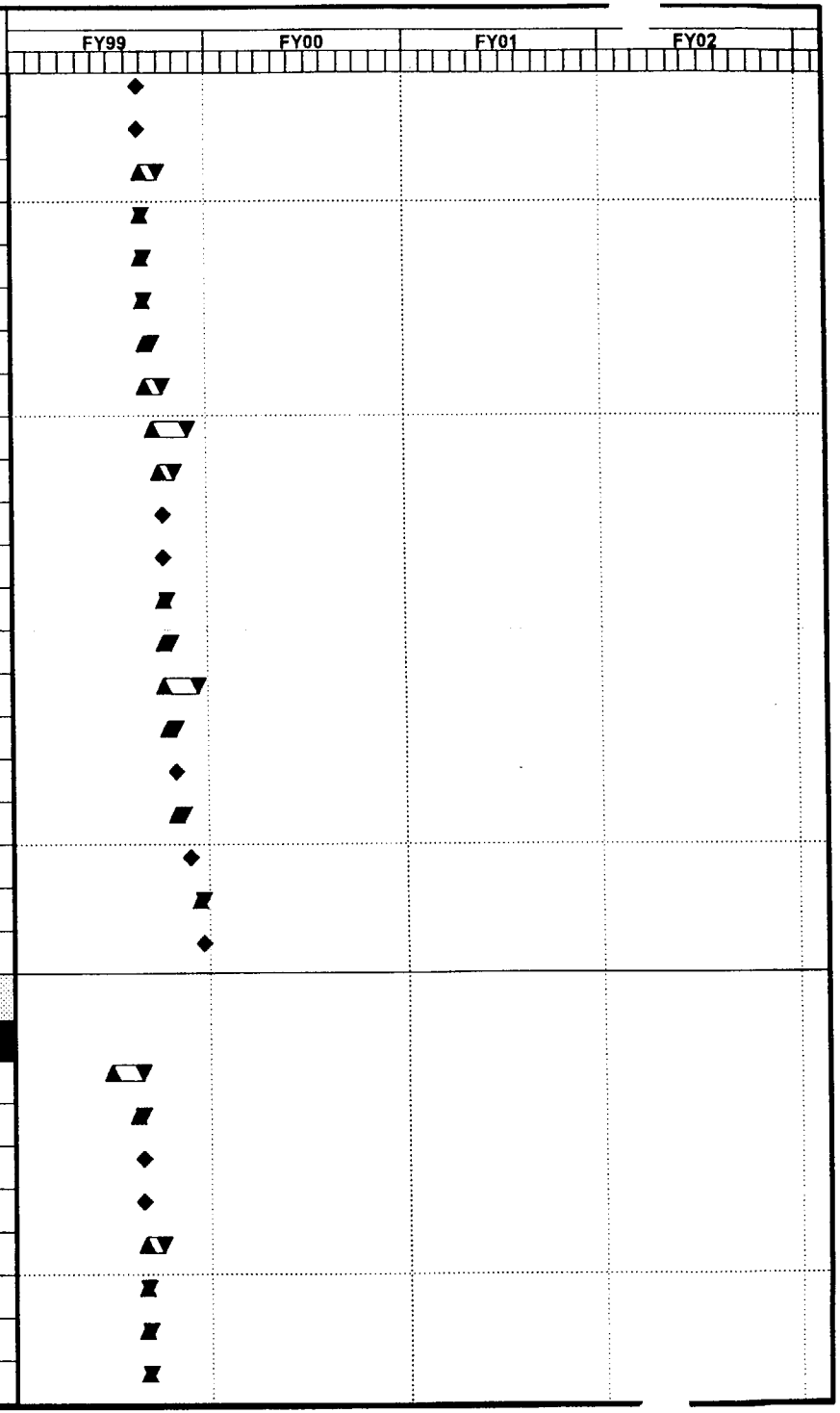


Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	FY99	FY00	FY01	FY02
SLPMRBM3	Rev 01 Waste Forms PMR	M3	0		19MAY00		◆		

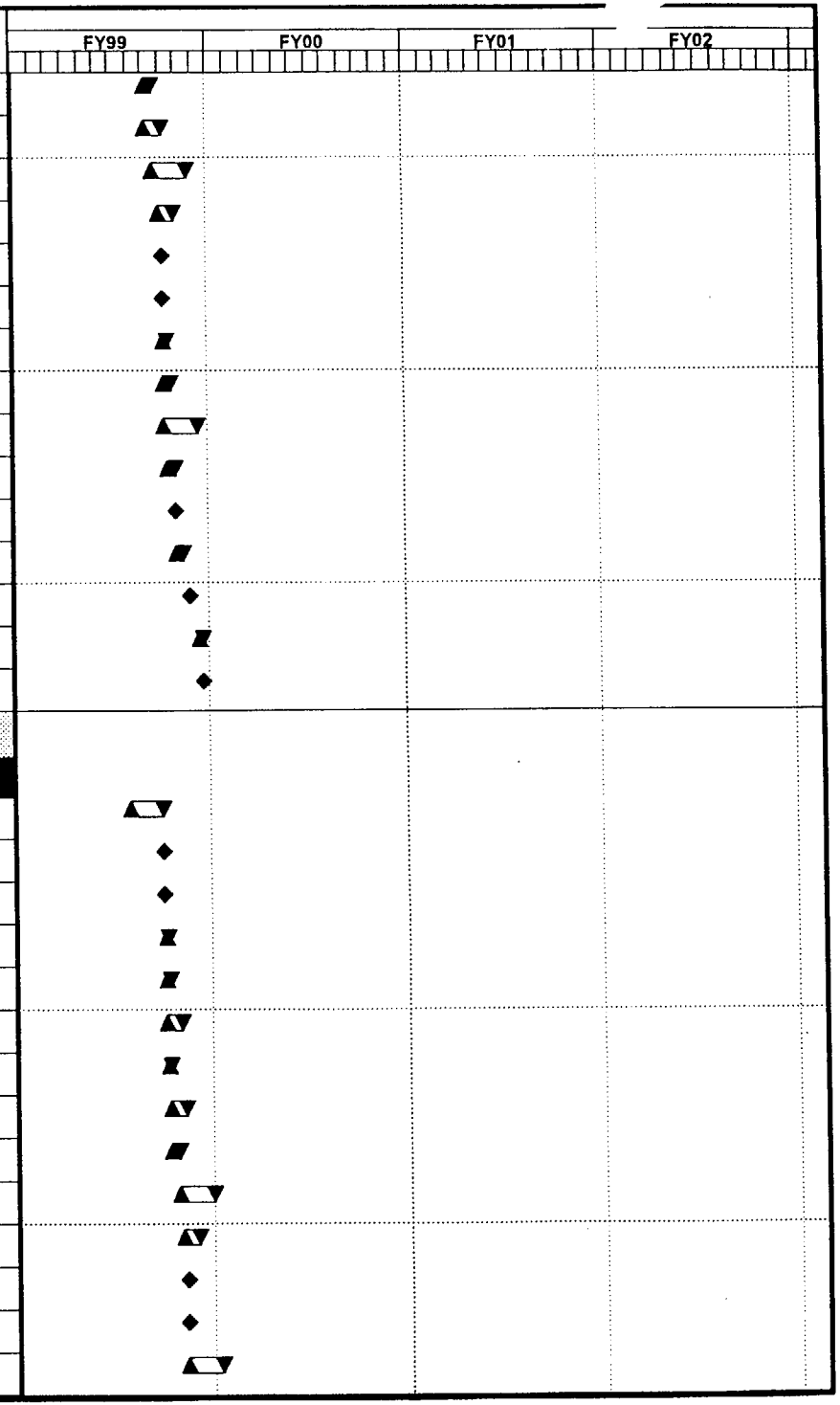
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
N NFE PMR					
N1040					
140 Natural Environment Program Operations					
SLP7088	AP3.10Q Data - ESF & LBT Thermal Tests ResultsTH		44	03MAY99*	02JUL99
SLN000	ESF & LBT Thermal-Input Parameters and Data Iden		0		02JUL99
SLN002	ESF & LBT Thermal-Models and Codes Identified		0		02JUL99
SLN004	ESF & LBT Thermal-Determine DTN Assignment		2	06JUL99	07JUL99
SLN028	ESF & LBT Thermal-Determine if Model-Rel SW is U		5	06JUL99	12JUL99
SLP7082	AP3.10Q Draft - ESF & LBT Thermal Tests ResultsT		20	06JUL99	02AUG99
SLN006	ESF & LBT Thermal-Determine if Data/DTN in TDMS		3	08JUL99	12JUL99
SLN008	ESF & LBT Thermal-Submit Data/DTN to TDMS as Nec		22	13JUL99	11AUG99
SLN030	ESF & LBT Thermal-Place Model-Related SW Under S		10	13JUL99	26JUL99
SLN032	ESF & LBT Thermal-Verify Model-Related Software		44	27JUL99	27SEP99
SLP7084	AP3.10Q Check - ESF & LBT Thermal Tests ResultsT		10	03AUG99	16AUG99
SLN012	ESF & LBT Thermal-Procurement Related Issues ID'		0		11AUG99
SLN020	ESF & LBT Thermal-Data Related Software Issues I		0		11AUG99
SLN010	ESF & LBT Thermal-Verify/Trace Data		44	12AUG99	14OCT99
SLN014	ESF & LBT Thermal-Rxesolve Procurement Related D		10	12AUG99	25AUG99
SLN022	ESF & LBT Thermal-Determine if Data Rel SW is Un		5	12AUG99	18AUG99
SLP7086	AP3.10Q Final - ESF & LBT Thermal Tests ResultsT		18	17AUG99	10SEP99
SLN024	ESF & LBT Thermal-Place Under SMS Control as Nec		10	19AUG99	01SEP99
SLN026	ESF & LBT Thermal-Verify Data-Related Software		10	02SEP99	16SEP99
SLP7086M4	AP3.10Q Final - ESF & LBT Thermal Tests ResultsT	M4	0		10SEP99
SLN034	ESF & LBT Thermal-Qualified/Verified SW Availabl		0		27SEP99
SLN016	ESF & LBT Thermal-Update TDMS		5	15OCT99	21OCT99
SLN018	ESF & LBT Thermal-Qualified/Verified Data Availa		0		21OCT99
N1050					
140 Natural Environment Program Operations					
SLPA1980	AP3.10Q Data - Flow Models for Heat/Fluid		44	30MAR99*	28MAY99
SLPA1982	AP3.10Q Draft - Flow Models for Heat/Fluid		10	17MAY99	28MAY99



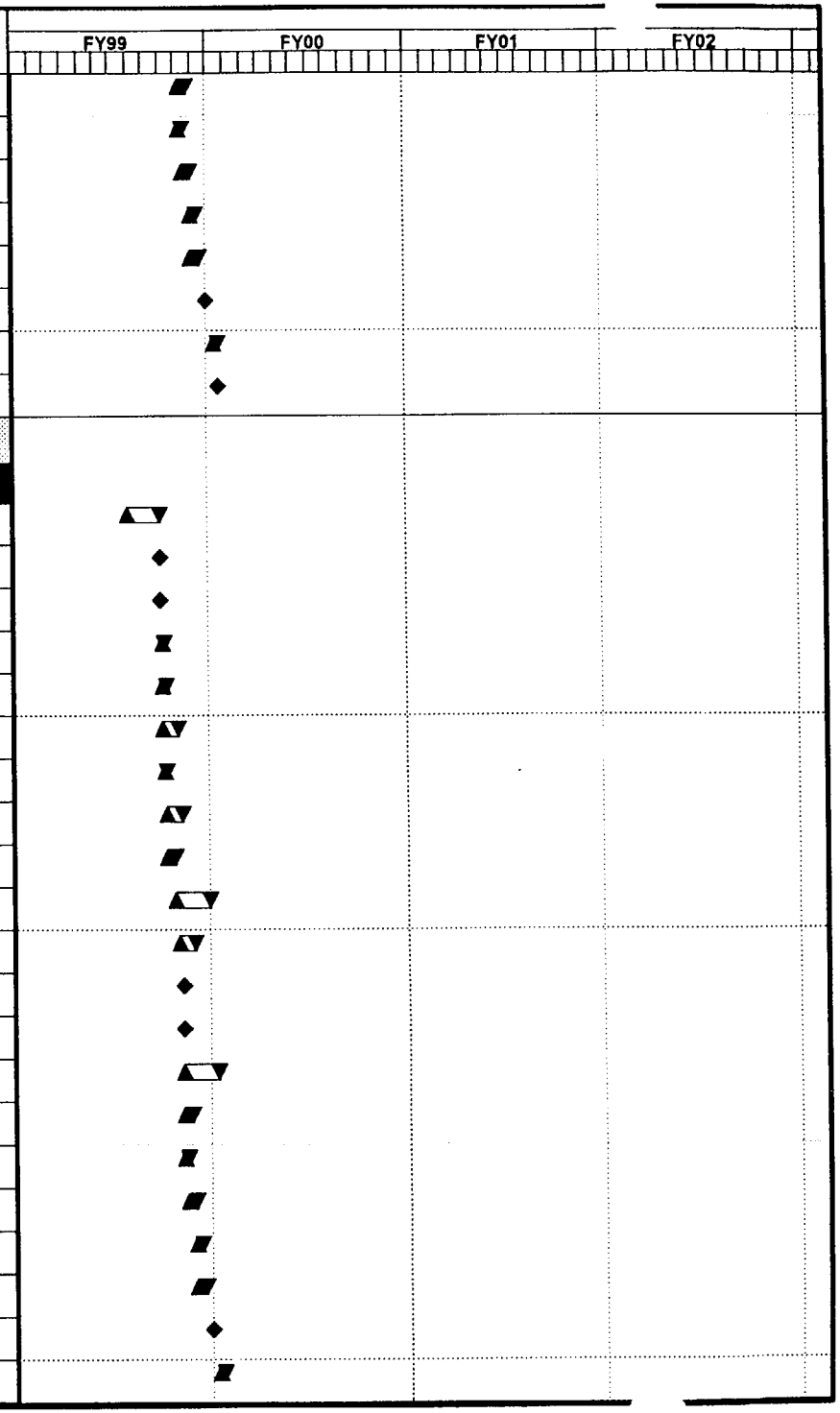
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA1990	ESF/LBT Thm Tests-Input Parameters and Data Iden		0		28MAY99
SLPA1992	ESF/LBT Thm Tests-Models and Codes Identified		0		28MAY99
SLPA1984	AP3.10Q Check - Flow Model for Heat/Fluid		22	01JUN99	30JUN99
SLPA1994	ESF/LBT Thm Tests-Determine DTN Assignment		2	01JUN99	02JUN99
SLPA1996	ESF/LBT Thm Tests-Determine if Model-Rel SW is U		5	01JUN99	07JUN99
SLPA1998	ESF/LBT Thm Tests-Determine if Data/DTN in TDMS		3	03JUN99	07JUN99
SLPA2000	ESF/LBT Thm Tests-Place Model-Related SW Under S		10	08JUN99	21JUN99
SLPA2002	ESF/LBT Thm Tests-Submit Data/DTN to TDMS as Nec		22	08JUN99	08JUL99
SLPA2004	ESF/LBT Thm Tests-Verify Model-Related Software		44	22JUN99	23AUG99
SLPA1986	AP3.10Q Final - ESF & LBT Thermal Tests ResultsT		21	01JUL99	30JUL99
SLPA2006	ESF/LBT Thm Tests-Data Related Software Issues I		0		08JUL99
SLPA2008	ESF/LBT Thm Tests-Procurement Related Issues ID'		0		08JUL99
SLPA2010	ESF/LBT Thm Tests-Determine if Data Rel SW is Un		5	09JUL99	15JUL99
SLPA2012	ESF/LBT Thm Tests-Rxesolve Procurement Related D		10	09JUL99	22JUL99
SLPA2014	ESF/LBT Thm Tests-Verify/Trace Data		44	09JUL99	09SEP99
SLPA2016	ESF/LBT Thm Tests-Place Under SMS Control as Nec		10	16JUL99	29JUL99
SLPA1988	AP3.10Q Final - Flow Models for Heat/Fluid	M4	0		30JUL99
SLPA2018	ESF/LBT Thm Tests-Verify Data-Related Software		10	30JUL99	12AUG99
SLPA2020	ESF/LBT Thm Tests-Qualified/Verified SW Availabl		0		23AUG99
SLPA2022	ESF/LBT Thm Tests-Update TDMS		5	10SEP99	16SEP99
SLPA2024	ESF/LBT Thm Tests-Qualified/Verified Data Availa		0		16SEP99
N1060					
130 Performance Assessment Operations					
SLPA2026	AP3.10Q Data - Repos Design Config & Heat Output		44	30MAR99*	28MAY99
SLPA2028	AP3.10Q Draft - Repos Design Config & Heat Outpu		10	17MAY99*	28MAY99
SLPA2036	Design Config/Heat-Input Parameters and Data Ide		0		28MAY99
SLPA2038	Design Config/Heat-Models and Codes Identified		0		28MAY99
SLPA2030	AP3.10Q Check - Repos Design Config & Heat Outpu		22	01JUN99	30JUN99
SLPA2040	Design Config/Heat-Determine DTN Assignment		2	01JUN99	02JUN99
SLPA2042	Design Config/Heat-Determine if Model-Rel SW is		5	01JUN99	07JUN99
SLPA2044	Design Config/Heat-Determine if Data/DTN in TDMS		3	03JUN99	07JUN99



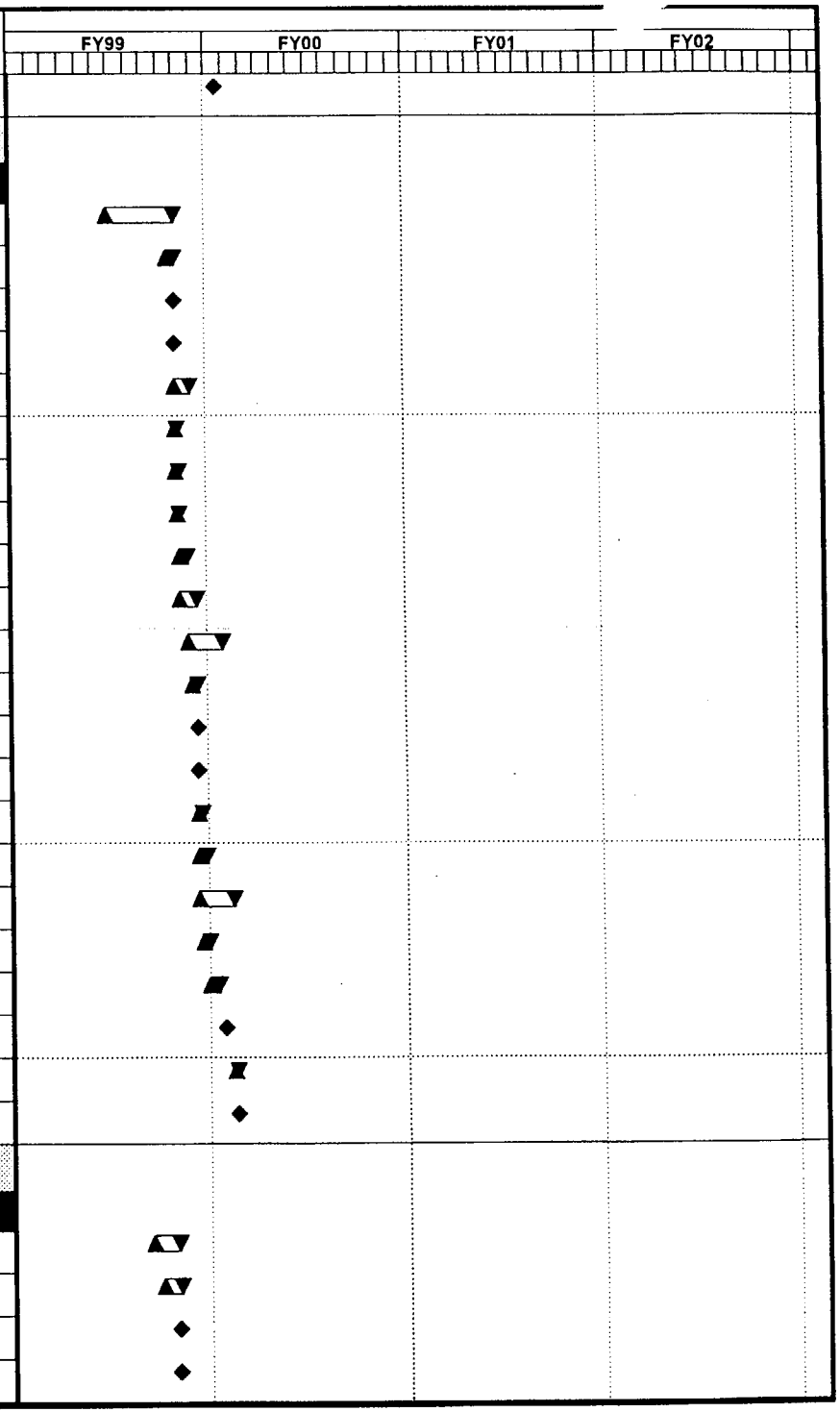
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2046	Design Config/Heat-Place Model-Related SW Under		10	08JUN99	21JUN99
SLPA2048	Design Config/Heat-Submit Data/DTN to TDMS as Ne		22	08JUN99	08JUL99
SLPA2050	Design Config/Heat-Verify Model-Related Software		44	22JUN99	23AUG99
SLPA2032	AP3.10Q Final - Repos Design Config & Heat Outpu		21	01JUL99	30JUL99
SLPA2052	Design Config/Heat-Procurement Related Issues ID		0		08JUL99
SLPA2054	Design Config/Heat-Data Related Software Issues		0		08JUL99
SLPA2056	Design Config/Heat-Determine if Data Rel SW is U		5	09JUL99	15JUL99
SLPA2058	Design Config/Heat-Rxesolve Procurement Related		10	09JUL99	22JUL99
SLPA2060	Design Config/Heat-Verify/Trace Data		44	09JUL99	09SEP99
SLPA2062	Design Config/Heat-Place Under SMS Control as Ne		10	16JUL99	29JUL99
SLPA2034	AP3.10Q Final - Repos Design Config & Heat Outpu	M4	0		30JUL99
SLPA2064	Design Config/Heat-Verify Data-Related Software		10	30JUL99	12AUG99
SLPA2066	Design Config/Heat-Qualified/Verified SW Availab		0		23AUG99
SLPA2068	Design Config/Heat-Update TDMS		5	10SEP99	16SEP99
SLPA2070	Design Config/Heat-Qualified/Verified Data Avail		0		16SEP99
N1090					
140 Natural Environment Program Operations					
SLP7200	AP3.10Q Data - ESF & LBT Thermal Tests ResultsTC		44	03MAY99*	02JUL99
SLN144	ESF & LBT Thermal-Input Parameters and Data Iden		0		02JUL99
SLN146	ESF & LBT Thermal-Models and Codes Identified		0		02JUL99
SLN148	ESF & LBT Thermal-Determine DTN Assignment		2	06JUL99	07JUL99
SLN172	ESF & LBT Thermal-Determine if Model-Rel SW is U		5	06JUL99	12JUL99
SLP7194	AP3.10Q Draft - ESF & LBT Thermal Tests ResultsT		20	06JUL99	02AUG99
SLN150	ESF & LBT Thermal-Determine if Data/DTN in TDMS		3	08JUL99	12JUL99
SLN152	ESF & LBT Thermal-Submit Data/DTN to TDMS as Nec		22	13JUL99	11AUG99
SLN174	ESF & LBT Thermal-Place Model-Related SW Under S		10	13JUL99	26JUL99
SLN176	ESF & LBT Thermal-Verify Model-Related Software		44	27JUL99	27SEP99
SLP7196	AP3.10Q Check - ESF & LBT Thermal Tests ResultsT		20	03AUG99	30AUG99
SLN156	ESF & LBT Thermal-Procurement Related Issues ID'		0		11AUG99
SLN164	ESF & LBT Thermal-Data Related Software Issues I		0		11AUG99
SLN154	ESF & LBT Thermal-Verify/Trace Data		44	12AUG99	14OCT99



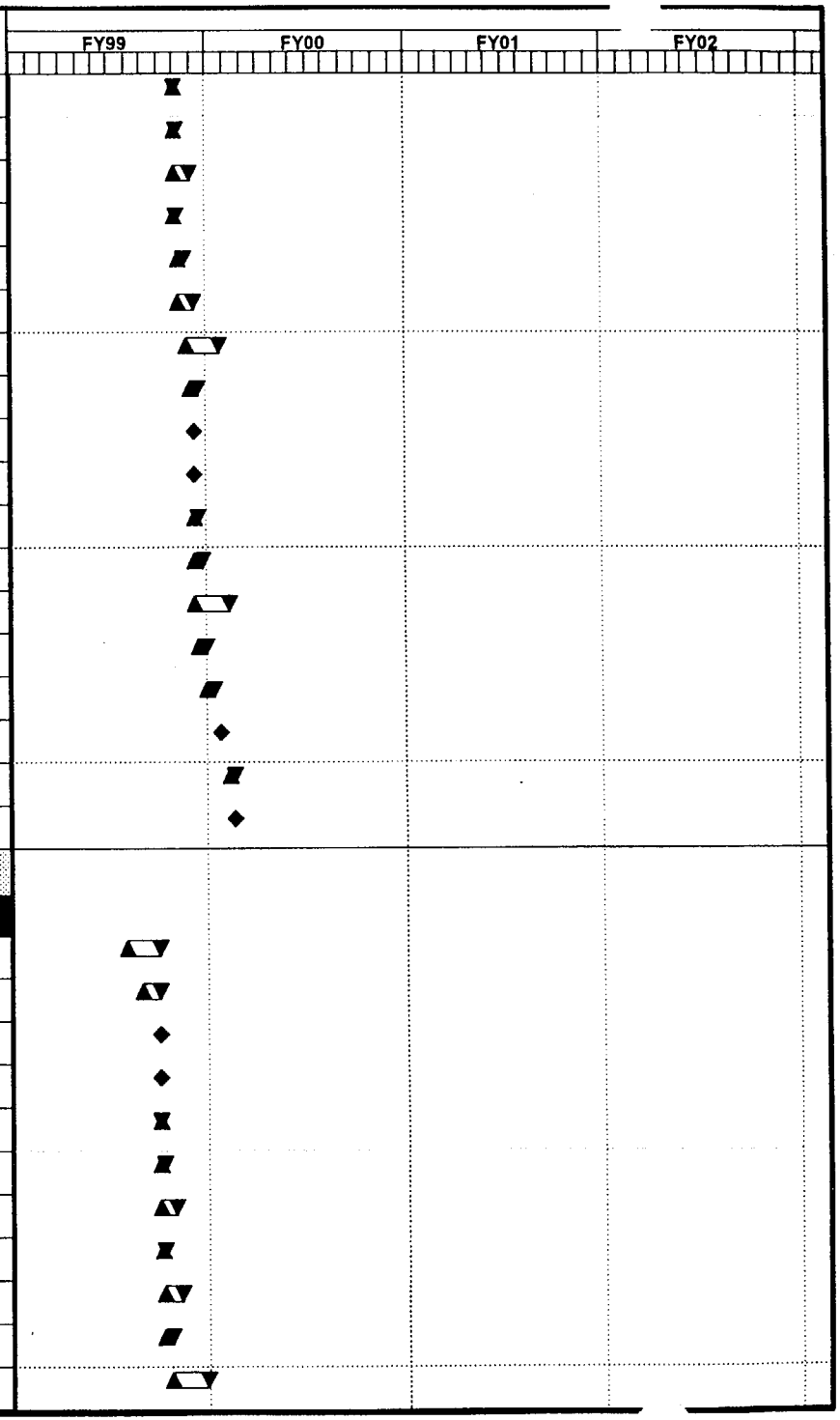
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLN158	ESF & LBT Thermal-Rxesolve Procurement Related D		10	12AUG99	25AUG99
SLN166	ESF & LBT Thermal-Determine if Data Rel SW is Un		5	12AUG99	18AUG99
SLN168	ESF & LBT Thermal-Place Under SMS Control as Nec		10	19AUG99	01SEP99
SLP7198	AP3.10Q Final - ESF & LBT Thermal Tests ResultsT		7	31AUG99	09SEP99
SLN170	ESF & LBT Thermal-Verify Data-Related Software		10	02SEP99	16SEP99
SLN178	ESF & LBT Thermal-Qualified/Verified SW Availabl		0		27SEP99
SLN160	ESF & LBT Thermal-Update TDMS		5	15OCT99	21OCT99
SLN162	ESF & LBT Thermal-Qualified/Verified Data Availa		0		21OCT99
N2000					
140 Natural Environment Program Operations					
SLP7208	AP3.10Q Data - ESF & LBT Thermal Test ResultsTM		44	03MAY99*	02JUL99
SLN180	ESF & LBT ThermalTM-Input Parameters and Data Id		0		02JUL99
SLN182	ESF & LBT ThermalTM-Models and Codes Identified		0		02JUL99
SLN184	ESF & LBT ThermalTM-Determine DTN Assignment		2	06[illegible]	07JUL99
SLN208	ESF & LBT ThermalTM-Determine if Model-Rel SW is		5	06JUL99	12JUL99
SLP7202	A[illegible]Q Draft - ESF & LBT Thermal Test ResultsTM		20	06JUL99	02AUG99
SLN186	ESF & LBT ThermalTM-Determine if Data/DTN in TDM		3	08JUL99	12JUL99
SLN188	ESF & LBT ThermalTM-Submit Data/DTN to TDMS as N		22	13JUL99	11AUG99
SLN210	ESF & LBT ThermalTM-Place Model-Related SW Under		10	13JUL99	26JUL99
SLN212	ESF & LBT ThermalTM-Verify Model-Related Softwar		44	27JUL99	27SEP99
SLP7204	AP3.10Q Check - ESF & LBT Thermal Test ResultsTM		20	03AUG99	30AUG99
SLN192	ESF & LBT ThermalTM-Procurement Related Issues I		0		11AUG99
SLN200	ESF & LBT ThermalTM-Data Related Software Issues		0		11AUG99
SLN190	ESF & LBT ThermalTM-Verify/Trace Data		44	12AUG99	14OCT99
SLN194	ESF & LBT ThermalTM-Rxesolve Procurement Related		10	12AUG99	25AUG99
SLN202	ESF & LBT ThermalTM-Determine if Data Rel SW is		5	12AUG99	18AUG99
SLN204	ESF & LBT ThermalTM-Place Under SMS Control as N		10	19AUG99	01SEP99
SLP7206	AP3.10Q Final - ESF & LBT Thermal Test ResultsTM		7	31AUG99	09SEP99
SLN206	ESF & LBT ThermalTM-Verify Data-Related Software		10	02SEP99	16SEP99
SLN214	ESF & LBT ThermalTM-Qualified/Verified SW Availa		0		27SEP99
SLN196	ESF & LBT ThermalTM-Update TDMS		5	15OCT99	21OCT99



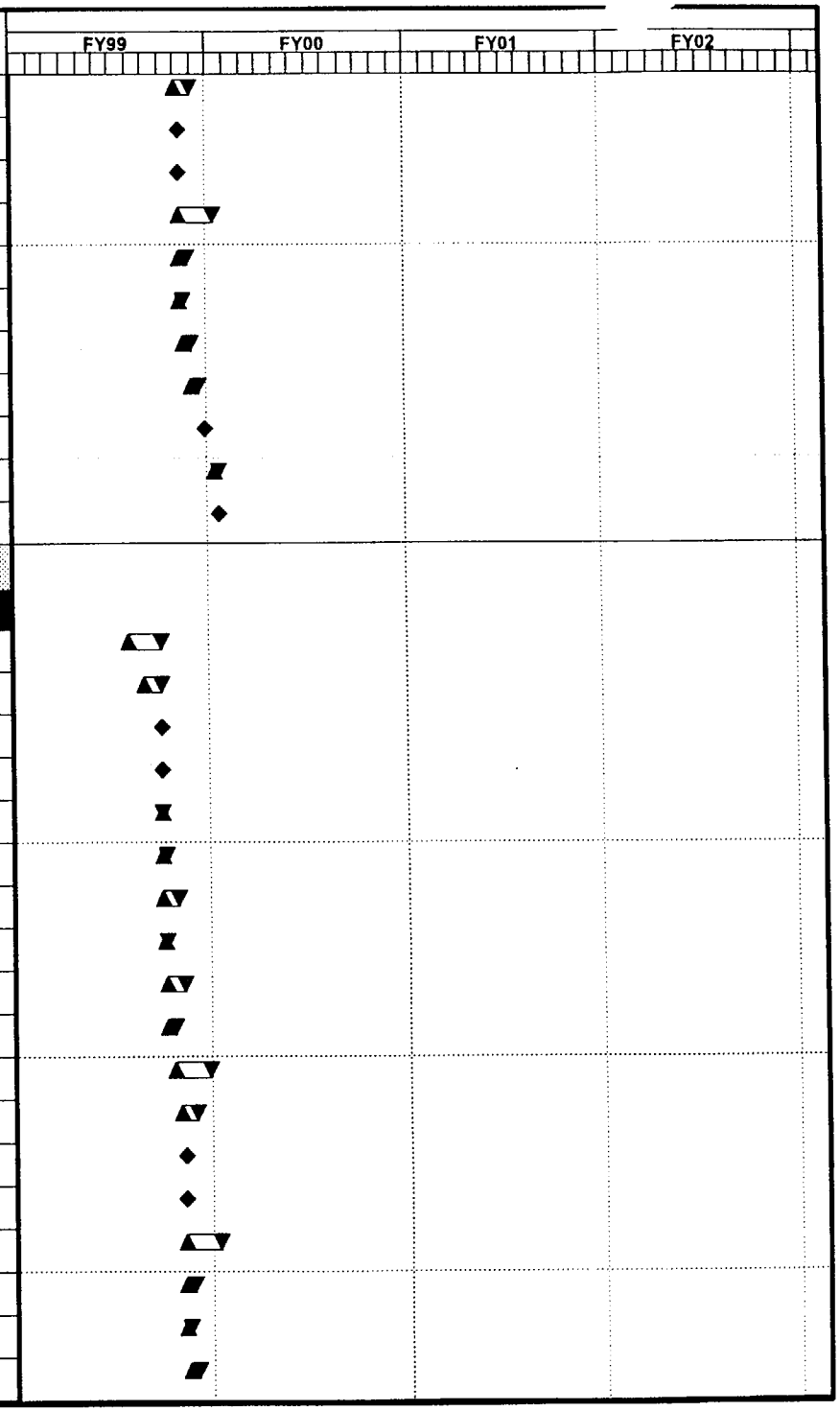
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLN198	ESF & LBT ThermalTM-Qualified/Verified Data Avai		0		21OCT99
N2010					
130 Performance Assessment Operations					
SLPA2072	AP3.10Q Data - TH/THM Conceptual Model Dev.		88	30MAR99*	02AUG99
SLPA2074	AP3.10Q Draft - TH/THM Conceptual Model Dev.		11	19JUL99*	02AUG99
SLPA2080	TH/THM Conceptual-Input Parameters and Data Iden		0		02AUG99
SLPA2082	TH/THM Conceptual-Models and Codes Identified		0		02AUG99
SLPA2076	AP3.10Q check - TH/THM Conceptual Model Dev.		21	03AUG99	31AUG99
SLPA2084	TH/THM Conceptual-Determine DTN Assignment		2	03AUG99	04AUG99
SLPA2086	TH/THM Conceptual-Determine if Model-Rel SW is U		5	03AUG99	09AUG99
SLPA2088	TH/THM Conceptual-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99
SLPA2090	TH/THM Conceptual-Place Model-Related SW Under S		10	10AUG99	23AUG99
SLPA2092	TH/THM Conceptual-Submit Data/DTN to TDMS as Nec		22	10AUG99	09SEP99
SLPA2094	TH/THM Conceptual-Verify Model-Related Software		44	24AUG99	26OCT99
SLPA2078	AP3.10Q Final - TH/THM Conceptual Model Dev.		7	01SEP99	10SEP99
SLPA2096	TH/THM Conceptual-Procurement Related Issues ID'		0		09SEP99
SLPA2098	TH/THM Conceptual-Data Related Software Issues I		0		09SEP99
SLPA2100	TH/THM Conceptual-Determine if Data Rel SW is Un		5	10SEP99	16SEP99
SLPA2102	TH/THM Conceptual-Rxesolve Procurement Related D		10	10SEP99	23SEP99
SLPA2104	TH/THM Conceptual-Verify/Trace Data		44	10SEP99	12NOV99
SLPA2106	TH/THM Conceptual-Place Under SMS Control as Nec		10	17SEP99	30SEP99
SLPA2108	TH/THM Conceptual-Verify Data-Related Software		10	01OCT99	15OCT99
SLPA2110	TH/THM Conceptual-Qualified/Verified SW Availabl		0		26OCT99
SLPA2112	TH/THM Conceptual-Update TDMS		5	15NOV99	19NOV99
SLPA2114	TH/THM Conceptual-Qualified/Verified Data Availa		0		19NOV99
N2080					
130 Performance Assessment Operations					
SLPA2116	AP3.10Q Data - TH/THM Conceptual Model Analysis		33	15JUN99*	30JUL99
SLPA2118	AP3.10Q Draft - TH/THM Conceptual Model Analysis		21	02JUL99*	02AUG99
SLPA2124	TH/THM Conceptual-Input Parameters and Data Iden		0		30JUL99
SLPA2126	TH/THM Conceptual-Models and Codes Identified		0		30JUL99



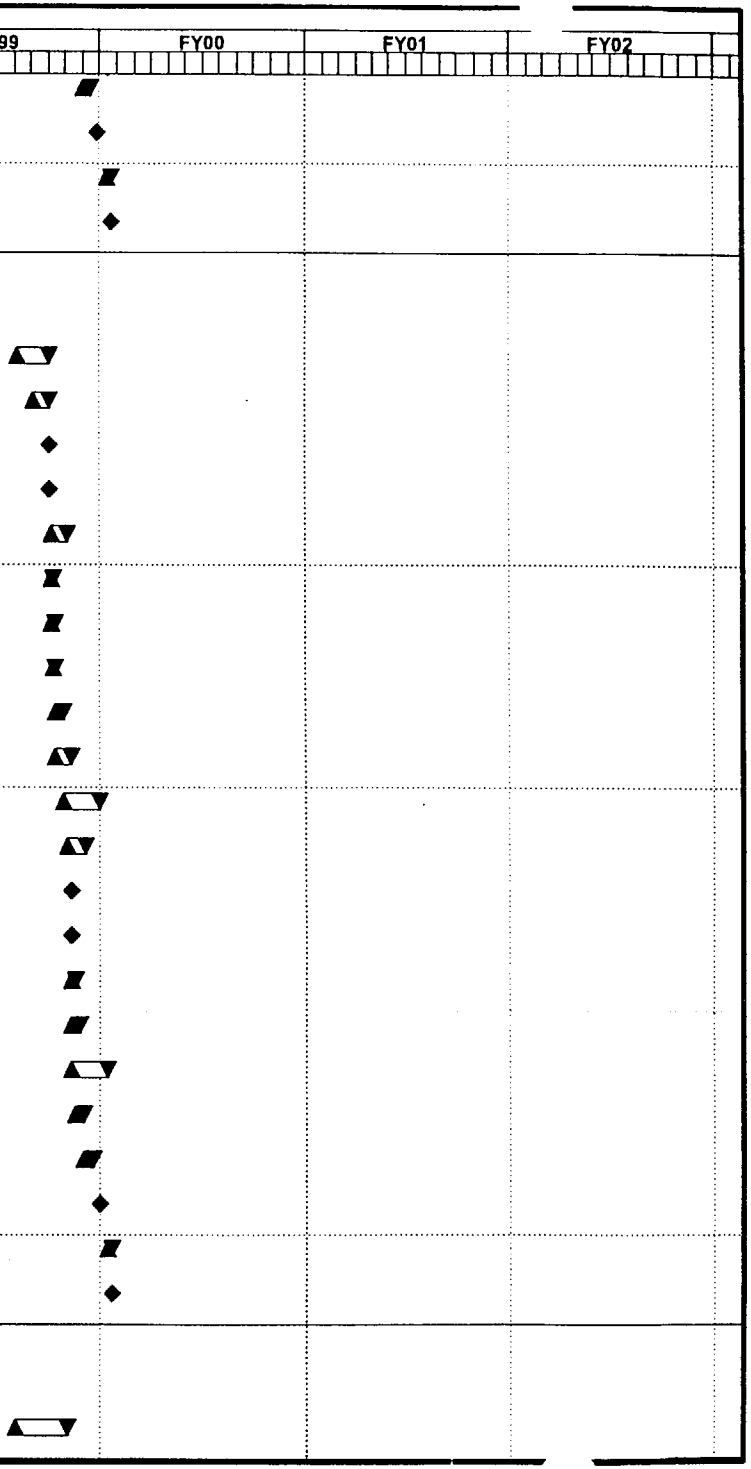
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2128	TH/THM Conceptual-Determine DTN Assignment		2	02AUG99	03AUG99
SLPA2130	TH/THM Conceptual-Determine if Model-Rel SW is U		5	02AUG99	06AUG99
SLPA2120	AP3.10Q Check - TH/THM Conceptual Model Analysis		22	03AUG99	01SEP99
SLPA2132	TH/THM Conceptual-Determine if Data/DTN in TDMS		3	04AUG99	06AUG99
SLPA2134	TH/THM Conceptual-Place Model-Related SW Under S		10	09AUG99	20AUG99
SLPA2136	TH/THM Conceptual-Submit Data/DTN to TDMS as Nec		22	09AUG99	08SEP99
SLPA2138	TH/THM Conceptual-Verify Model-Related Software		44	23AUG99	25OCT99
SLPA2122	AP3.10Q Final - TH/THM Conceptual Model Analysis		7	02SEP99	13SEP99
SLPA2140	TH/THM Conceptual-Procurement Related Issues ID'		0		08SEP99
SLPA2142	TH/THM Conceptual-Data Related Software Issues I		0		08SEP99
SLPA2144	TH/THM Conceptual-Determine if Data Rel SW is Un		5	09SEP99	15SEP99
SLPA2146	TH/THM Conceptual-Rxesolve Procurement Related D		10	09SEP99	22SEP99
SLPA2148	TH/THM Conceptual-Verify/Trace Data		44	09SEP99	10NOV99
SLPA2150	TH/THM Conceptual-Place Under SMS Control as Nec		10	16SEP99	29SEP99
SLPA2152	TH/THM Conceptual-Verify Data-Related Software		10	30SEP99	14OCT99
SLPA2154	TH/THM Conceptual-Qualified/Verified SW Availabl		0		25OCT99
SLPA2156	TH/THM Conceptual-Update TDMS		5	12NOV99	18NOV99
SLPA2158	TH/THM Conceptual-Qualified/Verified Data Availa		0		18NOV99
N3000					
140 Natural Environment Program Operations					
SPP70996	AP3.10Q Data - Analy THC Proc Drift Thermodyn		42	03MAY99*	30JUN99
SPP7090	AP3.10Q Draft - Analy THC Proc Drift Thermodyn		22	01JUN99	30JUN99
SPN504	THC Thermodyn-Input Parameters and Data Identifi		0		30JUN99
SPN506	THC Thermodyn-Models and Codes Identified		0		30JUN99
SPN508	THC Thermodyn-Determine DTN Assignment		2	01JUL99	02JUL99
SPN532	THC Thermodyn-Determine if Model-Rel SW is Under		5	01JUL99	08JUL99
SPP7092	AP3.10Q Check - Analy THC Proc Drift Thermodyn		21	01JUL99	30JUL99
SPN510	THC Thermodyn-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99
SPN512	THC Thermodyn-Submit Data/DTN to TDMS as Necessa		22	09JUL99	09AUG99
SPN534	THC Thermodyn-Place Model-Related SW Under SMS C		10	09JUL99	22JUL99
SPN536	THC Th[illegible]erify Model-Related Software		44	23JUL99	23SEP99



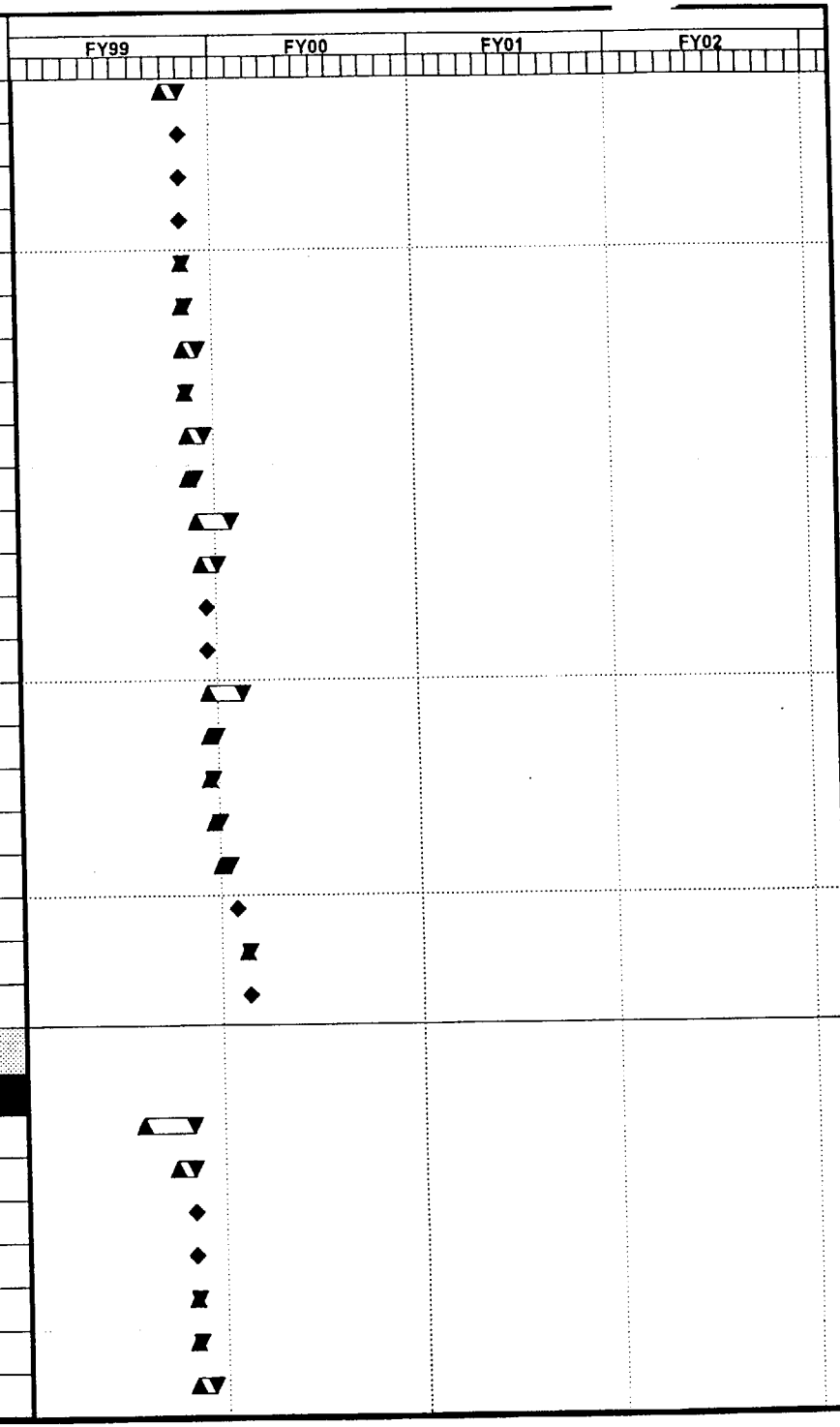
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPP7094	AP3.10Q Final - Analy THC Proc Drift Thermodyn		21	02AUG99	30AUG99
SPN516	THC Thermodyn-Procurement Related Issues ID'd to		0		09AUG99
SPN524	THC Thermodyn-Data Related Software Issues Ident		0		09AUG99
SPN514	THC Thermodyn-Verify/Trace Data		44	10AUG99	12OCT99
SPN518	THC Thermodyn-Rxesolve Procurement Related Data		10	10AUG99	23AUG99
SPN526	THC Thermodyn-Determine if Data Rel SW is Under		5	10AUG99	16AUG99
SPN528	THC Thermodyn-Place Under SMS Control as Necessa		10	17AUG99	30AUG99
SPN530	THC Thermodyn-Verify Data-Related Software		10	31AUG99	14SEP99
SPN538	THC Thermodyn-Qualified/Verified SW Available		0		23SEP99
SPN520	THC Thermodyn-Update TDMS		5	13OCT99	19OCT99
SPN522	THC Thermodyn-Qualified/Verified Data Available		0		19OCT99
N3010					
140 Natural Environment Program Operations					
SPP7112	AP3.10Q Data - Analy THC Proc/Impacts on Emplac		42	03MAY99*	30JUN99
SPP7106	AP3.10Q Draft - Analy THC Proc/Impacts on Emplac		22	01JUN99*	30JUN99
SPN576	THC Proc/Impacts-Input Parameters and Data Ident		0		30JUN99
SPN578	THC Proc/Impacts-Models and Codes Identified		0		30JUN99
SPN580	THC Proc/Impacts-Determine DTN Assignment		2	01JUL99	02JUL99
SPN604	THC Proc/Impacts-Determine if Model-Rel SW is Un		5	01JUL99	08JUL99
SPP7108	AP3.10Q Check - Analy THC Proc/Impacts on Emplac		21	01JUL99	30JUL99
SPN582	THC Proc/Impacts-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99
SPN584	THC Proc/Impacts-Submit Data/DTN to TDMS as Nece		22	09JUL99	09AUG99
SPN606	THC Proc/Impacts-Place Model-Related SW Under SM		10	09JUL99	22JUL99
SPN608	THC Proc/Impacts-Verify Model-Related Software		44	23JUL99	23SEP99
SPP7110	AP3.10Q Final - Analy THC Proc/Impacts on Emplac		22	02AUG99	31AUG99
SPN588	THC Proc/Impacts-Procurement Related Issues ID'd		0		09AUG99
SPN596	THC Proc/Impacts-Data Related Software Issues Id		0		09AUG99
SPN586	THC Proc/Impacts-Verify/Trace Data		44	10AUG99	12OCT99
SPN590	THC Proc/Impacts-Rxesolve Procurement Related Da		10	10AUG99	23AUG99
SPN598	THC Proc/Impacts-Determine if Data Rel SW is Und		5	10AUG99	16AUG99
SPN600	THC Proc/Impacts-Place Under SMS Control as Nece		10	17AUG99	30AUG99



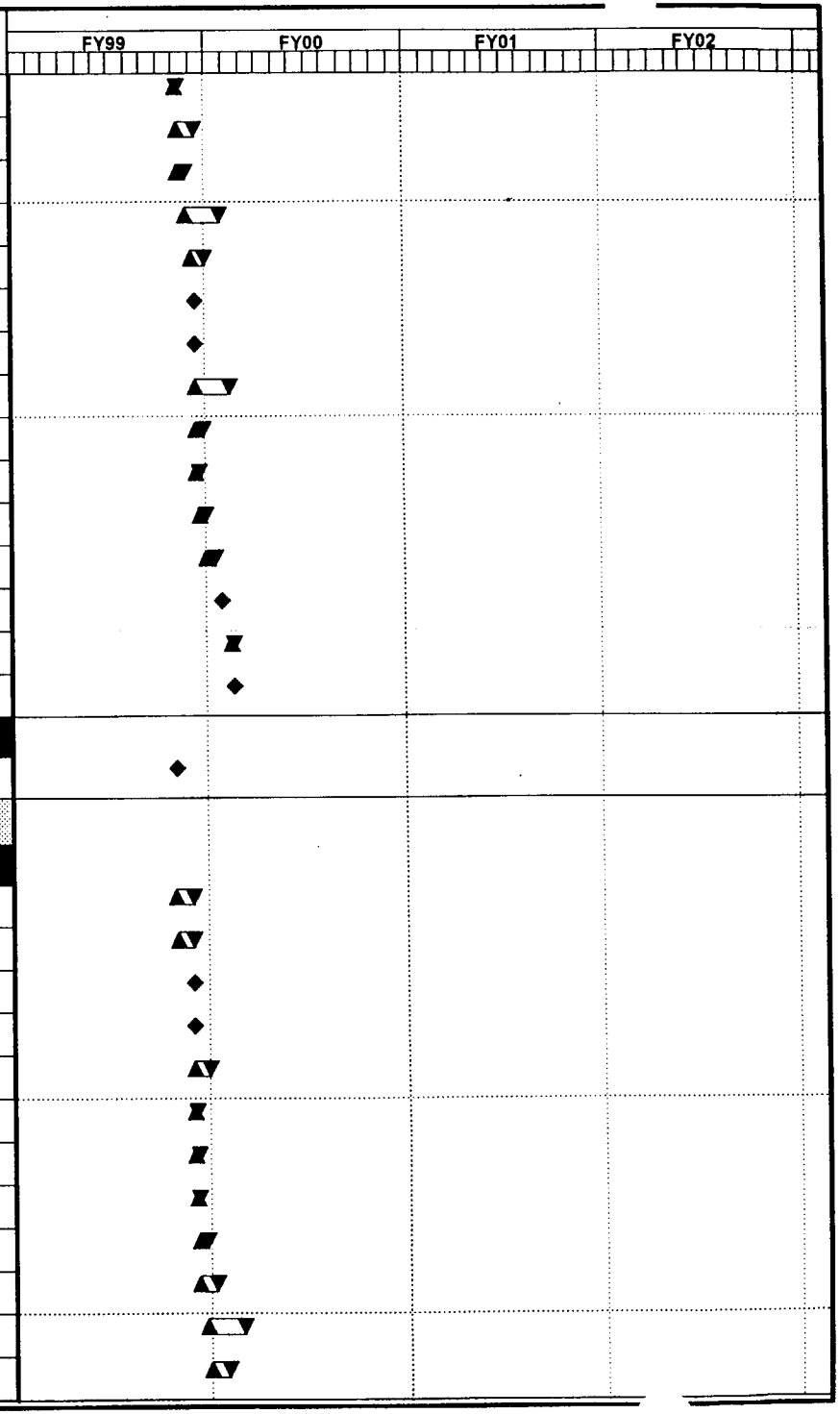
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPN602	THC Proc/Impacts-Verify Data-Related Software		10	31AUG99	14SEP99
SPN610	THC Proc/Impacts-Qualified/Verified SW Available		0		23SEP99
SPN592	THC Proc/Impacts-Update TDMS		5	13OCT99	19OCT99
SPN594	THC Proc/Impacts-Qualified/Verified Data Availab		0		19OCT99
N3020					
130 Performance Assessment Operations					
SLPA2160	AP3.10Q Data - Multiscale NFE/EBS TH Model		42	05MAY99*	02JUL99
SLPA2162	AP3.10Q Draft - Multiscale NFE/EBS TH Model		22	03JUN99*	02JUL99
SLPA2168	Multiscale NFE/EBS TH-Input Parameters and Data		0		02JUL99
SLPA2170	Multiscale NFE/EBS TH-Models and Codes Identifie		0		02JUL99
SLPA2164	AP3.10Q Check - Multiscale NFE/EBS TH Model		21	06JUL99	03AUG99
SLPA2172	Multiscale NFE/EBS TH-Determine DTN Assignment		2	06JUL99	07JUL99
SLPA2174	Multiscale NFE/EBS TH-Determine if Model-Rel SW		5	06JUL99	12JUL99
SLPA2176	Multiscale NFE/EBS TH-Determine if Data/DTN in T		3	08JUL99	12JUL99
SLPA2178	Multiscale NFE/EBS TH-Place Model-Related SW Und		10	13JUL99	26JUL99
SLPA2180	Multiscale NFE/EBS TH-Submit Data/DTN to TDMS as		22	13JUL99	11AUG99
SLPA2182	Multiscale NFE/EBS TH-Verify Model-Related Softw		44	27JUL99	27SEP99
SLPA2166	AP3.10Q Final - Multiscale NFE/EBS TH Model		22	04AUG99	02SEP99
SLPA2184	Multiscale NFE/EBS TH-Procurement Related Issues		0		11AUG99
SLPA2186	Multiscale NFE/EBS TH-Data Related Software Issu		0		11AUG99
SLPA2188	Multiscale NFE/EBS TH-Determine if Data Rel SW i		5	12AUG99	18AUG99
SLPA2190	Multiscale NFE/EBS TH-Rxesolve Procurement Relat		10	12AUG99	25AUG99
SLPA2192	Multiscale NFE/EBS TH-Verify/Trace Data		44	12AUG99	14OCT99
SLPA2194	Multiscale NFE/EBS TH-Place Under SMS Control as		10	19AUG99	01SEP99
SLPA2196	Multiscale NFE/EBS TH-Verify Data-Related Softwa		10	02SEP99	16SEP99
SLPA2198	Multiscale NFE/EBS TH-Qualified/Verified SW Avai		0		27SEP99
SLPA2200	Multiscale NFE/EBS TH-Update TDMS		5	15OCT99	21OCT99
SLPA2202	Multiscale NFE/EBS TH-Qualified/Verified Data Av		0		21OCT99
N3030					
SLP7300	AP3.10Q Data -Descr. on NFE Basecase		64	03MAY99*	02AUG99



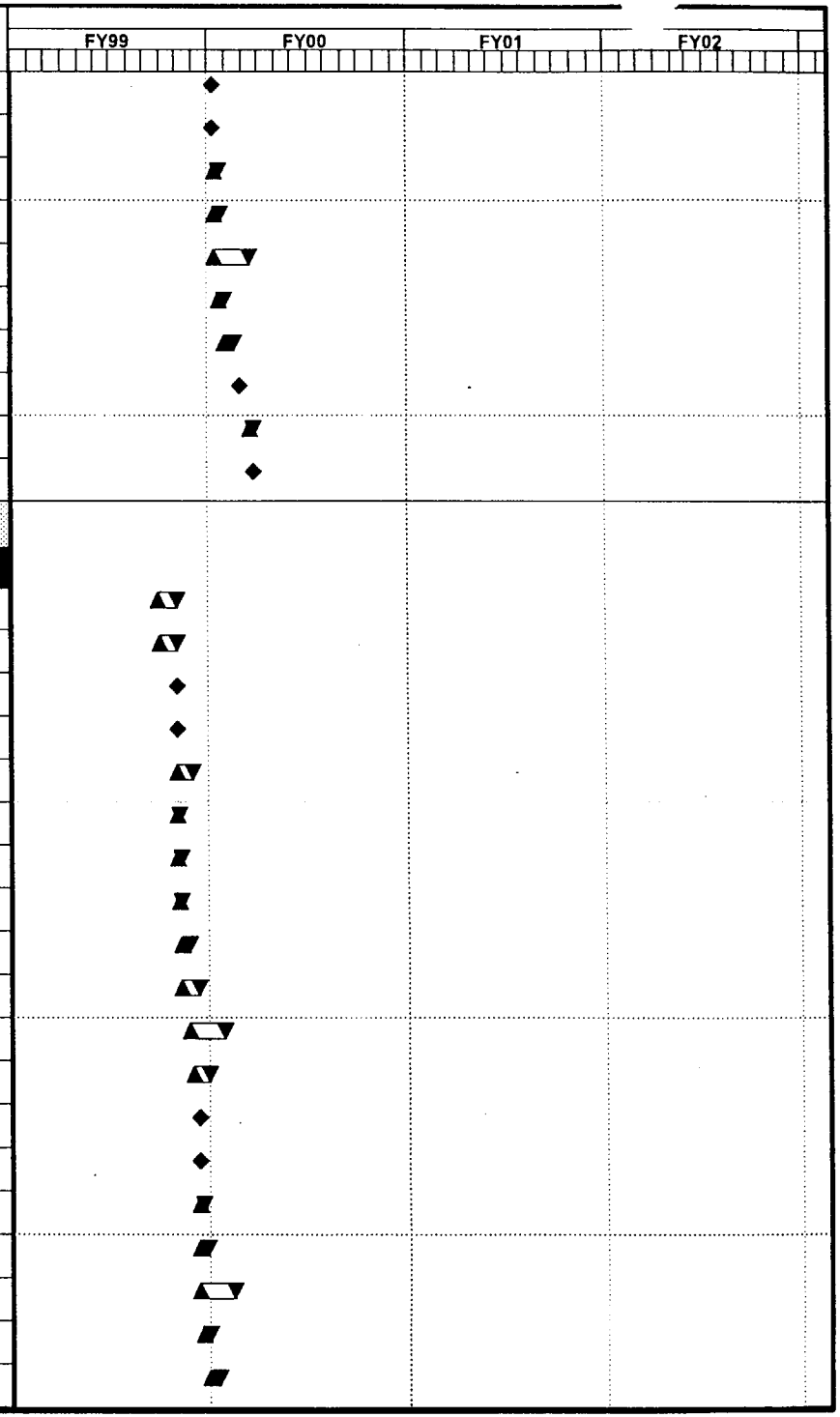
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLP7302	AP3.10Q Draft -Descr. on NFE Basecase		21	02JUL99	02AUG99
SLN864	NFE Basecase-Input Parameters and Data Identifie		0		02AUG99
SLN866	NFE Basecase-Models and Codes Identified		0		02AUG99
SLPA2204	Receive Descr. on NFE Basecase	M4	0		02AUG99
SLN868	NFE Basecase-Determine DTN Assignment		2	03AUG99	04AUG99
SLN892	NFE Basecase-Determine if Model-Rel SW is Under		5	03AUG99	09AUG99
SLP7304	AP3.10Q Check -Descr. on NFE Basecase		21	03AUG99	31AUG99
SLN870	NFE Basecase-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99
SLN872	NFE Basecase-Submit Data/DTN to TDMS as Necessar		22	10AUG99	09SEP99
SLN894	NFE Basecase-Place Model-Related SW Under SMS Co		10	10AUG99	23AUG99
SLN896	NFE Basecase-Verify Model-Related Software		44	24AUG99	26OCT99
SLP7306	AP3.10Q Final -Descr. on NFE Basecase		22	01SEP99	01OCT99
SLN876	NFE Basecase-Procurement Related Issues ID'd to		0		09SEP99
SLN884	NFE Basecase-Data Related Software Issues Identi		0		09SEP99
SLN874	NFE Basecase-Verify/Trace Data		44	10SEP99	12NOV99
SLN878	NFE Basecase-Rxesolve Procurement Related Data I		10	10SEP99	23SEP99
SLN886	NFE Basecase-Determine if Data Rel SW is Under S		5	10SEP99	16SEP99
SLN888	NFE Basecase-Place Under SMS Control as Necessar		10	17SEP99	30SEP99
SLN890	NFE Basecase-Verify Data-Related Software		10	01OCT99	15OCT99
SLN898	NFE Basecase-Qualified/Verified SW Available		0		26OCT99
SLN880	NFE Basecase-Update TDMS		5	15NOV99	19NOV99
SLN882	NFE Basecase-Qualified/Verified Data Available		0		19NOV99
N3040					
140 Natural Environment Program Operations					
SPP7152	AP3.10Q Data - Descrip Basecase Rslts NFE		64	03MAY99*	02AUG99
SPP7146	AP3.10Q Draft - Descrip Basecase Rslts NFE		22	01JUL99	02AUG99
SPN648	Basecase Rslts NFE-Input Parameters and Data Ide		0		02AUG99
SPN650	Basecase Rslts NFE-Models and Codes Identified		0		02AUG99
SPN652	Basecase Rslts NFE-Determine DTN Assignment		2	03AUG99	04AUG99
SPN676	Basecase Rslts NFE-Determine if Model-Rel SW is		5	03AUG99	09AUG99
SPP7148	AP3.10Q Check - Descrip Basecase Rslts NFE		23	03AUG99	02SEP99



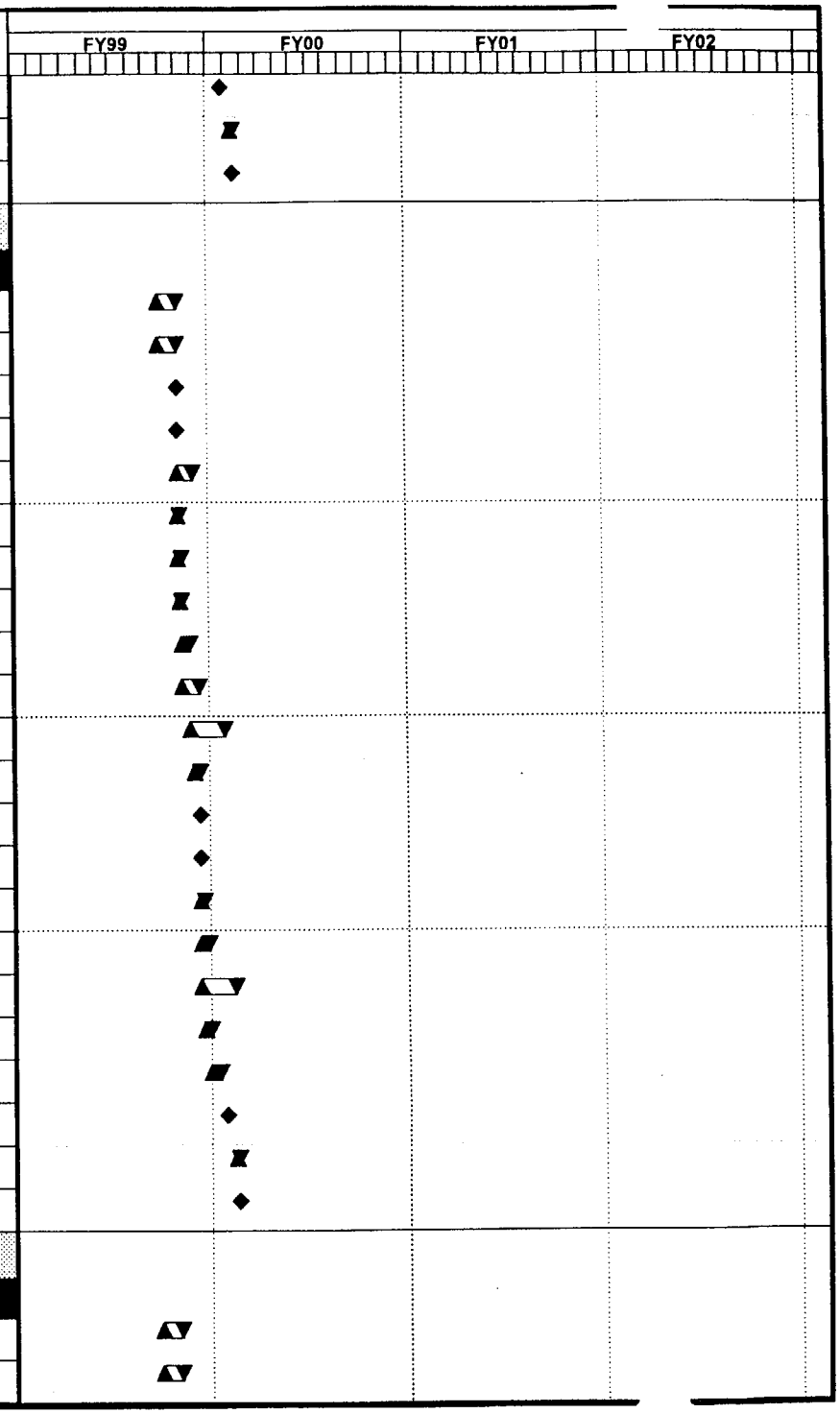
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPN654	Basecase Rslts NFE-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99
SPN656	Basecase Rslts NFE-Submit Data/DTN to TDMS as Ne		22	10AUG99	09SEP99
SPN678	Basecase Rslts NFE-Place Model-Related SW Under		10	10AUG99	23AUG99
SPN680	Basecase Rslts NFE-Verify Model-Related Software		44	24AUG99	26OCT99
SPP7150	AP3.10Q Final - Descrip Basecase Rslts NFE		19	03SEP99	30SEP99
SPN660	Basecase Rslts NFE-Procurement Related Issues ID		0		09SEP99
SPN668	Basecase Rslts NFE-Data Related Software Issues		0		09SEP99
SPN658	Basecase Rslts NFE-Verify/Trace Data		44	10SEP99	12NOV99
SPN662	Basecase Rslts NFE-Rxesolve Procurement Related		10	10SEP99	23SEP99
SPN670	Basecase Rslts NFE-Determine if Data Rel SW is U		5	10SEP99	16SEP99
SPN672	Basecase Rslts NFE-Place Under SMS Control as Ne		10	17SEP99	30SEP99
SPN674	Basecase Rslts NFE-Verify Data-Related Software		10	01OCT99	15OCT99
SPN682	Basecase Rslts NFE-Qualified/Verified SW Availab		0		26OCT99
SPN664	Basecase Rslts NFE-Update TDMS		5	15NOV99	19NOV99
SPN666	Basecase Rslts NFE-Qualified/Verified Data Avail		0		19NOV99
SLPA2206	Receive Descr Basecase Rslt of NFE-AP3.10Q	M4	0		02AUG99
N3050					
130 Performance Assessment Operations					
SLPA2208	AP3.10Q Data - Descipt Abstract into NFE Basecas		23	30JUL99*	31AUG99
SLPA2210	AP3.10Q Draft - Descipt Abstract into NFE Baseca		22	02AUG99	31AUG99
SLPA2216	Des Abstract/NFE BC-Input Parameters and Data Id		0		31AUG99
SLPA2218	Des Abstract/NFE BC-Models and Codes Identified		0		31AUG99
SLPA2212	AP3.10Q Check - Descipt Abstract into NFE Baseca		21	01SEP99	30SEP99
SLPA2220	Des Abstract/NFE BC-Determine DTN Assignment		2	01SEP99	02SEP99
SLPA2222	Des Abstract/NFE BC-Determine if Model-Rel SW is		5	01SEP99	08SEP99
SLPA2224	Des Abstract/NFE BC-Determine if Data/DTN in TDM		3	03SEP99	08SEP99
SLPA2226	Des Abstract/NFE BC-Place Model-Related SW Under		10	09SEP99	22SEP99
SLPA2228	Des Abstract/NFE BC-Submit Data/DTN to TDMS as N		22	09SEP99	08OCT99
SLPA2230	Des Abstract/NFE BC-Verify Model-Related Softwar		44	23SEP99	29NOV99
SLPA2214	AP3.10Q Final - Descipt Abstract into NFE Baseca		20	01OCT99	29OCT99



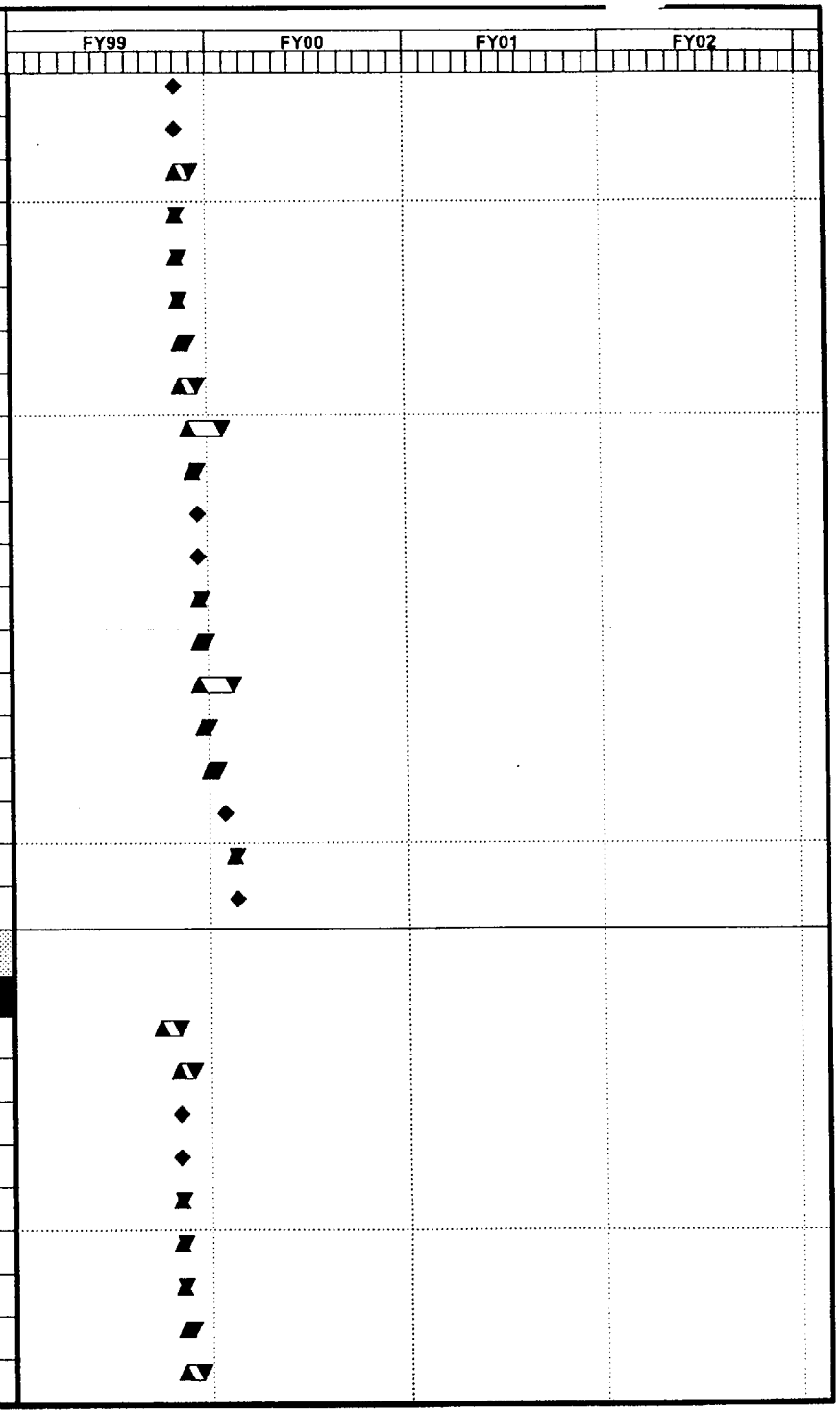
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2232	Des Abstract/NFE BC-Procurement Related Issues I		0		08OCT99
SLPA2234	Des Abstract/NFE BC-Data Related Software Issues		0		08OCT99
SLPA2236	Des Abstract/NFE BC-Determine if Data Rel SW is		5	12OCT99	18OCT99
SLPA2238	Des Abstract/NFE BC-Rxesolve Procurement Related		10	12OCT99	25OCT99
SLPA2240	Des Abstract/NFE BC-Verify/Trace Data		44	12OCT99	15DEC99
SLPA2242	Des Abstract/NFE BC-Place Under SMS Control as N		10	19OCT99	01NOV99
SLPA2244	Des Abstract/NFE BC-Verify Data-Related Software		10	02NOV99	16NOV99
SLPA2246	Des Abstract/NFE BC-Qualified/Verified SW Availa		0		29NOV99
SLPA2248	Des Abstract/NFE BC-Update TDMS		5	16DEC99	22DEC99
SLPA2250	Des Abstract/NFE BC-Qualified/Verified Data Avai		0		22DEC99
N3060					
130 Performance Assessment Operations					
SLPA2252	AP3.10Q Data - Descript Abstr NFE Thermodyn Env		23	30JUN99*	02AUG99
SLPA2254	AP3.10Q Draft - Descript Abstr NFE Thermodyn Env		21	02JUL99	02AUG99
SLPA2260	Abstr NFE Thermodyn-Input Parameters and Data I		0		02AUG99
SLPA2262	Abstr NFE Thermodyn-Models and Codes Identified		0		02AUG99
SLPA2256	AP3.10Q Check - Descript Abstr NFE Thermodyn Env		21	03AUG99	31AUG99
SLPA2264	Abstr NFE Thermodyn-Determine DTN Assignment		2	03AUG99	04AUG99
SLPA2266	Abstr NFE Thermodyn-Determine if Model-Rel SW i		5	03AUG99	09AUG99
SLPA2268	Abstr NFE Thermodyn-Determine if Data/DTN in TD		3	05AUG99	09AUG99
SLPA2270	Abstr NFE Thermodyn-Place Model-Related SW Unde		10	10AUG99	23AUG99
SLPA2272	Abstr NFE Thermodyn-Submit Data/DTN to TDMS as		22	10AUG99	09SEP99
SLPA2274	Abstr NFE Thermodyn-Verify Model-Related Softwa		44	24AUG99	26OCT99
SLPA2258	AP3.10Q Final - Descript Abstr NFE Thermodyn Env		20	01SEP99	29SEP99
SLPA2276	Abstr NFE Thermodyn-Procurement Related Issues		0		09SEP99
SLPA2278	Abstr NFE Thermodyn-Data Related Software Issue		0		09SEP99
SLPA2280	Abstr NFE Thermodyn-Determine if Data Rel SW is		5	10SEP99	16SEP99
SLPA2282	Abstr NFE Thermodyn-Rxesolve Procurement Relate		10	10SEP99	23SEP99
SLPA2284	Abstr NFE Thermodyn-Verify/Trace Data		44	10SEP99	12NOV99
SLPA2286	Abstr NFE Thermodyn-Place Under SMS Control as		10	17SEP99	30SEP99
SLPA2288	Abstr NFE Thermodyn-Verify Data-Related Softwar		10	01OCT99	15OCT99



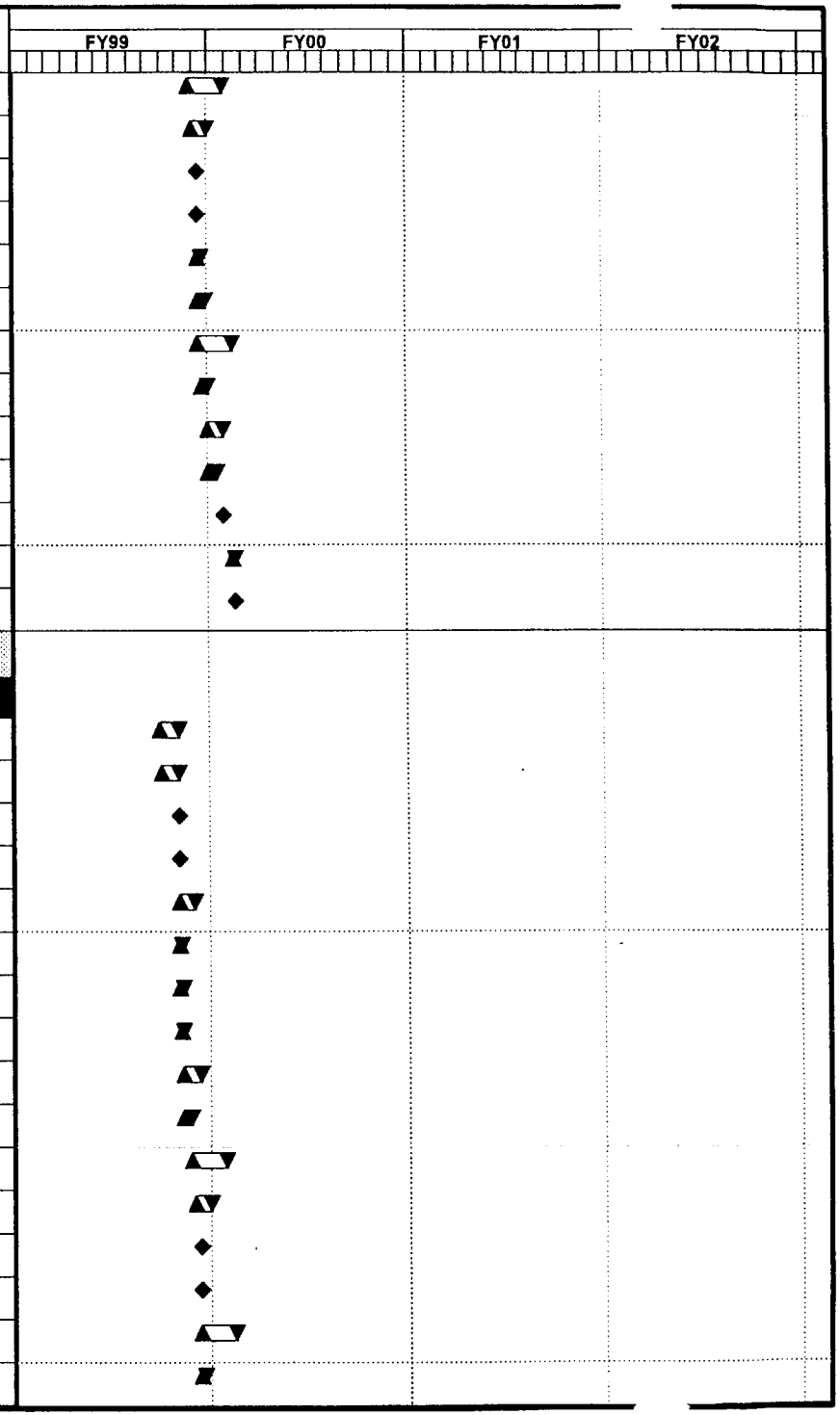
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2290	Abstr NFE Thermodyn-Qualified/Verified SW Avail		0		26OCT99
SLPA2292	Abstr NFE Thermodyn-Update TDMS		5	15NOV99	19NOV99
SLPA2294	Abstr NFE Thermodyn-Qualified/Verified Data Ava		0		19NOV99
N3070					
130 Performance Assessment Operations					
SLPA2296	AP3.10Q Draft - Descrip Abstract NFE Empl Thrm D		23	30JUN99	02AUG99
SLPA2298	AP3.10Q Data - Descrip Abstract NFE Empl Thrm Dr		23	30JUN99*	02AUG99
SLPA2304	Abstract NFE Empl Thrm-Input Parameters and Data		0		02AUG99
SLPA2306	Abstract NFE Empl Thrm-Models and Codes Identifi		0		02AUG99
SLPA2300	AP3.10Q Check - Descrip Abstract NFE Empl Thrm D		20	03AUG99	30AUG99
SLPA2308	Abstract NFE Empl Thrm-Determine DTN Assignment		2	03AUG99	04AUG99
SLPA2310	Abstract NFE Empl Thrm-Determine if Model-Rel SW		5	03AUG99	09AUG99
SLPA2312	Abstract NFE Empl Thrm-Determine if Data/DTN in		3	05AUG99	09AUG99
SLPA2314	Abstract NFE Empl Thrm-Place Model-Related SW Un		10	10AUG99	23AUG99
SLPA2316	Abstract NFE Empl Thrm-Submit Data/DTN to TDMS a		22	10AUG99	09SEP99
SLPA2318	Abstract NFE Empl Thrm-Verify Model-Related Soft		44	24AUG99	26OCT99
SLPA2302	AP3.10Q Final - Descrip Abstract NFE Empl Thrm D		8	31AUG99	10SEP99
SLPA2320	Abstract NFE Empl Thrm-Procurement Related Issue		0		09SEP99
SLPA2322	Abstract NFE Empl Thrm-Data Related Software Iss		0		09SEP99
SLPA2324	Abstract NFE Empl Thrm-Determine if Data Rel SW		5	10SEP99	16SEP99
SLPA2326	Abstract NFE Empl Thrm-Rxesolve Procurement Rela		10	10SEP99	23SEP99
SLPA2328	Abstract NFE Empl Thrm-Verify/Trace Data		44	10SEP99	12NOV99
SLPA2330	Abstract NFE Empl Thrm-Place Under SMS Control a		10	17SEP99	30SEP99
SLPA2332	Abstract NFE Empl Thrm-Verify Data-Related Softw		10	01OCT99	15OCT99
SLPA2334	Abstract NFE Empl Thrm-Qualified/Verified SW Ava		0		26OCT99
SLPA2336	Abstract NFE Empl Thrm-Update TDMS		5	15NOV99	19NOV99
SLPA2338	Abstract NFE Empl Thrm-Qualified/Verified Data A		0		19NOV99
N3080					
130 Performance Assessment Operations					
SLPA2340	AP3.10Q Draft - Descrip Abstract NFE InDrift Wtr		23	30JUN99	02AUG99
SLPA2342	AP3.10Q Data - Descrip Abstract NFE InDrift Wtr		23	30JUN99*	02AUG99



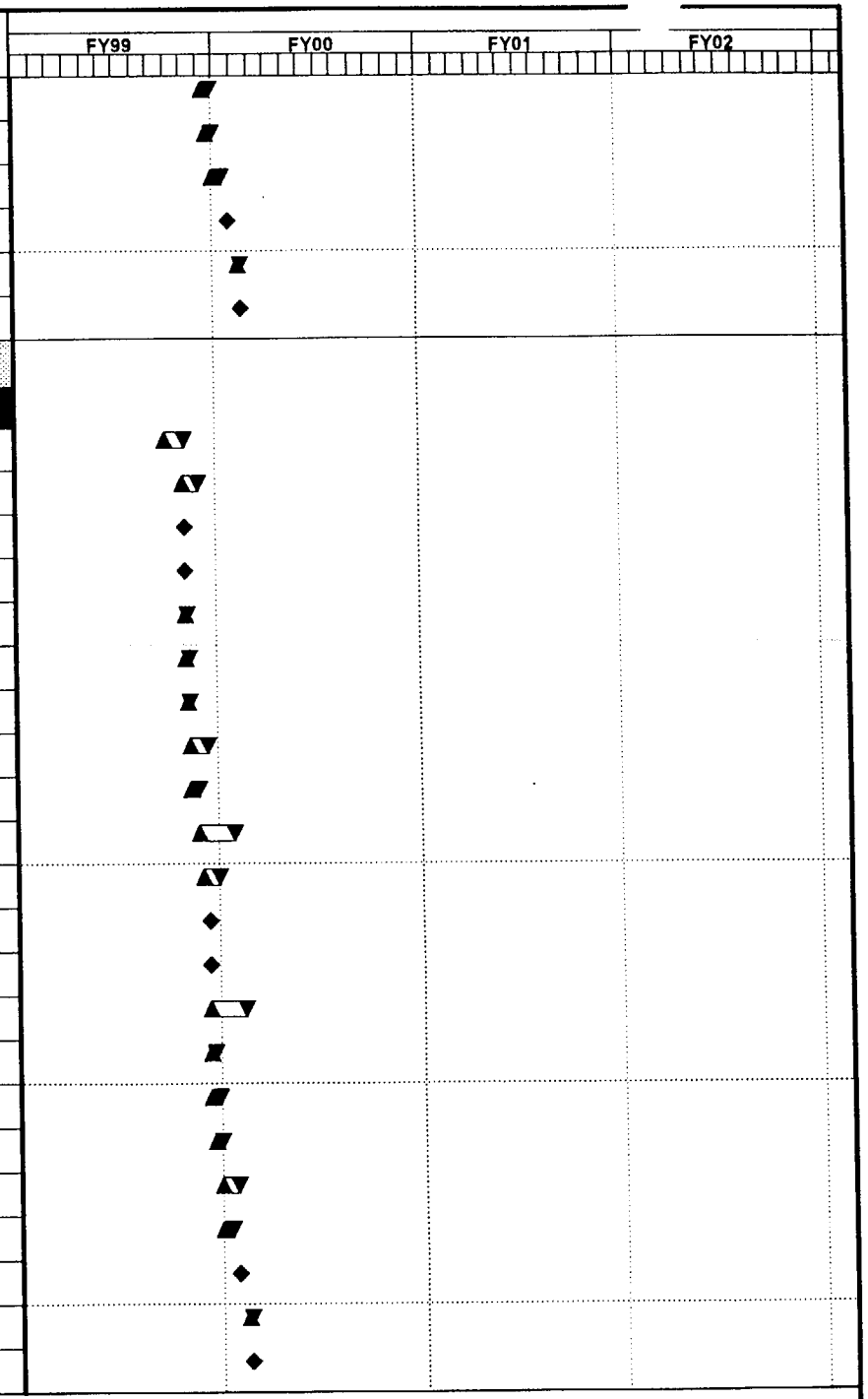
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2348	Abstract NFE InDrift Wtr-Input Parameters and Da		0		02AUG99
SLPA2350	Abstract NFE InDrift Wtr-Models and Codes Identi		0		02AUG99
SLPA2344	AP3.10Q Check - Descrip Abstract NFE InDrift Wtr		21	03AUG99	31AUG99
SLPA2352	Abstract NFE InDrift Wtr-Determine DTN Assignmen		2	03AUG99	04AUG99
SLPA2354	Abstract NFE InDrift Wtr-Determine if Model-Rel		5	03AUG99	09AUG99
SLPA2356	Abstract NFE InDrift Wtr-Determine if Data/DTN i		3	05AUG99	09AUG99
SLPA2358	Abstract NFE InDrift Wtr-Place Model-Related SW		10	10AUG99	23AUG99
SLPA2360	Abstract NFE InDrift Wtr-Submit Data/DTN to TDMS		22	10AUG99	09SEP99
SLPA2362	Abstract NFE InDrift Wtr-Verify Model-Related So		44	24AUG99	26OCT99
SLPA2346	AP3.10Q Final - Descrip Abstract NFE InDrift Wtr		7	01SEP99	10SEP99
SLPA2364	Abstract NFE InDrift Wtr-Procurement Related Iss		0		09SEP99
SLPA2366	Abstract NFE InDrift Wtr-Data Related Software I		0		09SEP99
SLPA2368	Abstract NFE InDrift Wtr-Determine if Data Rel S		5	10SEP99	16SEP99
SLPA2370	Abstract NFE InDrift Wtr-Rxesolve Procurement Re		10	10SEP99	23SEP99
SLPA2372	Abstract NFE InDrift Wtr-Verify/Trace Data		44	10SEP99	12NOV99
SLPA2374	Abstract NFE InDrift Wtr-Place Under SMS Control		10	17SEP99	30SEP99
SLPA2376	Abstract NFE InDrift Wtr-Verify Data-Related Sof		10	01OCT99	15OCT99
SLPA2378	Abstract NFE InDrift Wtr-Qualified/Verified SW A		0		26OCT99
SLPA2380	Abstract NFE InDrift Wtr-Update TDMS		5	15NOV99	19NOV99
SLPA2382	Abstract NFE InDrift Wtr-Qualified/Verified Data		0		19NOV99
N3085					
130 Performance Assessment Operations					
SLPA2384	AP3.10Q Data - FEPs for NFE		23	30JUN99*	02AUG99
SLPA2386	AP3.10Q Draft - FEPs for NFE		23	30JUL99*	27AUG99
SLPA2392	FEPs for NFE-Input Parameters and Data Identifie		0		02AUG99
SLPA2394	FEPs for NFE-Models and Codes Identified		0		02AUG99
SLPA2396	FEPs for NFE-Determine DTN Assignment		2	03AUG99	04AUG99
SLPA2398	FEPs for NFE-Determine if Model-Rel SW is Under		5	03AUG99	09AUG99
SLPA2400	FEPs for NFE-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99
SLPA2402	FEPs for NFE-Place Model-Related SW Under SMS Co		10	10AUG99	23AUG99
SLPA2404	FEPs for NFE-Submit Data/DTN to TDMS as Necessar		22	10AUG99	09SEP99



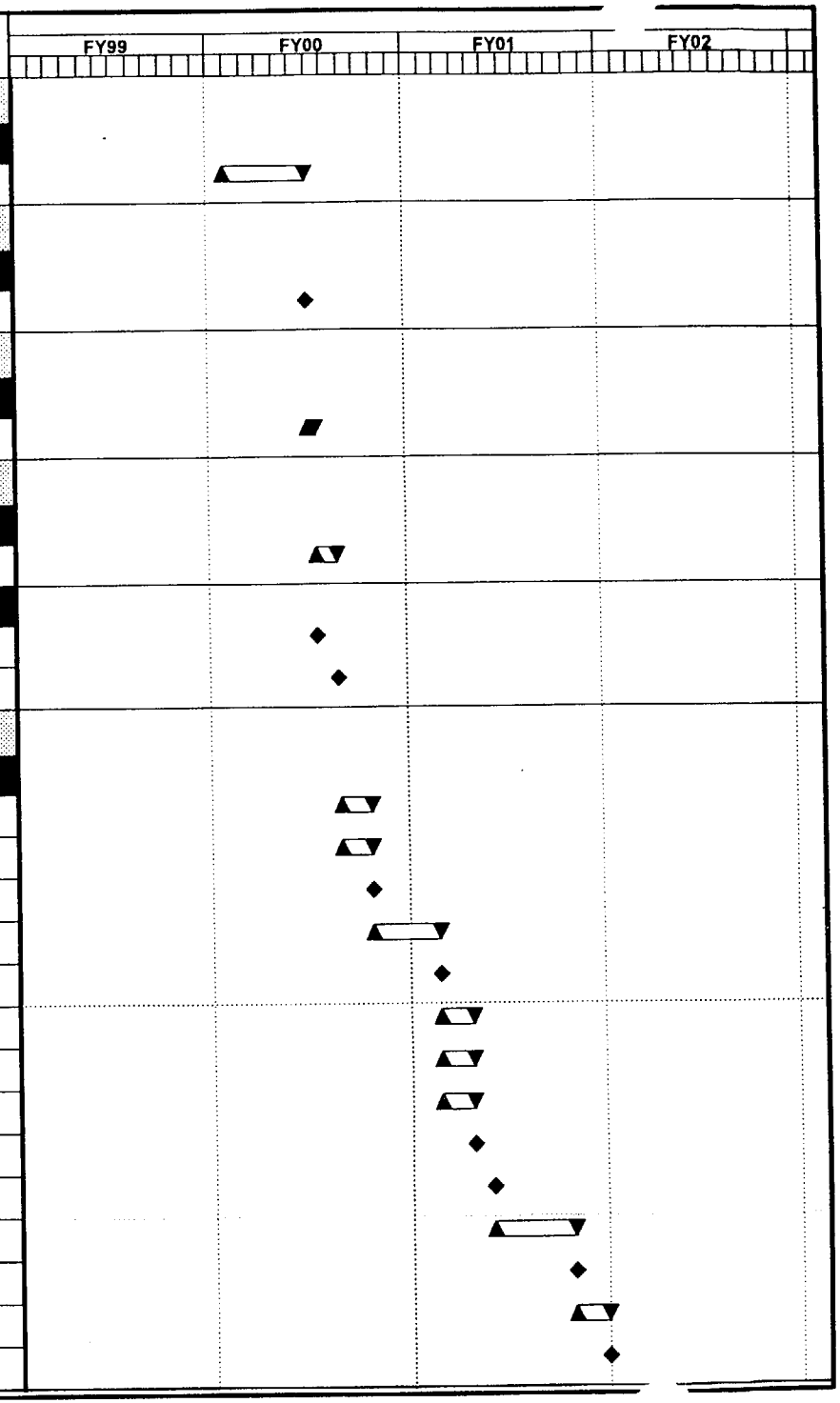
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2406	FEPs for NFE-Verify Model-Related Software		44	24AUG99	26OCT99
SLPA2388	AP3.10Q Check - FEPs for NFE		21	30AUG99	28SEP99
SLPA2408	FEPs for NFE-Data Related Software Issues Identi		0		09SEP99
SLPA2410	FEPs for NFE-Procurement Related Issues ID'd to		0		09SEP99
SLPA2412	FEPs for NFE-Determine if Data Rel SW is Under S		5	10SEP99	16SEP99
SLPA2414	FEPs for NFE-Rxesolve Procurement Related Data I		10	10SEP99	23SEP99
SLPA2416	FEPs for NFE-Verify/Trace Data		44	10SEP99	12NOV99
SLPA2418	FEPs for NFE-Place Under SMS Control as Necessar		10	17SEP99	30SEP99
SLPA2390	AP3.10Q Final - FEPs for NFE		7	29SEP99	27OCT99
SLPA2420	FEPs for NFE-Verify Data-Related Software		10	01OCT99	15OCT99
SLPA2422	FEPs for NFE-Qualified/Verified SW Available		0		26OCT99
SLPA2424	FEPs for NFE-Update TDMS		5	15NOV99	19NOV99
SLPA2426	FEPs for NFE-Qualified/Verified Data Available		0		19NOV99
N3086					
130 Performance Assessment Operations					
SPP8200	AP3.10Q Data - Natural Analogues		23	30JUN99*	02AUG99
SPP8202	AP3.10Q Draft - Natural Analogues		23	02JUL99	02AUG99
SPP8206	Natural Analogues-Input Parameters and Data Iden		0		02AUG99
SPP8208	Natural Analogues-Models and Codes Identified		0		02AUG99
SPP8210	AP3.10Q Check - Natural Analogues		21	03AUG99	31AUG99
SPP8212	Natural Analogues-Determine DTN Assignment		2	03AUG99	04AUG99
SPP8214	Natural Analogues-Determine if Model-Rel SW is U		5	03AUG99	09AUG99
SPP8216	Natural Analogues-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99
SPP8218	Natural Analogues-Submit Data/DTN to TDMS as Nec		22	10AUG99	09SEP99
SPP8220	Natural Analogues-Place Model-Related SW Under S		10	10AUG99	23AUG99
SPP8222	Natural Analogues-Verify Model-Related Software		44	24AUG99	26OCT99
SPP8224	AP3.10Q Final - Natural Analogues		7	01SEP99	29SEP99
SPP8226	Natural Analogues-Data Related Software Issues I		0		09SEP99
SPP8228	Natural Analogues-Procurement Related Issues ID'		0		09SEP99
SPP8230	Natural Analogues-Verify/Trace Data		44	10SEP99	12NOV99
SPP8232	Natural Analogues-Determine if Data Rel SW is Un		5	10SEP99	16SEP99



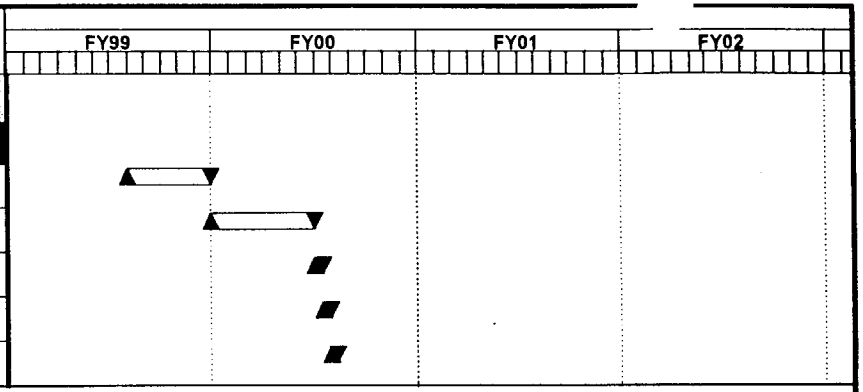
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPP8234	Natural Analogues-Rxesolve Procurement Related D		10	10SEP99	23SEP99
SPP8236	Natural Analogues-Place Under SMS Control as Nec		10	17SEP99	30SEP99
SPP8238	Natural Analogues-Verify Data-Related Software		10	01OCT99	15OCT99
SPP8240	Natural Analogues-Qualified/Verified SW Availabl		0		26OCT99
SPP8242	Natural Analogues-Update TDMS		5	15NOV99	19NOV99
SPP8244	Natural Analogues-Qualified/Verified Data Availa		0		19NOV99
N3087					
130 Performance Assessment Operations					
SPP8300	AP3.10Q Data - Model Validations		23	30JUN99*	02AUG99
SPP8302	AP3.10Q Draft - Model Validations		23	30JUL99*	27AUG99
SPP8306	Model Validations-Input Parameters and Data Ide		0		02AUG99
SPP8308	Model Validations-Models and Codes Identified		0		02AUG99
SPP8312	Model Validations-Determine DTN Assignment		2	03AUG99	04AUG99
SPP8314	Model Validations-Determine if Model-Rel SW is		5	03AUG99	09AUG99
SPP8316	Model Validations-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99
SPP8318	Model Validations-Submit Data/DTN to TDMS as Ne		22	10AUG99	09SEP99
SPP8320	Model Validations-Place Model-Related SW Under		10	10AUG99	23AUG99
SPP8322	Model Validations-Verify Model-Related Software		44	24AUG99	26OCT99
SPP8310	AP3.10Q Check - Model Validations		21	30AUG99	28SEP99
SPP8326	Model Validations-Data Related Software Issues		0		09SEP99
SPP8328	Model Validations-Procurement Related Issues ID		0		09SEP99
SPP8330	Model Validations-Verify/Trace Data		44	10SEP99	12NOV99
SPP8332	Model Validations-Determine if Data Rel SW is U		5	10SEP99	16SEP99
SPP8334	Model Validations-Rxesolve Procurement Related		10	10SEP99	23SEP99
SPP8336	Model Validations-Place Under SMS Control as Ne		10	17SEP99	30SEP99
SPP8324	AP3.10Q Final - Model Validations		7	29SEP99	27OCT99
SPP8338	Model Validations-Verify Data-Related Software		10	01OCT99	15OCT99
SPP8340	Model Validations-Qualified/Verified SW Availab		0		26OCT99
SPP8342	Model Validations-Update TDMS		5	15NOV99	19NOV99
SPP8344	Model Validations-Qualified/Verified Data Avail		0		19NOV99



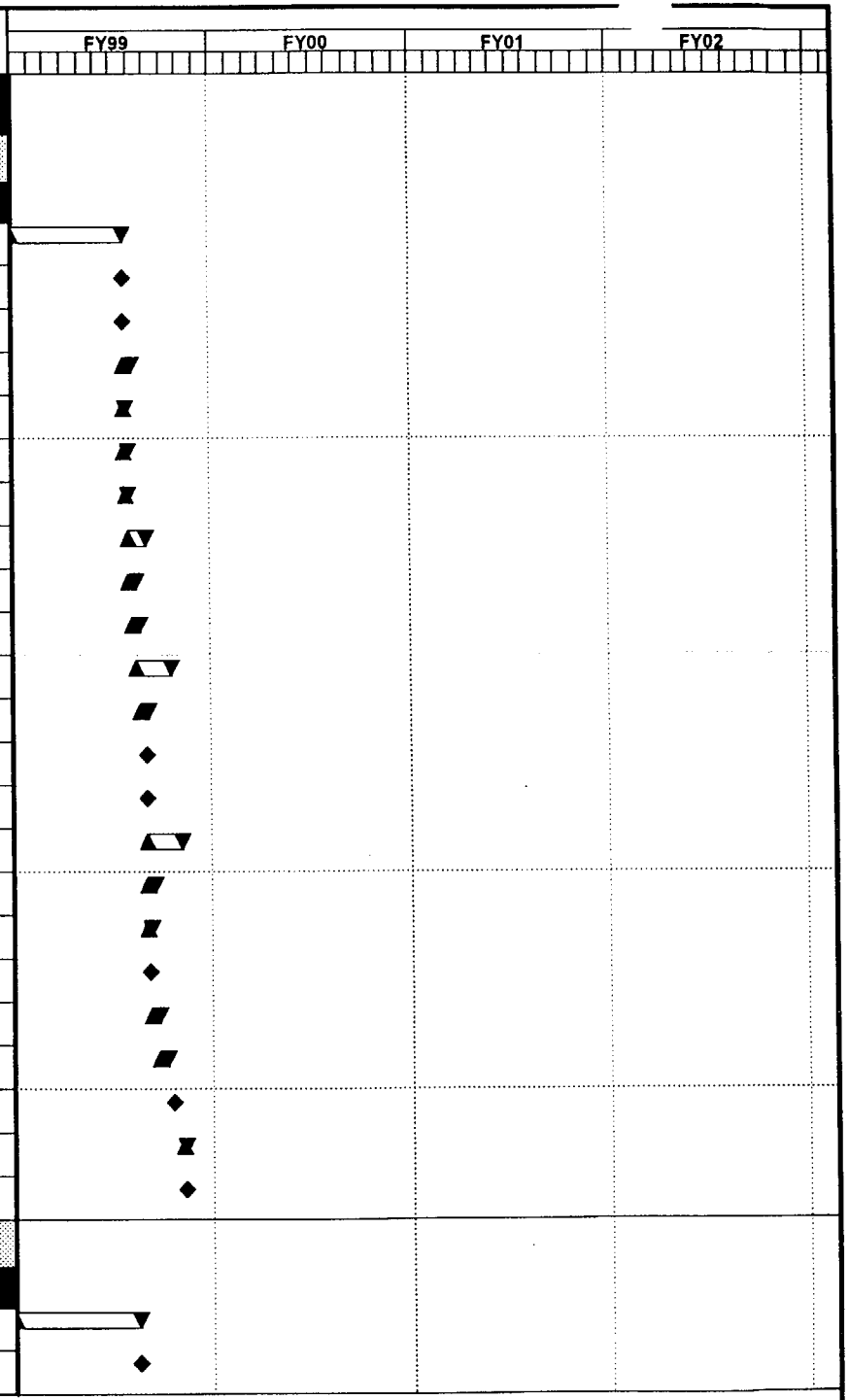
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
N4000					
140 Natural Environment Program Operations					
SPP7226	Develop NFE PMR Text		104	01NOV99	31MAR00
N4010					
140 Natural Environment Program Operations					
SPP7228	NFE PMR Rev 00A	M4	0		31MAR00
N4020					
140 Natural Environment Program Operations					
SPP7230	NFE PMR M&O Review	M4	10	03APR00	14APR00
N4040					
140 Natural Environment Program Operations					
SPP7234	NFE PMR DOE Review		30	17APR00	26MAY00
300 Regulatory & Licensing					
SLP7232M3	NFE PMR Rev 00	M3	0		14APR00
SLP7236M3	Rev 01 N	M3	0		26MAY00
Z9999 PMR Rev 02 thru Rev 05					
300 Regulatory & Licensing					
SPN00A	Revise NFE PMR AP 3.10Q's for SR		41	30MAY00	26JUL00
SPN00B	Prepare NFE PMR REV-02A for SR		41	30MAY00	26JUL00
SPN00BM4	NFE PMR Rev-02A for SR	M4	0		26JUL00
SPN00C	M&O Review NFE PMR Rev-02A for SR		83	27JUL00	27NOV00
SPN00CM3	NFE PMR Rev-02 for SR	M3	0		27NOV00
SPN00D	DOE Review NFE PMR 02 for SR		41	28NOV00	25JAN01
SPN00P	Revise NFE PMR AP 3.10Q's for LA		41	28NOV00	25JAN01
SPN00Q	Prepare NFE PMR REV-04A for LA		41	28NOV00	25JAN01
SPN00EM3	Rev 03 NFE PMR for SR	M3	0		25JAN01
SPN00QM4	NFE PMR Rev-04A for LA	M4	0		01MAR01*
SPN00R	M&O Review NFE PMR Rev-04A for LA		106	02MAR01	31JUL01
SPN00RM3	NFE PMR Rev-04 for LA	M3	0		31JUL01
SPN00S	DOE Review NFE PMR 04 for LA		42	01AUG01	28SEP01
SPN00SM3	Rev 05 NFE PMR for LA	M3	0		28SEP01



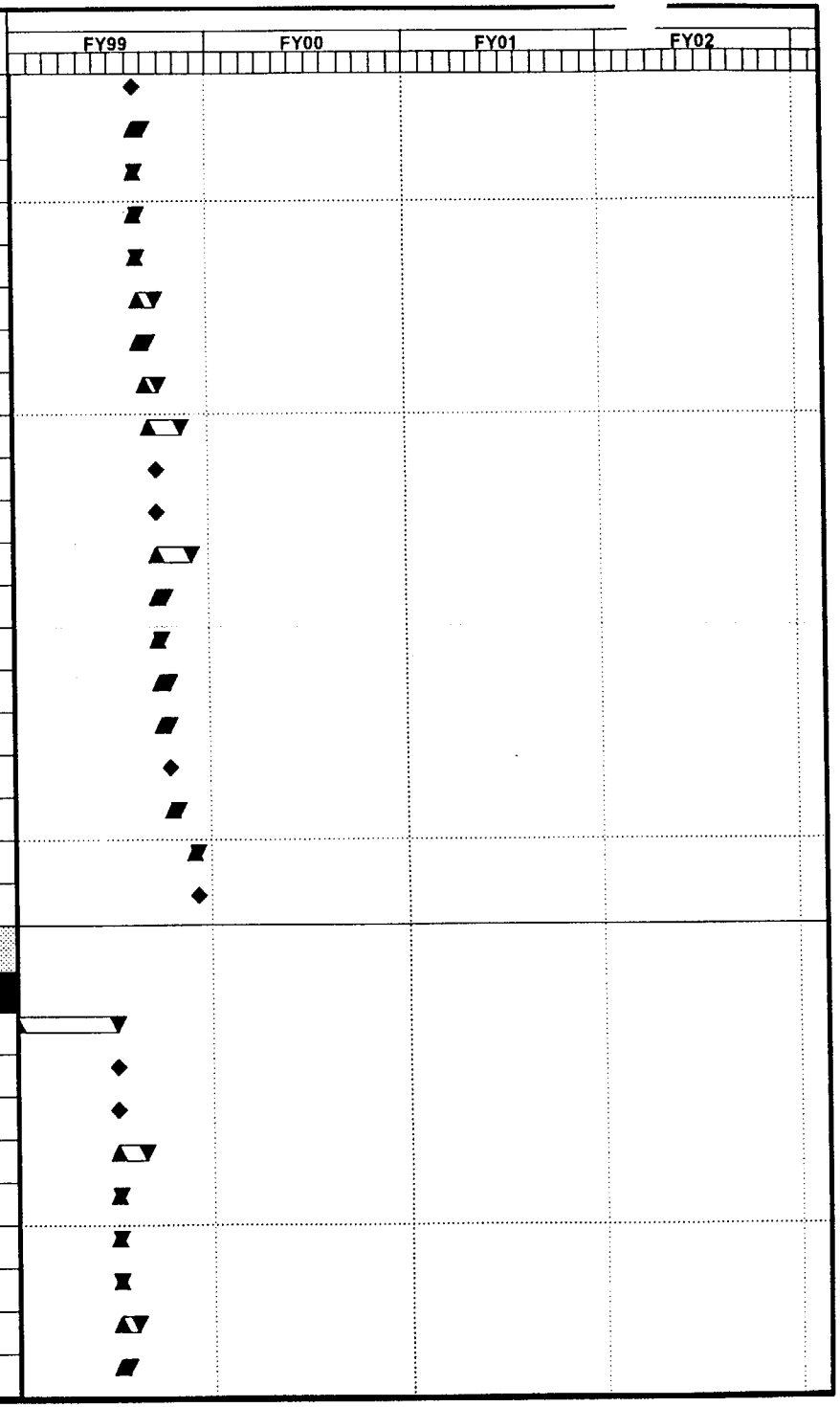
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
150 Support Operations					
BMP170	PIM 3.10Q/PMR Planning & Text Support (NFE)		106	03MAY99*	30SEP99
BMP172	Cont.NFE PIM 3.10Q/PMR Planning & Text Support		124	01OCT99	31MAR00
BMP174	PIM Text & M&O Review Prep Support (NFE)		10	03APR00	14APR00
BMP176	PIM M&O Rev. & DOE Rev. Prep Support (NFE)		10	17APR00	28APR00
BMP178	PIM DOE Rev. & Final Accept. Support (NFE)		10	01MAY00	12MAY00



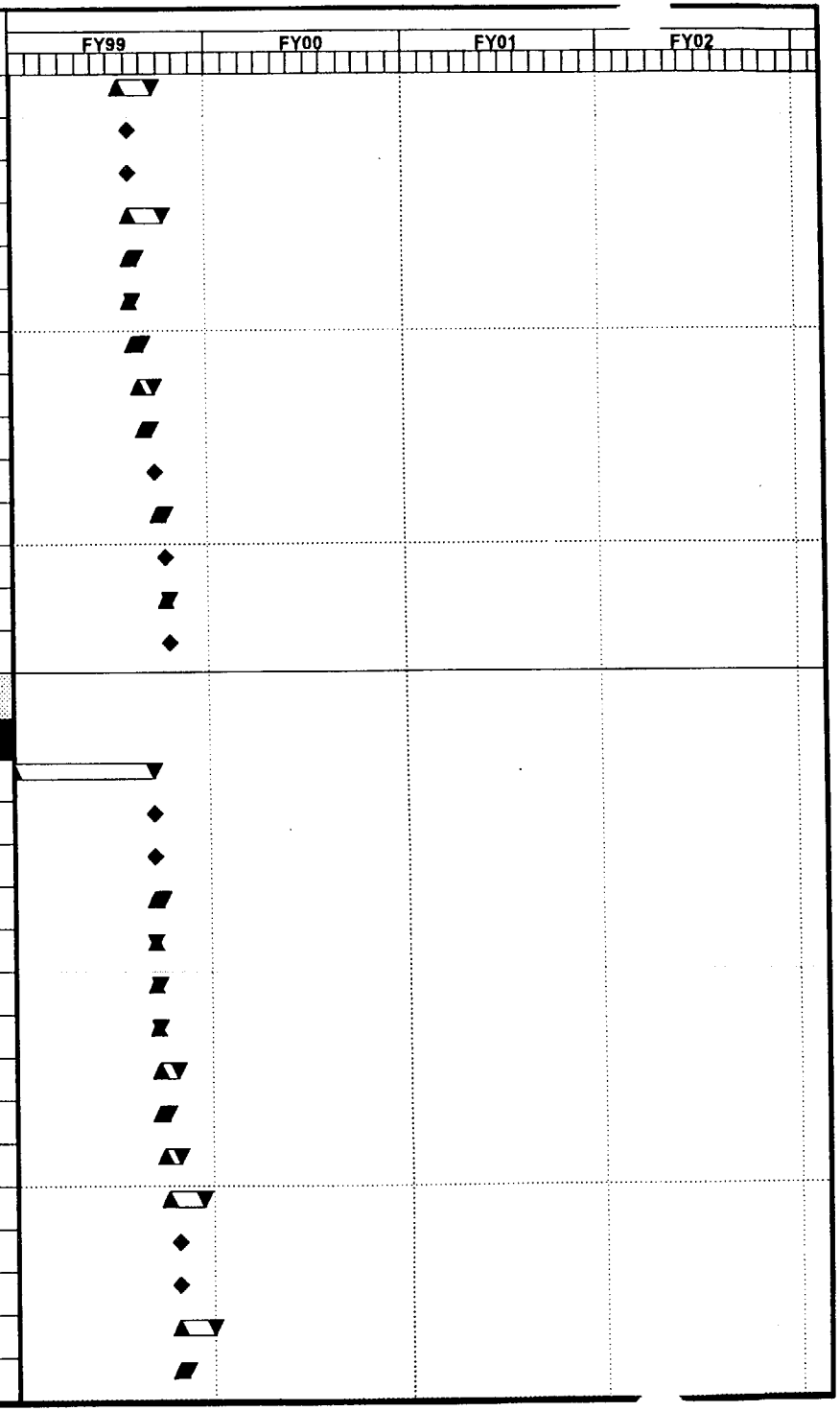
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
U UZ PMR					
U1010					
140 Natural Environment Program Operations					
SPP5000	AP3.10Q Data-3D UZ S/S Model Grid		135	01OCT98*	23APR99
SPU000	UZ S/S Model Grid-Input Parameters and Data Iden		0		23APR99
SPU002	UZ S/S Model Grid-Models and Codes Identified		0		23APR99
SPP5002	Prep Draft AP3.10Q-3D UZ S/S Model Grid		10	26APR99	07MAY99
SPU004	UZ S/S Model Grid-Determine DTN Assignment		2	26APR99	27APR99
SPU028	UZ S/S Model Grid-Determine if Model-Rel SW is U		5	26APR99	30APR99
SPU006	UZ S/S Model Grid-Determine if Data/DTN in TDMS		3	28APR99	30APR99
SPU008	UZ S/S Model Grid-Submit Data/DTN to TDMS as Nec		22	03MAY99	02JUN99
SPU030	UZ S/S Model Grid-Place Model-Related SW Under S		10	03MAY99	14MAY99
SPP5004	AP3.10Q Chckng/Rev-3D UZ S/S Model Grid		10	10MAY99	21MAY99
SPU032	UZ S/S Model Grid-Verify Model-Related Software		44	17MAY99	19JUL99
SPP5006	Prep Final AP3.10Q Rpt-3D UZ S/S Model Grid		10	24MAY99	07JUN99
SPU012	UZ S/S Model Grid-Procurement Related Issues ID'		0		02JUN99
SPU020	UZ S/S Model Grid-Data Related Software Issues I		0		02JUN99
SPU010	UZ S/S Model Grid-Verify/Trace Data		44	03JUN99	04AUG99
SPU014	UZ S/S Model Grid-Rxesolve Procurement Related D		10	03JUN99	16JUN99
SPU022	UZ S/S Model Grid-Determine if Data Rel SW is Un		5	03JUN99	09JUN99
SPP200M4	Compl AP3.10Q 3-D UZ S/S Model Grid	M4	0		07JUN99
SPU024	UZ S/S Model Grid-Place Under SMS Control as Nec		10	10JUN99	23JUN99
SPU026	UZ S/S Model Grid-Verify Data-Related Software		10	24JUN99	08JUL99
SPU034	UZ S/S Model Grid-Qualified/Verified SW Availabl		0		19JUL99
SPU016	UZ S/S Model Grid-Update TDMS		5	05AUG99	11AUG99
SPU018	UZ S/S Model Grid-Qualified/Verified Data Availa		0		11AUG99
U1020					
140 Natural Environment Program Operations					
SPP5010	AP3.10Q Data--Climate Model		151	01OCT98*	17MAY99
SPU036	Climate Model-Input Parameters and Data Identifi		0		17MAY99



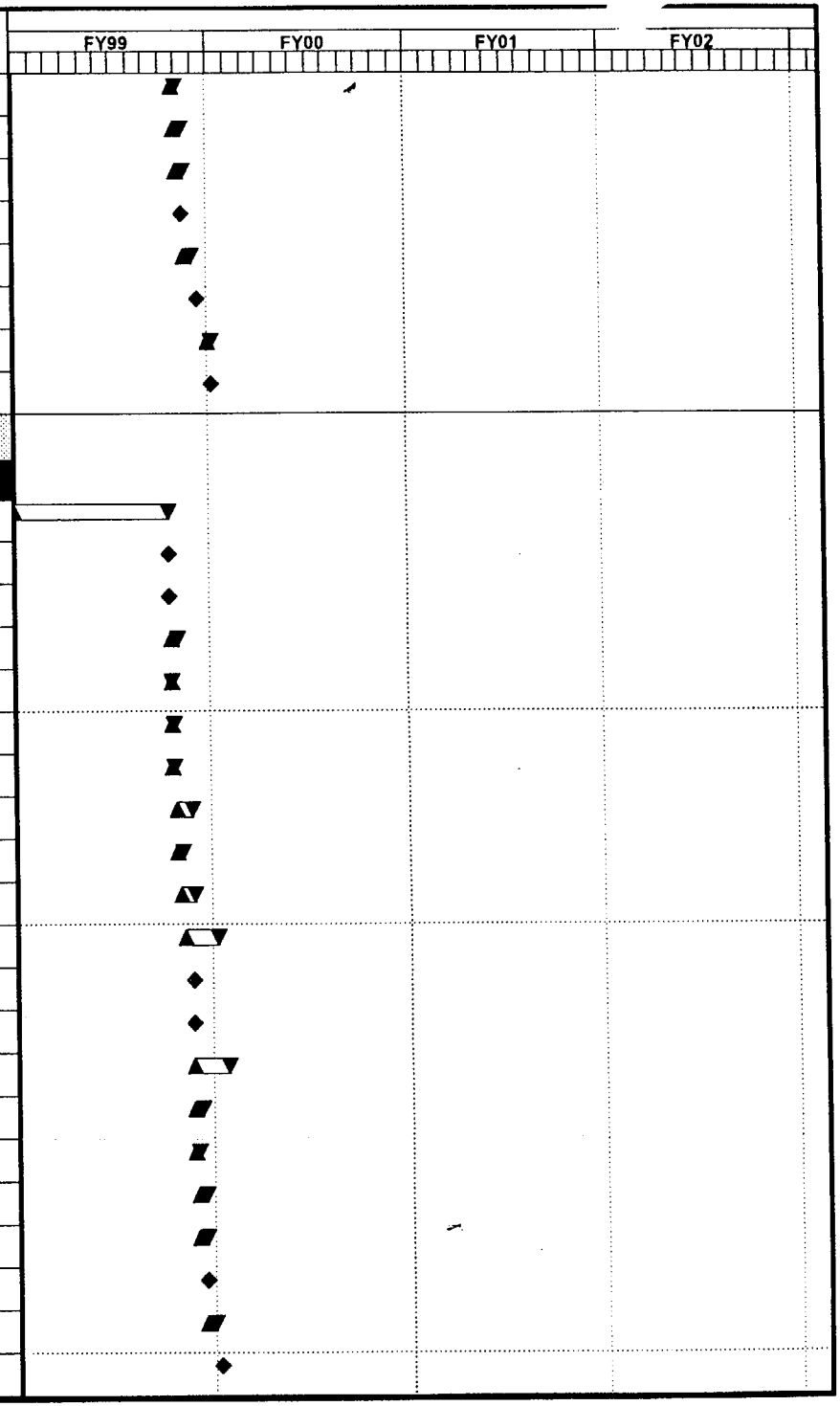
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU038	Climate Model-Models and Codes Identified		0		17MAY99
SPP5012	Prep Draft AP3.10Q-Climate Model		10	18MAY99	01JUN99
SPU040	Climate Model-Determine DTN Assignment		2	18MAY99	19MAY99
SPU064	Climate Model-Determine if Model-Rel SW is Under		5	18MAY99	24MAY99
SPU042	Climate Model-Determine if Data/DTN in TDMS		3	20MAY99	24MAY99
SPU044	Climate Model-Submit Data/DTN to TDMS as Necessa		22	25MAY99	24JUN99
SPU066	Climate Model-Place Model-Related SW Under SMS C		10	25MAY99	08JUN99
SPP5014	AP3.10Q Chckng/Rev-Climate Model		20	02JUN99	29JUN99
SPU068	Climate Model-Verify Model-Related Software		44	09JUN99	10AUG99
SPU048	Climate Model-Procurement Related Issues ID'd to		0		24JUN99
SPU056	Climate Model-Data Related Software Issues Ident		0		24JUN99
SPU046	Climate Model-Verify/Trace Data		44	25JUN99	26AUG99
SPU050	Climate Model-Rxesolve Procurement Related Data		10	25JUN99	09JUL99
SPU058	Climate Model-Determine if Data Rel SW is Under		5	25JUN99	01JUL99
SPP5016	Prep Final AP3.10Q Rpt-Climate Model		10	30JUN99	14JUL99
SPU060	Climate Model-Place Under SMS Control as Necessa		10	02JUL99	16JUL99
SPP203M4	Compl AP3.10Q Climate Report	M4	0		14JUL99
SPU062	Climate Model-Verify Data-Related Software		10	19JUL99	30JUL99
SPU052	Climate Model-Update TDMS		5	27AUG99	02SEP99
SPU054	Climate Model-Qualified/Verified Data Available		0		02SEP99
U1030					
140 Natural Environment Program Operations					
SPP5020	AP3.10Q Data-Infiltration Model		119	01OCT98*	01APR99
SPU072	Infiltration Model-Input Parameters and Data Ide		0		01APR99
SPU074	Infiltration Model-Models and Codes Identified		0		01APR99
SPP5022	Prep Draft AP3.10Q-Infiltration Model		40	02APR99	27MAY99
SPU076	Infiltration Model-Determine DTN Assignment		2	02APR99	05APR99
SPU100	Infiltration Model-Determine if Model-Rel SW is		5	02APR99	08APR99
SPU078	Infiltration Model-Determine if Data/DTN in TDMS		3	06APR99	08APR99
SPU080	Infiltration Model-Submit Data/DTN to TDMS as Ne		22	09APR99	10MAY99
SPU102	Infiltration Model-Place Model-Related SW Under		10	09APR99	22APR99



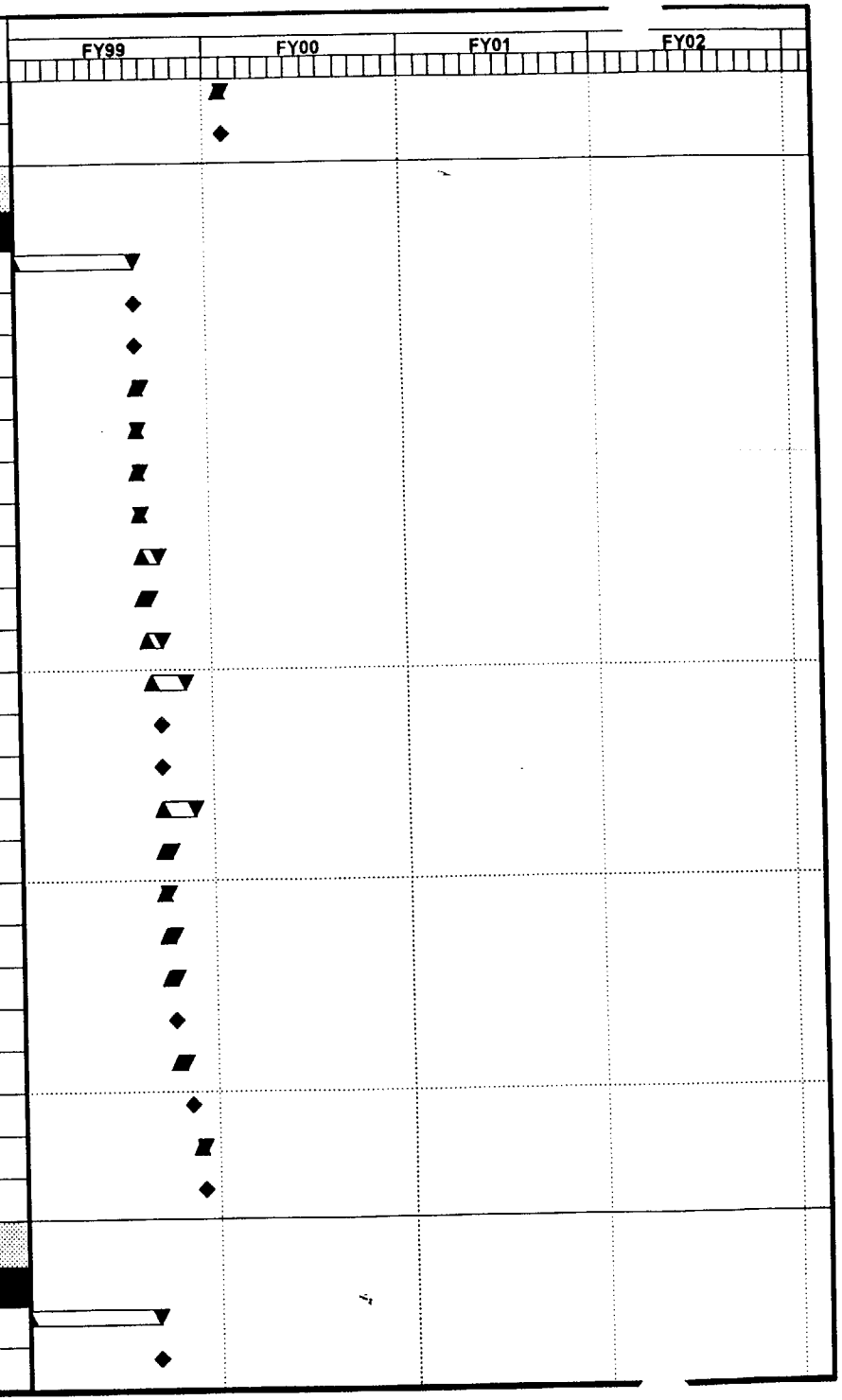
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU104	Infiltration Model-Verify Model-Related Software		44	23APR99	24JUN99
SPU084	Infiltration Model-Procurement Related Issues ID		0		10MAY99
SPU092	Infiltration Model-Data Related Software Issues		0		10MAY99
SPU082	Infiltration Model-Verify/Trace Data		44	11MAY99	13JUL99
SPU086	Infiltration Model-Rxesolve Procurement Related		10	11MAY99	24MAY99
SPU094	Infiltration Model-Determine if Data Rel SW is U		5	11MAY99	17MAY99
SPU096	Infiltration Model-Place Under SMS Control as Ne		10	18MAY99	01JUN99
SPP5024	AP3.10Q Chckng/Rev-Infiltration Model		20	28MAY99	25JUN99
SPU098	Infiltration Model-Verify Data-Related Software		10	02JUN99	15JUN99
SPU106	Infiltration Model-Qualified/Verified SW Availab		0		24JUN99
SPP5026	Prep Final AP3.10Q Rpt-Infiltration Model		10	28JUN99	12JUL99
SPP206M4	Compl AP3.10Q Infiltration Model	M4	0		12JUL99
SPU088	Infiltration Model-Update TDMS		5	14JUL99	20JUL99
SPU090	Infiltration Model-Qualified/Verified Data Avail		0		20JUL99
U1040					
140 Natural Environment Program Operations					
SPP5030	AP3.10Q Data-Hydrol Prop Insitu Field Testing		172	01OCT98*	16JUN99
SPU108	Hydrol Prop Insitu-Input Parameters and Data Ide		0		16JUN99
SPU110	Hydrol Prop Insitu-Models and Codes Identified		0		16JUN99
SPP5032	Prep Draft AP3.10Q-Hydrol Prop Insitu Field Test		10	17JUN99	30JUN99
SPU112	Hydrol Prop Insitu-Determine DTN Assignment		2	17JUN99	18JUN99
SPU136	Hydrol Prop Insitu-Determine if Model-Rel SW is		5	17JUN99	23JUN99
SPU114	Hydrol Prop Insitu-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99
SPU116	Hydrol Prop Insitu-Submit Data/DTN to TDMS as Ne		22	24JUN99	26JUL99
SPU138	Hydrol Prop Insitu-Place Model-Related SW Under		10	24JUN99	08JUL99
SPP5034	AP3.10Q Chckng/Rev-Hydrol Prop Insitu Field Test		20	01JUL99	29JUL99
SPU140	Hydrol Prop Insitu-Verify Model-Related Software		44	09JUL99	09SEP99
SPU120	Hydrol Prop Insitu-Procurement Related Issues ID		0		26JUL99
SPU128	Hydrol Prop Insitu-Data Related Software Issues		0		26JUL99
SPU118	Hydrol Prop Insitu-Verify/Trace Data		44	27JUL99	27SEP99
SPU122	Hydrol Prop Insitu-Rxesolve Procurement Related		10	27JUL99	09AUG99



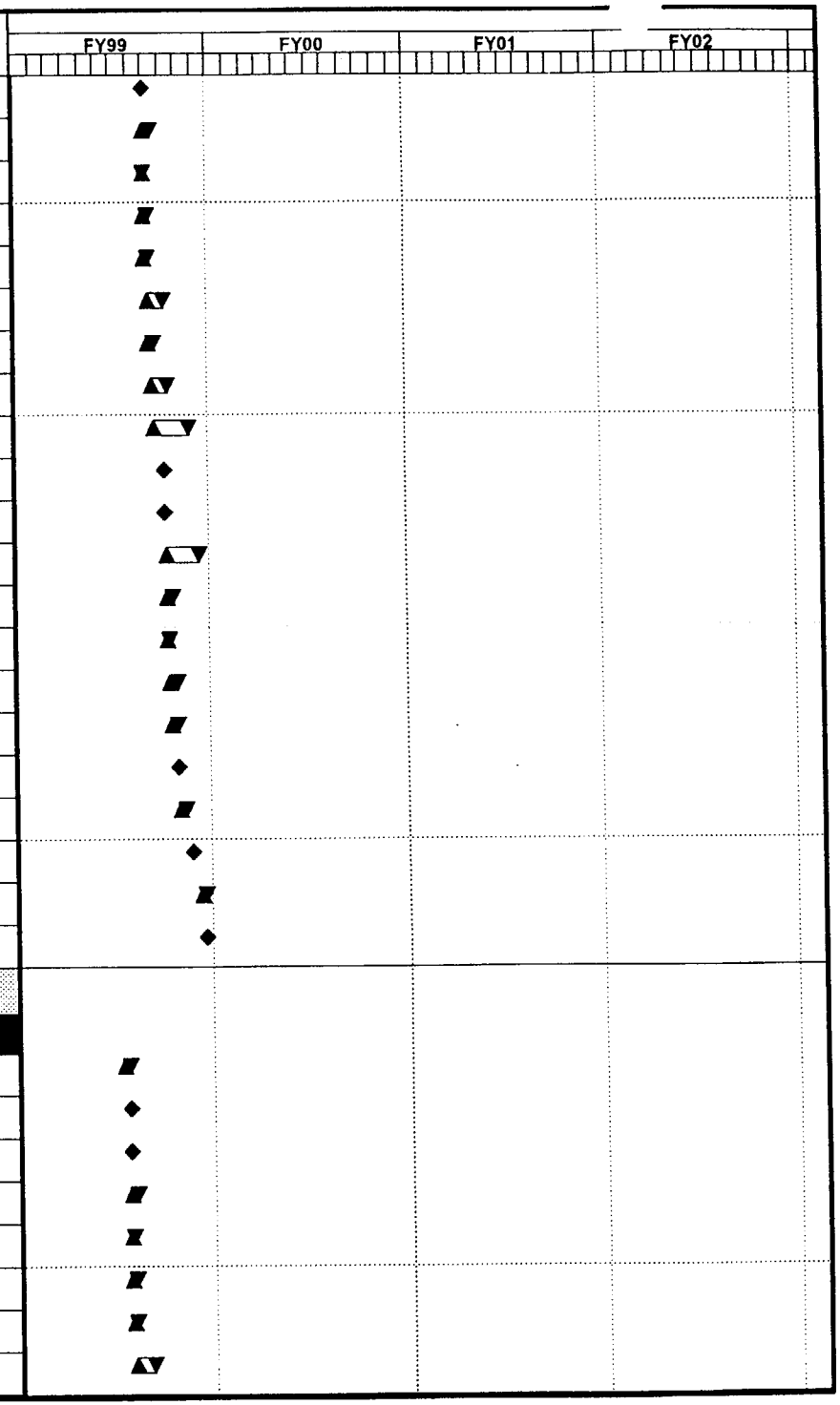
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU130	Hydrol Prop Insitu-Determine if Data Rel SW is U		5	27JUL99	02AUG99
SPP5036	Prep Final AP3.10Q Rpt-Hydrol Prop Insitu Field		10	30JUL99	12AUG99
SPU132	Hydrol Prop Insitu-Place Under SMS Control as Ne		10	03AUG99	16AUG99
SPP209M4	Compl AP3.10Q Hydro Properties Insitu Field Test	M4	0		12AUG99
SPU134	Hydrol Prop Insitu-Verify Data-Related Software		10	17AUG99	30AUG99
SPU142	Hydrol Prop Insitu-Qualified/Verified SW Availab		0		09SEP99
SPU124	Hydrol Prop Insitu-Update TDMS		5	28SEP99	04OCT99
SPU126	Hydrol Prop Insitu-Qualified/Verified Data Avail		0		04OCT99
U1060					
140 Natural Environment Program Operations					
SPP5050	AP3.10Q Data-Trsnp Prop from Busted Butte UZTT		193	01OCT98*	16JUL99
SPU180	Trsnp Prop B/B UZTT-Input Parameters and Data Id		0		16JUL99
SPU182	Trsnp Prop B/B UZTT-Models and Codes Identified		0		16JUL99
SPP5052	Prep Draft AP3.10Q-Trsnp Prop Busted Butte UZTT		10	19JUL99	30JUL99
SPU184	Trsnp Prop B/B UZTT-Determine DTN Assignment		2	19JUL99	20JUL99
SPU208	Trsnp Prop B/B UZTT-Determine if Model-Rel SW is		5	19JUL99	23JUL99
SPU186	Trsnp Prop B/B UZTT-Determine if Data/DTN in TDM		3	21JUL99	23JUL99
SPU188	Trsnp Prop B/B UZTT-Submit Data/DTN to TDMS as N		22	26JUL99	24AUG99
SPU210	Trsnp Prop B/B UZTT-Place Model-Related SW Under		10	26JUL99	06AUG99
SPP5054	AP3.10Q Chckng/Rev-Trsnp Prop Busted Butte UZTT		20	02AUG99	27AUG99
SPU212	Trsnp Prop B/B UZTT-Verify Model-Related Softwar		44	09AUG99	08OCT99
SPU192	Trsnp Prop B/B UZTT-Procurement Related Issues I		0		24AUG99
SPU200	Trsnp Prop B/B UZTT-Data Related Software Issues		0		24AUG99
SPU190	Trsnp Prop B/B UZTT-Verify/Trace Data		44	25AUG99	27OCT99
SPU194	Trsnp Prop B/B UZTT-Rxesolve Procurement Related		10	25AUG99	08SEP99
SPU202	Trsnp Prop B/B UZTT-Determine if Data Rel SW is		5	25AUG99	31AUG99
SPP5056	Prep Final AP3.10Q Rpt-Trsnp Prop B/B UZTT		10	30AUG99	13SEP99
SPU204	Trsnp Prop B/B UZTT-Place Under SMS Control as N		10	01SEP99	15SEP99
SPP215M4	Compl AP3.10Q Trsnport Prop B/B UZTT	M4	0		13SEP99
SPU206	Trsnp Prop B/B UZTT-Verify Data-Related Software		10	16SEP99	29SEP99
SPU214	Trsnp Prop B/B UZTT-Qualified/Verified SW Availa		0		08OCT99



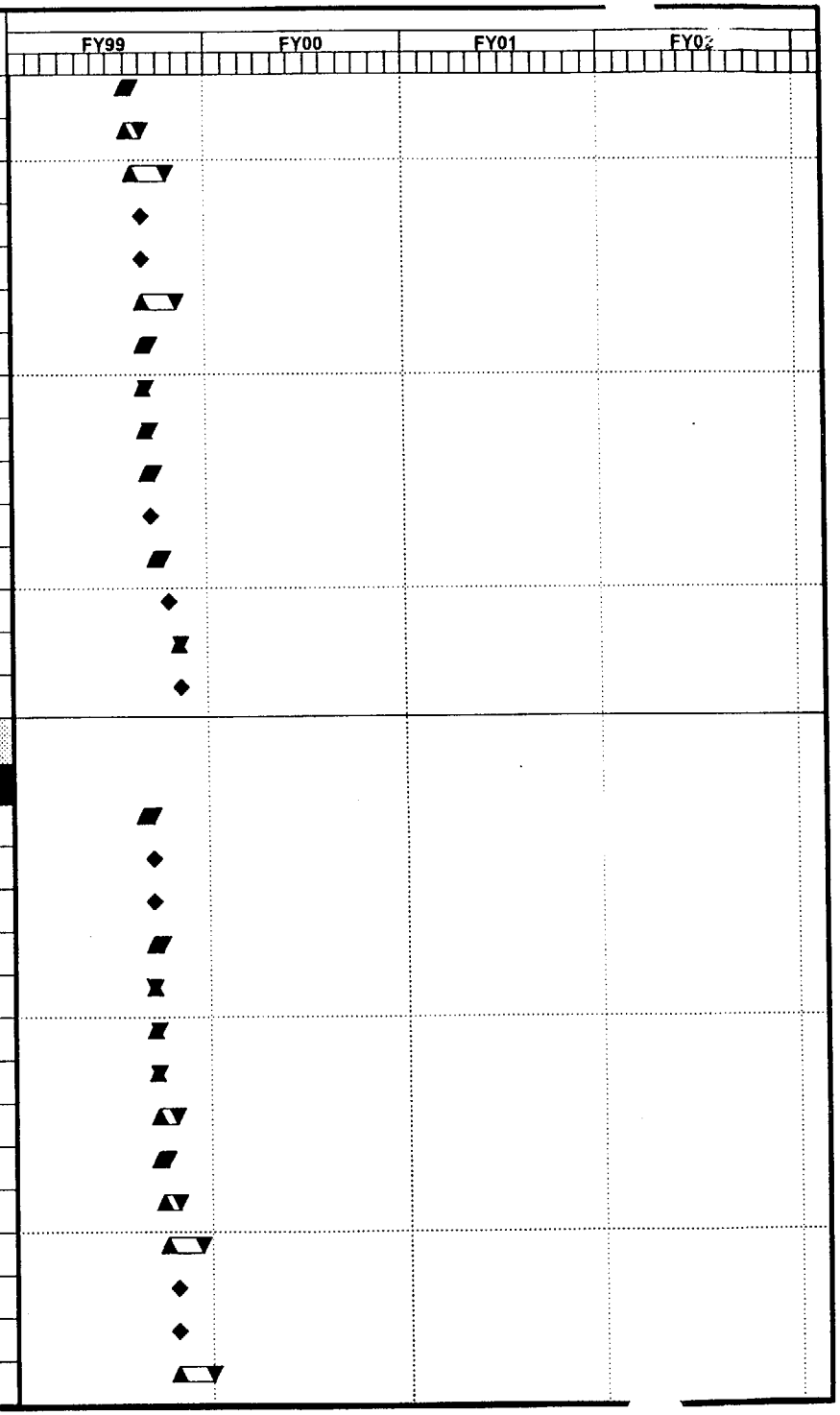
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU196	Trsnp Prop B/B UZTT-Update TDMS		5	28OCT99	03NOV99
SPU198	Trsnp Prop B/B UZTT-Qualified/Verified Data Avai		0		03NOV99
U1070					
140 Natural Environment Program Operations					
SPP5060	AP3.10Q Data-Fract Prop Vert B/hole & Alc Tstng		150	01OCT98*	14MAY99
SPU216	Vert BH/Alc Tst-Input Parameters and Data Identi		0		14MAY99
SPU218	Vert BH/Alc Tst-Models and Codes Identified		0		14MAY99
SPP5062	Prep Draft AP3.10Q-Frac Prop Vert Bhole/ Alc Tst		10	17MAY99	28MAY99
SPU220	Vert BH/Alc Tst-Determine DTN Assignment		2	17MAY99	18MAY99
SPU244	Vert BH/Alc Tst-Determine if Model-Rel SW is Und		5	17MAY99	21MAY99
SPU222	Vert BH/Alc Tst-Determine if Data/DTN in TDMS		3	19MAY99	21MAY99
SPU224	Vert BH/Alc Tst-Submit Data/DTN to TDMS as Neces		22	24MAY99	23JUN99
SPU246	Vert BH/Alc Tst-Place Model-Related SW Under SMS		10	24MAY99	07JUN99
SPP5064	AP3.10Q Chckng/Rev-Frac Prop Vert Bhole/Alc Tst		20	01JUN99	28JUN99
SPU248	Vert BH/Alc Tst-Verify Model-Related Software		44	08JUN99	09AUG99
SPU228	Vert BH/Alc Tst-Procurement Related Issues IDd		0		23JUN99
SPU236	Vert BH/Alc Tst-Data Related Software Issues Ide		0		23JUN99
SPU226	Vert BH/Alc Tst-Verify/Trace Data		44	24JUN99	25AUG99
SPU230	Vert BH/Alc Tst-Rxesolve Procurement Related Dat		10	24JUN99	08JUL99
SPU238	Vert BH/Alc Tst-Determine if Data Rel SW is Unde		5	24JUN99	30JUN99
SPP5066	Prep Final AP3.10Q Rpt-Frac Prop Vert BH/Alc Tst		10	29JUN99	13JUL99
SPU240	Vert BH/Alc Tst-Place Under SMS Control as Neces		10	01JUL99	15JUL99
SPP218M4	Compl AP3.10Q Frac Prop Vert Bhole/Alc Tstng	M4	0		13JUL99
SPU242	Vert BH/Alc Tst-Verify Data-Related Software		10	16JUL99	29JUL99
SPU250	Vert BH/Alc Tst-Qualified/Verified SW Available		0		09AUG99
SPU232	Vert BH/Alc Tst-Update TDMS		5	26AUG99	01SEP99
SPU234	Vert BH/Alc Tst-Qualified/Verified Data Availabl		0		01SEP99
U1090					
140 Natural Environment Program Operations					
SPP5080	AP3.10Q Data-Concept/Numeric Model UZ F&T		161	01OCT98*	01JUN99
SPU288	Concept/Num UZ-Input Parameters and Data Identif		0		01JUN99



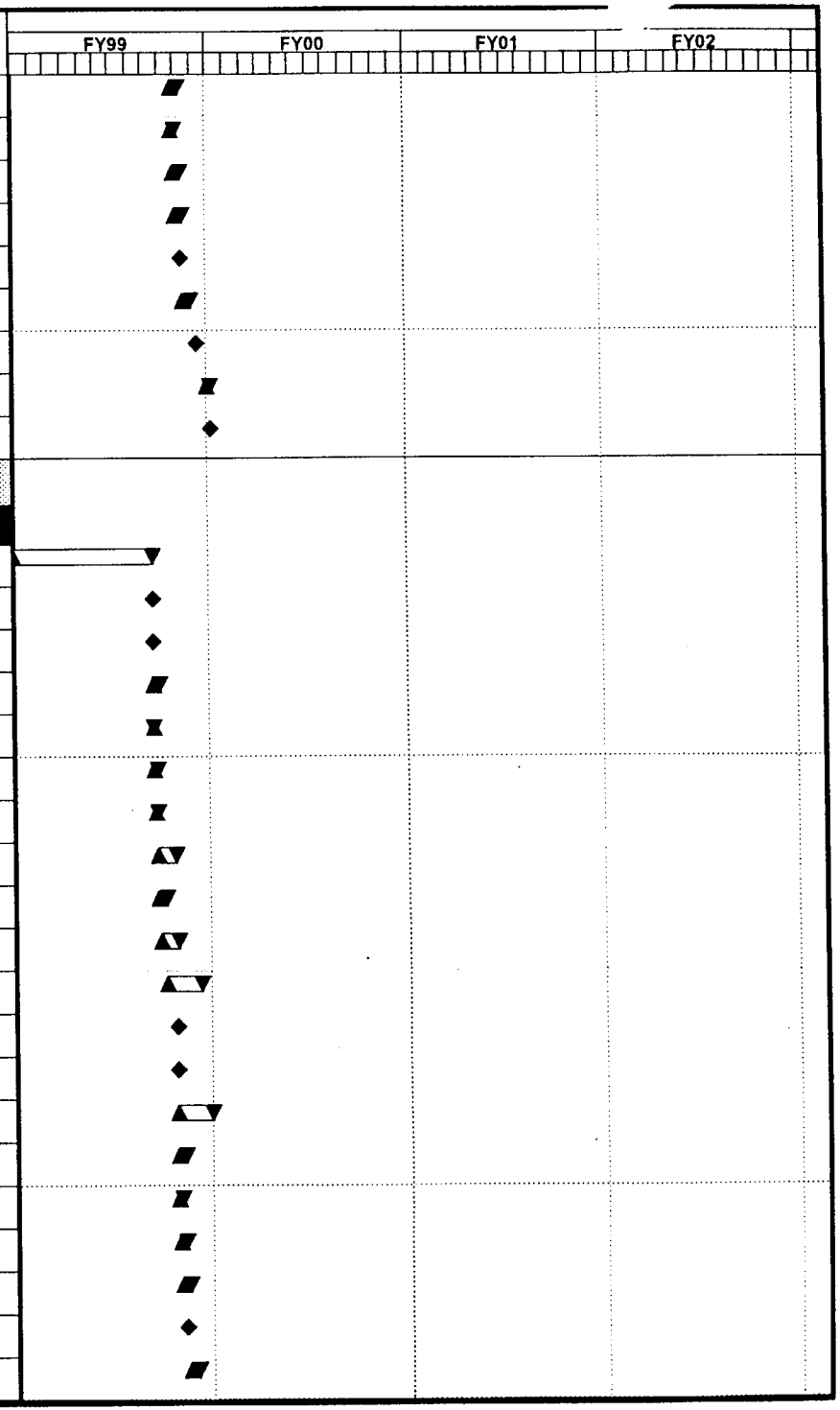
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU290	Concept/Num UZ-Models and Codes Identified		0		01JUN99
SPP5082	Prep Draft AP3.10Q-Concept/Numeric Mdl UZ F&T		10	02JUN99	15JUN99
SPU292	Concept/Num UZ-Determine DTN Assignment		2	02JUN99	03JUN99
SPU316	Concept/Num UZ-Determine if Model-Rel SW is Unde		5	02JUN99	08JUN99
SPU294	Concept/Num UZ-Determine if Data/DTN in TDMS		3	04JUN99	08JUN99
SPU296	Concept/Num UZ-Submit Data/DTN to TDMS as Necess		22	09JUN99	09JUL99
SPU318	Concept/Num UZ-Place Model-Related SW Under SMS		10	09JUN99	22JUN99
SPP5084	AP3.10Q Chckng/Rev-Concept/Numeric Mdl UZ F&T		20	16JUN99	14JUL99
SPU320	Concept/Num UZ-Verify Model-Related Software		44	23JUN99	24AUG99
SPU300	Concept/Num UZ-Procurement Related Issues ID'd t		0		09JUL99
SPU308	Concept/Num UZ-Data Related Software Issues Iden		0		09JUL99
SPU298	Concept/Num UZ-Verify/Trace Data		44	12JUL99	10SEP99
SPU302	Concept/Num UZ-Rxesolve Procurement Related Data		10	12JUL99	23JUL99
SPU310	Concept/Num UZ-Determine if Data Rel SW is Under		5	12JUL99	16JUL99
SPP5086	Prep Final AP3.10Q Rpt-Concept/Num Model UZ F&T		10	15JUL99	28JUL99
SPU312	Concept/Num UZ-Place Under SMS Control as Necess		10	19JUL99	30JUL99
SPP224M4	Compl AP3.10Q Concept & Numeric Model for F&T	M4	0		28JUL99
SPU314	Concept/Num UZ-Verify Data-Related Software		10	02AUG99	13AUG99
SPU322	Concept/Num UZ-Qualified/Verified SW Available		0		24AUG99
SPU304	Concept/Num UZ-Update TDMS		5	13SEP99	17SEP99
SPU306	Concept/Num UZ-Qualified/Verified Data Available		0		17SEP99
U2000					
140 Natural Environment Program Operations					
SPP5090	AP3.10Q Data-1D Inv Calibr Prop Model		6	16APR99	23APR99
SPU324	1D Inv Calibr Prop-Input Parameters and Data Ide		0		23APR99
SPU326	1D Inv Calibr Prop-Models and Codes Identified		0		23APR99
SPP5092	Prep Draft AP3.10Q-1D Inv Calibr Prop Model		9	26APR99	06MAY99
SPU328	1D Inv Calibr Prop-Determine DTN Assignment		2	26APR99	27APR99
SPU352	1D Inv Calibr Prop-Determine if Model-Rel SW is		5	26APR99	30APR99
SPU330	1D Inv Calibr Prop-Determine if Data/DTN in TDMS		3	28APR99	30APR99
SPU332	1D Inv Calibr Prop-Submit Data/DTN to TDMS as Ne		22	03MAY99	02JUN99



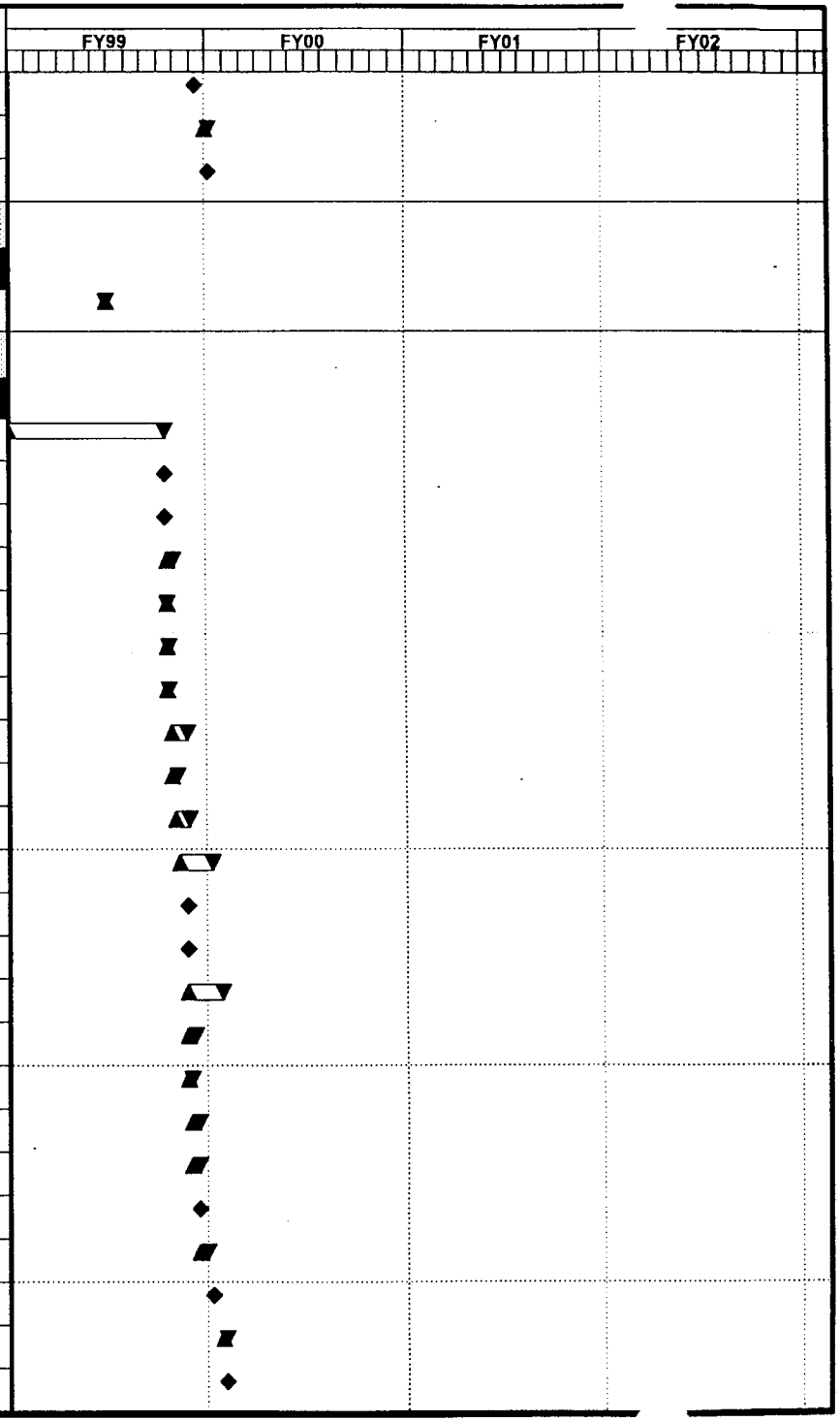
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU354	1D Inv Calibr Prop-Place Model-Related SW Under		10	03MAY99	14MAY99
SPP5094	AP3.10Q Chckng/Rev-1D Inv Calibr Prop Model		20	07MAY99	04JUN99
SPU356	1D Inv Calibr Prop-Verify Model-Related Software		44	17MAY99	19JUL99
SPU336	1D Inv Calibr Prop-Procurement Related Issues ID		0		02JUN99
SPU344	1D Inv Calibr Prop-Data Related Software Issues		0		02JUN99
SPU334	1D Inv Calibr Prop-Verify/Trace Data		44	03JUN99	04AUG99
SPU338	1D Inv Calibr Prop-Rxesolve Procurement Related		10	03JUN99	16JUN99
SPU346	1D Inv Calibr Prop-Determine if Data Rel SW is U		5	03JUN99	09JUN99
SPP5096	Prep Final AP3.10Q Rpt-1D Inv Calibr Prop Model		10	07JUN99	18JUN99
SPU348	1D Inv Calibr Prop-Place Under SMS Control as Ne		10	10JUN99	23JUN99
SPP227M4	Compl AP3.10Q 1-D Inv Calibration Prop Model	M4	0		18JUN99
SPU350	1D Inv Calibr Prop-Verify Data-Related Software		10	24JUN99	08JUL99
SPU358	1D Inv Calibr Prop-Qualified/Verified SW Availab		0		19JUL99
SPU340	1D Inv Calibr Prop-Update TDMS		5	[illegible]99	11AUG99
SPU342	1D Inv Calibr Prop-Qualified/Verified Data Avail		0		11AUG99
U2010					
140 Natural Environment Program Operations					
SPP5100	AP3.10Q Data-Calibrated Properties Model		12	01JUN99*	16JUN99
SPU360	Calibrated Prop.-Input Parameters and Data Ident		0		16JUN99
SPU362	Calibrated Prop.-Models and Codes Identified		0		16JUN99
SPP5102	Prep Draft AP3.10Q-Calibrated Properties Model		10	17JUN99	30JUN99
SPU364	Calibrated Prop.-Determine DTN Assignment		2	17JUN99	18JUN99
SPU388	Calibrated Prop.-Determine if Model-Rel SW is Un		5	17JUN99	23JUN99
SPU366	Calibrated Prop.-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99
SPU368	Calibrated Prop.-Submit Data/DTN to TDMS as Nece		22	24JUN99	26JUL99
SPU390	Calibrated Prop.-Place Model-Related SW Under SM		10	24JUN99	08JUL99
SPP5104	AP3.10Q Chckng/Rev-Calibrated Properties Model		20	01JUL99	29JUL99
SPU392	Calibrated Prop.-Verify Model-Related Software		44	09JUL99	09SEP99
SPU372	Calibrated Prop.-Procurement Related Issues ID'd		0		26JUL99
SPU380	Calibrated Prop.-Data Related Software Issues Id		0		26JUL99
SPU370	Calibrated Prop.-Verify/Trace Data		44	27JUL99	27SEP99



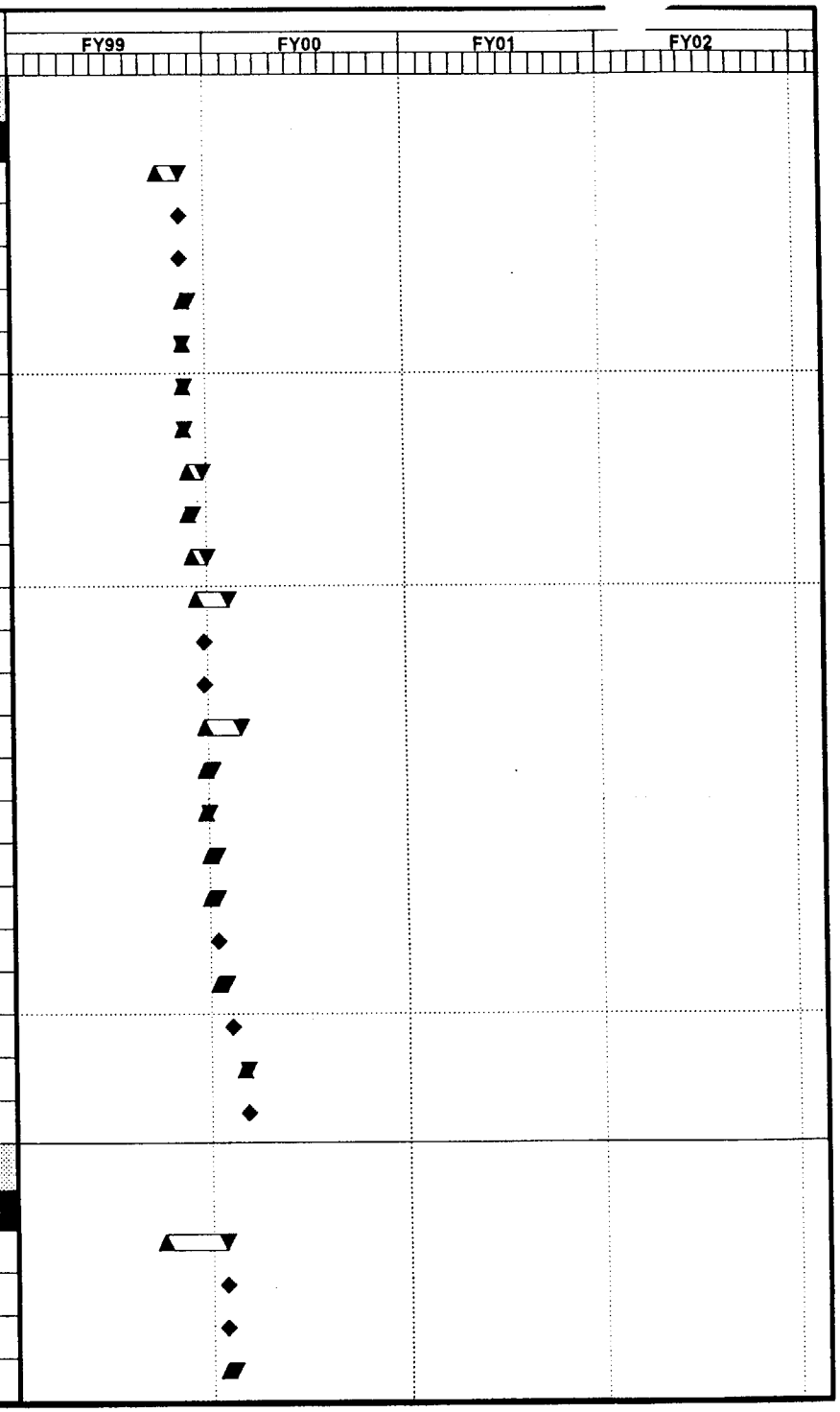
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU374	Calibrated Prop.-Rxesolve Procurement Related Da		10	27JUL99	09AUG99
SPU382	Calibrated Prop.-Determine if Data Rel SW is Und		5	27JUL99	02AUG99
SPP5106	Prep Final AP3.10Q Rpt-Calibrated Properties Mod		10	30JUL99	12AUG99
SPU384	Calibrated Prop.-Place Under SMS Control as Nece		10	03AUG99	16AUG99
SPP230M4	Compl AP3.10Q Calibrated Properties Model	M4	0		12AUG99
SPU386	Calibrated Prop.-Verify Data-Related Software		10	17AUG99	30AUG99
SPU394	Calibrated Prop.-Qualified/Verified SW Available		0		09SEP99
SPU376	Calibrated Prop.-Update TDMS		5	28SEP99	04OCT99
SPU378	Calibrated Prop.-Qualified/Verified Data Availab		0		04OCT99
U2030					
140 Natural Environment Program Operations					
SPP5120	AP3.10Q Data-Geochemistry Data - USGS		172	01OCT98*	16JUN99
SPU432	Geochem Data USGS-Input Parameters and Data Iden		0		16JUN99
SPU434	Geochem Data USGS-Models and Codes Identified		0		16JUN99
SPP5122	Prep Draft AP3.10Q-Geochemistry Data - USGS		10	17JUN99	29JUN99
SPU436	Geochem Data USGS-Determine DTN Assignment		2	17JUN99	18JUN99
SPU460	Geochem Data USGS-Determine if Model-Rel SW is U		5	17JUN99	23JUN99
SPU438	Geochem Data USGS-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99
SPU440	Geochem Data USGS-Submit Data/DTN to TDMS as Nec		22	24JUN99	26JUL99
SPU462	Geochem Data USGS-Place Model-Related SW Under S		10	24JUN99	08JUL99
SPP5124	AP3.10Q Chckng/Rev-Geochemistry Data - USGS		20	30JUN99	28JUL99
SPU464	Geochem Data USGS-Verify Model-Related Software		44	09JUL99	09SEP99
SPU444	Geochem Data USGS-Procurement Related Issues ID'		0		26JUL99
SPU452	Geochem Data USGS-Data Related Software Issues I		0		26JUL99
SPU442	Geochem Data USGS-Verify/Trace Data		44	27JUL99	27SEP99
SPU446	Geochem Data USGS-Rxesolve Procurement Related D		10	27JUL99	09AUG99
SPU454	Geochem Data USGS-Determine if Data Rel SW is Un		5	27JUL99	02AUG99
SPP5126	Prep Final AP3.10Q Rpt-Geochemistry Data - USGS		10	29JUL99	11AUG99
SPU456	Geochem Data USGS-Place Under SMS Control as Nec		10	03AUG99	16AUG99
SPP236M4	Compl AP3.10Q Geochemistry Data - USGS	M4	0		11AUG99
SPU458	Geochem Data USGS-Verify Data-Related Software		10	17AUG99	30AUG99



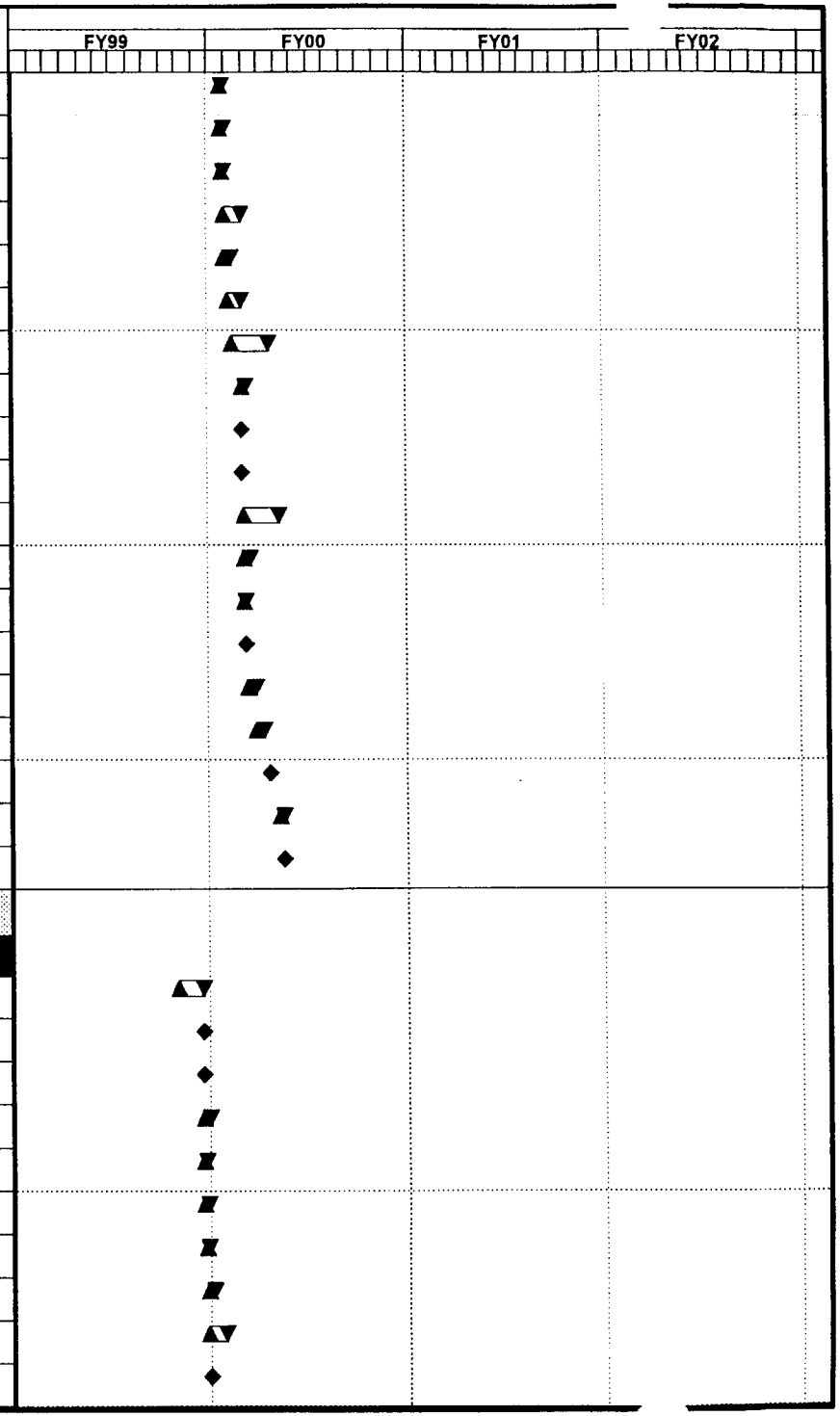
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU466	Geochem Data USGS-Qualified/Verified SW Availabl		0		09SEP99
SPU448	Geochem Data USGS-Update TDMS		5	28SEP99	04OCT99
SPU450	Geochem Data USGS-Qualified/Verified Data Availa		0		04OCT99
U2037					
140 Natural Environment Program Operations					
U2037	Thermal Testing Results		1	31MAR99	31MAR99*
U3000					
140 Natural Environment Program Operations					
SPP5140	AP3.10Q Data-UZ Submodel Hydrogeol Units		193	01OCT98*	16JUL99
SPU504	UZ Submdl Hydrogeol-Input Parameters and Data Id		0		16JUL99
SPU506	UZ Submdl Hydrogeol-Models and Codes Identified		0		16JUL99
SPP5142	Prep Draft AP3.10Q-UZ Submodel Hydrogeol Units		10	19JUL99	30JUL99
SPU508	UZ Submdl Hydrogeol-Determine DTN Assignment		2	19JUL99	20JUL99
SPU532	UZ Submdl Hydrogeol-Determine if Model-Rel SW is		5	19JUL99	23JUL99
SPU510	UZ Submdl Hydrogeol-Determine if Data/DTN in TDM		3	21JUL99	23JUL99
SPU512	UZ Submdl Hydrogeol-Submit Data/DTN to TDMS as N		22	26JUL99	24AUG99
SPU534	UZ Submdl Hydrogeol-Place Model-Related SW Under		10	26JUL99	06AUG99
SPP5144	AP3.10Q Chckng/Rev-UZ Submodel Hydrogeol Units		20	02AUG99	27AUG99
SPU536	UZ Submdl Hydrogeol-Verify Model-Related Softwar		44	09AUG99	08OCT99
SPU516	UZ Submdl Hydrogeol-Procurement Related Issues I		0		24AUG99
SPU524	UZ Submdl Hydrogeol-Data Related Software Issues		0		24AUG99
SPU514	UZ Submdl Hydrogeol-Verify/Trace Data		44	25AUG99	27OCT99
SPU518	UZ Submdl Hydrogeol-Rxesolve Procurement Related		10	25AUG99	08SEP99
SPU526	UZ Submdl Hydrogeol-Determine if Data Rel SW is		5	25AUG99	31AUG99
SPP5146	Prep Final AP3.10Q Rpt-UZ Submdl Hydrogeol Units		10	30AUG99	13SEP99
SPU528	UZ Submdl Hydrogeol-Place Under SMS Control as N		10	01SEP99	15SEP99
SPP242M4	Compl AP3.10Q UZ Submodel Hydrogeologic Units	M4	0		13SEP99
SPU530	UZ Submdl Hydrogeol-Verify Data-Related Software		10	16SEP99	29SEP99
SPU538	UZ Submdl Hydrogeol-Qualified/Verified SW Availa		0		08OCT99
SPU520	UZ Submdl Hydrogeol-Update TDMS		5	28OCT99	03NOV99
SPU522	UZ Submdl Hydrogeol-Qualified/Verified Data Avai		0		03NOV99



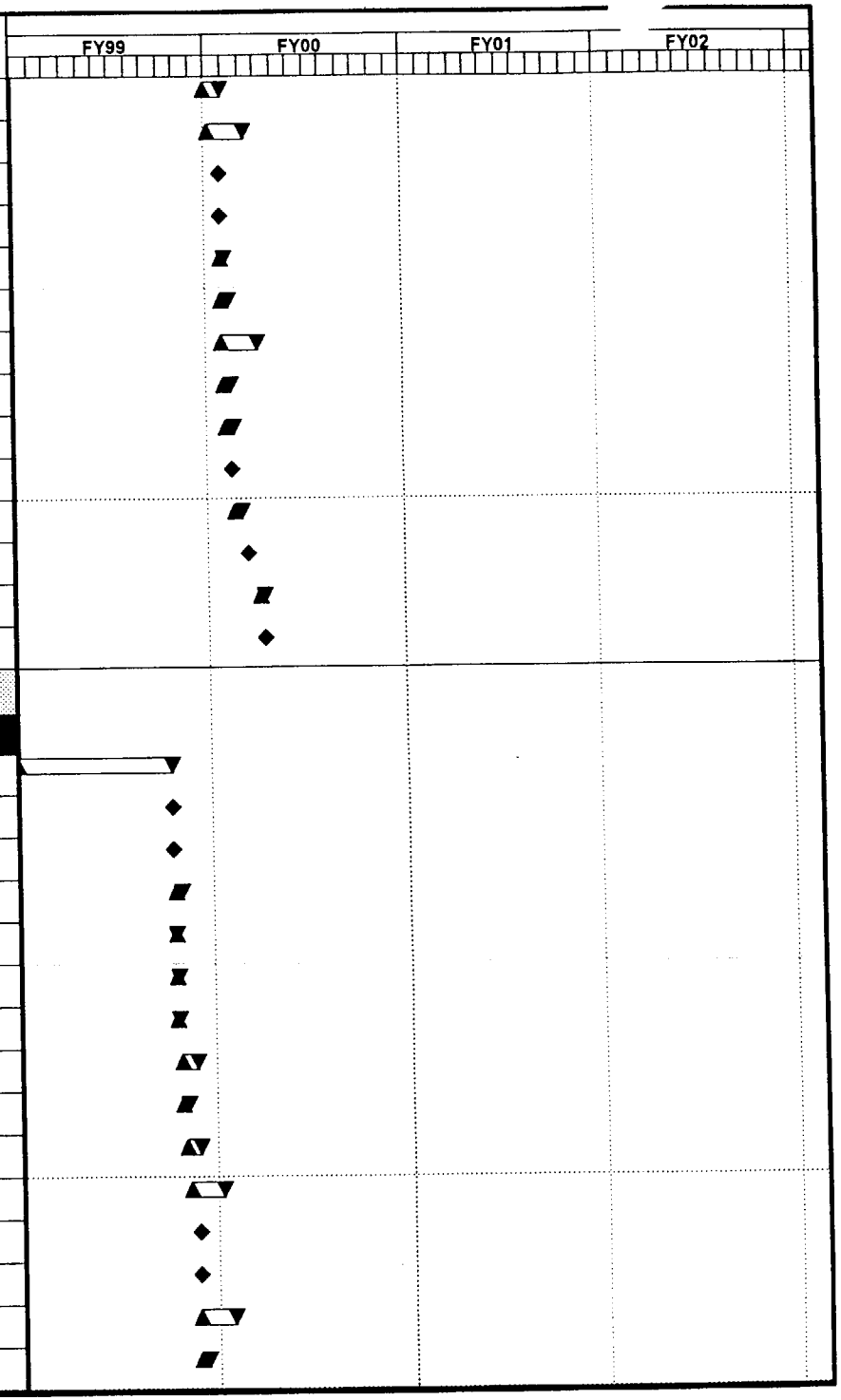
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
U3030					
140 Natural Environment Program Operations					
SPP5170	AP3.10Q Data-UZ Submodel for Flow Process		31	01JUL99*	13AUG99
SPU612	UZ Submodel Flow-Input Parameters and Data Ident		0		13AUG99
SPU614	UZ Submodel Flow-Models and Codes Identified		0		13AUG99
SPP5172	Prep Draft AP3.10Q-UZ Submodel Flow Process		10	16AUG99	27AUG99
SPU616	UZ Submodel Flow-Determine DTN Assignment		2	16AUG99	17AUG99
SPU640	UZ Submodel Flow-Determine if Model-Rel SW is Un		5	16AUG99	20AUG99
SPU618	UZ Submodel Flow-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99
SPU620	UZ Submodel Flow-Submit Data/DTN to TDMS as Nece		22	23AUG99	22SEP99
SPU642	UZ Submodel Flow-Place Model-Related SW Under SM		10	23AUG99	03SEP99
SPP5174	AP3.10Q Chckng/Rev-UZ Submodel Flow Process		20	30AUG99	27SEP99
SPU644	UZ Submodel Flow-Verify Model-Related Software		44	07SEP99	08NOV99
SPU624	UZ Submodel Flow-Procurement Related Issues ID'd		0		22SEP99
SPU632	UZ Submodel Flow-Data Related Software Issues Id		0		22SEP99
SPU622	UZ Submodel Flow-Verify/Trace Data		44	23SEP99	29NOV99
SPU626	UZ Submodel Flow-Rxesolve Procurement Related Da		10	23SEP99	06OCT99
SPU634	UZ Submodel Flow-Determine if Data Rel SW is Und		5	23SEP99	29SEP99
SPP5176	Prep Final AP3.10Q Rpt-UZ Submodel Flow Process		10	28SEP99	12OCT99
SPU636	UZ Submodel Flow-Place Under SMS Control as Nece		10	30SEP99	14OCT99
SPP251M4	Compl AP3.10Q UZ Submodel Flow Process	M4	0		12OCT99
SPU638	UZ Submodel Flow-Verify Data-Related Software		10	15OCT99	28OCT99
SPU646	UZ Submodel Flow-Qualified/Verified SW Available		0		08NOV99
SPU628	UZ Submodel Flow-Update TDMS		5	30NOV99	06DEC99
SPU630	UZ Submodel Flow-Qualified/Verified Data Availab		0		06DEC99
U3040					
140 Natural Environment Program Operations					
SPP5180	AP3.10Q Data-Radionuclide Transport Model		79	01JUL99*	22OCT99
SPU648	Radionucl Trsnprt-Input Parameters and Data Iden		0		22OCT99
SPU650	Radionucl Trsnprt-Models and Codes Identified		0		22OCT99
SPP5182	Prep Draft AP3.10Q-Radionuclide Transport Model		10	25OCT99	05NOV99



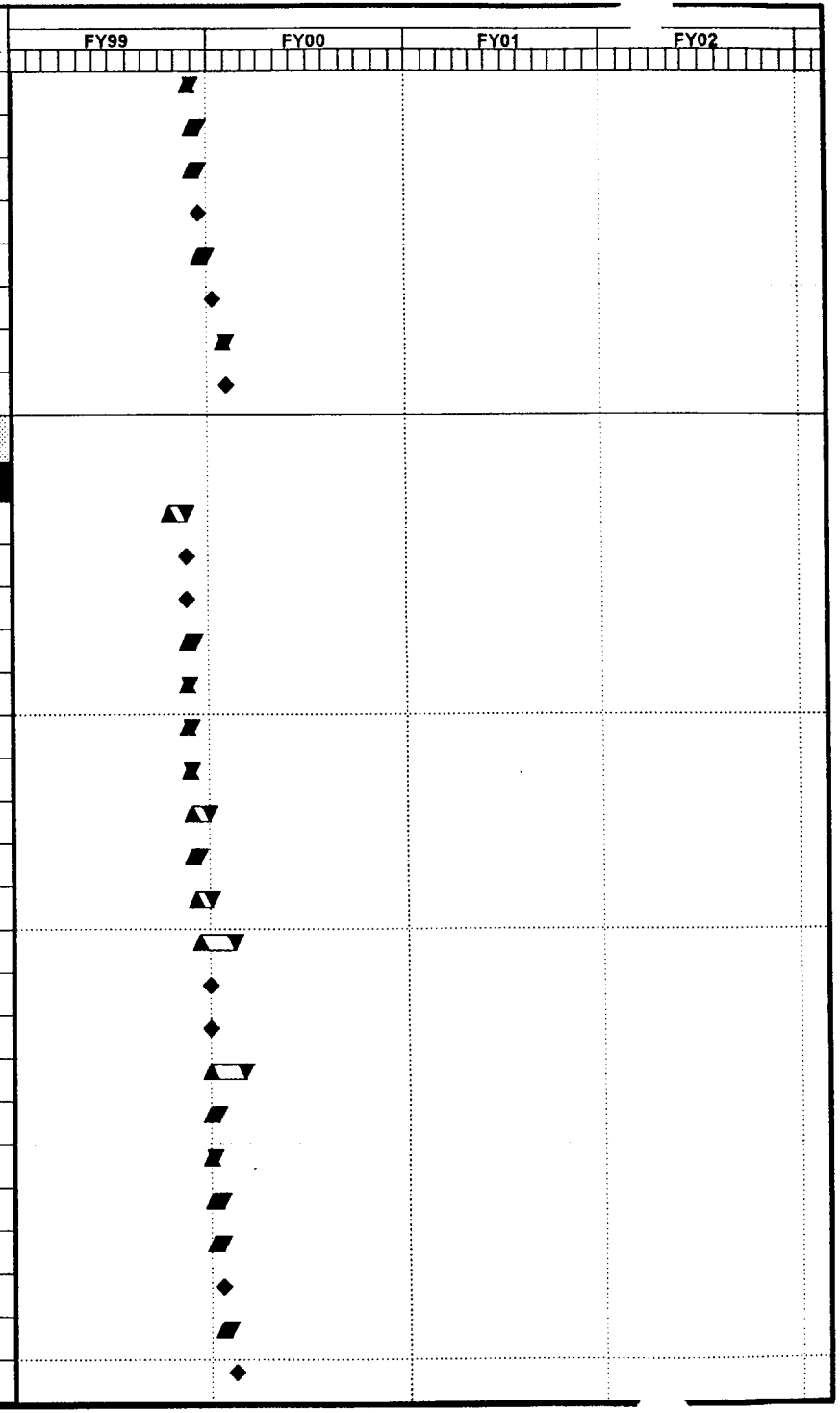
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU652	Radionucl Trsnprt-Determine DTN Assignment		2	25OCT99	26OCT99
SPU676	Radionucl Trsnprt-Determine if Model-Rel SW is U		5	25OCT99	29OCT99
SPU654	Radionucl Trsnprt-Determine if Data/DTN in TDMS		3	27OCT99	29OCT99
SPU656	Radionucl Trsnprt-Submit Data/DTN to TDMS as Nec		22	01NOV99	03DEC99
SPU678	Radionucl Trsnprt-Place Model-Related SW Under S		10	01NOV99	15NOV99
SPP5184	AP3.10Q Chckng/Rev-Radionuclide Transport Model		15	08NOV99	01DEC99
SPU680	Radionucl Trsnprt-Verify Model-Related Software		44	16NOV99	20JAN00
SPP5186	Prep Final AP3.10Q Rpt-Radionucl Trsnprt Model		5	02DEC99	08DEC99
SPU660	Radionucl Trsnprt-Procurement Related Issues ID'		0		03DEC99
SPU668	Radionucl Trsnprt-Data Related Software Issues I		0		03DEC99
SPU658	Radionucl Trsnprt-Verify/Trace Data		44	06DEC99	07FEB00
SPU662	Radionucl Trsnprt-Rxesolve Procurement Related D		10	06DEC99	17DEC99
SPU670	Radionucl Trsnprt-Determine if Data Rel SW is Un		5	06DEC99	10DEC99
SPP254M4	Compl AP3.10Q Radionuclide Transport Model	M4	0		08DEC99
SPU672	Radionucl Trsnprt-Place Under SMS Control as Nec		10	13DEC99	27DEC99
SPU674	Radionucl Trsnprt-Verify Data-Related Software		10	28DEC99	11JAN00
SPU682	Radionucl Trsnprt-Qualified/Verified SW Availabl		0		20JAN00
SPU664	Radionucl Trsnprt-Update TDMS		5	08FEB00	14FEB00
SPU666	Radionucl Trsnprt-Qualified/Verified Data Availa		0		14FEB00
U3050					
130 Performance Assessment Operations					
SLPA2500	AP3.10Q Data-Part Trckng Model & Abst of Trsnprt		33	02AUG99*	16SEP99
SLPA2512	Part Trckng Abstr-Input Parameters and Data Iden		0		16SEP99
SLPA2514	Part Trckng Abstr-Models and Codes Identified		0		16SEP99
SLPA2502	Prep Draft AP3.10Q-Part Trckng Mdl & Abst Trsnp		10	17SEP99	30SEP99
SLPA2516	Part Trckng Abstr-Determine DTN Assignment		2	17SEP99	20SEP99
SLPA2518	Part Trckng Abstr-Determine if Model-Rel SW is U		5	17SEP99	23SEP99
SLPA2520	Part Trckng Abstr-Determine if Data/DTN in TDMS		3	21SEP99	23SEP99
SLPA2522	Part Trckng Abstr-Place Model-Related SW Under S		10	24SEP99	07OCT99
SLPA2524	Part Trckng Abstr-Submit Data/DTN to TDMS as Nec		22	24SEP99	26OCT99
SLPA2504	Receive Part Trckng Mdl & Abstr Trsnpr - AP3.10Q	M4	0		30SEP99



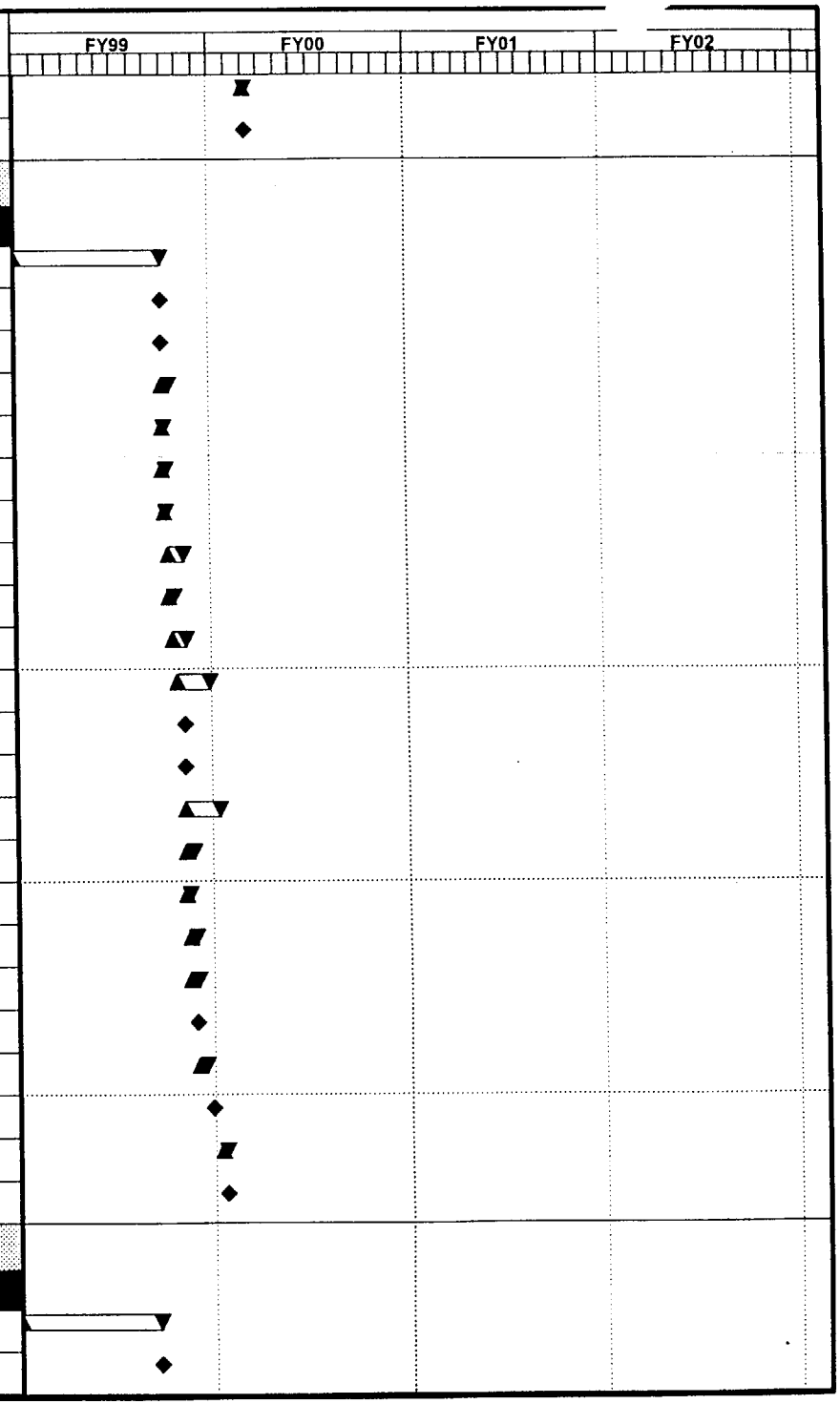
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2506	AP3.10Q Chckng/Rev-Part Trckng Mdl/Abst Trsnp		20	01OCT99	29OCT99
SLPA2526	Part Trckng Abstr-Verify Model-Related Software		44	08OCT99	14DEC99
SLPA2528	Part Trckng Abstr-Procurement Related Issues ID'		0		26OCT99
SLPA2530	Part Trckng Abstr-Data Related Software Issues I		0		26OCT99
SLPA2532	Part Trckng Abstr-Determine if Data Rel SW is Un		5	27OCT99	02NOV99
SLPA2534	Part Trckng Abstr-Rxesolve Procurement Related D		10	27OCT99	09NOV99
SLPA2536	Part Trckng Abstr-Verify/Trace Data		44	27OCT99	03JAN00
SLPA2508	Prep Final AP3.10Q Rpt-Part Trckng Mdl/Abstr Trs		10	01NOV99	15NOV99
SLPA2538	Part Trckng Abstr-Place Under SMS Control as Nec		10	03NOV99	17NOV99
SLPA2510	Compl AP3.10Q Part Trckng Mdl & Abstr Trsnprt	M4	0		15NOV99
SLPA2540	Part Trckng Abstr-Verify Data-Related Software		10	18NOV99	03DEC99
SLPA2542	Part Trckng Abstr-Qualified/Verified SW Availabl		0		14DEC99
SLPA2544	Part Trckng Abstr-Update TDMS		5	04JAN00	10JAN00
SLPA2546	Part Trckng Abstr-Qualified/Verified Data Availa		0		10JAN00
U3060					
140 Natural Environment Program Operations					
SPP5200	AP3.10Q Data-Enhanced Colloid Trsnprt		193	01OCT98*	16JUL99
SPU720	Enhanced Colloid Trns-Input Parameters and Data		0		16JUL99
SPU722	Enhanced Colloid Trns-Models and Codes Identifie		0		16JUL99
SPP5202	Prep Draft AP3.10Q-Enhanced Colloid Trsnprt		10	19JUL99	30JUL99
SPU724	Enhanced Colloid Trns-Determine DTN Assignment		2	19JUL99	20JUL99
SPU748	Enhanced Colloid Trns-Determine if Model-Rel SW		5	19JUL99	23JUL99
SPU726	Enhanced Colloid Trns-Determine if Data/DTN in T		3	21JUL99	23JUL99
SPU728	Enhanced Colloid Trns-Submit Data/DTN to TDMS as		22	26JUL99	24AUG99
SPU750	Enhanced Colloid Trns-Place Model-Related SW Und		10	26JUL99	06AUG99
SPP5204	AP3.10Q Chckng/Rev-Enhanced Colloid Trsnprt		20	02AUG99	27AUG99
SPU752	Enhanced Colloid Trns-Verify Model-Related Softw		44	09AUG99	08OCT99
SPU732	Enhanced Colloid Trns-Procurement Related Issues		0		24AUG99
SPU740	Enhanced Colloid Trns-Data Related Software Issu		0		24AUG99
SPU730	Enhanced Colloid Trns-Verify/Trace Data		44	25AUG99	27OCT99
SPU734	Enhanced Colloid Trns-Rxesolve Procurement Relat		10	25AUG99	08SEP99



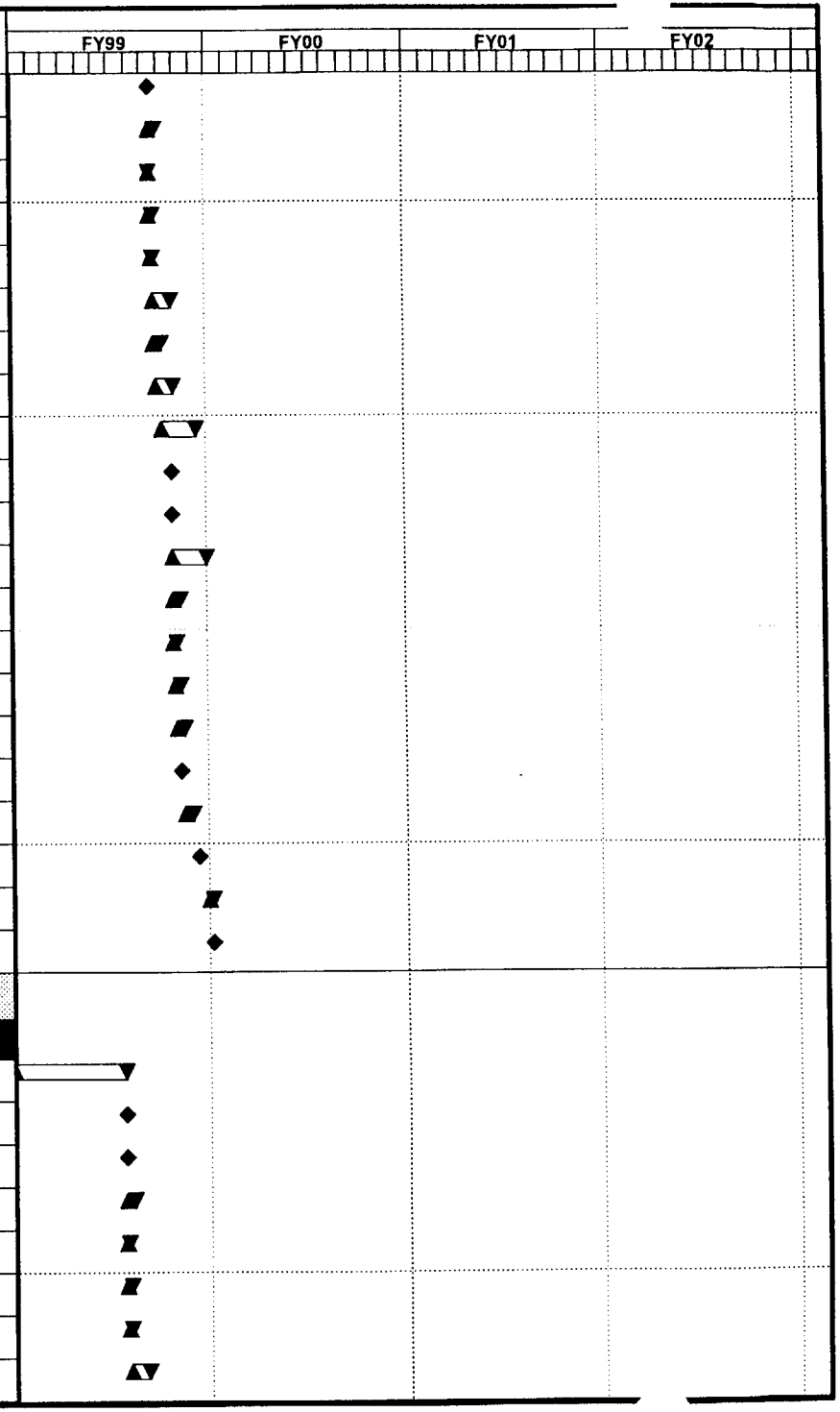
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU742	Enhanced Colloid Trns-Determine if Data Rel SW i		5	25AUG99	31AUG99
SPP5206	Prep Final AP3.10Q Rpt-Enhanced Colloid Trsnprt		10	30AUG99	13SEP99
SPU744	Enhanced Colloid Trns-Place Under SMS Control as		10	01SEP99	15SEP99
SPP260M4	Compl AP3.10Q Enhanced Colloid Transport	M4	0		13SEP99
SPU746	Enhanced Colloid Trns-Verify Data-Related Softwa		10	16SEP99	29SEP99
SPU754	Enhanced Colloid Trns-Qualified/Verified SW Avai		0		08OCT99
SPU736	Enhanced Colloid Trns-Update TDMS		5	28OCT99	03NOV99
SPU738	Enhanced Colloid Trns-Qualified/Verified Data Av		0		03NOV99
U4000					
140 Natural Environment Program Operations					
SPP5210	AP3.10Q Data-Seepage Models for PA		24	19JUL99*	19AUG99
SPU756	Seepage Models-Input Parameters and Data Identif		0		19AUG99
SPU758	Seepage Models-Models and Codes Identified		0		19AUG99
SPP5212	Prep Draft AP3.10Q-Seepage Models for PA		10	20AUG99	02SEP99
SPU760	Seepage Models-Determine DTN Assignment		2	20AUG99	23AUG99
SPU784	Seepage Models-Determine if Model-Rel SW is Unde		5	20AUG99	26AUG99
SPU762	Seepage Models-Determine if Data/DTN in TDMS		3	24AUG99	26AUG99
SPU764	Seepage Models-Submit Data/DTN to TDMS as Necess		22	27AUG99	28SEP99
SPU786	Seepage Models-Place Model-Related SW Under SMS		10	27AUG99	10SEP99
SPP5214	pAP3.10Q Chckng/Rev-Seepage Models for PA		20	03SEP99	01OCT99
SPU788	Seepage Models-Verify Model-Related Software		44	13SEP99	15NOV99
SPU768	Seepage Models-Procurement Related Issues ID'd t		0		28SEP99
SPU776	Seepage Models-Data Related Software Issues Iden		0		28SEP99
SPU766	Seepage Models-Verify/Trace Data		44	29SEP99	03DEC99
SPU770	Seepage Models-Rxesolve Procurement Related Data		10	29SEP99	13OCT99
SPU778	Seepage Models-Determine if Data Rel SW is Under		5	29SEP99	05OCT99
SPP5216	Prep Final AP3.10Q Rpt-Seepage Models for PA		10	04OCT99	18OCT99
SPU780	Seepage Models-Place Under SMS Control as Necess		10	06OCT99	20OCT99
SPP263M4	Compl AP3.10Q Seepage Models for PA	M4	0		18OCT99
SPU782	Seepage Models-Verify Data-Related Software		10	21OCT99	03NOV99
SPU790	Seepage Models-Qualified/Verified SW Available		0		15NOV99



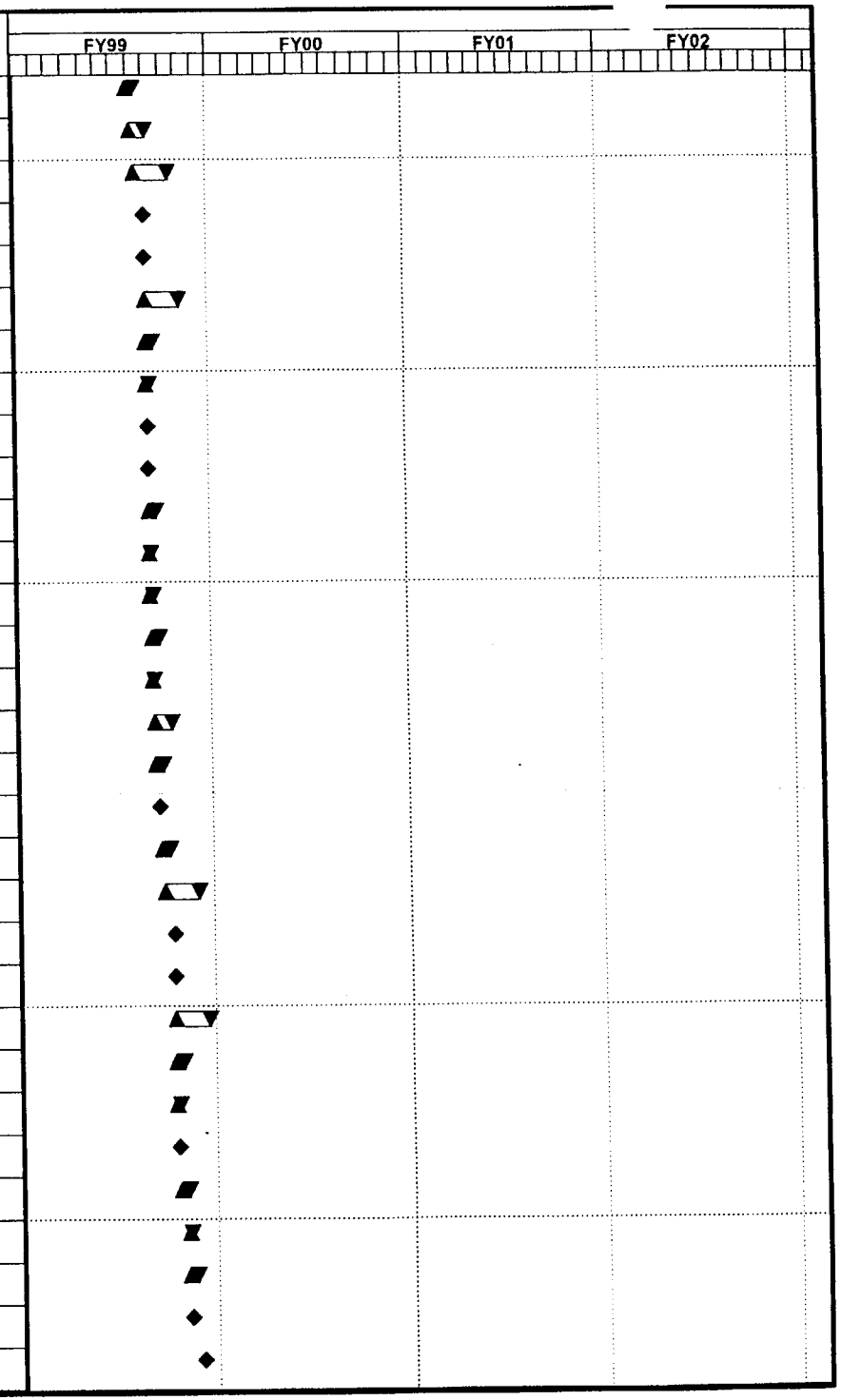
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU772	Seepage Models-Update TDMS		5	06DEC99	10DEC99
SPU774	Seepage Models-Qualified/Verified Data Available		0		10DEC99
U4010					
140 Natural Environment Program Operations					
SPP5220	AP3.10Q Data-Seepg Calib Model & Test Data		183	01OCT98*	01JUL99
SPU792	Seepg Calib Mdl & Tst-Input Parameters and Data		0		01JUL99
SPU794	Seepg Calib Mdl & Tst-Models and Codes Identifie		0		01JUL99
SPP5222	Prep Draft AP3.10Q-Seepg Calib Mdl & Test Data		10	02JUL99	16JUL99
SPU796	Seepg Calib Mdl & Tst-Determine DTN Assignment		2	02JUL99	06JUL99
SPU820	Seepg Calib Mdl & Tst-Determine if Model-Rel SW		5	02JUL99	09JUL99
SPU798	Seepg Calib Mdl & Tst-Determine if Data/DTN in T		3	07JUL99	09JUL99
SPU800	Seepg Calib Mdl & Tst-Submit Data/DTN to TDMS as		22	12JUL99	10AUG99
SPU822	Seepg Calib Mdl & Tst-Place Model-Related SW Und		10	12JUL99	23JUL99
SPP5224	AP3.10Q Chckng/Rev-Seepg Calibr Model & Tst Data		20	19JUL99	13AUG99
SPU824	Seepg Calib Mdl & Tst-Verify Model-Related Softw		44	26JUL99	24SEP99
SPU804	Seepg Calib Mdl & Tst-Procurement Related Issues		0		10AUG99
SPU812	Seepg Calib Mdl & Tst-Data Related Software Issu		0		10AUG99
SPU802	Seepg Calib Mdl & Tst-Verify/Trace Data		44	11AUG99	13OCT99
SPU806	Seepg Calib Mdl & Tst-Rxesolve Procurement Relat		10	11AUG99	24AUG99
SPU814	Seepg Calib Mdl & Tst-Determine if Data Rel SW i		5	11AUG99	17AUG99
SPP5226	Prep Final AP3.10Q Rpt-Seepg Calib Mdl & Tst Dat		10	16AUG99	27AUG99
SPU816	Seepg Calib Mdl & Tst-Place Under SMS Control as		10	18AUG99	31AUG99
SPP266M4	Compl AP3.10Q Seepage Calibr Mdl & Test Data	M4	0		27AUG99
SPU818	Seepg Calib Mdl & Tst-Verify Data-Related Softwa		10	01SEP99	15SEP99
SPU826	Seepg Calib Mdl & Tst-Qualified/Verified SW Avai		0		24SEP99
SPU808	Seepg Calib Mdl & Tst-Update TDMS		5	14OCT99	20OCT99
SPU810	Seepg Calib Mdl & Tst-Qualified/Verified Data Av		0		20OCT99
U4030					
140 Natural Environment Program Operations					
SPP5400	AP3.10Q Data-Geochemistry Data - LANL		172	01OCT98*	16JUN99
SPV440	Geochem Data LANL-Input Parameters and Data Iden		0		16JUN99



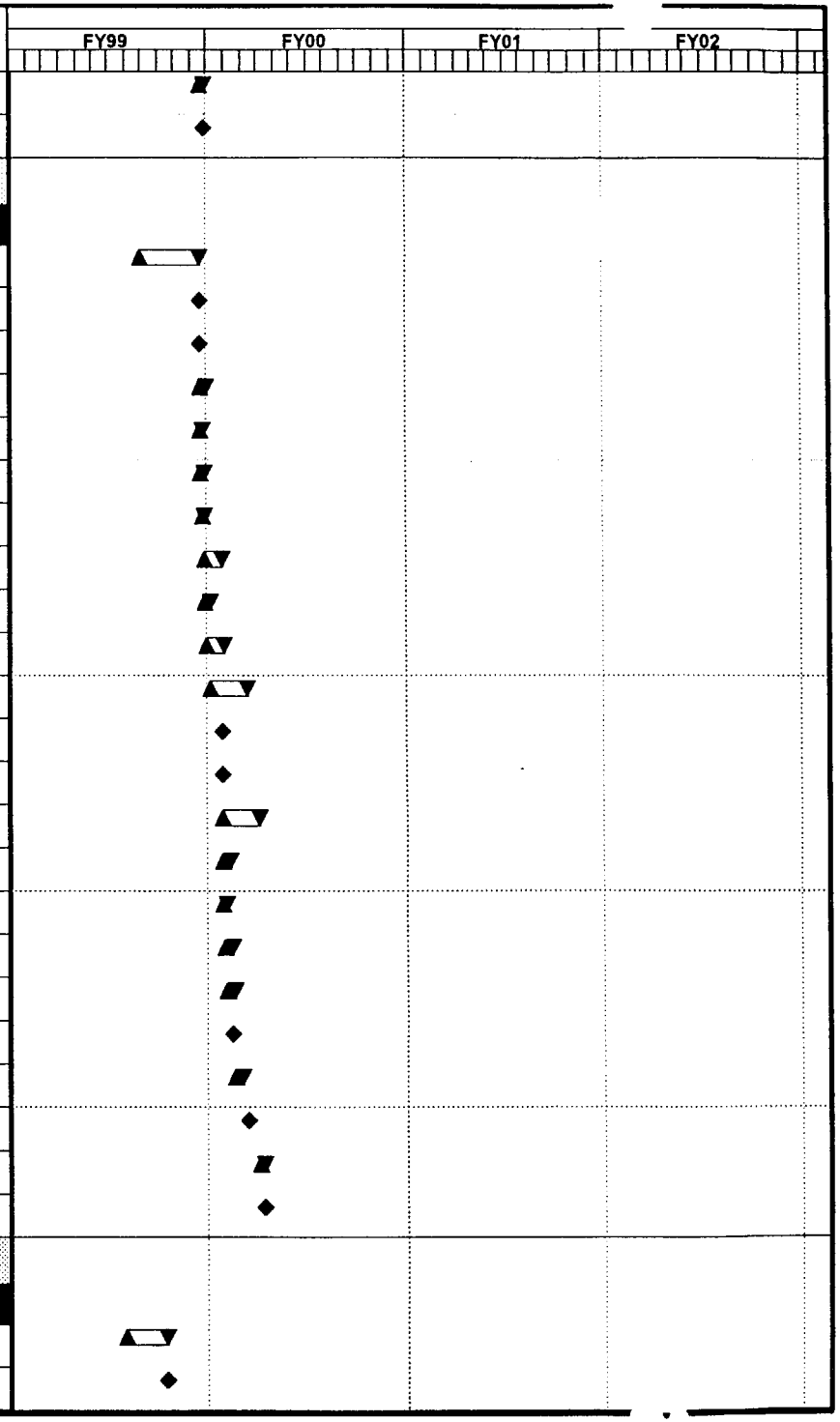
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPV442	Geochem Data LANL-Models and Codes Identified		0		16JUN99
SPP5402	Prep Draft AP3.10Q-Geochemistry Data - LANL		10	17JUN99	29JUN99
SPV444	Geochem Data LANL-Determine DTN Assignment		2	17JUN99	18JUN99
SPV468	Geochem Data LANL-Determine if Model-Rel SW is U		5	17JUN99	23JUN99
SPV446	Geochem Data LANL-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99
SPV448	Geochem Data LANL-Submit Data/DTN to TDMS as Nec		22	24JUN99	26JUL99
SPV470	Geochem Data LANL-Place Model-Related SW Under S		10	24JUN99	08JUL99
SPP5404	AP3.10Q Chckng/Rev-Geochemistry Data - LANL		20	30JUN99	28JUL99
SPV472	Geochem Data LANL-Verify Model-Related Software		44	09JUL99	09SEP99
SPV452	Geochem Data LANL-Procurement Related Issues ID'		0		26JUL99
SPV460	Geochem Data LANL-Data Related Software Issues I		0		26JUL99
SPV450	Geochem Data LANL-Verify/Trace Data		44	27JUL99	27SEP99
SPV454	Geochem Data LANL-Rxesolve Procurement Related D		10	27JUL99	09AUG99
SPV462	Geochem Data LANL-Determine if Data Rel SW is Un		5	27JUL99	02AUG99
SPP5406	Prep Final AP3.10Q Rpt-Geochemistry Data - LANL		10	29JUL99	11AUG99
SPV464	Geochem Data LANL-Place Under SMS Control as Nec		10	03AUG99	16AUG99
SPP272M4	Compl AP3.10Q Geochemistry Data - LANL	M4	0		11AUG99
SPV466	Geochem Data LANL-Verify Data-Related Software		10	17AUG99	30AUG99
SPV474	Geochem Data LANL-Qualified/Verified SW Availabl		0		09SEP99
SPV456	Geochem Data LANL-Update TDMS		5	28SEP99	04OCT99
SPV458	Geochem Data LANL-Qualified/Verified Data Availa		0		04OCT99
U4040					
140 Natural Environment Program Operations					
SPP5410	AP3.10Q Data-Analy Fract/Matrix Prop Data		135	01OCT98*	23APR99
SPV476	Analy Fract Prop-Input Parameters and Data Ident		0		23APR99
SPV478	Analy Fract Prop-Models and Codes Identified		0		23APR99
SPP5412	Prep Draft AP3.10Q-Analy Fract/Matrix Prop Data		10	26APR99	07MAY99
SPV480	Analy Fract Prop-Determine DTN Assignment		2	26APR99	27APR99
SPV504	Analy Fract Prop-Determine if Model-Rel SW is Un		5	26APR99	30APR99
SPV482	Analy Fract Prop-Determine if Data/DTN in TDMS		3	28APR99	30APR99
SPV484	Analy Fract Prop-Submit Data/DTN to TDMS as Nece		22	03MAY99	02JUN99



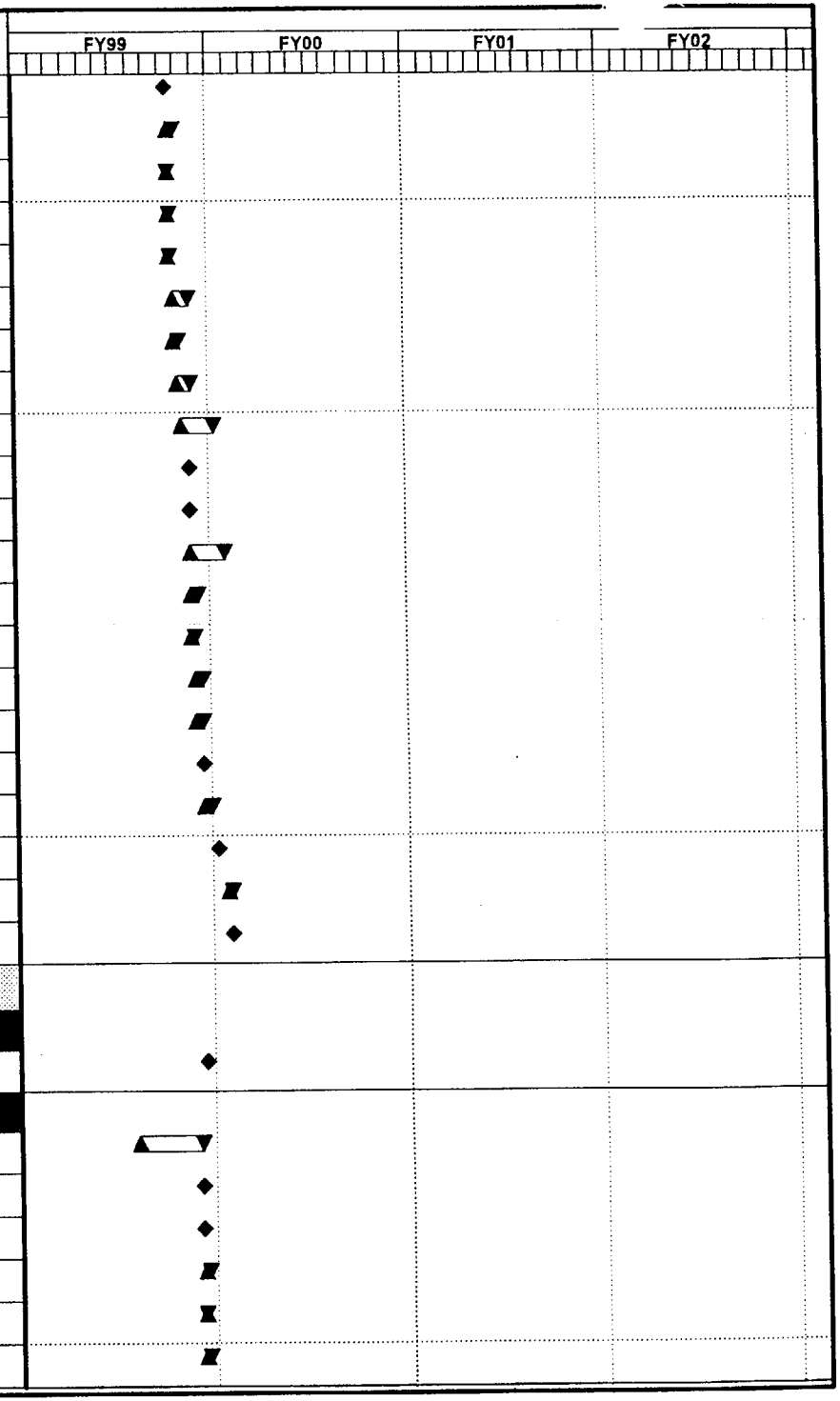
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPV506	Analy Fract Prop-Place Model-Related SW Under SM		10	03MAY99	14MAY99
SPP5414	AP3.10Q Chckng/Rev-Analy Fract Prop Data		20	10MAY99	07JUN99
SPV508	Analy Fract Prop-Verify Model-Related Software		44	17MAY99	19JUL99
SPV488	Analy Fract Prop-Procurement Related Issues ID'd		0		02JUN99
SPV496	Analy Fract Prop-Data Related Software Issues Id		0		02JUN99
SPV486	Analy Fract Prop-Verify/Trace Data		44	03JUN99	04AUG99
SPV490	Analy Fract Prop-Rxesolve Procurement Related Da		10	03JUN99	16JUN99
SPV498	Analy Fract Prop-Determine if Data Rel SW is Und		5	03JUN99	09JUN99
SPV512	Analy Fract Prop-Input Parameters and Data Ident		0		07JUN99
SPV514	Analy Fract Prop-Models and Codes Identified		0		07JUN99
SPP5416	Prep Final AP3.10Q Rpt-Analy Fract Prop Data		10	08JUN99	21JUN99
SPV516	Analy Fract Prop-Determine DTN Assignment		2	08JUN99	09JUN99
SPV540	Analy Fract Prop-Determine if Model-Rel SW is Un		5	08JUN99	14JUN99
SPV500	Analy Fract Prop-Place Under SMS Control as Nece		10	10JUN99	23JUN99
SPV518	Analy Fract Prop-Determine if Data/DTN in TDMS		3	10JUN99	14JUN99
SPV520	Analy Fract Prop-Submit Data/DTN to TDMS as Nece		22	15JUN99	15JUL99
SPV542	Analy Fract Prop-Place Model-Related SW Under SM		10	15JUN99	28JUN99
SPP275M4	Compl AP3.10Q Analy Fracture Properties Data	M4	0		21JUN99
SPV502	Analy Fract Prop-Verify Data-Related Software		10	24JUN99	08JUL99
SPV544	Analy Fract Prop-Verify Model-Related Software		44	29JUN99	30AUG99
SPV524	Analy Fract Prop-Procurement Related Issues ID'd		0		15JUL99
SPV532	Analy Fract Prop-Data Related Software Issues Id		0		15JUL99
SPV522	Analy Fract Prop-Verify/Trace Data		44	16JUL99	16SEP99
SPV526	Analy Fract Prop-Rxesolve Procurement Related Da		10	16JUL99	29JUL99
SPV534	Analy Fract Prop-Determine if Data Rel SW is Und		5	16JUL99	22JUL99
SPV510	Analy Fract Prop-Qualified/Verified SW Available		0		19JUL99
SPV536	Analy Fract Prop-Place Under SMS Control as Nece		10	23JUL99	05AUG99
SPV492	Analy Fract Prop-Update TDMS		5	05AUG99	11AUG99
SPV538	Analy Fract Prop-Verify Data-Related Software		10	06AUG99	19AUG99
SPV494	Analy Fract Prop-Qualified/Verified Data Availab		0		11AUG99
SPV546	Analy Fract Prop-Qualified/Verified SW Available		0		30AUG99



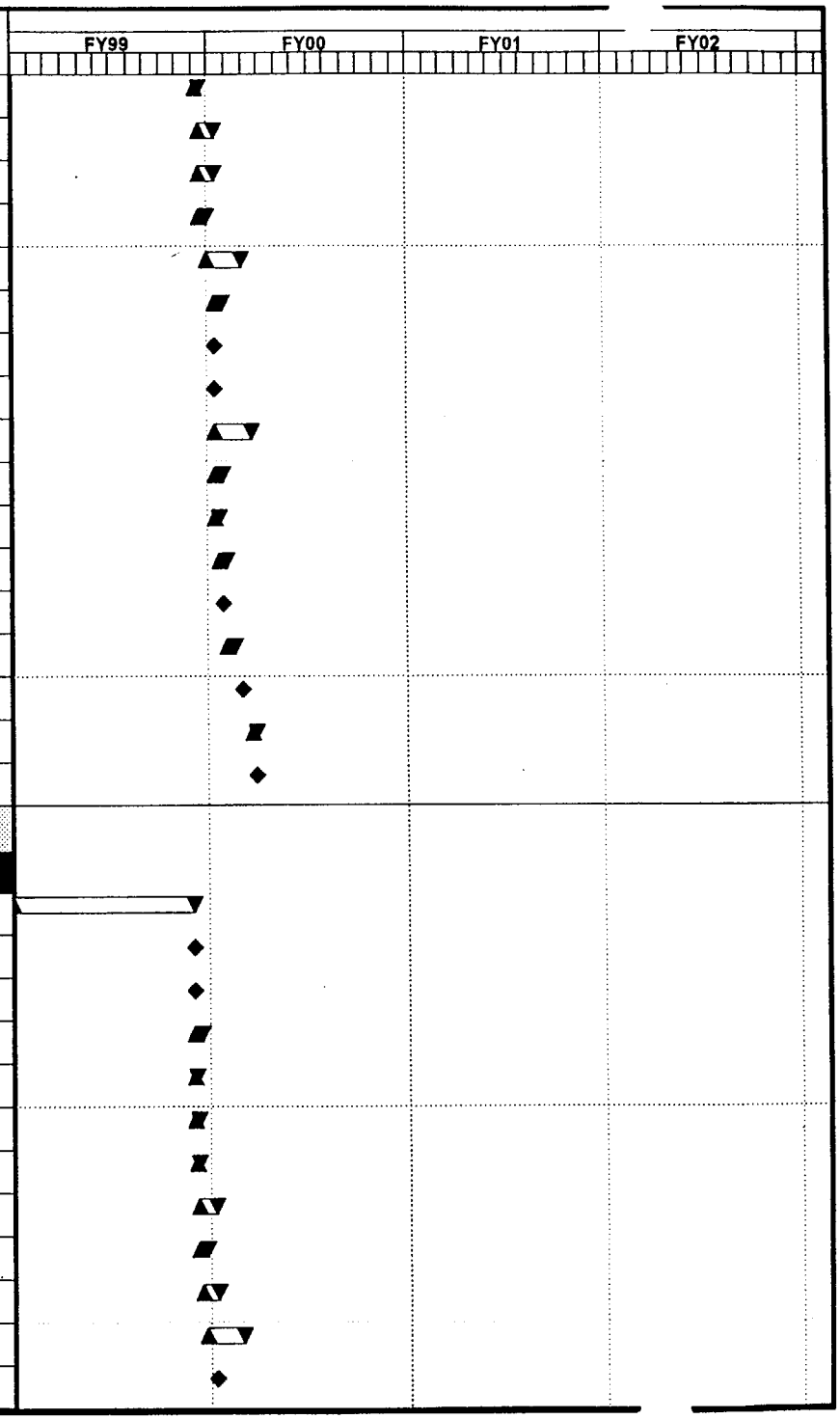
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPV528	Analy Fract Prop-Update TDMS		5	17SEP99	23SEP99
SPV530	Analy Fract Prop-Qualified/Verified Data Availab		0		23SEP99
U4060					
140 Natural Environment Program Operations					
SPP5440	AP3.10Q Data-Analy Infiltr Uncertainty		76	01JUN99*	16SEP99
SPV620	Infiltr Uncertainty-Input Parameters and Data Id		0		16SEP99
SPV622	Infiltr Uncertainty-Models and Codes Identified		0		16SEP99
SPP5442	Prep Draft AP3.10Q-Analy Infiltr Uncertainty		10	17SEP99	30SEP99
SPV624	Infiltr Uncertainty-Determine DTN Assignment		2	17SEP99	20SEP99
SPV648	Infiltr Uncertainty-Determine if Model-Rel SW is		5	17SEP99	23SEP99
SPV626	Infiltr Uncertainty-Determine if Data/DTN in TDM		3	21SEP99	23SEP99
SPV628	Infiltr Uncertainty-Submit Data/DTN to TDMS as N		22	24SEP99	26OCT99
SPV650	Infiltr Uncertainty-Place Model-Related SW Under		10	24SEP99	07OCT99
SPP5444	AP3.10Q Chckng/Rev-Analy Infiltr Uncertainty		20	01OCT99	29OCT99
SPV652	Infiltr Uncertainty-Verify Model-Related Softwar		44	08OCT99	14DEC99
SPV632	Infiltr Uncertainty-Procurement Related Issues I		0		26OCT99
SPV640	Infiltr Uncertainty-Data Related Software Issues		0		26OCT99
SPV630	Infiltr Uncertainty-Verify/Trace Data		44	27OCT99	03JAN00
SPV634	Infiltr Uncertainty-Rxesolve Procurement Related		10	27OCT99	09NOV99
SPV642	Infiltr Uncertainty-Determine if Data Rel SW is		5	27OCT99	02NOV99
SPP5446	Prep Final AP3.10Q Rpt-Analy Infiltr Uncertainty		10	01NOV99	15NOV99
SPV644	Infiltr Uncertainty-Place Under SMS Control as N		10	03NOV99	17NOV99
SPP281M4	Compl AP3.10Q Analyze Infiltration Uncertainty	M4	0		15NOV99
SPV646	Infiltr Uncertainty-Verify Data-Related Software		10	18NOV99	03DEC99
SPV654	Infiltr Uncertainty-Qualified/Verified SW Availa		0		14DEC99
SPV636	Infiltr Uncertainty-Update TDMS		5	04JAN00	10JAN00
SPV638	Infiltr Uncertainty-Qualified/Verified Data Avai		0		10JAN00
U4070					
140 Natural Environment Program Operations					
SPP5450	AP3.10Q Data-Transport Properties		53	03MAY99*	16JUL99
SPV655	Transport Properties-Input Parameters and Data I		0		16JUL99



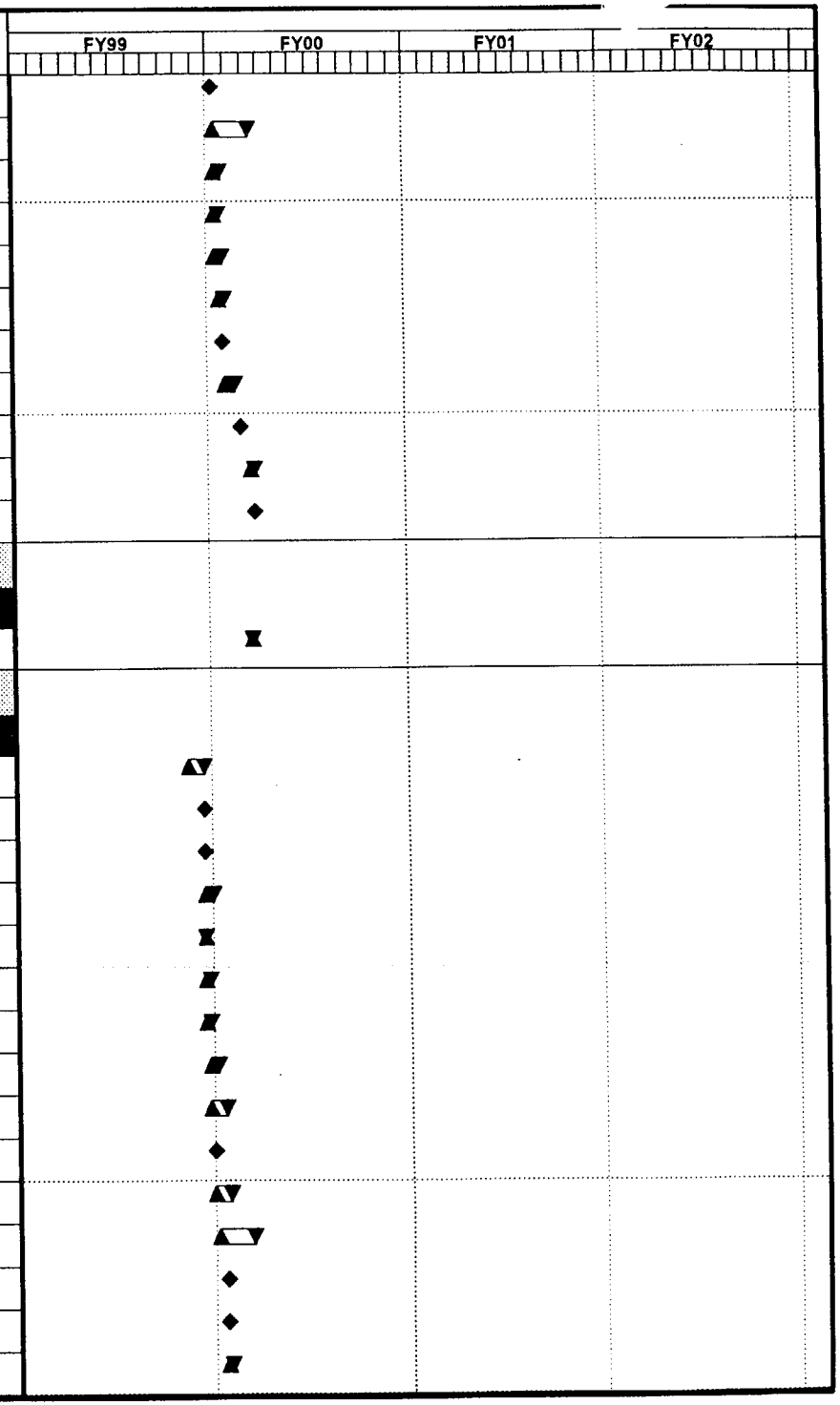
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPV656	Transport Properties-Models and Codes Identified		0		16JUL99
SPP5452	Prep Draft AP3.10Q-Transport Properties		10	19JUL99	30JUL99
SPV657	Transport Properties-Determine DTN Assignment		2	19JUL99	20JUL99
SPV669	Transport Properties-Determine if Model-Rel SW i		5	19JUL99	23JUL99
SPV658	Transport Properties-Determine if Data/DTN in TD		3	21JUL99	23JUL99
SPV659	Transport Properties-Submit Data/DTN to TDMS as		22	26JUL99	24AUG99
SPV670	Transport Properties-Place Model-Related SW Unde		10	26JUL99	06AUG99
SPP5454	AP3.10Q Chckng/Rev-Transport Properties		20	02AUG99	27AUG99
SPV671	Transport Properties-Verify Model-Related Softwa		44	09AUG99	08OCT99
SPV661	Transport Properties-Procurement Related Issues		0		24AUG99
SPV665	Transport Properties-Data Related Software Issue		0		24AUG99
SPV660	Transport Properties-Verify/Trace Data		44	25AUG99	27OCT99
SPV662	Transport Properties-Rxesolve Procurement Relate		10	25AUG99	08SEP99
SPV666	Transport Properties-Determine if Data Rel SW is		5	25AUG99	31AUG99
SPP5456	Prep Final AP3.10Q Rpt-Transport Properties		10	30AUG99	13SEP99
SPV667	Transport Properties-Place Under SMS Control as		10	01SEP99	15SEP99
SPP284M4	Compl AP3.10Q Transport Properties	M4	0		13SEP99
SPV668	Transport Properties-Verify Data-Related Softwar		10	16SEP99	29SEP99
SPV672	Transport Properties-Qualified/Verified SW Avail		0		08OCT99
SPV663	Transport Properties-Update TDMS		5	28OCT99	03NOV99
SPV664	Transport Properties-Qualified/Verified Data Ava		0		03NOV99
U5000					
130 Performance Assessment Operations					
SLPA2548	Receive Mount-Scale Coupled Process Models	M4	0		13SEP99
140 Natural Environment Program Operations					
SPP5230	AP3.10Q Data-Mtn-Scale Cpld Proc Models		83	10MAY99*	03SEP99
SPU828	Mtn-Scale Cpld-Input Parameters and Data Identif		0		03SEP99
SPU830	Mtn-Scale Cpld-Models and Codes Identified		0		03SEP99
SPP5232	Prep Draft AP3.10Q-Mtn-Scale Coupled Proc Models		5	07SEP99	13SEP99
SPU832	Mtn-Scale Cpld-Determine DTN Assignment		2	07SEP99	08SEP99
SPU856	Mtn-Scale Cpld-Determine if Model-Rel SW is Unde		5	07SEP99	13SEP99



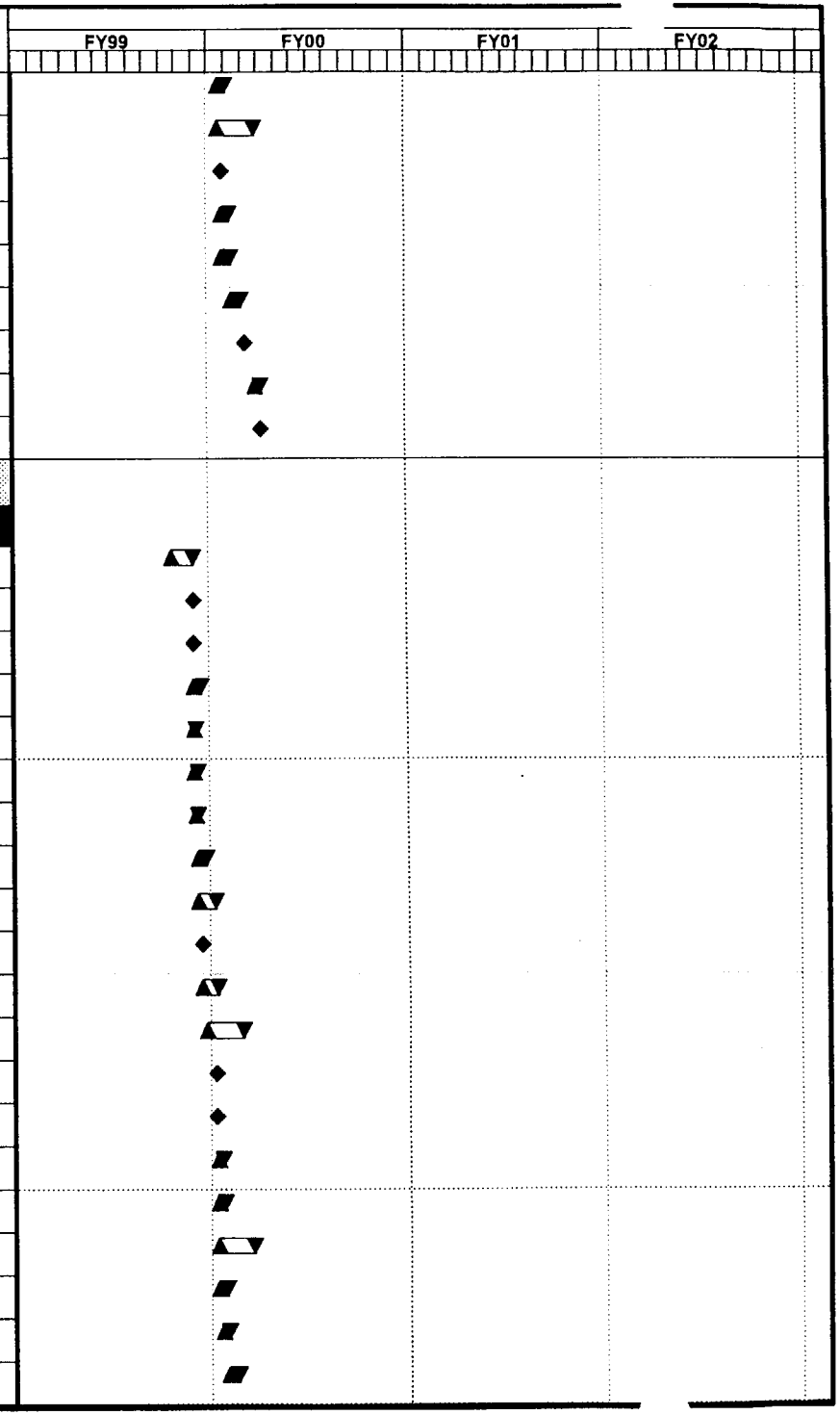
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPU834	Mtn-Scale Cpld-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99
SPP5234	AP3.10Q Chckng/Rev-Mtn Scale Cpld Proc Models		20	14SEP99	12OCT99
SPU836	Mtn-Scale Cpld-Submit Data/DTN to TDMS as Necess		22	14SEP99	14OCT99
SPU858	Mtn-Scale Cpld-Place Model-Related SW Under SMS		10	14SEP99	27SEP99
SPU860	Mtn-Scale Cpld-Verify Model-Related Software		44	28SEP99	02DEC99
SPP5236	Prep Final AP3.10Q Rpt-Mtn-Scale Cpld Proc Model		10	13OCT99	26OCT99
SPU840	Mtn-Scale Cpld-Procurement Related Issues ID'd t		0		14OCT99
SPU848	Mtn-Scale Cpld-Data Related Software Issues Iden		0		14OCT99
SPU838	Mtn-Scale Cpld-Verify/Trace Data		44	15OCT99	20DEC99
SPU842	Mtn-Scale Cpld-Rxesolve Procurement Related Data		10	15OCT99	28OCT99
SPU850	Mtn-Scale Cpld-Determine if Data Rel SW is Under		5	15OCT99	21OCT99
SPU852	Mtn-Scale Cpld-Place Under SMS Control as Necess		10	22OCT99	04NOV99
SPP293M4	Compl AP3.10Q Mtn-Scale Cpld Proc Models	M4	0		26OCT99
SPU854	Mtn-Scale Cpld-Verify Data-Related Software		10	05NOV99	19NOV99
SPU862	Mtn-Scale Cpld-Qualified/Verified SW Available		0		02DEC99
SPU844	Mtn-Scale Cpld-Update TDMS		5	21DEC99	28DEC99
SPU846	Mtn-Scale Cpld-Qualified/Verified Data Available		0		28DEC99
U5040					
140 Natural Environment Program Operations					
SPP5480	AP3.10Q Data-Drift Scale Coupled Proc Models		225	01OCT98*	31AUG99
SPV709	Drift Scale Cpld Proc-Input Parameters and Data		0		31AUG99
SPV710	Drift Scale Cpld Proc-Models and Codes Identifie		0		31AUG99
SPP5482	Prep Draft AP3.10Q-Drift Scale Cpld Proc Models		10	01SEP99	15SEP99
SPV711	Drift Scale Cpld Proc-Determine DTN Assignment		2	01SEP99	02SEP99
SPV723	Drift Scale Cpld Proc-Determine if Model-Rel SW		5	01SEP99	08SEP99
SPV712	Drift Scale Cpld Proc-Determine if Data/DTN in T		3	03SEP99	08SEP99
SPV713	Drift Scale Cpld Proc-Submit Data/DTN to TDMS as		22	09SEP99	08OCT99
SPV724	Drift Scale Cpld Proc-Place Model-Related SW Und		10	09SEP99	22SEP99
SPP5484	AP3.10Q Chckng/Rev-Drift Scale Cpld Proc Models		20	16SEP99	14OCT99
SPV725	Drift Scale Cpld Proc-Verify Model-Related Softw		44	23SEP99	29NOV99
SPV715	Drift Scale Cpld Proc-Procurement Related Issues		0		08OCT99



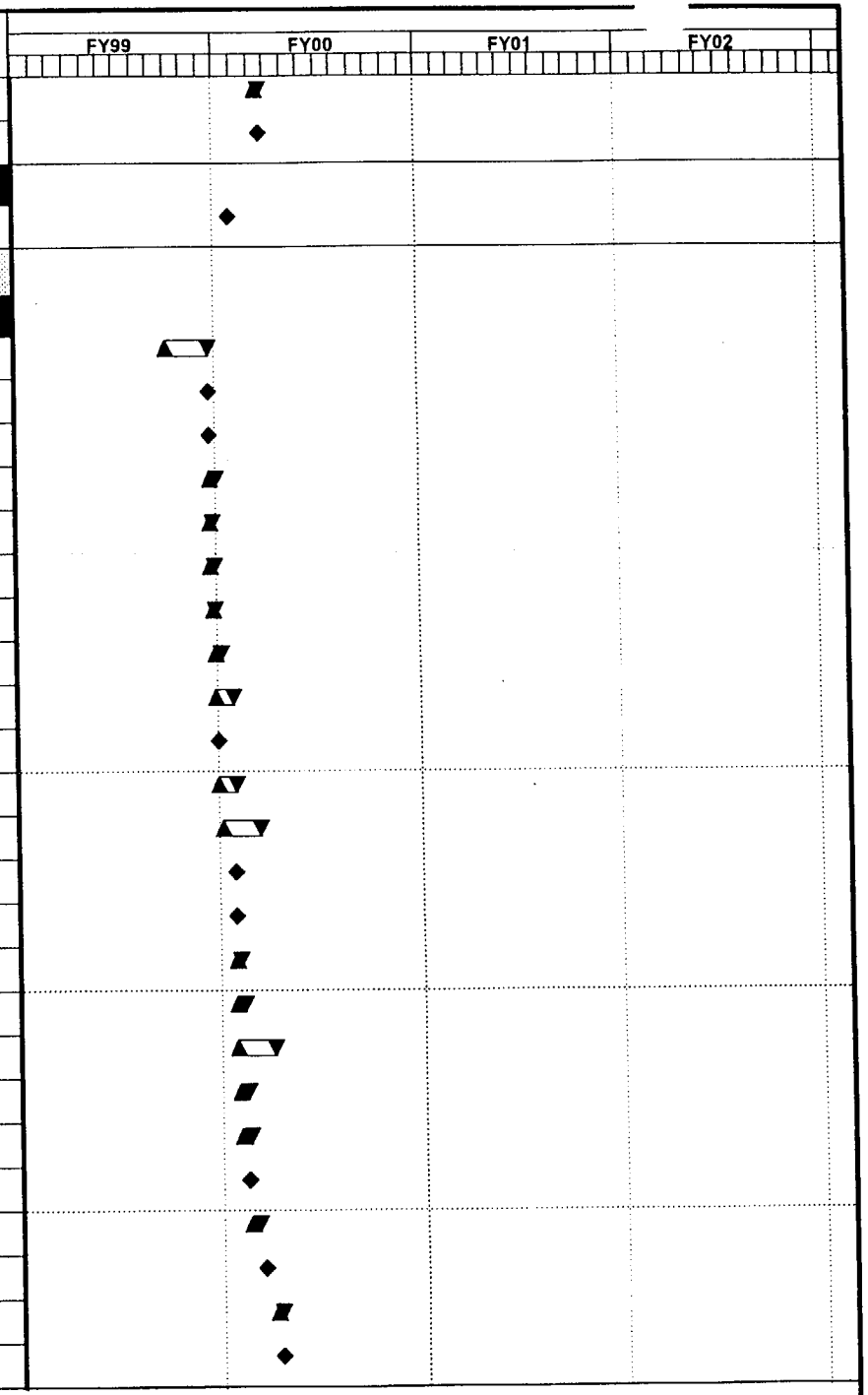
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPV719	Drift Scale Cpld Proc-Data Related Software Issu		0		08OCT99
SPV714	Drift Scale Cpld Proc-Verify/Trace Data		44	12OCT99	15DEC99
SPV716	Drift Scale Cpld Proc-Rxesolve Procurement Relat		10	12OCT99	25OCT99
SPV720	Drift Scale Cpld Proc-Determine if Data Rel SW i		5	12OCT99	18OCT99
SPP5486	Prep Final AP3.10Q Rpt-Drift Scale Cpld Proc Mdl		10	15OCT99	28OCT99
SPV721	Drift Scale Cpld Proc-Place Under SMS Control as		10	19OCT99	01NOV99
SPP305M4	Compl AP3.10Q Drift Scale Coupled Proc Models	M4	0		28OCT99
SPV722	Drift Scale Cpld Proc-Verify Data-Related Softwa		10	02NOV99	16NOV99
SPV726	Drift Scale Cpld Proc-Qualified/Verified SW Avai		0		29NOV99
SPV717	Drift Scale Cpld Proc-Update TDMS		5	16DEC99	22DEC99
SPV718	Drift Scale Cpld Proc-Qualified/Verified Data Av		0		22DEC99
U5100					
140 Natural Environment Program Operations					
U5100	Feed to TSPA		1	16DEC99	16DEC99
U6010					
130 Performance Assessment Operations					
SLPA2550	AP3.10Q Data-Abstr Coupl Proc into Flow Fields		20	16AUG99*	13SEP99
SLPA2560	Abst Cpld Proc-Input Parameters and Data Identif		0		13SEP99
SLPA2562	Abst Cpld Proc-Models and Codes Identified		0		13SEP99
SLPA2552	Prep Draft AP3.10Q-Abstr Coupl Proc Flow Fields		10	14SEP99	27SEP99
SLPA2564	Abst Cpld Proc-Determine DTN Assignment		2	14SEP99	15SEP99
SLPA2566	Abst Cpld Proc-Determine if Model-Rel SW is Unde		5	14SEP99	20SEP99
SLPA2568	Abst Cpld Proc-Determine if Data/DTN in TDMS		3	16SEP99	20SEP99
SLPA2570	Abst Cpld Proc-Place Model-Related SW Under SMS		10	21SEP99	04OCT99
SLPA2572	Abst Cpld Proc-Submit Data/DTN to TDMS as Necess		22	21SEP99	21OCT99
SLPA2554	Receive Abstr Coupled Process into Flow Fields-A	M4	0		27SEP99
SLPA2556	AP3.10Q Chckng/Rev-Abstr Coupl Proc Flow Field		20	28SEP99	26OCT99
SLPA2574	Abst Cpld Proc-Verify Model-Related Software		44	05OCT99	09DEC99
SLPA2576	Abst Cpld Proc-Procurement Related Issues ID'd t		0		21OCT99
SLPA2578	Abst Cpld Proc-Data Related Software Issues Iden		0		21OCT99
SLPA2580	Abst Cpld Proc-Determine if Data Rel SW is Under		5	22OCT99	28OCT99



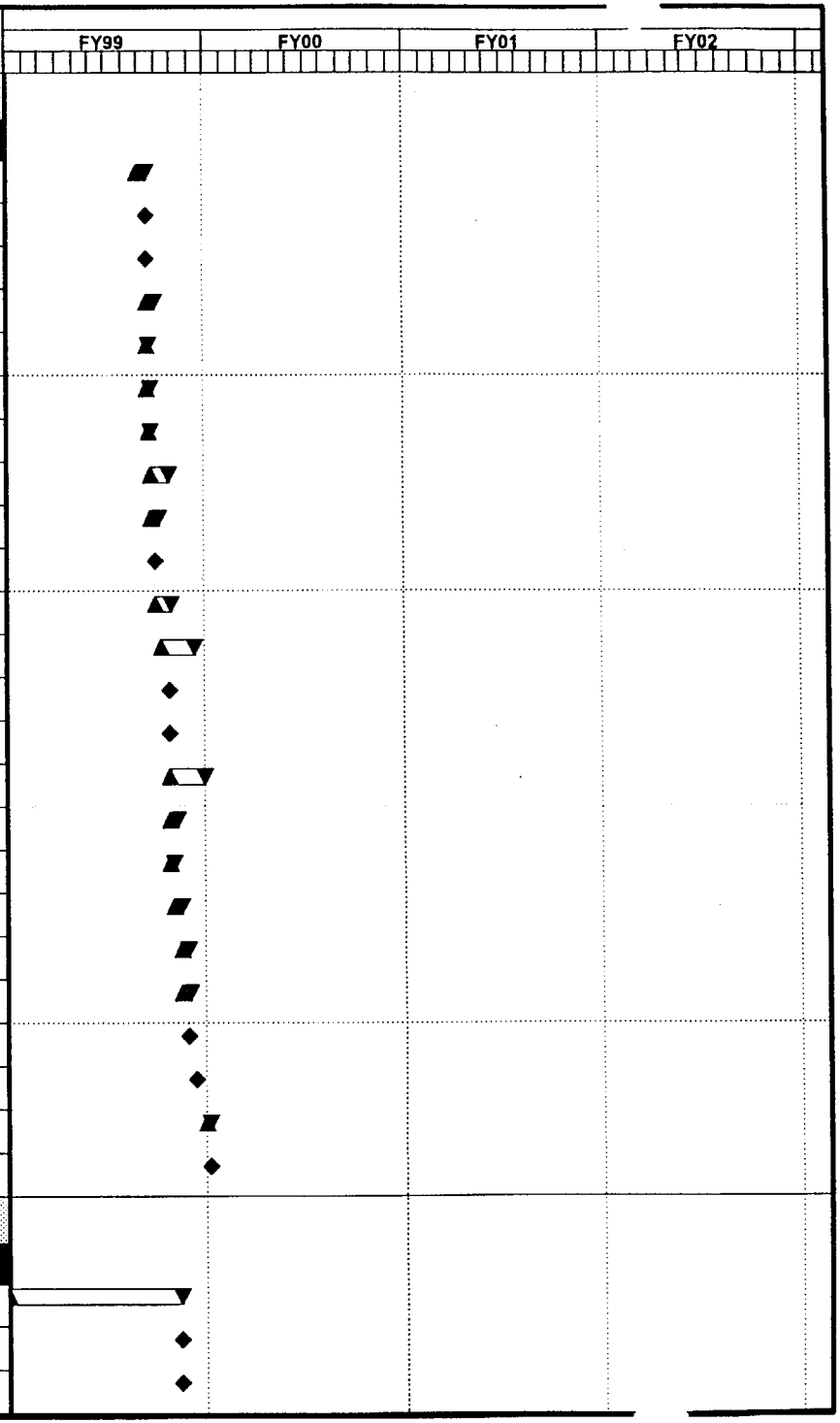
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2582	Abst Cpld Proc-Rxesolve Procurement Related Data		10	22OCT99	04NOV99
SLPA2584	Abst Cpld Proc-Verify/Trace Data		44	22OCT99	28DEC99
SPP326M4	Compl AP3.10Q Abstr Coupl Process in Flow Field	M4	0		26OCT99
SLPA2558	Prep Final AP3.10Q Rpt-Abst Cpld Proc Flow Field		10	27OCT99	09NOV99
SLPA2586	Abst Cpld Proc-Place Under SMS Control as Necess		10	29OCT99	12NOV99
SLPA2588	Abst Cpld Proc-Verify Data-Related Software		10	15NOV99	30NOV99
SLPA2590	Abst Cpld Proc-Qualified/Verified SW Available		0		09DEC99
SLPA2592	Abst Cpld Proc-Update TDMS		5	29DEC99	05JAN00
SLPA2594	Abst Cpld Proc-Qualified/Verified Data Available		0		05JAN00
U6020					
130 Performance Assessment Operations					
SLPA2596	AP3.10Q Data-Abst Cpld Proc Seepg Mdl		28	23JUL99	31AUG99
SLPA2606	Cpld Proc Seepg-Input Parameters and Data Identi		0		31AUG99
SLPA2608	Cpld Proc Seepg-Models and Codes Identified		0		31AUG99
SLPA2598	Prep Draft AP3.10Q-Abstr Cpld Proc Seepg Mdl		10	01SEP99	15SEP99
SLPA2610	Cpld Proc Seepg-Determine DTN Assignment		2	01SEP99	02SEP99
SLPA2612	Cpld Proc Seepg-Determine if Model-Rel SW is Und		5	01SEP99	08SEP99
SLPA2614	Cpld Proc Seepg-Determine if Data/DTN in TDMS		3	03SEP99	08SEP99
SLPA2616	Cpld Proc Seepg-Place Model-Related SW Under SMS		10	09SEP99	22SEP99
SLPA2618	Cpld Proc Seepg-Submit Data/DTN to TDMS as Neces		22	09SEP99	08OCT99
SLPA2600	Receive Abstr Coupled Process into Seepage Mdls-	M4	0		15SEP99
SLPA2602	AP3.10Q Chckng/Rev-Abstr Cpld Proc Seepg Mdl		20	16SEP99	14OCT99
SLPA2620	Cpld Proc Seepg-Verify Model-Related Software		44	23SEP99	29NOV99
SLPA2622	Cpld Proc Seepg-Data Related Software Issues Ide		0		08OCT99
SLPA2624	Cpld Proc Seepg-Procurement Related Issues ID'd		0		08OCT99
SLPA2626	Cpld Proc Seepg-Determine if Data Rel SW is Unde		5	12OCT99	18OCT99
SLPA2628	Cpld Proc Seepg-Rxesolve Procurement Related Dat		10	12OCT99	25OCT99
SLPA2630	Cpld Proc Seepg-Verify/Trace Data		44	12OCT99	15DEC99
SLPA2604	Prep Final AP3.10Q Rpt-Abstr Cpld Proc Seepg Mdl		10	15OCT99	28OCT99
SLPA2632	Cpld Proc Seepg-Place Under SMS Control as Neces		10	19OCT99	01NOV99
SLPA2634	Cpld Proc Seepg-Verify Data-Related Software		10	02NOV99	16NOV99



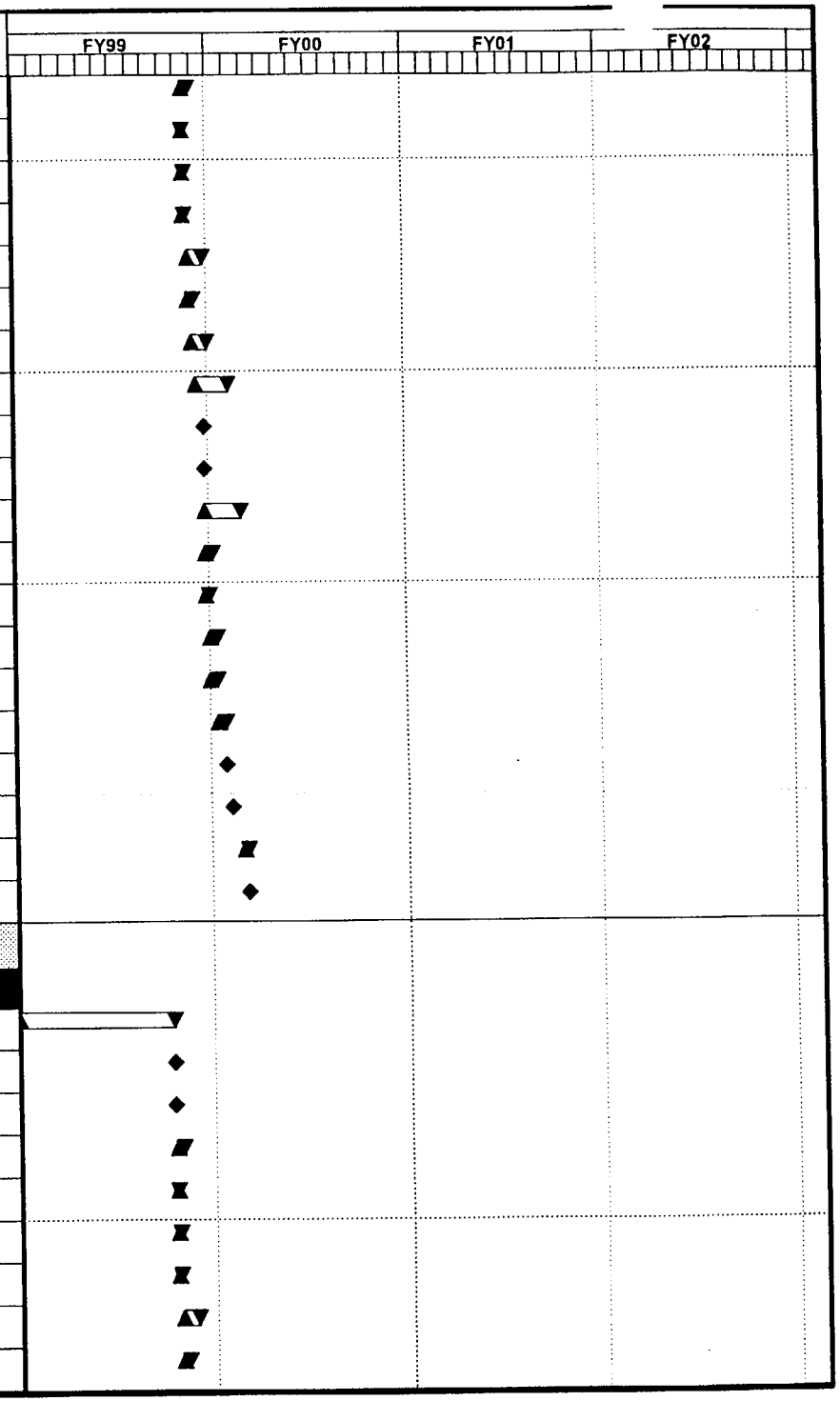
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2636	Cpld Proc Seepg-Update TDMS		5	16DEC99	22DEC99
SLPA2638	Cpld Proc Seepg-Qualified/Verified Data Availabl		0		22DEC99
140 Natural Environment Program Operations					
SPP329M4	Compl AP3.10Q Abstr Coupl Process Seepg Model	M4	0		28OCT99
U6030					
130 Performance Assessment Operations					
SLPA2640	AP3.10Q Data-Abstr of Flow Fields for RIP		53	02JUL99*	16SEP99
SLPA2650	Astr Flow Fields-Input Parameters and Data Ident		0		16SEP99
SLPA2652	Astr Flow Fields-Models and Codes Identified		0		16SEP99
SLPA2642	Prep Draft AP3.10Q-Abstr of Flow Fields for RIP		10	17SEP99	30SEP99
SLPA2654	Astr Flow Fields-Determine DTN Assignment		2	17SEP99	20SEP99
SLPA2656	Astr Flow Fields-Determine if Model-Rel SW is Un		5	17SEP99	23SEP99
SLPA2658	Astr Flow Fields-Determine if Data/DTN in TDMS		3	21SEP99	23SEP99
SLPA2660	Astr Flow Fields-Place Model-Related SW Under SM		10	24SEP99	07OCT99
SLPA2662	Astr Flow Fields-Submit Data/DTN to TDMS as Nece		22	24SEP99	26OCT99
SLPA2644	Receive Astr of Flow Fields for RIP-AP3.10Q	M4	0		30SEP99
SLPA2646	AP3.10Q Chckng/Rev-Astr of Flow Fields for RIP		20	01OCT99	29OCT99
SLPA2664	Astr Flow Fields-Verify Model-Related Software		44	08OCT99	14DEC99
SLPA2666	Astr Flow Fields-Procurement Related Issues ID'd		0		26OCT99
SLPA2668	Astr Flow Fields-Data Related Software Issues Id		0		26OCT99
SLPA2670	Astr Flow Fields-Determine if Data Rel SW is Und		5	27OCT99	02NOV99
SLPA2672	Astr Flow Fields-Rxesolve Procurement Related Da		10	27OCT99	09NOV99
SLPA2674	Astr Flow Fields-Verify/Trace Data		44	27OCT99	03JAN00
SLPA2648	Prep Final AP3.10Q Rpt-Astr Flow Fields for RIP		10	01NOV99	15NOV99
SLPA2676	Astr Flow Fields-Place Under SMS Control as Nece		10	03NOV99	17NOV99
SPP332M4	Compl AP3.10Q Astr of Flow Fields for RIP	M4	0		15NOV99
SLPA2678	Astr Flow Fields-Verify Data-Related Software		10	18NOV99	03DEC99
SLPA2680	Astr Flow Fields-Qualified/Verified SW Available		0		14DEC99
SLPA2682	Astr Flow Fields-Update TDMS		5	04JAN00	10JAN00
SLPA2684	Astr Flow Fields-Qualified/Verified Data Availab		0		10JAN00



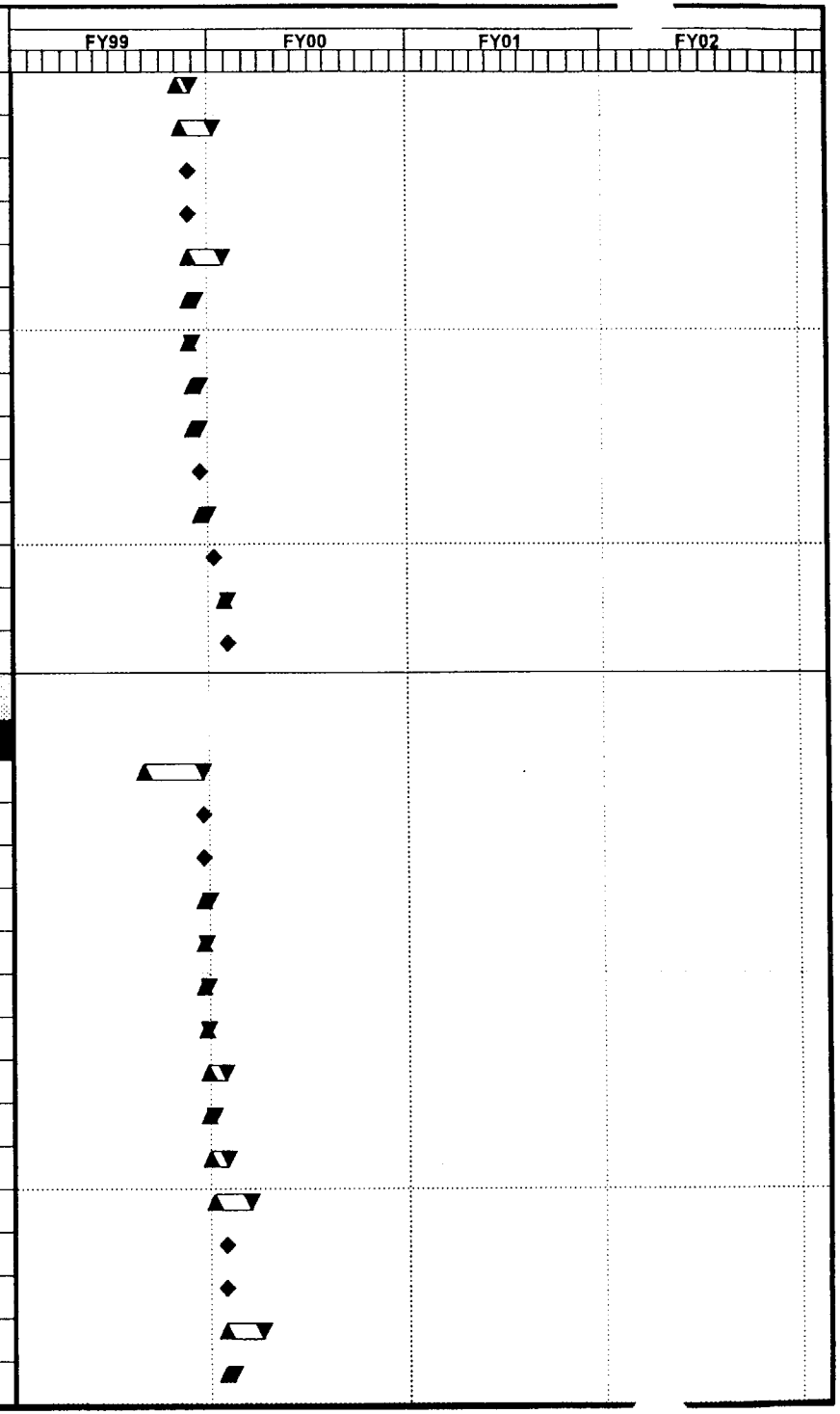
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
U7000					
130 Performance Assessment Operations					
SPP5320	AP3.10Q Data-Base Case Flow Fields for UZ		13	01JUN99	17JUN99
SPV152	BC Flow Fields-UZ-Input Parameters and Data Iden		0		17JUN99
SPV154	BC Flow Fields-UZ-Models and Codes Identified		0		17JUN99
SPP5322	Prep Draft AP3.10Q-Base Case Flow Fields for UZ		10	18JUN99	01JUL99
SPV156	BC Flow Fields-UZ-Determine DTN Assignment		2	18JUN99	21JUN99
SPV180	BC Flow Fields-UZ-Determine if Model-Rel SW is U		5	18JUN99	24JUN99
SPV158	BC Flow Fields-UZ-Determine if Data/DTN in TDMS		3	22JUN99	24JUN99
SPV160	BC Flow Fields-UZ-Submit Data/DTN to TDMS as Nec		22	25JUN99	27JUL99
SPV182	BC Flow Fields-UZ-Place Model-Related SW Under S		10	25JUN99	09JUL99
SLPA2686	Receive Base Case Flow Fields for UZ - AP3.10Q	M4	0		01JUL99
SPP5324	AP3.10Q Chckng/Rev-Base Case Flow Fields for UZ		20	02JUL99	30JUL99
SPV184	BC Flow Fields-UZ-Verify Model-Related Software		44	12JUL99	10SEP99
SPV164	BC Flow Fields-UZ-Procurement Related Issues ID'		0		27JUL99
SPV172	BC Flow Fields-UZ-Data Related Software Issues I		0		27JUL99
SPV162	BC Flow Fields-UZ-Verify/Trace Data		44	28JUL99	28SEP99
SPV166	BC Flow Fields-UZ-Rxesolve Procurement Related D		10	28JUL99	10AUG99
SPV174	BC Flow Fields-UZ-Determine if Data Rel SW is Un		5	28JUL99	03AUG99
SPV176	BC Flow Fields-UZ-Place Under SMS Control as Nec		10	04AUG99	17AUG99
SPP5326	Prep Final AP3.10Q Rpt-Base Case Flow Fields-UZ		10	16AUG99	27AUG99
SPV178	BC Flow Fields-UZ-Verify Data-Related Software		10	18AUG99	31AUG99
SPP341M4	Compl AP3.10Q Base Case Flow Fields for UZ	M4	0		27AUG99
SPV186	BC Flow Fields-UZ-Qualified/Verified SW Availabl		0		10SEP99
SPV168	BC Flow Fields-UZ-Update TDMS		5	29SEP99	05OCT99
SPV170	BC Flow Fields-UZ-Qualified/Verified Data Availa		0		05OCT99
U7020					
140 Natural Environment Program Operations					
SPP5340	AP3.10Q Data-Natural Analogues		213	01OCT98*	13AUG99
SPV224	Natural Analogues-Input Parameters and Data Iden		0		13AUG99
SPV226	Natural Analogues-Models and Codes Identified		0		13AUG99



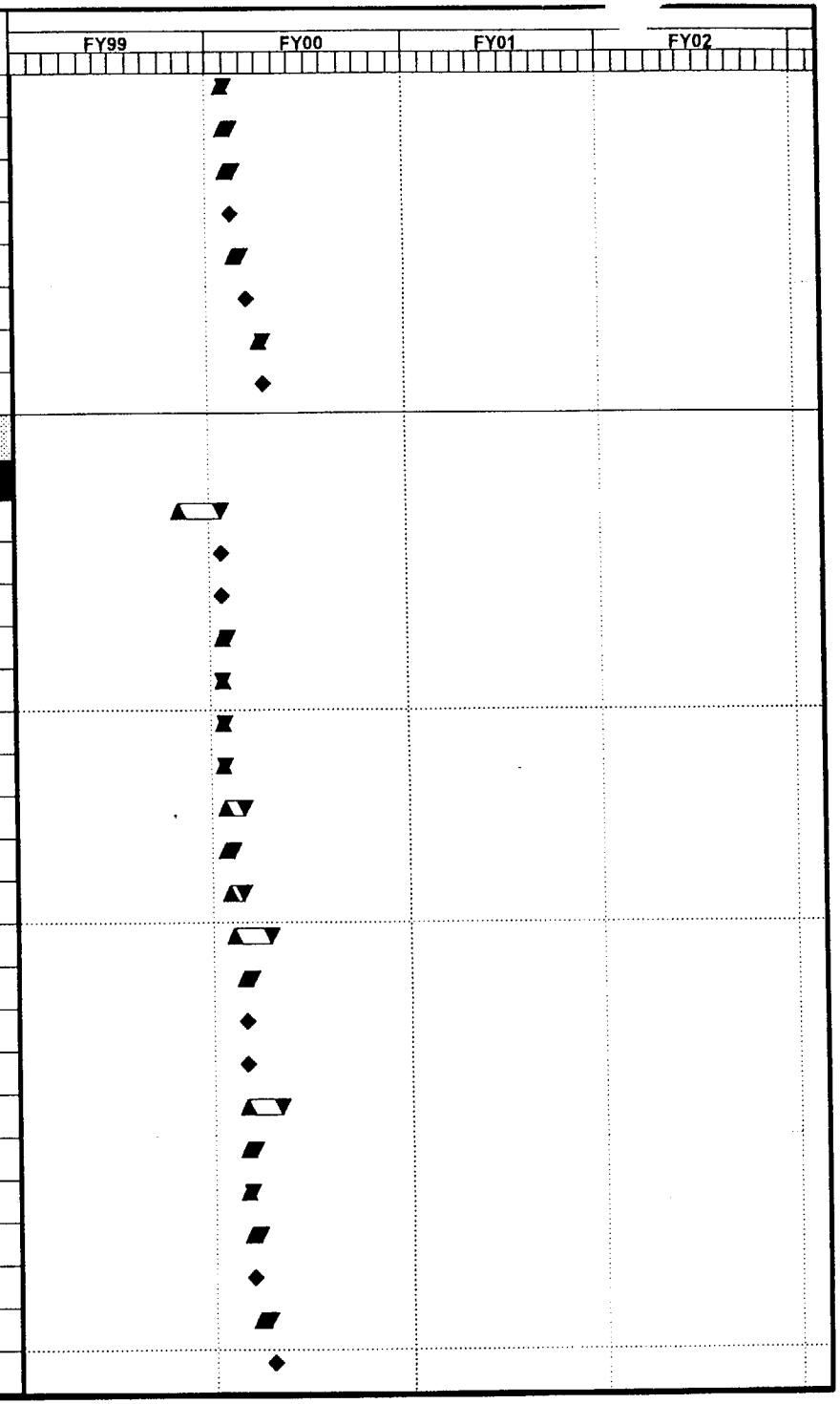
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPP5342	Prep Draft AP3.10Q-Natural Analogues		10	16AUG99	27AUG99
SPV228	Natural Analogues-Determine DTN Assignment		2	16AUG99	17AUG99
SPV252	Natural Analogues-Determine if Model-Rel SW is U		5	16AUG99	20AUG99
SPV230	Natural Analogues-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99
SPV232	Natural Analogues-Submit Data/DTN to TDMS as Nec		22	23AUG99	22SEP99
SPV254	Natural Analogues-Place Model-Related SW Under S		10	23AUG99	03SEP99
SPP5344	AP3.10Q Chckng/Rev-Natural Analogues		20	30AUG99	27SEP99
SPV256	Natural Analogues-Verify Model-Related Software		44	07SEP99	08NOV99
SPV236	Natural Analogues-Procurement Related Issues ID'		0		22SEP99
SPV244	Natural Analogues-Data Related Software Issues I		0		22SEP99
SPV234	Natural Analogues-Verify/Trace Data		44	23SEP99	29NOV99
SPV238	Natural Analogues-Rxesolve Procurement Related D		10	23SEP99	06OCT99
SPV246	Natural Analogues-Determine if Data Rel SW is Un		5	23SEP99	29SEP99
SPP5346	Prep Final AP3.10Q Rpt-Natural Analogues		10	28SEP99	12OCT99
SPV248	Natural Analogues-Place Under SMS Control as Nec		10	30SEP99	14OCT99
SPV250	Natural Analogues-Verify Data-Related Software		10	15OCT99	28OCT99
SPP347M4	Compl AP3.10Q Natural Analogues	M4	0		28OCT99
SPV258	Natural Analogues-Qualified/Verified SW Availabl		0		08NOV99
SPV240	Natural Analogues-Update TDMS		5	30NOV99	06DEC99
SPV242	Natural Analogues-Qualified/Verified Data Availa		0		06DEC99
U7025					
140 Natural Environment Program Operations					
SPP5600	AP3.10Q Data-Alcove Moisture & Trcr Studies		193	01OCT98*	16JUL99
SPV550	Alcove Moist & Trcr-Input Parameters and Data Id		0		16JUL99
SPV552	Alcove Moist & Trcr-Models and Codes Identified		0		16JUL99
SPP5602	Prep Draft AP3.10Q-Alcove Moisture & Trcr Studie		10	19JUL99	30JUL99
SPV554	Alcove Moist & Trcr-Determine DTN Assignment		2	19JUL99	20JUL99
SPV556	Alcove Moist & Trcr-Determine if Model-Rel SW is		5	19JUL99	23JUL99
SPV560	Alcove Moist & Trcr-Determine if Data/DTN in TDM		3	21JUL99	23JUL99
SPV562	Alcove Moist & Trcr-Submit Data/DTN to TDMS as N		22	26JUL99	24AUG99
SPV564	Alcove Moist & Trcr-Place Model-Related SW Under		10	26JUL99	06AUG99



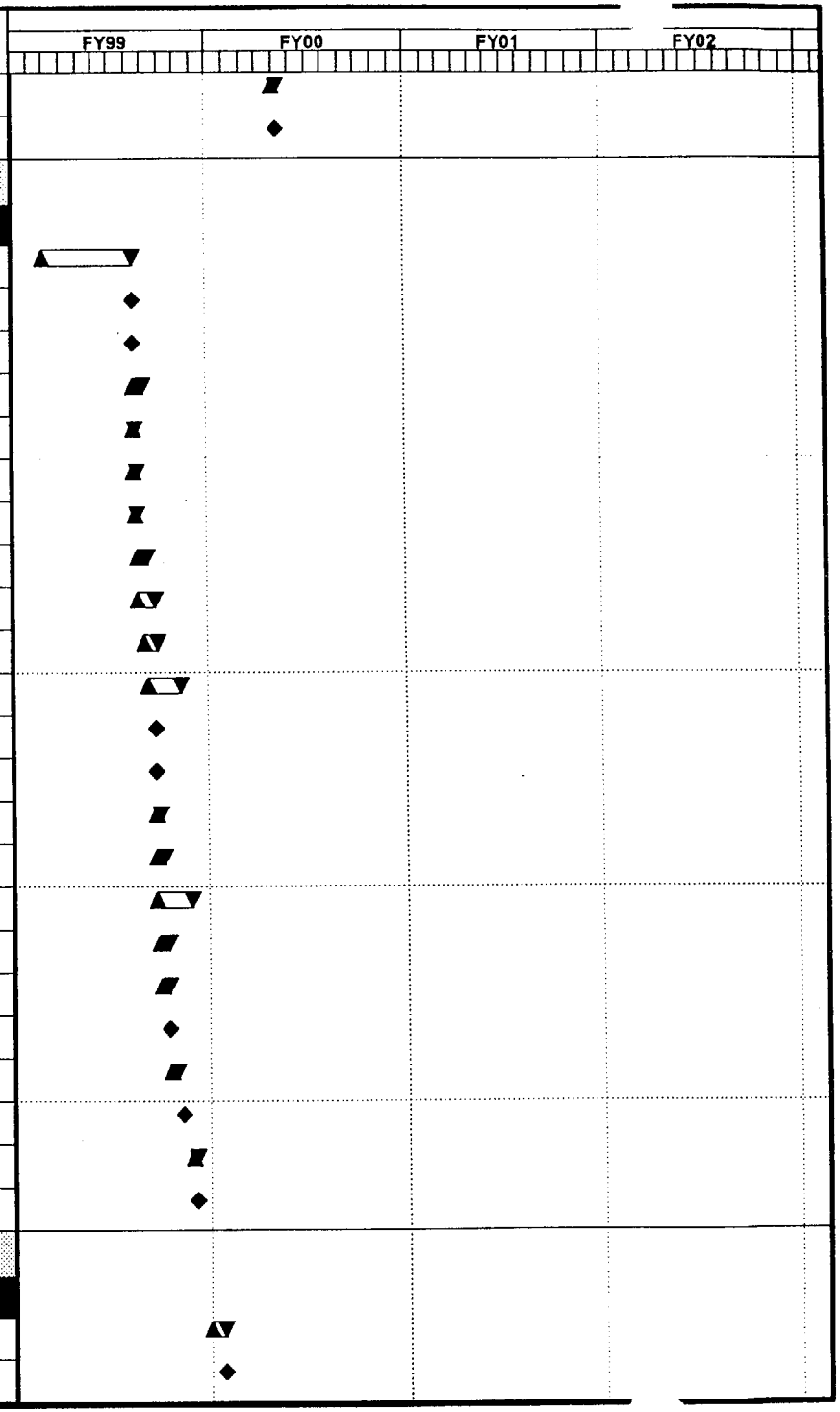
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPP5604	AP3.10Q Chckng/Rev-Alcove Moist & Trcr Studies		20	02AUG99	27AUG99
SPV566	Alcove Moist & Trcr-Verify Model-Related Softwar		44	09AUG99	08OCT99
SPV568	Alcove Moist & Trcr-Procurement Related Issues I		0		24AUG99
SPV570	Alcove Moist & Trcr-Data Related Software Issues		0		24AUG99
SPV572	Alcove Moist & Trcr-Verify/Trace Data		44	25AUG99	27OCT99
SPV574	Alcove Moist & Trcr-Rxesolve Procurement Related		10	25AUG99	08SEP99
SPV576	Alcove Moist & Trcr-Determine if Data Rel SW is		5	25AUG99	31AUG99
SPP5606	Prep Final AP3.10Q Rpt-Alcove Moist & Trcr Study		10	30AUG99	13SEP99
SPV578	Alcove Moist & Trcr-Place Under SMS Control as N		10	01SEP99	15SEP99
SPP600M4	Compl AP3.10Q Alcove moisture & Trcr Studies	M4	0		13SEP99
SPV580	Alcove Moist & Trcr-Verify Data-Related Software		10	16SEP99	29SEP99
SPV582	Alcove Moist & Trcr-Qualified/Verified SW Availa		0		08OCT99
SPV584	Alcove Moist & Trcr-Update TDMS		5	28OCT99	03NOV99
SPV586	Alcove Moist & Trcr-Qualified/Verified Data Avai		0		03NOV99
U7030					
140 Natural Environment Program Operations					
SPP5350	AP3.10Q Data-Geostat Represent CHn Formation		76	01JUN99*	16SEP99
SPV260	Geostat CHn-Input Parameters and Data Identified		0		16SEP99
SPV262	Geostat CHn-Models and Codes Identified		0		16SEP99
SPP5352	Prep Draft AP3.10Q-Geostat Represent CHn Form		10	17SEP99	30SEP99
SPV264	Geostat CHn-Determine DTN Assignment		2	17SEP99	20SEP99
SPV288	Geostat CHn-Determine if Model-Rel SW is Under S		5	17SEP99	23SEP99
SPV266	Geostat CHn-Determine if Data/DTN in TDMS		3	21SEP99	23SEP99
SPV268	Geostat CHn-Submit Data/DTN to TDMS as Necessary		22	24SEP99	26OCT99
SPV290	Geostat CHn-Place Model-Related SW Under SMS Con		10	24SEP99	07OCT99
SPP5354	AP3.10Q Chckng/Rev-Geostat Repres CHn Formation		20	01OCT99	29OCT99
SPV292	Geostat CHn-Verify Model-Related Software		44	08OCT99	14DEC99
SPV272	Geostat CHn-Procurement Related Issues ID'd to C		0		26OCT99
SPV280	Geostat CHn-Data Related Software Issues Identif		0		26OCT99
SPV270	Geostat CHn-Verify/Trace Data		44	27OCT99	03JAN00
SPV274	Geostat CHn-Rxesolve Procurement Related Data Is		10	27OCT99	09NOV99



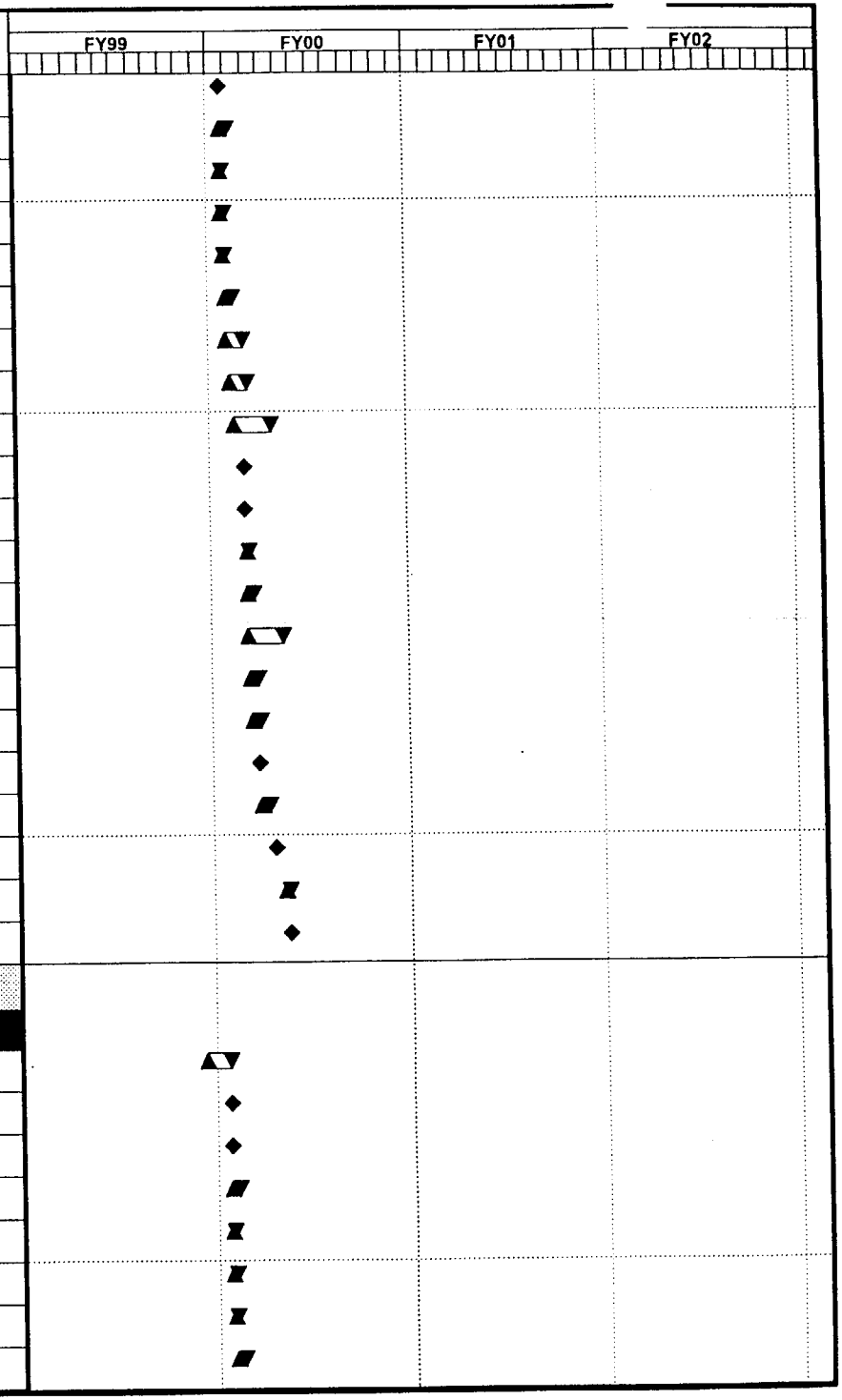
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPV282	Geostat CHn-Determine if Data Rel SW is Under SM		5	27OCT99	02NOV99
SPP5356	Prep Final AP3.10Q Rpt-Geostat Repres CHn Format		10	01NOV99	15NOV99
SPV284	Geostat CHn-Place Under SMS Control as Necessary		10	03NOV99	17NOV99
SPP350M4	Compl AP3.10Q Geostat Representation CHn Format	M4	0		15NOV99
SPV286	Geostat CHn-Verify Data-Related Software		10	18NOV99	03DEC99
SPV294	Geostat CHn-Qualified/Verified SW Available		0		14DEC99
SPV276	Geostat CHn-Update TDMS		5	04JAN00	10JAN00
SPV278	Geostat CHn-Qualified/Verified Data Available		0		10JAN00
U7040					
140 Natural Environment Program Operations					
SPP5360	AP3.10Q Data-UZ Model Validation Activities		54	02AUG99*	18OCT99
SPV296	UZ Mdl Valid-Input Parameters and Data Identifie		0		18OCT99
SPV298	UZ Mdl Valid-Models and Codes Identified		0		18OCT99
SPP5362	Prep Draft AP3.10Q-UZ Mdl Validation Activities		10	19OCT99	01NOV99
SPV300	UZ Mdl Valid-Determine DTN Assignment		2	19OCT99	20OCT99
SPV324	UZ Mdl Valid-Determine if Model-Rel SW is Under		5	19OCT99	25OCT99
SPV302	UZ Mdl Valid-Determine if Data/DTN in TDMS		3	21OCT99	25OCT99
SPV304	UZ Mdl Valid-Submit Data/DTN to TDMS as Necessar		22	26OCT99	29NOV99
SPV326	UZ Mdl Valid-Place Model-Related SW Under SMS Co		10	26OCT99	08NOV99
SPP5364	AP3.10Q Chckng/Rev-UZ Mdl Valid Activities		15	02NOV99	23NOV99
SPV328	UZ Mdl Valid-Verify Model-Related Software		44	09NOV99	14JAN00
SPP5366	Prep Final AP3.10Q Rpt-UZ Mdl Valid Activities		10	24NOV99	09DEC99
SPV308	UZ Mdl Valid-Procurement Related Issues ID'd to		0		29NOV99
SPV316	UZ Mdl Valid-Data Related Software Issues Identi		0		29NOV99
SPV306	UZ Mdl Valid-Verify/Trace Data		44	30NOV99	01FEB00
SPV310	UZ Mdl Valid-Rxesolve Procurement Related Data I		10	30NOV99	13DEC99
SPV318	UZ Mdl Valid-Determine if Data Rel SW is Under S		5	30NOV99	06DEC99
SPV320	UZ Mdl Valid-Place Under SMS Control as Necessar		10	07DEC99	20DEC99
SPP353M4	Compl AP3.10Q UZ Model Validation Activities	M4	0		09DEC99
SPV322	UZ Mdl Valid-Verify Data-Related Software		10	21DEC99	05JAN00
SPV330	UZ Mdl Valid-Qualified/Verified SW Available		0		14JAN00



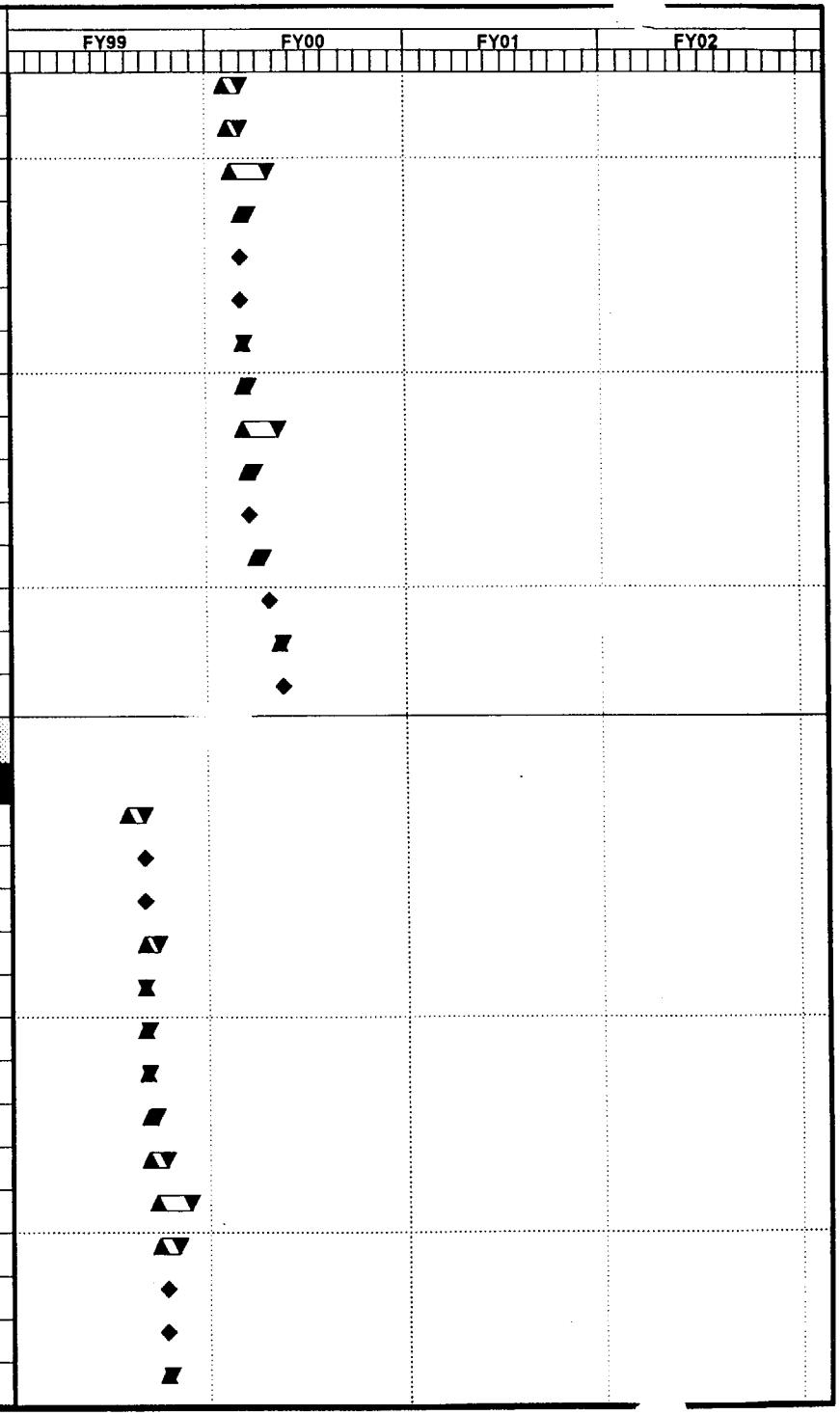
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPV312	UZ Mdl Valid-Update TDMS		5	02FEB00	08FEB00
SPV314	UZ Mdl Valid-Qualified/Verified Data Available		0		08FEB00
U7050					
130 Performance Assessment Operations					
SLPA2688	AP3.10Q Data-Analy Comp Advect-Disp Trsnpt		112	01DEC98*	17MAY99
SLPA2696	Adv-Disp Trsnp-Input Parameters and Data Identif		0		17MAY99
SLPA2698	Adv-Disp Trsnp-Models and Codes Identified		0		17MAY99
SLPA2690	Prep Draft AP3.10Q-Analy Comp Advect Disp-Trsnpr		10	18MAY99	01JUN99
SLPA2700	Adv-Disp Trsnp-Determine DTN Assignment		2	18MAY99	19MAY99
SLPA2702	Adv-Disp Trsnp-Determine if Model-Rel SW is Unde		5	18MAY99	24MAY99
SLPA2704	Adv-Disp Trsnp-Determine if Data/DTN in TDMS		3	20MAY99	24MAY99
SLPA2706	Adv-Disp Trsnp-Place Model-Related SW Under SMS		10	25MAY99	08JUN99
SLPA2708	Adv-Disp Trsnp-Submit Data/DTN to TDMS as Necess		22	25MAY99	24JUN99
SLPA2692	AP3.10Q Chckng/Rev-Analy Comp Adv-Disp Trsnprt		20	02JUN99	29JUN99
SLPA2710	Adv-Disp Trsnp-Verify Model-Related Software		44	09JUN99	10AUG99
SLPA2712	Adv-Disp Trsnp-Procurement Related Issues ID'd t		0		24JUN99
SLPA2714	Adv-Disp Trsnp-Data Related Software Issues Iden		0		24JUN99
SLPA2716	Adv-Disp Trsnp-Determine if Data Rel SW is Under		5	25JUN99	01JUL99
SLPA2718	Adv-Disp Trsnp-Rxesolve Procurement Related Data		10	25JUN99	09JUL99
SLPA2720	Adv-Disp Trsnp-Verify/Trace Data		44	25JUN99	26AUG99
SLPA2694	Prep Final AP3.10Q Rpt-Analy Comp Adv-Disp Trsnp		10	30JUN99	14JUL99
SLPA2722	Adv-Disp Trsnp-Place Under SMS Control as Necess		10	02JUL99	16JUL99
SPP356M4	Compl AP3.10Q Analy Compar Advect-Disp Trsnprt	M4	0		14JUL99
SLPA2724	Adv-Disp Trsnp-Verify Data-Related Software		10	19JUL99	30JUL99
SLPA2726	Adv-Disp Trsnp-Qualified/Verified SW Available		0		10AUG99
SLPA2728	Adv-Disp Trsnp-Update TDMS		5	27AUG99	02SEP99
SLPA2730	Adv-Disp Trsnp-Qualified/Verified Data Available		0		02SEP99
U7060					
130 Performance Assessment Operations					
SLPA2732	AP3.10Q Data-Analy B/Case Part Trkng Rslts		15	01OCT99	22OCT99
SLPA2740	Analy B/Case Trckng-Input Parameters and Data Id		0		22OCT99



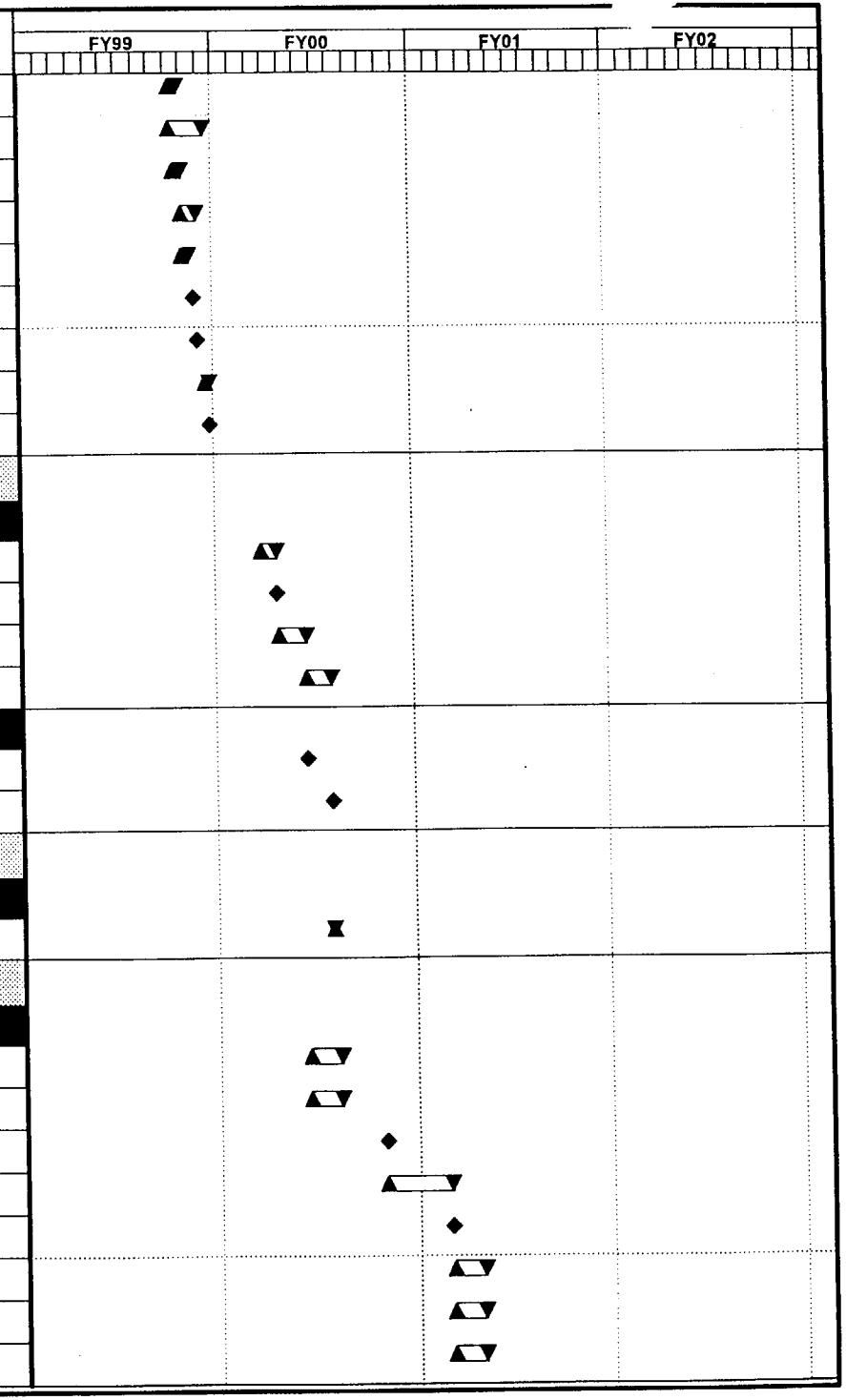
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2742	Analy B/Case Trckng-Models and Codes Identified		0		22OCT99
SLPA2734	Prep Draft AP3.10Q-Analy B/Case Part Trckng Rslt		10	25OCT99	05NOV99
SLPA2744	Analy B/Case Trckng-Determine DTN Assignment		2	25OCT99	26OCT99
SLPA2746	Analy B/Case Trckng-Determine if Model-Rel SW is		5	25OCT99	29OCT99
SLPA2748	Analy B/Case Trckng-Determine if Data/DTN in TDM		3	27OCT99	29OCT99
SLPA2750	Analy B/Case Trckng-Place Model-Related SW Under		10	01NOV99	15NOV99
SLPA2752	Analy B/Case Trckng-Submit Data/DTN to TDMS as N		22	01NOV99	03DEC99
SLPA2736	AP3.10Q Chckng/Rev-Analy B/Case Part Trckng Rslt		20	08NOV99	08DEC99
SLPA2754	Analy B/Case Trckng-Verify Model-Related Softwar		44	16NOV99	20JAN00
SLPA2756	Analy B/Case Trckng-Procurement Related Issues I		0		03DEC99
SLPA2758	Analy B/Case Trckng-Data Related Software Issues		0		03DEC99
SLPA2760	Analy B/Case Trckng-Determine if Data Rel SW is		5	06DEC99	10DEC99
SLPA2762	Analy B/Case Trckng-Rxesolve Procurement Related		10	06DEC99	17DEC99
SLPA2764	Analy B/Case Trckng-Verify/Trace Data		44	06DEC99	07FEB00
SLPA2738	Prep Final AP3.10Q Rpt-Analy B/Case Part Trckng		10	09DEC99	22DEC99
SLPA2766	Analy B/Case Trckng-Place Under SMS Control as N		10	13DEC99	27DEC99
SPP359M4	Compl AP3.10Q B/Case Particl Trckng Rslts	M4	0		22DEC99
SLPA2768	Analy B/Case Trckng-Verify Data-Related Software		10	28DEC99	11JAN00
SLPA2770	Analy B/Case Trckng-Qualified/Verified SW Availa		0		20JAN00
SLPA2772	Analy B/Case Trckng-Update TDMS		5	08FEB00	14FEB00
SLPA2774	Analy B/Case Trckng-Qualified/Verified Data Avai		0		14FEB00
U7070					
130 Performance Assessment Operations					
SLPA2776	AP3.10Q Data-Sens Stdy S/S UZ F & T, Seepg		29	13SEP99*	22OCT99
SLPA2784	Sens Stdy Seepg-Input Parameters and Data Identi		0		22OCT99
SLPA2786	Sens Stdy Seepg-Models and Codes Identified		0		22OCT99
SLPA2778	Prep Draft AP3.10Q-Sens Stdy S/S F&T, Seepg		10	25OCT99	05NOV99
SLPA2788	Sens Stdy Seepg-Determine DTN Assignment		2	25OCT99	26OCT99
SLPA2790	Sens Stdy Seepg-Determine if Model-Rel SW is Und		5	25OCT99	29OCT99
SLPA2792	Sens Stdy Seepg-Determine if Data/DTN in TDMS		3	27OCT99	29OCT99
SLPA2794	Sens Stdy Seepg-Place Model-Related SW Under SMS		10	01NOV99	15NOV99



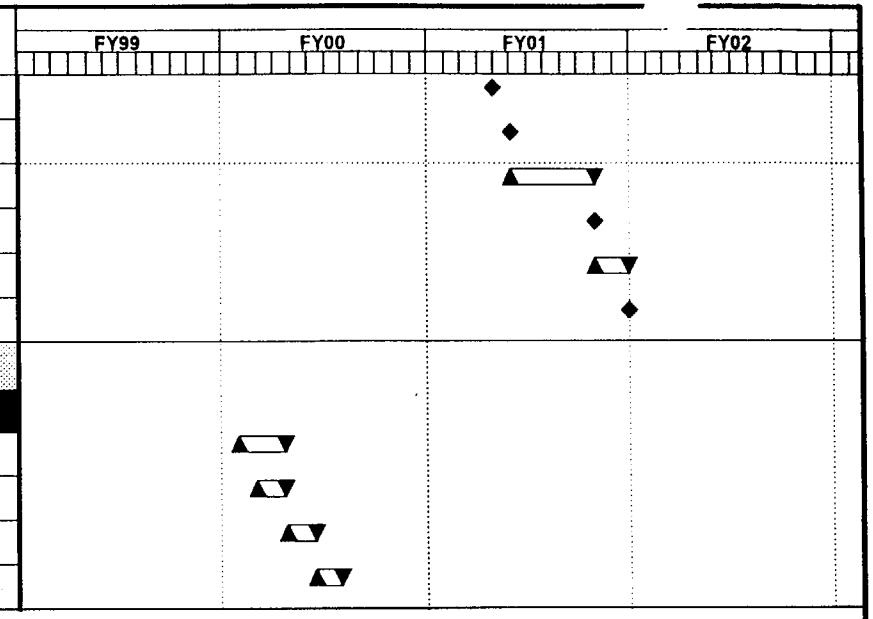
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2796	Sens Stdy Seepg-Submit Data/DTN to TDMS as Neces		22	01NOV99	03DEC99
SLPA2780	AP3.10Q Chckng/Rev-Sens Stdy UZ F&T, Seepg		15	08NOV99	01DEC99
SLPA2798	Sens Stdy Seepg-Verify Model-Related Software		44	16NOV99	20JAN00
SLPA2782	Prep Final AP3.10Q Rpt-Sens Stdy UZ F&T, Seepg		10	02DEC99	15DEC99
SLPA2800	Sens Stdy Seepg-Procurement Related Issues ID'd		0		03DEC99
SLPA2802	Sens Stdy Seepg-Data Related Software Issues Ide		0		03DEC99
SLPA2804	Sens Stdy Seepg-Determine if Data Rel SW is Unde		5	06DEC99	10DEC99
SLPA2806	Sens Stdy Seepg-Rxesolve Procurement Related Dat		10	06DEC99	17DEC99
SLPA2808	Sens Stdy Seepg-Verify/Trace Data		44	06DEC99	07FEB00
SLPA2810	Sens Stdy Seepg-Place Under SMS Control as Neces		10	13DEC99	27DEC99
SP362M4	Compl AP3.10Q Sens Study UZ F&T, Seepg	M4	0		15DEC99
SLPA2812	Sens Stdy Seepg-Verify Data-Related Software		10	28DEC99	11JAN00
SLPA2814	Sens Stdy Seepg-Qualified/Verified SW Available		0		20JAN00
SLPA2816	Sens Stdy Seepg-Update TDMS		5	08FEB00	14FEB00
SLPA2818	Sens Stdy Seepg-Qualified/Verified Data Availabl		0		14FEB00
U7080					
140 Natural Environment Program Operations					
SLPA2820	AP3.10Q Data-FEP's		22	03MAY99*	02JUN99
SLPA2830	Rpt-FEP's-Input Parameters and Data Identified		0		02JUN99
SLPA2832	Rpt-FEP's-Models and Codes Identified		0		02JUN99
SLPA2822	Prep Draft AP3.10Q-FEP's		18	03JUN99	28JUN99
SLPA2834	Rpt-FEP's-Determine DTN Assignment		2	03JUN99	04JUN99
SLPA2836	Rpt-FEP's-Determine if Model-Rel SW is Under SM		5	03JUN99	09JUN99
SLPA2838	Rpt-FEP's-Determine if Data/DTN in TDMS		3	07JUN99	09JUN99
SLPA2840	Rpt-FEP's-Place Model-Related SW Under SMS Cont		10	10JUN99	23JUN99
SLPA2842	Rpt-FEP's-Submit Data/DTN to TDMS as Necessary		22	10JUN99	12JUL99
SLPA2844	Rpt-FEP's-Verify Model-Related Software		44	24JUN99	25AUG99
SLPA2824	AP3.10Q Chckng/Rev-FEP's		24	29JUN99	02AUG99
SLPA2846	Rpt-FEP's-Procurement Related Issues ID'd to Ca		0		12JUL99
SLPA2848	Rpt-FEP's-Data Related Software Issues Identifi		0		12JUL99
SLPA2850	Rpt-FEP's-Determine if Data Rel SW is Under SMS		5	13JUL99	19JUL99



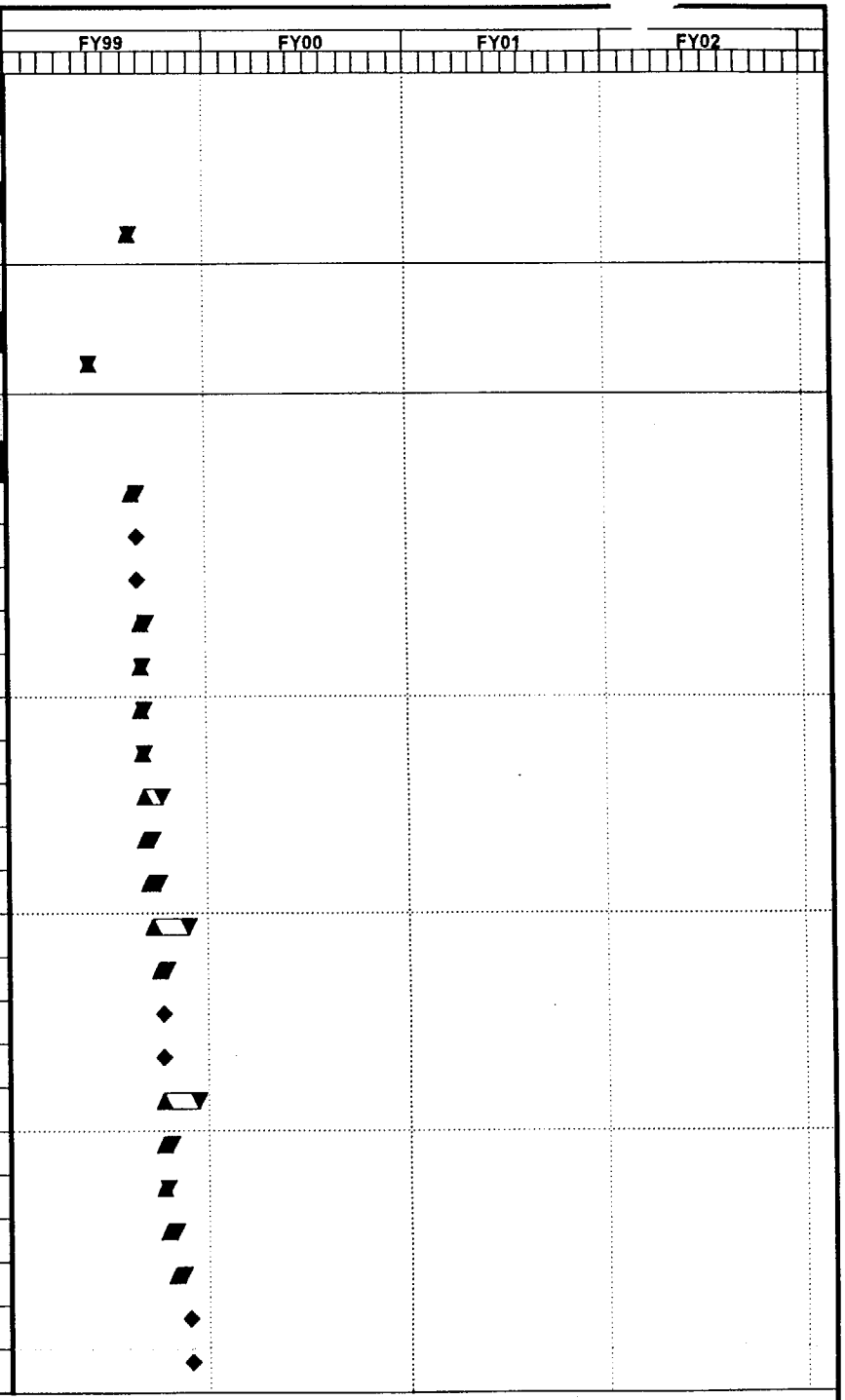
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2852	Rpt-FEP's-Rxesolve Procurement Related Data Iss		10	13JUL99	26JUL99
SLPA2854	Rpt-FEP's-Verify/Trace Data		44	13JUL99	13SEP99
SLPA2856	Rpt-FEP's-Place Under SMS Control as Necessary		10	20JUL99	02AUG99
SLPA2826	Prep Final AP3.10Q Rpt-FEP's		20	03AUG99	30AUG99
SLPA2858	Rpt-FEP's-Verify Data-Related Software		10	03AUG99	16AUG99
SLPA2860	Rpt-FEP's-Qualified/Verified SW Available		0		25AUG99
SLPA2828	Compl AP3.10Q FEP's	M4	0		30AUG99
SLPA2862	Rpt-FEP's-Update TDMS		5	14SEP99	20SEP99
SLPA2864	Rpt-FEP's-Qualified/Verified Data Available		0		20SEP99
U7100					
130 Performance Assessment Operations					
SLP5900	UZ Flow & Transport PMR Text Process		20	23DEC99	21JAN00
SLP59AM4	UZ Flow & Transport PMR Rev 00A	M4	0		21JAN00
SLP5905	M&O UZ Flow & Transport PMR Review		36	24JAN00	14MAR00
SLP5910	DOE UZ Flow & Transport PMR Review		33	15MAR00	28APR00
300 Regulatory & Licensing					
SLP59BM3	UZ Flow & Transport PMR Rev 00	M3	0		14MAR00
SLP59CM3	Rev 01 UZ Flow & Transport PMR	M3	0		28APR00
U8000					
U8000	EIS Chapter 5		1	01MAY00	01MAY00
Z9999 PMR Rev 02 thru Rev 05					
300 Regulatory & Licensing					
SLU00A	Revise UZ PMR AP 3.10Q's for SR		41	15MAR00	10MAY00
SLU00B	Prepare UZ PMR REV-02A for SR		41	15MAR00	10MAY00
SLU00BM4	UZ PMR Rev-02A for SR	M4	0		01AUG00*
SLU00C	M&O Review UZ PMR Rev-02A for SR		83	02AUG00	01DEC00
SLU00CM3	UZ PMR Rev-02 for SR	M3	0		01DEC00
SLU00D	DOE Review UZ PMR 02 for SR		41	04DEC00	31JAN01
SLU00P	Revise UZ PMR AP 3.10Q's for LA		41	04DEC00	31JAN01
SLU00Q	Prepare UZ PMR REV-04A for LA		41	04DEC00	31JAN01



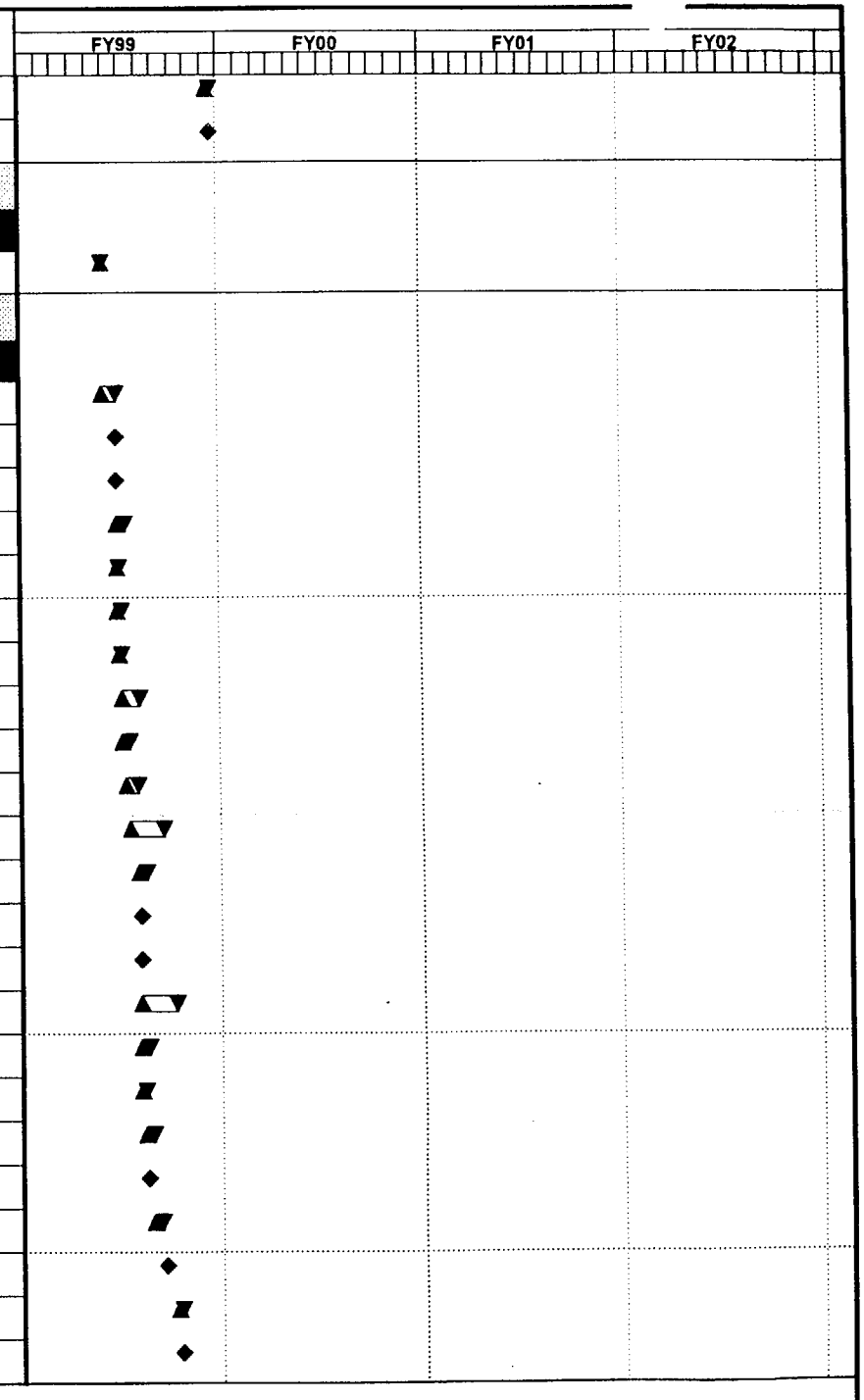
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLU00EM3	Rev 03 UZ PMR for SR	M3	0		31JAN01
SLU00QM4	UZ PMR Rev-04A for LA	M4	0		01MAR01*
SLU00R	M&O Review UZ PMR Rev-04A for LA		106	02MAR01	31JUL01
SLU00RM3	UZ PMR Rev-04 for LA	M3	0		31JUL01
SLU00S	DOE Review UZ PMR 04 for LA		42	01AUG01	28SEP01
SLU00SM3	Rev 05 UZ PMR for LA	M3	0		28SEP01
150 Support Operations					
BMP180	PIM 3.10Q/PMR Planning & Text Support (UZ)		55	01NOV99*	21JAN00
BMP184	PIM Text & M&O Review Prep Support (UZ)		36	01DEC99	21JAN00
BMP186	PIM M[illegible] Rev. & DOE Rev. Prep Support (UZ)		36	24JAN00	14MAR00
BMP188	PIM DOE Rev. & Final Accept. Support (UZ)		33	15MAR00	28APR00



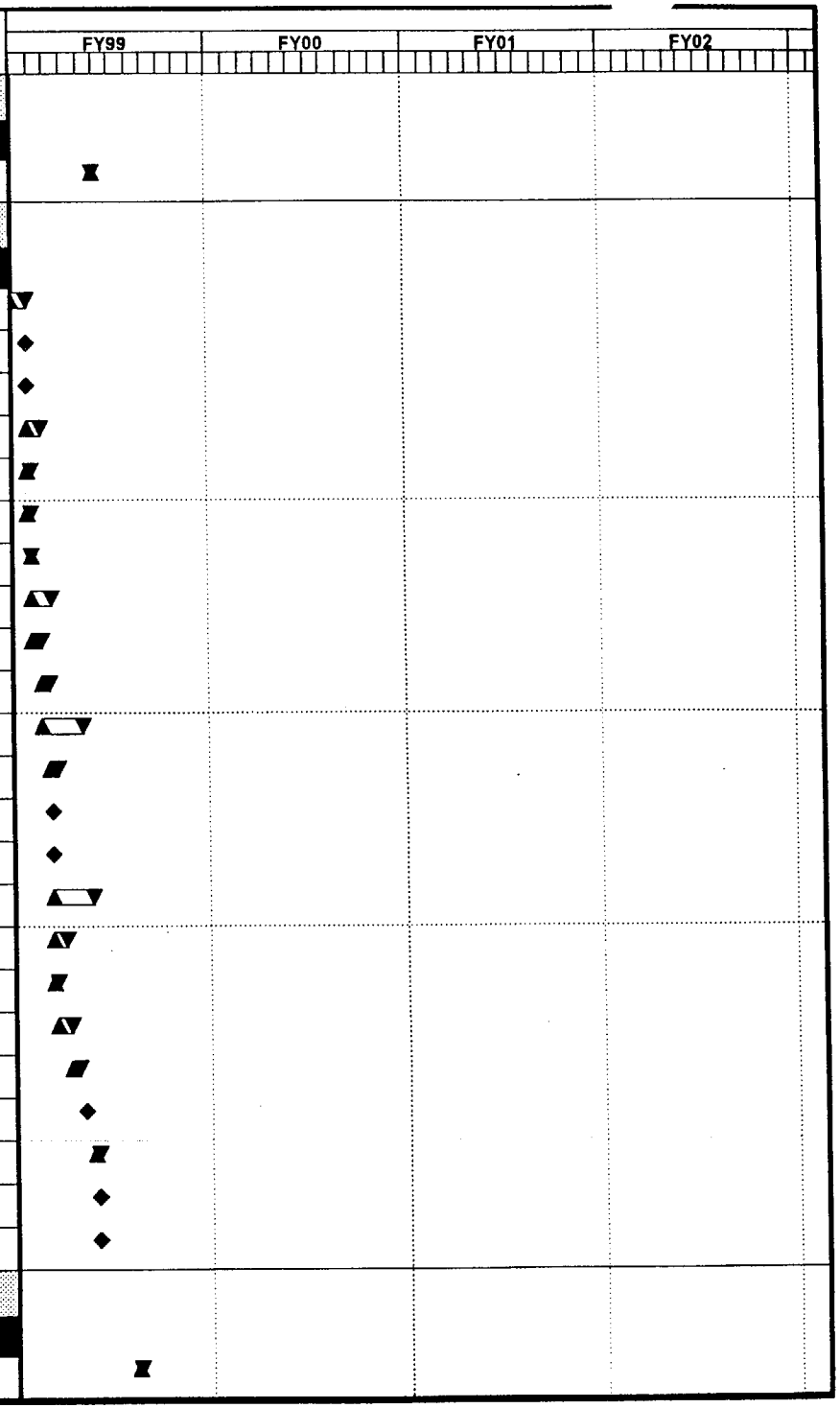
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
S SZ PMR					
B1000					
140 Natural Environment Program Operations					
B1000	Hydrogeologic Framework Data	M4	1	14MAY99*	14MAY99
B1008					
140 Natural Environment Program Operations					
B1008	Recharge Data		1	01MAR99*	01MAR99
B1010					
140 Natural Environment Program Operations					
SPP2025	AP3.10Q Data-Hydrogeologic Framework Model		10	17MAY99	28MAY99
SPS144	Hydrogeol Frmwork-Input Parameters and Data Iden		0		28MAY99
SPS146	Hydrogeol Frmwork-Models and Codes Identified		0		28MAY99
SPP2030	Prep Draft AP3.10Q-Hydrogeologic Framework Model		9	01JUN99	11JUN99
SPS148	Hydrogeol Frmwork-Determine DTN Assignment		2	01JUN99	02JUN99
SPS172	Hydrogeol Frmwork-Determine if Model-Rel SW is U		5	01JUN99	07JUN99
SPS150	Hydrogeol Frmwork-Determine if Data/DTN in TDMS		3	03JUN99	07JUN99
SPS152	Hydrogeol Frmwork-Submit Data/DTN to TDMS as Nec		22	08JUN99	08JUL99
SPS174	Hydrogeol Frmwork-Place Model-Related SW Under S		10	08JUN99	21JUN99
SPP2035	AP3.10Q Chckng/Rev-Hydrogeologic Framework Model		13	14JUN99	30JUN99
SPS176	Hydrogeol Frmwork-Verify Model-Related Software		44	22JUN99	23AUG99
SPP2040	Prep Final AP3.10Q Rpt-Hydrogeol Frmwork Model		10	01JUL99	15JUL99
SPS156	Hydrogeol Frmwork-Procurement Related Issues ID'		0		08JUL99
SPS164	Hydrogeol Frmwork-Data Related Software Issues I		0		08JUL99
SPS154	Hydrogeol Frmwork-Verify/Trace Data		44	09JUL99	09SEP99
SPS158	Hydrogeol Frmwork-Rxesolve Procurement Related D		10	09JUL99	22JUL99
SPS166	Hydrogeol Frmwork-Determine if Data Rel SW is Un		5	09JUL99	15JUL99
SPS168	Hydrogeol Frmwork-Place Under SMS Control as Nec		10	16JUL99	29JUL99
SPS170	Hydrogeol Frmwork-Verify Data-Related Software		10	30JUL99	12AUG99
SPS178	Hydrogeol Frmwork-Qualified/Verified SW Availabl		0		23AUG99
SPP100M4	Compl AP3.10Q Hydrogeologic Framework Model	M4	0		26AUG99



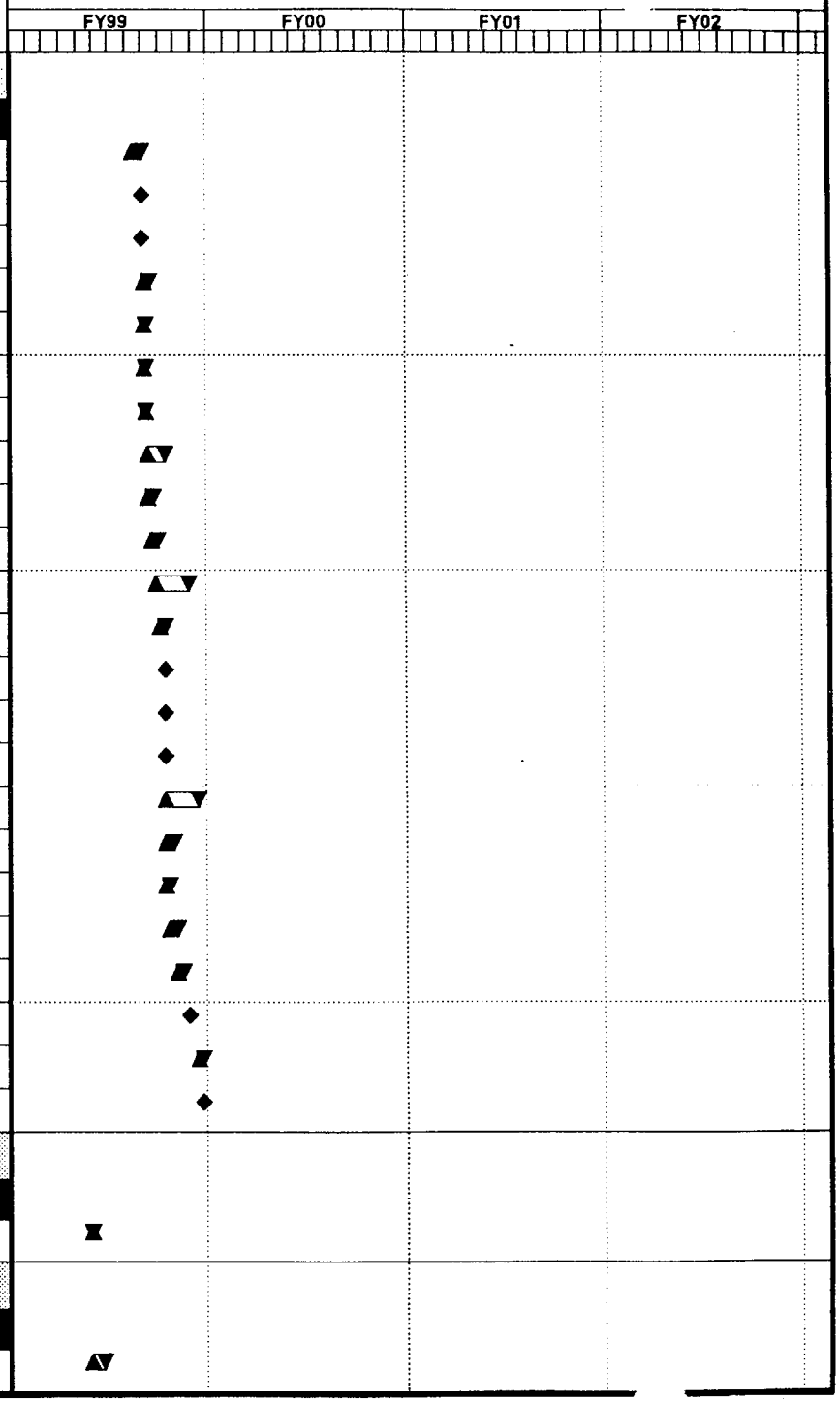
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPS160	Hydrogeol Frmwork-Update TDMS		5	10SEP99	16SEP99
SPS162	Hydrogeol Frmwork-Qualified/Verified Data Availa		0		16SEP99
B1020					
140 Natural Environment Program Operations					
B1020	Water Level Data	M4	1	01MAR99	01MAR99*
B1030					
140 Natural Environment Program Operations					
SPP1000	AP3.10Q Data-Water Level & Data Reliab Analy		19	02MAR99*	26MAR99
SPS000	Lev & Data Rel-Input Parameters and Data Identif		0		26MAR99
SPS002	Lev & Data Rel-Models and Codes Identified		0		26MAR99
SPP1005	Prep Draft AP3.10Q-Wtr Lev & Data Reliab Analy		10	29MAR99	09APR99
SPS004	Lev & Data Rel-Determine DTN Assignment		2	29MAR99	30MAR99
SPS028	Lev & Data Rel-Determine if Model-Rel SW is Unde		5	29MAR99	02APR99
SPS006	Lev & Data Rel-Determine if Data/DTN in TDMS		3	31MAR99	02APR99
SPS008	Lev & Data Rel-Submit Data/DTN to TDMS as Necess		22	05APR99	04MAY99
SPS030	Lev & Data Rel-Place Model-Related SW Under SMS		10	05APR99	16APR99
SPP1010	AP3.10Q Chckng/Rev-Wtr Level & Data Rel Analy		15	12APR99	30APR99
SPS032	Lev & Data Rel-Verify Model-Related Software		44	19APR99	18JUN99
SPP1015	Prep Final AP3.10Q Rpt-Wtr Lev & Data Rel Analy		10	03MAY99	14MAY99
SPS012	Lev & Data Rel-Procurement Related Issues ID'd t		0		04MAY99
SPS020	Lev & Data Rel-Data Related Software Issues Iden		0		04MAY99
SPS010	Lev & Data Rel-Verify/Trace Data		44	05MAY99	07JUL99
SPS014	Lev & Data Rel-Rxesolve Procurement Related Data		10	05MAY99	18MAY99
SPS022	Lev & Data Rel-Determine if Data Rel SW is Under		5	05MAY99	11MAY99
SPS024	Lev & Data Rel-Place Under SMS Control as Necess		10	12MAY99	25MAY99
SPP103M4	Compl AP3.10Q Water Lvl & Data Reliab Analysis	M4	0		14MAY99
SPS026	Lev & Data Rel-Verify Data-Related Software		10	26MAY99	09JUN99
SPS034	Lev & Data Rel-Qualified/Verified SW Available		0		18JUN99
SPS016	Lev & Data Rel-Update TDMS		5	08JUL99	14JUL99
SPS018	Lev & Data Rel-Qualified/Verified Data Available		0		14JUL99



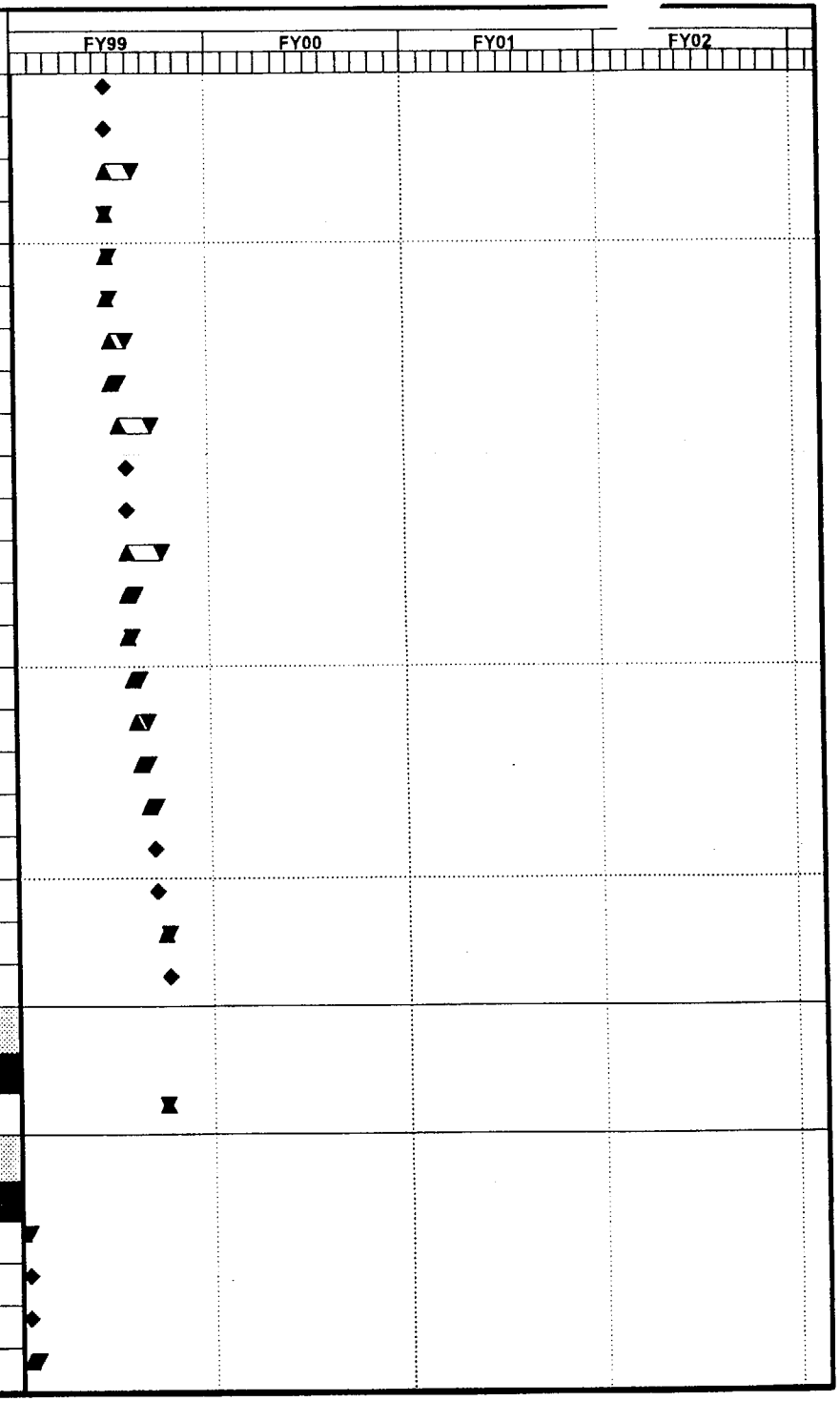
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
B1035					
140 Natural Environment Program Operations					
B1035	Lateral Boundary Conditions Data	M4	1	01MAR99	01MAR99*
B1040					
140 Natural Environment Program Operations					
SPP1040	AP3.10Q Data-Flow Boundary Condition		20	01OCT98	29OCT98
SPS036	Flow Bnd Cond-Input Parameters and Data Identifi		0		29OCT98
SPS038	Flow Bnd Cond-Models and Codes Identified		0		29OCT98
SPP1045	Prep AP3.10Q-Flow Boundary Condition		15	30OCT98	20NOV98
SPS040	Flow Bnd Cond-Determine DTN Assignment		2	30OCT98	02NOV98
SPS064	Flow Bnd Cond-Determine if Model-Rel SW is Under		5	30OCT98	05NOV98
SPS042	Flow Bnd Cond-Determine if Data/DTN in TDMS		3	03NOV98	05NOV98
SPS044	Flow Bnd Cond-Submit Data/DTN to TDMS as Necessa		22	06NOV98	10DEC98
SPS066	Flow Bnd Cond-Place Model-Related SW Under SMS C		10	06NOV98	20NOV98
SPP1050	AP3.10Q Chckng/Rev-Flow Boundary Condition		9	23NOV98	07DEC98
SPS068	Flow Bnd Cond-Verify Model-Related Software		44	23NOV98	03FEB99
SPP1055	Prep Final AP3.10Q Rpt-Flow Boundary Conditions		10	08DEC98	21DEC98
SPS048	Flow Bnd Cond-Procurement Related Issues ID'd to		0		10DEC98
SPS056	Flow Bnd Cond-Data Related Software Issues Ident		0		10DEC98
SPS046	Flow Bnd Cond-Verify/Trace Data		44	11DEC98	22FEB99
SPS050	Flow Bnd Cond-Rxesolve Procurement Related Data		10	11DEC98	04JAN99
SPS058	Flow Bnd Cond-Determine if Data Rel SW is Under		5	11DEC98	17DEC98
SPS060	Flow Bnd Cond-Place Under SMS Control as Necessa		10	18DEC98	11JAN99
SPS062	Flow Bnd Cond-Verify Data-Related Software		10	12JAN99	25JAN99
SPS070	Flow Bnd Cond-Qualified/Verified SW Available		0		03FEB99
SPS052	Flow Bnd Cond-Update TDMS		5	23FEB99	01MAR99
SPP106M4	Compl AP3.10Q Flow Boundary Conditions	M4	0		01MAR99
SPS054	Flow Bnd Cond-Qualified/Verified Data Available		0		01MAR99
B1050					
140 Natural Environment Program Operations					
B1050	Develop Geostatistical/Hetero Methodology	M4	1	14MAY99*	14MAY99



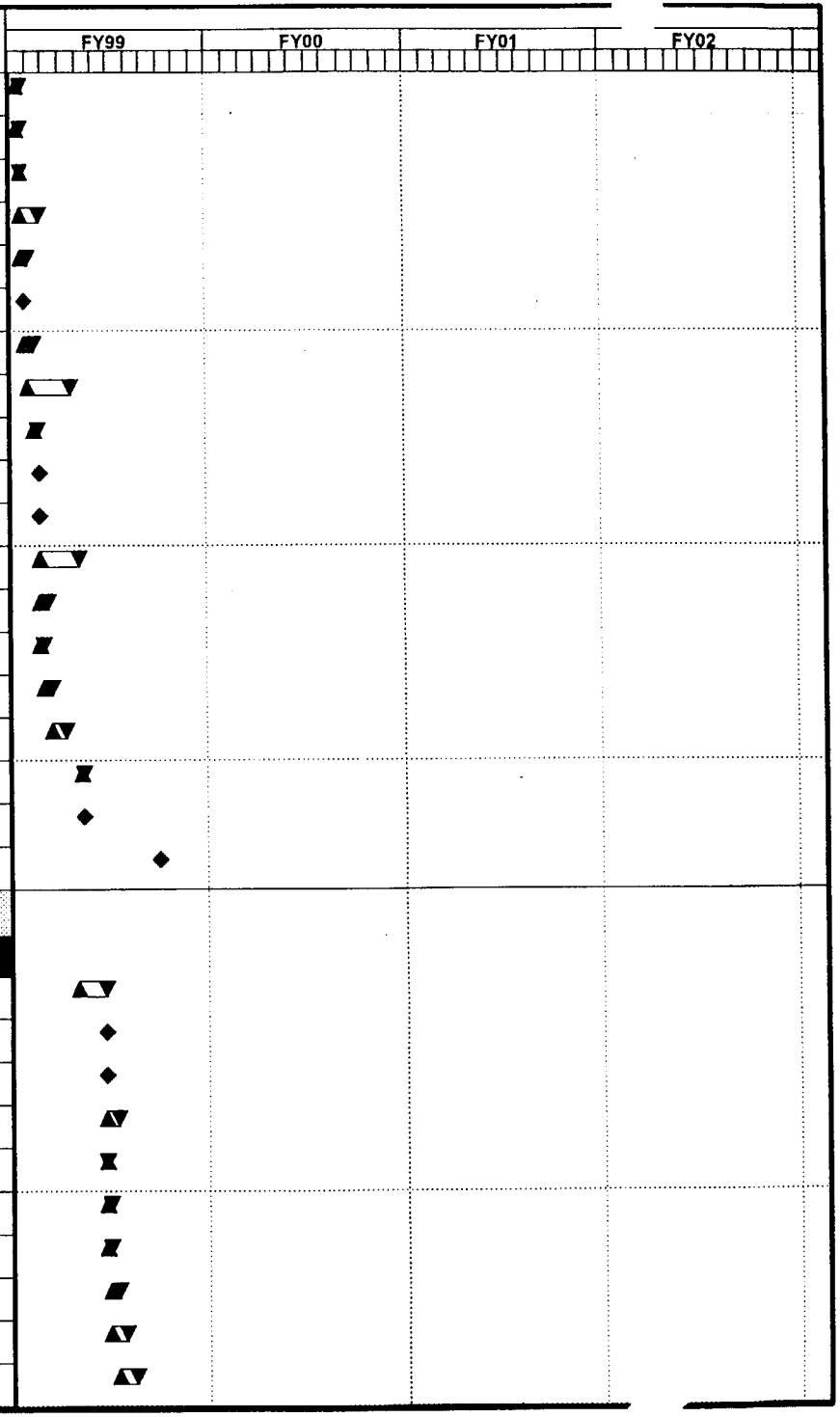
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
B1060					
140 Natural Environment Program Operations					
SPP3000	AP3.10Q Data-Geostat/Herero Methodology		14	17MAY99*	04JUN99
SPS252	Geostat/Hetero Meth-Input Parameters and Data Id		0		04JUN99
SPS254	Geostat/Hetero Meth-Models and Codes Identified		0		04JUN99
SPP3005	Prep Draft AP3.10Q-Geostat/Hetero Methodology		10	07JUN99	18JUN99
SPS256	Geostat/Hetero Meth-Determine DTN Assignment		2	07JUN99	08JUN99
SPS280	Geostat/Hetero Meth-Determine if Model-Rel SW is		5	07JUN99	11JUN99
SPS258	Geostat/Hetero Meth-Determine if Data/DTN in TDM		3	09JUN99	11JUN99
SPS260	Geostat/Hetero Meth-Submit Data/DTN to TDMS as N		22	14JUN99	14JUL99
SPS282	Geostat/Hetero Meth-Place Model-Related SW Under		10	14JUN99	25JUN99
SPP3010	AP3.10Q Chckng/Rev-Geostat/Hetero Methodology		10	21JUN99	02JUL99
SPS284	Geostat/Hetero Meth-Verify Model-Related Softwar		44	28JUN99	27AUG99
SPP3015	Prep Final AP3.10Q Rpt-Geostat/Hetero Methodol		8	06JUL99	15JUL99
SPS26[illegible]	Geostat/Hetero Meth-Procurement Related Issues I		0		14JUL99
SPS272	Geostat/Hetero Meth-Data Related Software Issues		0		14JUL99
SPP109M4	Compl AP3.10Q Geostat/Hetero Methodology	M4	0		15JUL99
SPS262	Geostat/Hetero Meth-Verify/Trace Data		44	15JUL99	15SEP99
SPS266	Geostat/Hetero Meth-Rxesolve Procurement Related		10	15JUL99	28JUL99
SPS274	Geostat/Hetero Meth-Determine if Data Rel SW is		5	15JUL99	21JUL99
SPS276	Geostat/Hetero Meth-Place Under SMS Control as N		10	22JUL99	04AUG99
SPS278	Geostat/Hetero Meth-Verify Data-Related Software		10	05AUG99	18AUG99
SPS286	Geostat/Hetero Meth-Qualified/Verified SW Availa		0		27AUG99
SPS268	Geostat/Hetero Meth-Update TDMS		5	16SEP99	22SEP99
SPS270	Geostat/Hetero Meth-Qualified/Verified Data Avai		0		22SEP99
B1064					
140 Natural Environment Program Operations					
B1064	Transport Input Data	M4	1	01MAR99*	01MAR99
B1068					
140 Natural Environment Program Operations					
SPP2000	AP3.10Q Data-Summ & Synth of Transprt Data		15	02MAR99*	22MAR99



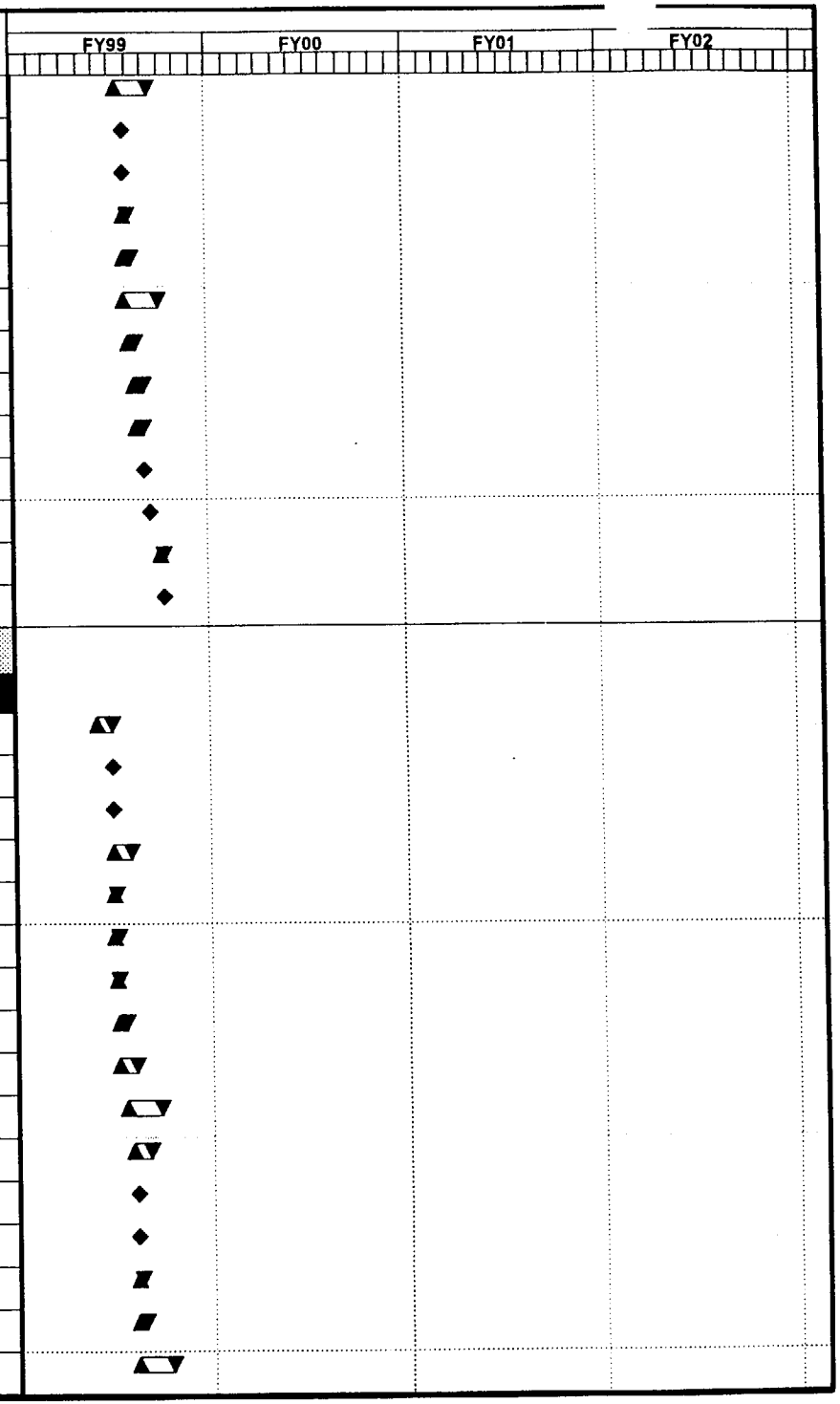
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPS108	Trsnprt Data-Input Parameters and Data Identifie		0		22MAR99
SPS110	Trsnprt Data-Models and Codes Identified		0		22MAR99
SPP2005	Prep Draft AP3.10Q-Summ & Synth of Trnsprt Data		37	23MAR99	12MAY99
SPS112	Trsnprt Data-Determine DTN Assignment		2	23MAR99	24MAR99
SPS136	Trsnprt Data-Determine if Model-Rel SW is Under		5	23MAR99	29MAR99
SPS114	Trsnprt Data-Determine if Data/DTN in TDMS		3	25MAR99	29MAR99
SPS116	Trsnprt Data-Submit Data/DTN to TDMS as Necessar		22	30MAR99	28APR99
SPS138	Trsnprt Data-Place Model-Related SW Under SMS Co		10	30MAR99	12APR99
SPS140	Trsnprt Data-Verify Model-Related Software		44	13APR99	14JUN99
SPS120	Trsnprt Data-Procurement Related Issues ID'd to		0		28APR99
SPS128	Trsnprt Data-Data Related Software Issues Identi		0		28APR99
SPS118	Trsnprt Data-Verify/Trace Data		44	29APR99	30JUN99
SPS122	Trsnprt Data-Rxesolve Procurement Related Data I		10	29APR99	12MAY99
SPS130	Trsnprt Data-Determine if Data Rel SW is Under S		5	29APR99	05MAY99
SPS132	Trsnprt Data-Place Under SMS Control as Necessar		10	06MAY99	19MAY99
SPP2010	AP3.10Q Chckng/Rev- Summ & Synth of Trsnprt Data		15	13MAY99	03JUN99
SPS134	Trsnprt Data-Verify Data-Related Software		10	20MAY99	03JUN99
SPP2015	Prep Final AP3.10Q Rpt-Summ & Synth Trsnprt Data		9	04JUN99	16JUN99
SPS142	Trsnprt Data-Qualified/Verified SW Available		0		14JUN99
SPP112M4	Compl AP3.10Q Summ & Synth Trsnprt Data	M4	0		16JUN99
SPS124	Trsnprt Data-Update TDMS		5	01JUL99	08JUL99
SPS126	Trsnprt Data-Qualified/Verified Data Available		0		08JUL99
B1070					
140 Natural Environment Program Operations					
B1070	Transport Methodology Data Input	M4	1	02JUL99	02JUL99
B1080					
140 Natural Environment Program Operations					
SPP3025	AP3.10Q Data-Trsnprt Method Compnt Model		10	01OCT98*	15OCT98
SPS288	Trsnprt Method-Input Parameters and Data Identif		0		15OCT98
SPS290	Trsnprt Method-Models and Codes Identified		0		15OCT98
SPP3030	Prep Draft AP3.10Q-Trsnprt Method Compnt of Mdl		10	16OCT98	29OCT98



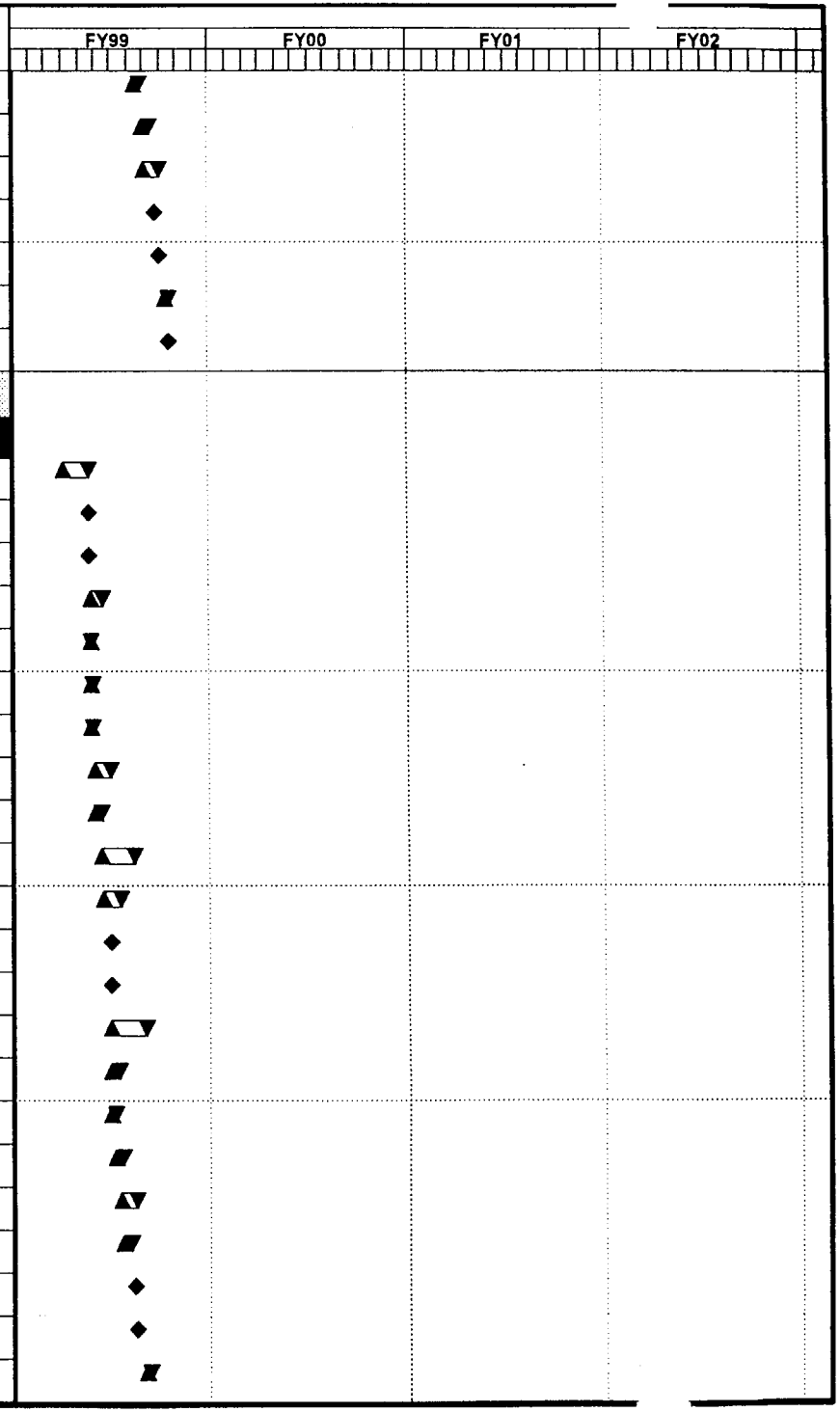
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPS292	Trsnprt Method-Determine DTN Assignment		2	16OCT98	19OCT98
SPS316	Trsnprt Method-Determine if Model-Rel SW is Unde		5	16OCT98	22OCT98
SPS294	Trsnprt Method-Determine if Data/DTN in TDMS		3	20OCT98	22OCT98
SPS296	Trsnprt Method-Submit Data/DTN to TDMS as Necess		22	23OCT98	24NOV98
SPS318	Trsnprt [illegible] Place Model-Related SW Under SMS		10	23OCT98	05NOV98
SLPA2866	Transport Method Component of Model-AP-3.10Q	M4	0		29OCT98
SPP3035	AP3.10Q Chckng/Rev-Trsnprt M[illegible]d Compnt of Mdl		10	30OCT98	13NOV98
SPS320	Trsnprt Method-Verify Model-Related Software		44	06NOV98	20JAN99
SPP3040	Prep Final AP3.10Q Rpt-Trsnprt Method Compnt Mdl		6	16NOV98	23NOV98
SPS300	Trsnprt Method-Procurement Related Issues ID'd t		0		24NOV98
SPS308	Trsnprt Method-Data Related Software Issues Iden		0		24NOV98
SPS298	Trsnprt Method-Verify/Trace Data		44	25NOV98	05FEB99
SPS302	Trsnprt Method-Rxesolve Procurement Related Data		10	25NOV98	10DEC98
SPS310	Trsnprt Method-Determine if Data Rel SW is Under		5	25NOV98	03DEC98
SPS312	Trsnprt Method-Place Under SMS Control as Necess		10	04DEC98	17DEC98
SPS314	Trsnprt Method-Verify Data-Related Software		10	18DEC98	11JAN99
SPS304	Trsnprt Method-Update TDMS		5	08FEB99	12FEB99
SPS306	Trsnprt Method-Qualified/Verified Data Available		0		12FEB99
SPP115M4	Compl AP3.10Q Trsnprt Method Compnt Model	M4	0		02JUL99
B1095					
140 Natural Environment Program Operations					
SLPA2868	AP3.10Q Data-Prob Distr Flowng Interv Spcng		35	01FEB99*	22MAR99
SLPA2878	Prob Distr Flwng-Input Parameters and Data Ident		0		22MAR99
SLPA2880	Prob Distr Flwng-Models and Codes Identified		0		22MAR99
SLPA2870	Prep Draft AP3.10Q-Prob Distr Flwng Intervl Spcn		15	23MAR99	12APR99
SLPA2882	Prob Distr Flwng-Determine DTN Assignment		2	23MAR99	24MAR99
SLPA2884	Prob Distr Flwng-Determine if Model-Rel SW is Un		5	23MAR99	29MAR99
SLPA2886	Prob Distr Flwng-Determine if Data/DTN in TDMS		3	25MAR99	29MAR99
SLPA2888	Prob Distr Flwng-Place Model-Related SW Under SM		10	30MAR99	12APR99
SLPA2890	Prob Distr Flwng-Submit Data/DTN to TDMS as Nece		22	30MAR99	28APR99
SLPA2872	AP3.10Q Chckng/Rev-Prob Distr Flwng Intervl Spcn		25	13APR99	17MAY99



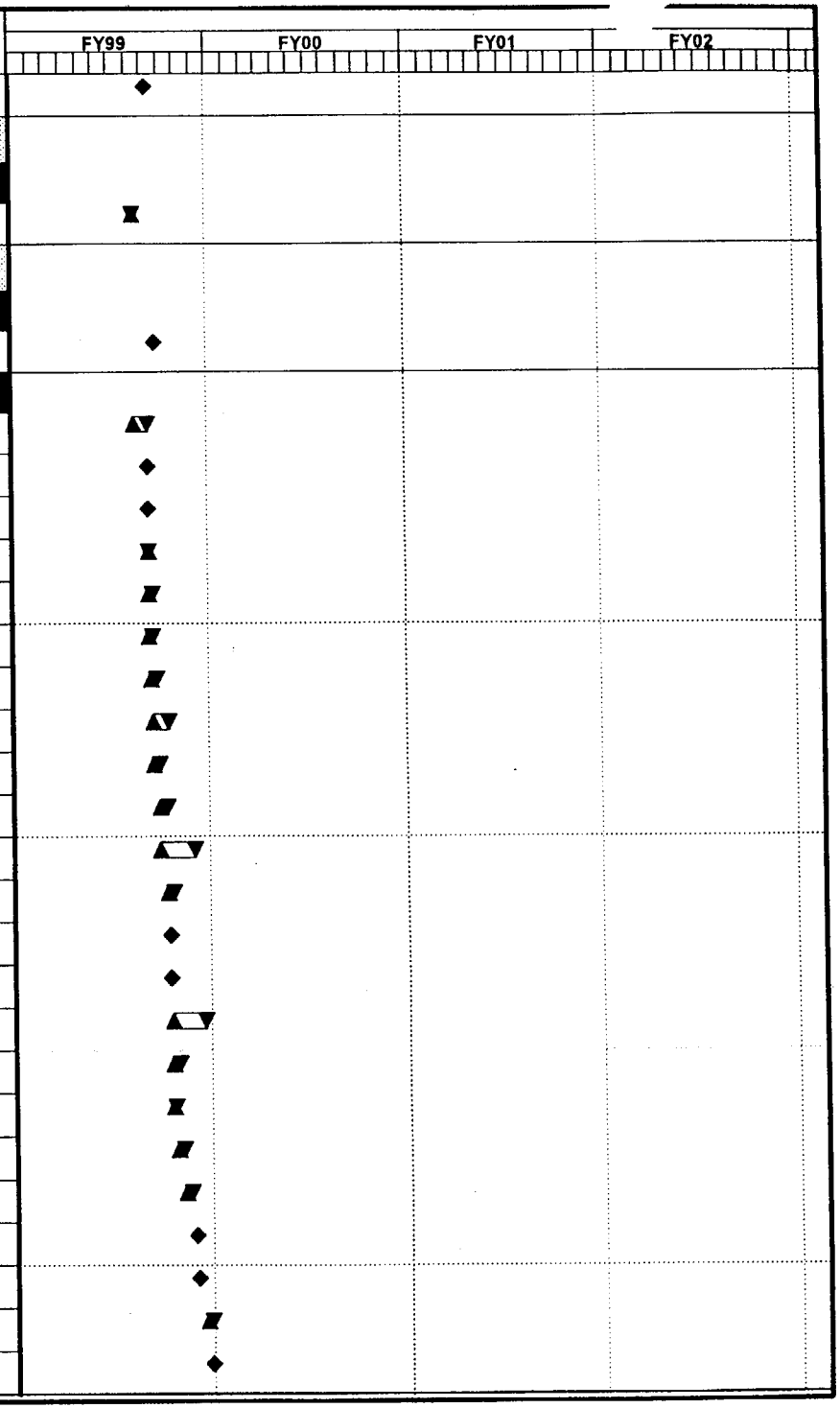
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2892	Prob Distr Flwng-Verify Model-Related Software		44	13APR99	14JUN99
SLPA2894	Prob Distr Flwng-Procurement Related Issues ID'd		0		28APR99
SLPA2896	Prob Distr Flwng-Data Related Software Issues Id		0		28APR99
SLPA2898	Prob Distr Flwng-Determine if Data Rel SW is Und		5	29APR99	05MAY99
SLPA2900	Prob Distr Flwng-Rxesolve Procurement Related Da		10	29APR99	12MAY99
SLPA2902	Prob Distr Flwng-Verify/Trace Data		44	29APR99	30JUN99
SLPA2904	Prob Distr Flwng-Place Under SMS Control as Nece		10	06MAY99	19MAY99
SLPA2874	Prep Final AP3.10Q Rpt-Prob Distr Flwng Intervl		10	18MAY99*	01JUN99
SLPA2906	Prob Distr Flwng-Verify Data-Related Software		10	20MAY99	03JUN99
SLPA2876	Compl AP3.10Q Prob Distr Flowing Interv Spacing	M4	0		01JUN99
SLPA2908	Prob Distr Flwng-Qualified/Verified SW Available		0		14JUN99
SLPA2910	Prob Distr Flwng-Update TDMS		5	01JUL99	08JUL99
SLPA2912	Prob Distr Flwng-Qualified/Verified Data Availab		0		08JUL99
B2005					
140 Natural Environment Program Operations					
SLPA2914	AP3.10Q Data-1D Model Colloid-Facil Pu Trsnprt		23	01MAR99*	31MAR99
SLPA2924	1d Mdl Coll-Facil-Input Parameters and Data Iden		0		31MAR99
SLPA2926	1d Mdl Coll-Facil-Models and Codes Identified		0		31MAR99
SLPA2916	Prep Draft AP3.10Q-1D Mdl Coll-Facil Pu Trsnprt		22	01APR99	30APR99
SLPA2928	1d Mdl Coll-Facil-Determine DTN Assignment		2	01APR99	02APR99
SLPA2930	1d Mdl Coll-Facil-Determine if Model-Rel SW is U		5	01APR99	07APR99
SLPA2932	1d Mdl Coll-Facil-Determine if Data/DTN in TDMS		3	05APR99	07APR99
SLPA2934	1d Mdl Coll-Facil-Place Model-Related SW Under S		10	08APR99	21APR99
SLPA2936	1d Mdl Coll-Facil-Submit Data/DTN to TDMS as Nec		22	08APR99	07MAY99
SLPA2938	1d Mdl Coll-Facil-Verify Model-Related Software		44	22APR99	23JUN99
SLPA2918	AP3.10Q Ckckng/Rev-1D Mdl Coll-Facil Pu Trsnprt		23	03MAY99	03JUN99
SLPA2940	1d Mdl Coll-Facil-Procurement Related Issues ID'		0		07MAY99
SLPA2942	1d Mdl Coll-Facil-Data Related Software Issues I		0		07MAY99
SLPA2944	1d Mdl Coll-Facil-Determine if Data Rel SW is Un		5	10MAY99	14MAY99
SLPA2946	1d Mdl Coll-Facil-Rxesolve Procurement Related D		10	10MAY99	21MAY99
SLPA2948	1d Mdl Coll-Facil-Verify/Trace Data		44	10MAY99	12JUL99



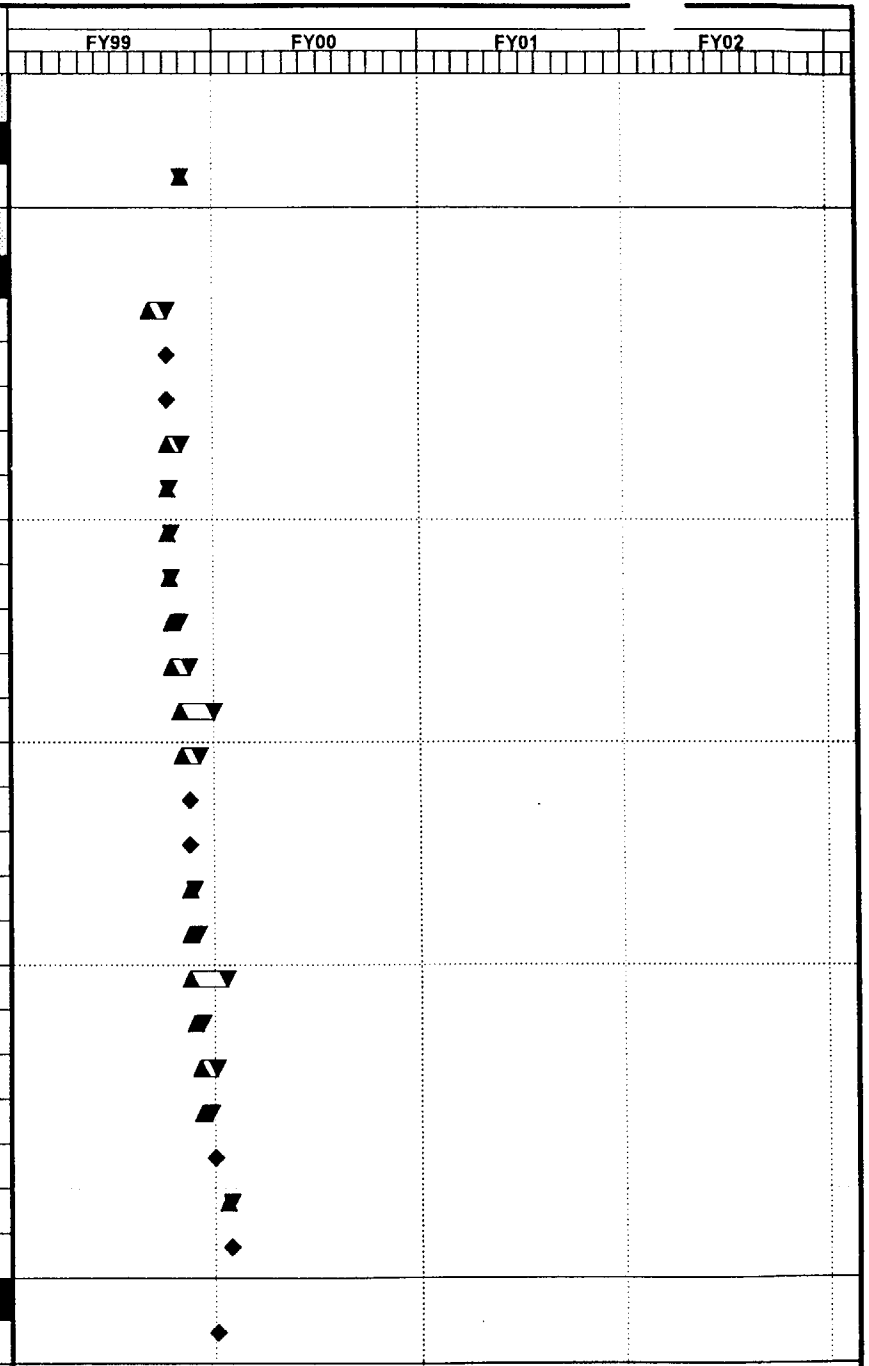
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA2950	1d Mdl Coll-Facil-Place Under SMS Control as Nec		10	17MAY99	28MAY99
SLPA2952	1d Mdl Coll-Facil-Verify Data-Related Software		10	01JUN99	14JUN99
SLPA2920	Prep Final AP3.10Q Rpt-1d Mdl Coll-Facil Pu Trsn		20	04JUN99	01JUL99
SLPA2954	1d Mdl Coll-Facil-Qualified/Verified SW Availabl		0		23JUN99
SLPA2922	Compl AP3.10Q 1-D Model Colloid-Facil Pu Trsnprt	M4	0		01JUL99
SLPA2956	1d Mdl Coll-Facil-Update TDMS		5	13JUL99	19JUL99
SLPA2958	1d Mdl Coll-Facil-Qualified/Verified Data Availa		0		19JUL99
B2010					
140 Natural Environment Program Operations					
SPP2060	AP3.10Q Data Hydrochemical Analy & Calibration		34	04JAN99*	19FEB99
SPS180	Hydrochem Analy-Input Parameters and Data Identi		0		19FEB99
SPS182	Hydrochem Analy-Models and Codes Identified		0		19FEB99
SPP2065	Prep Draft AP3.10Q-Hydrochem Analy & Calibr		18	22FEB99	17MAR99
SPS184	Hydrochem Analy-Determine DTN Assignment		2	22FEB99	23FEB99
SPS208	Hydrochem Analy-Determine if Model-Rel SW is Und		5	22FEB99	26FEB99
SPS186	Hydrochem Analy-Determine if Data/DTN in TDMS		3	24FEB99	26FEB99
SPS188	Hydrochem Analy-Submit Data/DTN to TDMS as Neces		22	01MAR99	30MAR99
SPS210	Hydrochem Analy-Place Model-Related SW Under SMS		10	01MAR99	12MAR99
SPS212	Hydrochem Analy-Verify Model-Related Software		44	15MAR99	13MAY99
SPP2070	AP3.10Q Chkng/Rev-Hydrochem Analy & Calibr		22	18MAR99	16APR99
SPS192	Hydrochem Analy-Procurement Related Issues ID'd		0		30MAR99
SPS200	Hydrochem Analy-Data Related Software Issues Ide		0		30MAR99
SPS190	Hydrochem Analy-Verify/Trace Data		44	31MAR99	01JUN99
SPS194	Hydrochem Analy-Rxesolve Procurement Related Dat		10	31MAR99	13APR99
SPS202	Hydrochem Analy-Determine if Data Rel SW is Unde		5	31MAR99	06APR99
SPS204	Hydrochem Analy-Place Under SMS Control as Neces		10	07APR99	20APR99
SPP2075	Prep Final AP3.10Q Rpt-Hydrochem Analy & Calibr		20	19APR99	14MAY99
SPS206	Hydrochem Analy-Verify Data-Related Software		10	21APR99	04MAY99
SPS214	Hydrochem Analy-Qualified/Verified SW Available		0		13MAY99
SPP124M4	Compl AP3.10Q Hydrochem Analy & Calibration	M4	0		14MAY99
SPS196	Hydrochem Analy-Update TDMS		5	02JUN99	08JUN99



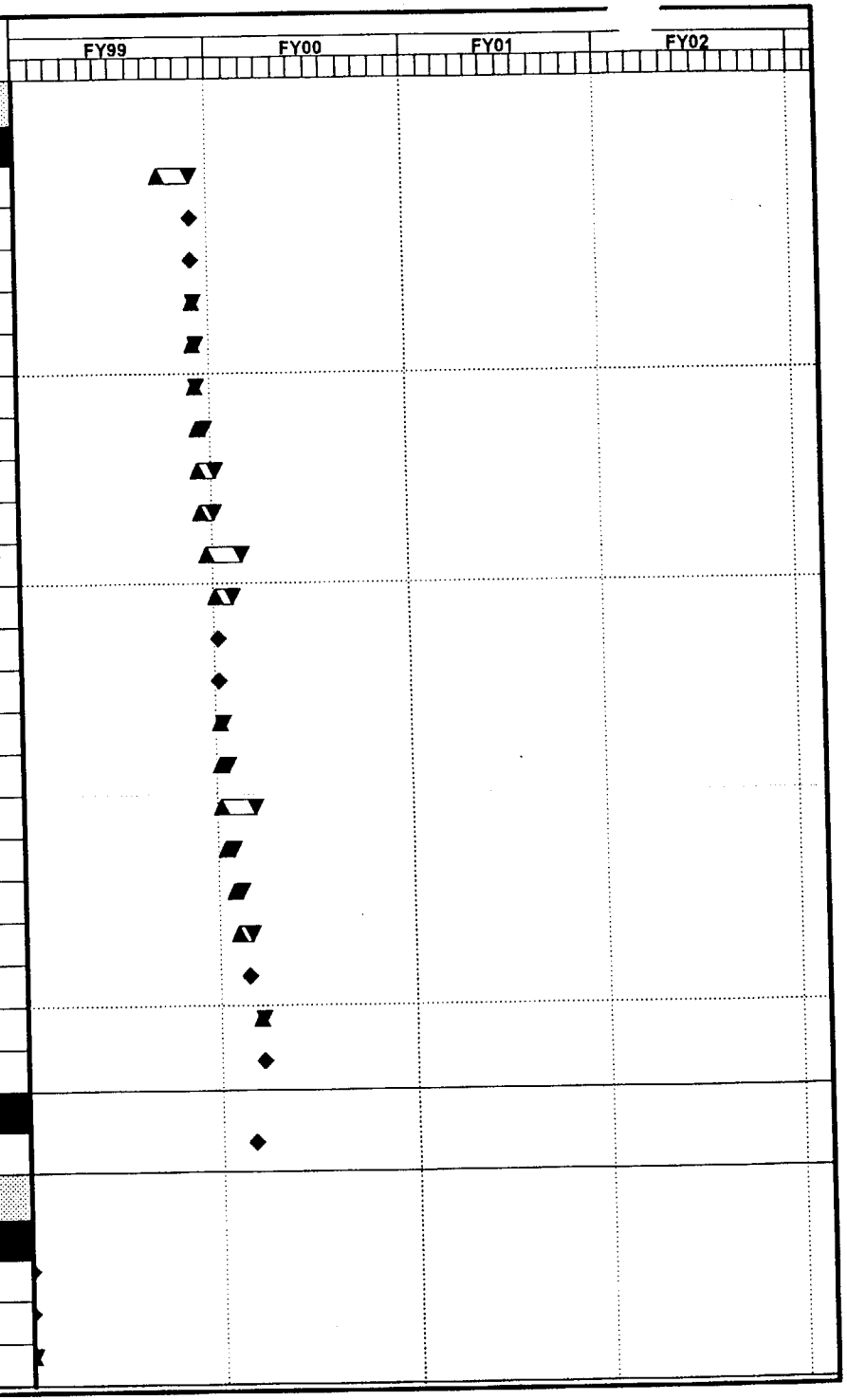
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPS198	Hydrochem Analy-Qualified/Verified Data Availabl		0		08JUN99
B2020					
140 Natural Environment Program Operations					
B2020	Final Calibrated Flow Model	M4	1	17MAY99	17MAY99
B2030					
130 Performance Assessment Operations					
SLPA2960	Receive Final Calibrated Flow Model-AP3.10Q	M4	0		25JUN99
140 Natural Environment Program Operations					
SPP3070	AP3.10Q Data-Final Calibrated Flow Model		15	18MAY99	08JUN99
SPS360	Calib. Flow Model-Input Parameters and Data Iden		0		08JUN99
SPS362	Calib. Flow Model-Models and Codes Identified		0		08JUN99
SPS364	Calib. Flow Model-Determine DTN Assignment		2	09JUN99	10JUN99
SPS388	Calib. Flow Model-Determine if Model-Rel SW is U		5	09JUN99	15JUN99
SPS366	Calib. Flow Model-Determine if Data/DTN in TDMS		3	11JUN99	15JUN99
SPP3075	Prep Draft AP3.10Q-Final Calibrated Flow Model		10	14JUN99	25JUN99
SPS368	Calib. Flow Model-Submit Data/DTN to TDMS as Nec		22	16JUN99	16JUL99
SPS390	Calib. Flow Model-Place Model-Related SW Under S		10	16JUN99	29JUN99
SPP3080	AP3.10Q Chckng/Rev-Final Calibrated Flow Model		10	28JUN99	12JUL99
SPS392	Calib. Flow Model-Verify Model-Related Software		44	30JUN99	31AUG99
SPP3085	Prep Final AP3.10Q Rpt-Final Calibrated Flow Mdl		8	13JUL99	22JUL99
SPS372	Calib. Flow Model-Procurement Related Issues ID'		0		16JUL99
SPS380	Calib. Flow Model-Data Related Software Issues I		0		16JUL99
SPS370	Calib. Flow Model-Verify/Trace Data		44	19JUL99	17SEP99
SPS374	Calib. Flow Model-Rxesolve Procurement Related D		10	19JUL99	30JUL99
SPS382	Calib. Flow Model-Determine if Data Rel SW is Un		5	19JUL99	23JUL99
SPS384	Calib. Flow Model-Place Under SMS Control as Nec		10	26JUL99	06AUG99
SPS386	Calib. Flow Model-Verify Data-Related Software		10	09AUG99	20AUG99
SPP127M4	Compl AP3.10Q Final Calibrated Flow Model	M4	0		26AUG99
SPS394	Calib. Flow Model-Qualified/Verified SW Availabl		0		31AUG99
SPS376	Calib. Flow Model-Update TDMS		5	20SEP99	24SEP99
SPS378	Calib. Flow Model-Qualified/Verified Data Availa		0		24SEP99



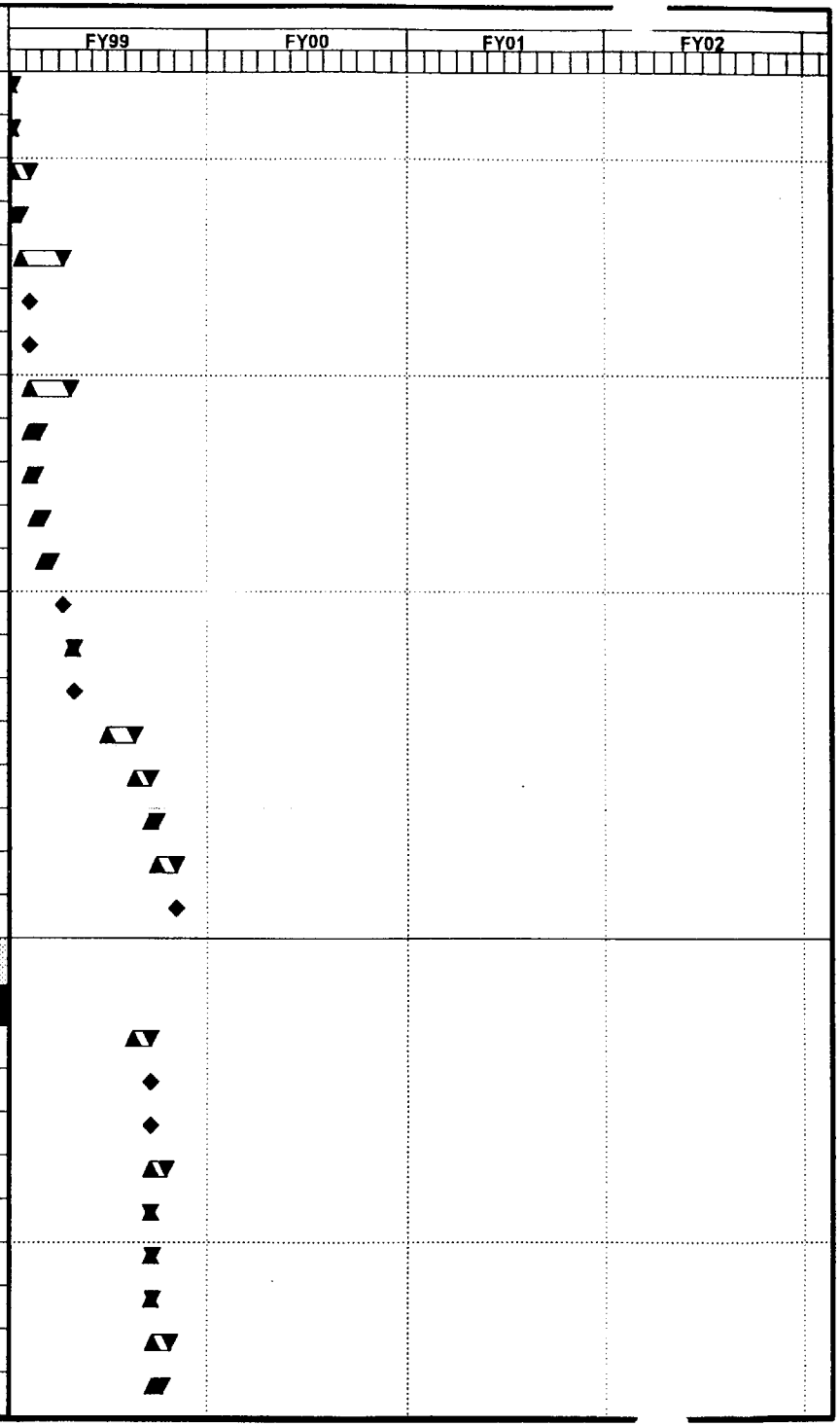
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
B2033					
140 Natural Environment Program Operations					
B2033	Deliver Calibrated SZ F&T Transport Model	M4	1	03AUG99	03AUG99
B2035					
130 Performance Assessment Operations					
SLPA2962	AP3.10Q Data-Uncert Distr for Stochastic Param		23	07JUN99*	08JUL99
SLPA2972	Uncert Distr Stoch-Input Parameters and Data Ide		0		08JUL99
SLPA2974	Uncert Distr Stoch-Models and Codes Identified		0		08JUL99
SLPA2964	Prep Draft AP3.10Q-Uncert Distr for Stochast Par		18	09JUL99	03AUG99
SLPA2976	Uncert Distr Stoch-Determine DTN Assignment		2	09JUL99	12JUL99
SLPA2978	Uncert Distr Stoch-Determine if Model-Rel SW is		5	09JUL99	15JUL99
SLPA2980	Uncert Distr Stoch-Determine if Data/DTN in TDMS		3	13JUL99	15JUL99
SLPA2982	Uncert Distr Stoch-Place Model-Related SW Under		10	16JUL99	29JUL99
SLPA2984	Uncert Distr Stoch-Submit Data/DTN to TDMS as Ne		22	16JUL99	16AUG99
SLPA2986	Uncert Distr Stoch-Verify Model-Related Software		44	30JUL99	30SEP99
SLPA2966	AP3.10Q Chckng/Rev-Uncert Distr for Stoch Param		22	04AUG99	02SEP99
SLPA2988	Uncert Distr Stoch-Procurement Related Issues ID		0		16AUG99
SLPA2990	Uncert Distr Stoch-Data Related Software Issues		0		16AUG99
SLPA2992	Uncert Distr Stoch-Determine if Data Rel SW is U		5	17AUG99	23AUG99
SLPA2994	Uncert Distr Stoch-Rxesolve Procurement Related		10	17AUG99	30AUG99
SLPA2996	Uncert Distr Stoch-Verify/Trace Data		44	17AUG99	19OCT99
SLPA2998	Uncert Distr Stoch-Place Under SMS Control as Ne		10	24AUG99	07SEP99
SLPA2968	Prep Final AP3.10Q Rpt-Uncert Distr Stoch Param		20	03SEP99	01OCT99
SLPA3000	Uncert Distr Stoch-Verify Data-Related Software		10	08SEP99	21SEP99
SLPA3002	Uncert Distr Stoch-Qualified/Verified SW Availab		0		30SEP99
SLPA3004	Uncert Distr Stoch-Update TDMS		5	20OCT99	26OCT99
SLPA3006	Uncert Distr Stoch-Qualified/Verified Data Avail		0		26OCT99
140 Natural Environment Program Operations					
SLPA2970	Compl AP3.10Q Uncert Distr Stoch Parameter	M4	0		01OCT99



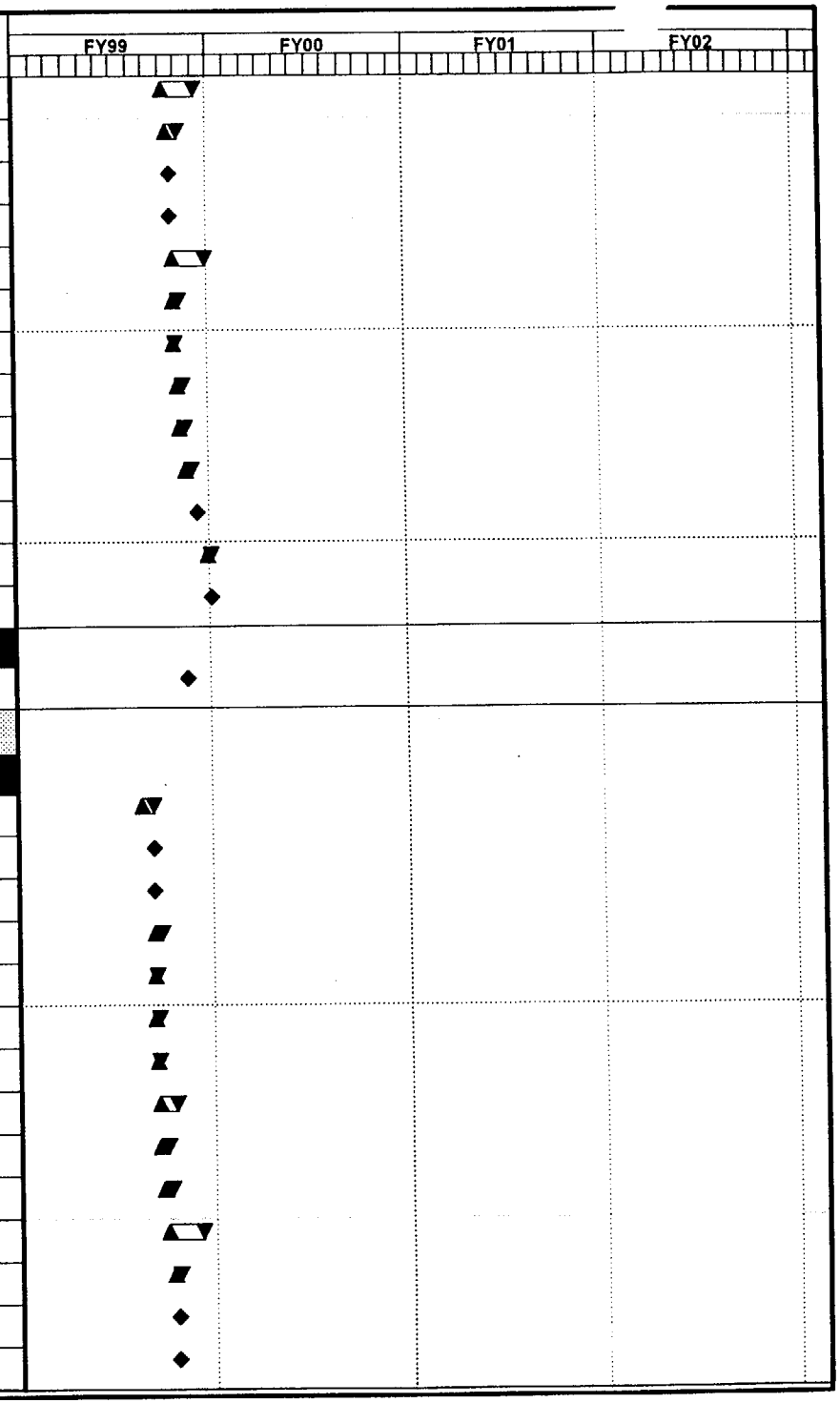
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
B2040					
130 Performance Assessment Operations					
SLPA3008	AP3.10Q Data-Inp/Rslt B/Case SZ F&T Mdl Run		43	28JUN99	26AUG99
SLPA3016	Inp/Rslt B/Case SZ-Input Parameters and Data Ide		0		26AUG99
SLPA3018	Inp/Rslt B/Case SZ-Models and Codes Identified		0		26AUG99
SLPA3020	Inp/Rslt B/Case SZ-Determine DTN Assignment		2	27AUG99	30AUG99
SLPA3022	Inp/Rslt B/Case SZ-Determine if Model-Rel SW is		5	27AUG99	02SEP99
SLPA3024	Inp/Rslt B/Case SZ-Determine if Data/DTN in TDMS		3	31AUG99	02SEP99
SLPA3026	Inp/Rslt B/Case SZ-Place Model-Related SW Under		10	03SEP99	17SEP99
SLPA3028	Inp/Rslt B/Case SZ-Submit Data/DTN to TDMS as Ne		22	03SEP99	05OCT99
SLPA3010	Prep Draft AP3.10Q-Inp/Rslt B/Case SZ F&T Mdl Rn		15	08SEP99	01OCT99
SLPA3030	Inp/Rslt B/Case SZ-Verify Model-Related Software		44	20SEP99	22NOV99
SLPA3012	AP3.10Q Chckng/Rev-Inp/Rslt B/Case SZ F&T Mdl Rn		20	04OCT99	03NOV99
SLPA3032	Inp/Rslt B/Case SZ-Procurement Related Issues ID		0		05OCT99
SLPA3034	Inp/Rslt B/Case SZ-Data Related Software Issues		0		05OCT99
SLPA3036	Inp/Rslt B/Case SZ-Determine if Data Rel SW is U		5	06OCT99	13OCT99
SLPA3038	Inp/Rslt B/Case SZ-Rxesolve Procurement Related		10	06OCT99	20OCT99
SLPA3040	Inp/Rslt B/Case SZ-Verify/Trace Data		44	06OCT99	10DEC99
SLPA3042	Inp/Rslt B/Case SZ-Place Under SMS Control as Ne		10	14OCT99	27OCT99
SLPA3044	Inp/Rslt B/Case SZ-Verify Data-Related Software		10	28OCT99	10NOV99
SLPA3014	Prep Final AP3.10Q Rpt-Inp/Rslt B/Case SZ F&T Md		15	04NOV99	29NOV99
SLPA3046	Inp/Rslt B/Case SZ-Qualified/Verified SW Availab		0		22NOV99
SLPA3048	Inp/Rslt B/Case SZ-Update TDMS		5	13DEC99	17DEC99
SLPA3050	Inp/Rslt B/Case SZ-Qualified/Verified Data Avail		0		17DEC99
140 Natural Environment Program Operations					
SPP133M4	Compl AP3.10Q Input/Rslts B/Case SZ F&T Model	M4	0		29NOV99
B2065					
140 Natural Environment Program Operations					
SPS216	Natural Analogues-Input Parameters and Data Iden		0		30SEP98
SPS218	Natural Analogues-Models and Codes Identified		0		30SEP98
SPS220	Natural Analogues-Determine DTN Assignment		2	01OCT98*	02OCT98



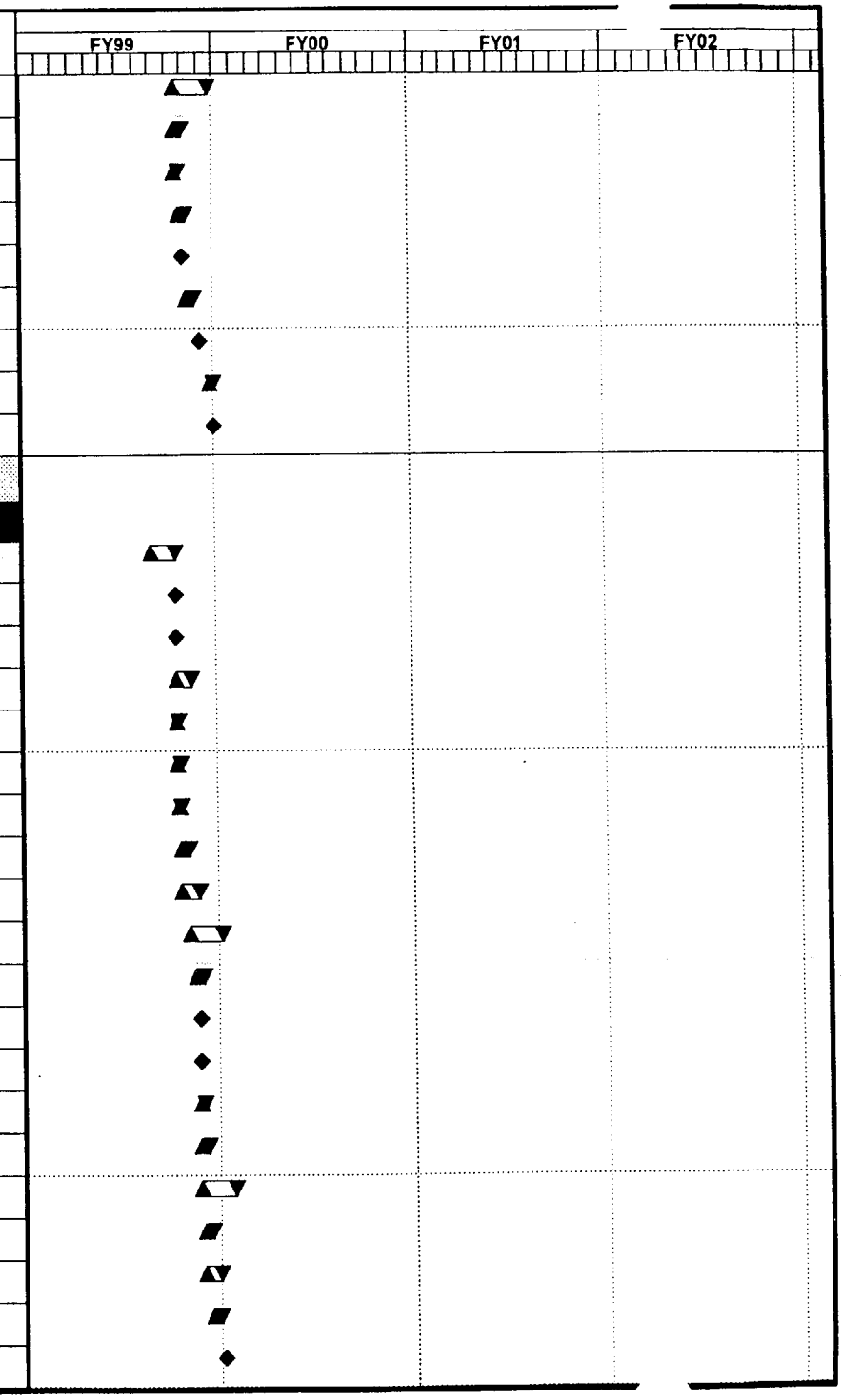
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPS244	Natural Analogues-Determine if Model-Rel SW is U		5	01OCT98*	07OCT98
SPS222	Natural Analogues-Determine if Data/DTN in TDMS		3	05OCT98	07OCT98
SPS224	Natural Analogues-Submit Data/DTN to TDMS as Nec		22	08OCT98	09NOV98
SPS246	Natural Analogues-Place Model-Related SW Under S		10	08OCT98	22OCT98
SPS248	Natural Analogues-Verify Model-Related Software		44	23OCT98	06JAN99
SPS228	Natural Analogues-Procurement Related Issues ID'		0		09NOV98
SPS236	Natural Analogues-Data Related Software Issues I		0		09NOV98
SPS226	Natural Analogues-Verify/Trace Data		44	10NOV98	22JAN99
SPS230	Natural Analogues-Rxesolve Procurement Related D		10	10NOV98	24NOV98
SPS238	Natural Analogues-Determine if Data Rel SW is Un		5	10NOV98	17NOV98
SPS240	Natural Analogues-Place Under SMS Control as Nec		10	18NOV98	03DEC98
SPS242	Natural Analogues-Verify Data-Related Software		10	04DEC98	17DEC98
SPS250	Natural Analogues-Qualified/Verified SW Availabl		0		06JAN99
SPS232	Natural Analogues-Update TDMS		5	25JAN99	29JAN99
SPS234	Natural Analogues-Qualified/Verified Data Availa		0		29JAN99
SPP2080	AP3.10Q Data-Natural Analogues		35	01APR99*	19MAY99
SPP2085	Prep Draft AP3.10Q-Natural Analogues		18	20MAY99	15JUN99
SPP2090	AP3.10Q Chckng/Rev-Natural Analogues		10	16JUN99	29JUN99
SPP2095	Prep Final AP3.10Q Rpt-Natural Analogues		23	30JUN99	02AUG99
SPP136M4	Compl AP3.10Q Natural Analogues	M4	0		02AUG99
B2070					
130 Performance Assessment Operations					
SPP4010	AP3.10Q Data-Proc Model Uncertainty Analy		20	18MAY99	15JUN99
SPS432	Proc Model Uncert-Input Parameters and Data Iden		0		15JUN99
SPS434	Proc Model Uncert-Models and Codes Identified		0		15JUN99
SPP4015	Prep Draft AP3.10Q-Proc Model Uncertainty Analy		20	16JUN99	14JUL99
SPS436	Proc Model Uncert-Determine DTN Assignment		2	16JUN99	17JUN99
SPS460	Proc Model Uncert-Determine if Model-Rel SW is U		5	16JUN99	22JUN99
SPS438	Proc Model Uncert-Determine if Data/DTN in TDMS		3	18JUN99	22JUN99
SPS440	Pr Uncert-Submit Data/DTN to TDMS as Nec		22	23JUN99	23JUL99
SPS462	Proc Model Uncert-Place Model-Related SW Under S		10	23JUN99	07JUL99



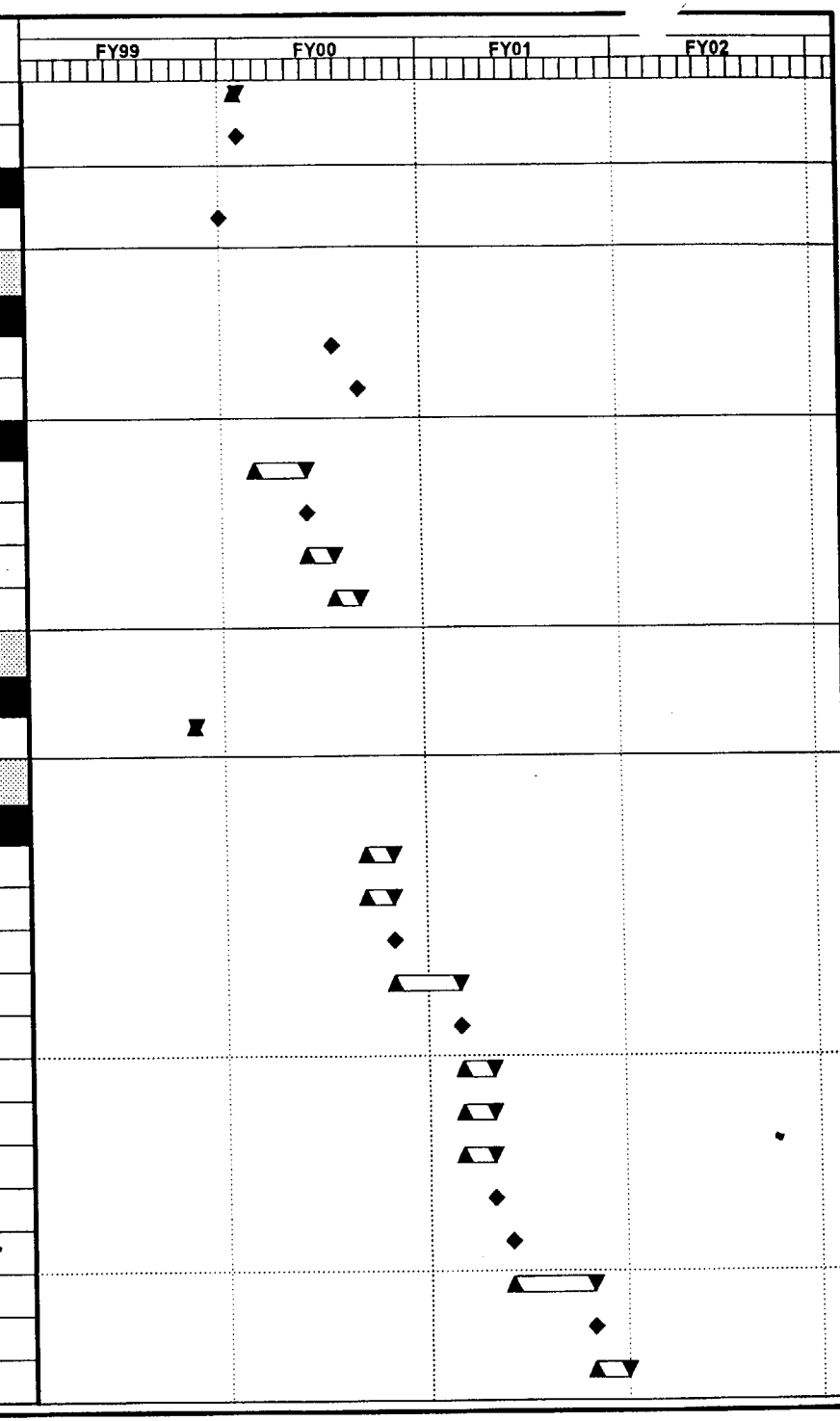
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPS464	Proc Model Uncert-Verify Model-Related Software		44	08JUL99	08SEP99
SPP4020	AP3.10Q Chckng/Rev-Proc Model Uncertainty Analy		15	15JUL99	04AUG99
SPS444	Proc Model Uncert-Procurement Related Issues ID'		0		23JUL99
SPS452	Proc Model Uncert-Data Related Software Issues I		0		23JUL99
SPS442	Proc Model Uncert-Verify/Trace Data		44	26JUL99	24SEP99
SPS446	Proc Model Uncert-Rxesolve Procurement Related D		10	26JUL99	06AUG99
SPS454	Proc Model Uncert-Determine if Data Rel SW is Un		5	26JUL99	30JUL99
SPS456	Proc Model Uncert-Place Under SMS Control as Nec		10	02AUG99	13AUG99
SPP4025	Prep Final AP3.10Q Rpt-Proc Model Uncert Analy		10	05AUG99	18AUG99
SPS458	Proc Model Uncert-Verify Data-Related Software		10	16AUG99	27AUG99
SPS466	Proc Model Uncert-Qualified/Verified SW Availabl		0		08SEP99
SPS448	Proc Model Uncert-Update TDMS		5	27SEP99	01OCT99
SPS450	Proc Model Uncert-Qualified/Verified Data Availa		0		01OCT99
140 Natural Environment Program Operations					
SPP139M4	Compl AP3.10Q Process Model Uncertainty Analysis	M4	0		18AUG99
B2075					
140 Natural Environment Program Operations					
SPP4030	AP3.10Q Data-Model Validation		15	20MAY99	10JUN99
SPS468	Model Validation-Input Parameters and Data Ident		0		10JUN99
SPS470	Model Validation-Models and Codes Identified		0		10JUN99
SPP4035	Prep Draft AP3.10Q-Model Validation		10	11JUN99	24JUN99
SPS472	Model Validation-Determine DTN Assignment		2	11JUN99	14JUN99
SPS496	Model Validation-Determine if Model-Rel SW is Un		5	11JUN99	17JUN99
SPS474	Model Validation-Determine if Data/DTN in TDMS		3	15JUN99	17JUN99
SPS476	Model Validation-Submit Data/DTN to TDMS as Nece		22	18JUN99	20JUL99
SPS498	Model Validation-Place Model-Related SW Under SM		10	18JUN99	01JUL99
SPP4040	AP3.10Q Chckng/Rev-Model Validation		10	25JUN99	09JUL99
SPS500	Model Validation-Verify Model-Related Software		44	02JUL99	02SEP99
SPP4045	Prep Final AP3.10Q Rpt-Model Validation		10	12JUL99	23JUL99
SPS480	Model Validation-Procurement Related Issues ID'd		0		20JUL99
SPS488	Model Validation-Data Related Software Issues Id		0		20JUL99



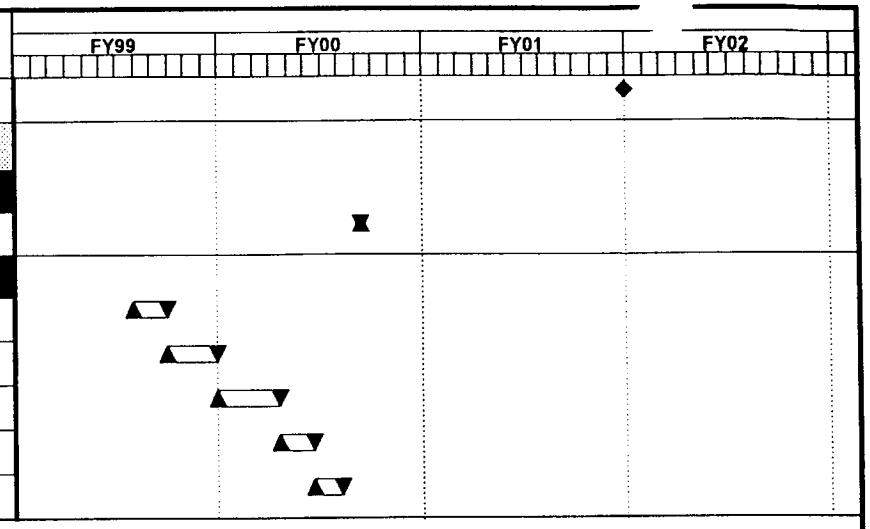
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPS478	Model Validation-Verify/Trace Data		44	21JUL99	21SEP99
SPS482	Model Validation-Rxesolve Procurement Related Da		10	21JUL99	03AUG99
SPS490	Model Validation-Determine if Data Rel SW is Und		5	21JUL99	27JUL99
SPS492	Model Validation-Place Under SMS Control as Nece		10	28JUL99	10AUG99
SPP142M4	Compl AP3.10Q Model Validation	M4	0		02AUG99
SPS494	Model Validation-Verify Data-Related Software		10	11AUG99	24AUG99
SPS502	Model Validation-Qualified/Verified SW Available		0		02SEP99
SPS484	Model Validation-Update TDMS		5	22SEP99	28SEP99
SPS486	Model Validation-Qualified/Verified Data Availab		0		28SEP99
B2078					
130 Performance Assessment Operations					
SLPA3052	AP3.10Q Data-FEP's		32	01JUN99*	15JUL99
SLPA3060	FEP's-Input Parameters and Data Identified		0		15JUL99
SLPA3062	FEP's-Models and Codes Identified		0		15JUL99
SLPA3054	Prep Draft AP3.10Q-Fep's		21	16JUL99	13AUG99
SLPA3064	FEP's-Determine DTN Assignment		2	16JUL99	19JUL99
SLPA3066	FEP's-Determine if Model-Rel SW is Under SMS Con		5	16JUL99	22JUL99
SLPA3068	FEP's-Determine if Data/DTN in TDMS		3	20JUL99	22JUL99
SLPA3070	FEP's-Place Model-Related SW Under SMS Control		10	23JUL99	05AUG99
SLPA3072	FEP's-Submit Data/DTN to TDMS as Necessary		22	23JUL99	23AUG99
SLPA3074	FEP's-Verify Model-Related Software		44	06AUG99	07OCT99
SLPA3056	AP3.10Q Chckng/Rev-FEP's		12	16AUG99	31AUG99
SLPA3076	FEP's-Procurement Related Issues ID'd to Car Man		0		23AUG99
SLPA3078	FEP's-Data Related Software Issues Identified		0		23AUG99
SLPA3080	FEP's-Determine if Data Rel SW is Under SMS Cont		5	24AUG99	30AUG99
SLPA3082	FEP's-Rxesolve Procurement Related Data Issues		10	24AUG99	07SEP99
SLPA3084	FEP's-Verify/Trace Data		44	24AUG99	26OCT99
SLPA3086	FEP's-Place Under SMS Control as Necessary		10	31AUG99	14SEP99
SLPA3058	Prep Final AP3.10Q Rpt-FEP's		21	01SEP99	30SEP99
SLPA3088	FEP's-Verify Data-Related Software		10	15SEP99	28SEP99
SLPA3090	FEP's-Qualified/Verified SW Available		0		07OCT99



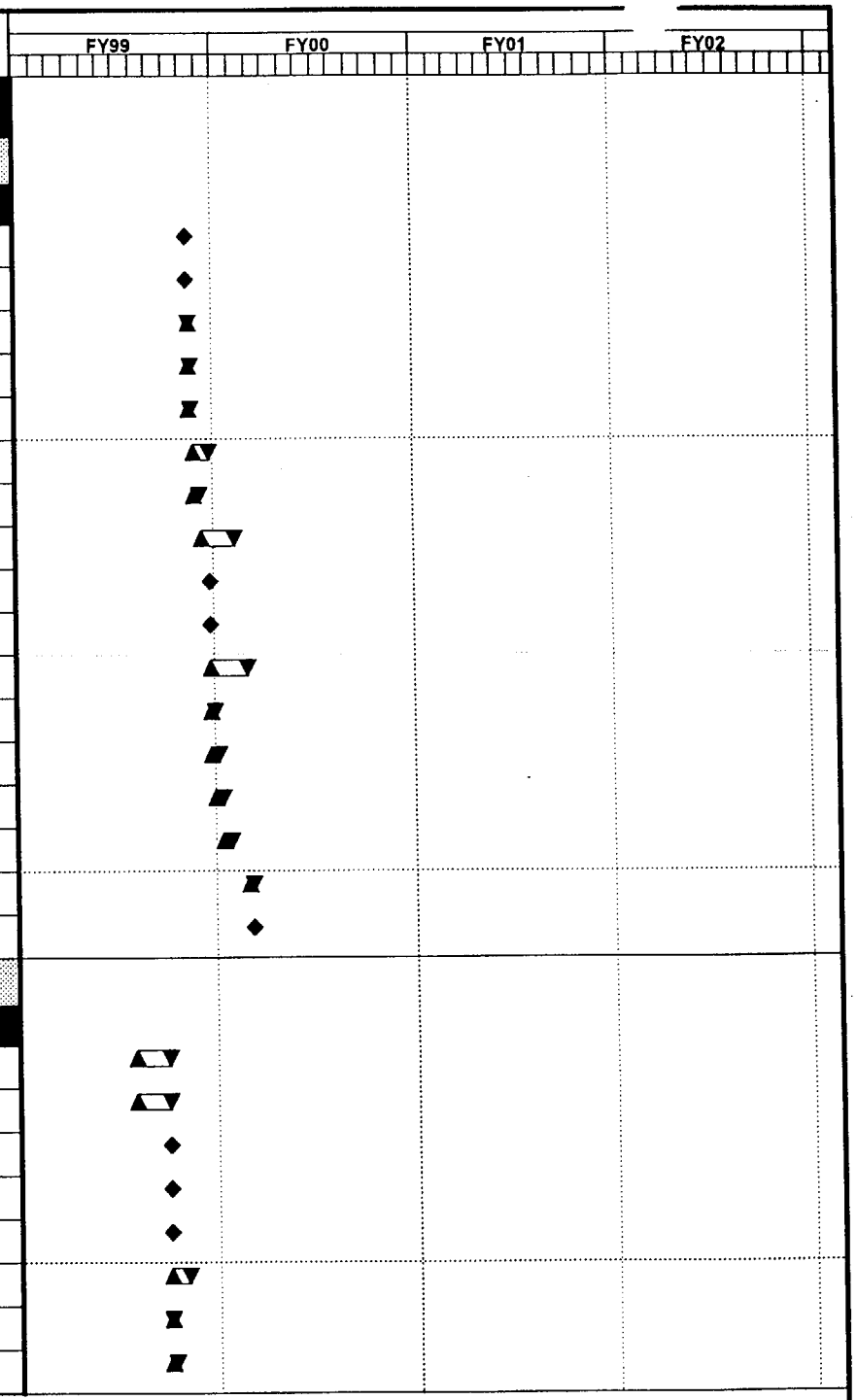
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3092	FEP's-Update TDMS		5	27OCT99	02NOV99
SLPA3094	FEP's-Qualified/Verified Data Available		0		02NOV99
140 Natural Environment Program Operations					
SPP145M4	Compl AP3.10Q FEP's	M4	0		30SEP99
B2100					
300 Regulatory & Licensing					
SLP608M3	SZ Flow & Transport PMR Rev 00	M3	0		24APR00
SLP60CM3	Rev 01 SZ Flow & Transport PMR	M3	0		09JUN00
SLP600	SZ Flow & Transport PMR Text Process		66	30NOV99*	03MAR00
SLP60AM4	SZ Flow & Transport PMR Rev 00A	M4	0		03MAR00
SLP6005	M&O SZ Flow & Transport PMR Review		36	06MAR00	24APR00
SLP6010	DOE SZ Flow & Transport PMR Review		33	25APR00	09JUN00
S5100					
140 Natural Environment Program Operations					
S5100	Feed to TSPA		1	04AUG99	04AUG99
Z9999 PMR Rev 02 thru Rev 05					
300 Regulatory & Licensing					
SPS00A	Revise SZ PMR AP 3.10Q's for SR		36	12JUN00	01AUG00
SPS00B	Prepare SZ PMR REV-02A for SR		36	12JUN00	01AUG00
SPS00BM4	SZ PMR Rev-02A for SR	M4	0		01AUG00*
SPS00C	M&O Review SZ PMR Rev-02A for SR		83	02AUG00	01DEC00
SPS00CM3	SZ PMR Rev-02 for SR	M3	0		01DEC00
SPS00D	DOE Review SZ PMR 02 for SR		41	04DEC00	31JAN01
SPS00P	Revise SZ PMR AP 3.10Q's for LA		41	04DEC00	31JAN01
SPS00Q	Prepare SZ PMR REV-04A for LA		41	04DEC00	31JAN01
SPS00EM3	Rev 03 SZ PMR for SR	M3	0		31JAN01
SPS00QM4	SZ PMR Rev-04A for LA	M4	0		01MAR01*
SPS00R	M&O Review SZ PMR Rev-04A for LA		106	02MAR01	31JUL01
SPS00RM3	SZ PMR Rev-04 for LA	M3	0		31JUL01
SPS00S	DOE Review SZ PMR 04 for LA		42	01AUG01	28SEP01



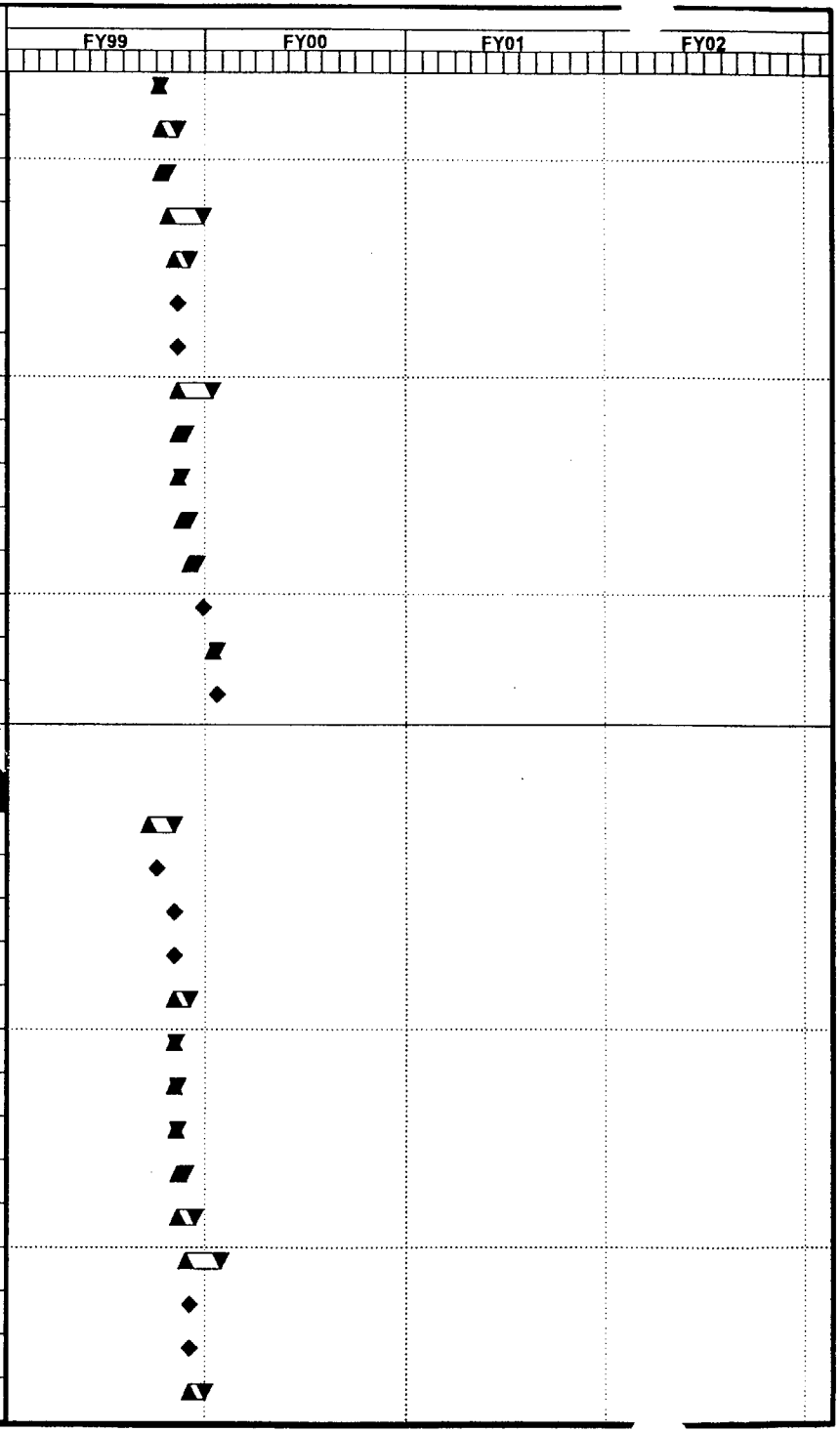
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPS00SM3	Rev 05 SZ PMR for LA	M3	0		28SEP01
140 Natural Environment Program Operations					
S5000	EIS Chapter 5		1	12JUN00	12JUN00
150 Support Operations					
BMP200	PIM 3.10Q/PMR Planning & Text Support (SZ)		42	03MAY99*	30JUN99
BMP201	& M&O Review Prep Support (SZ)		64	01JUL99	30SEP99
BMP202	Cont PIM Text & M&O Review Prep Support (SZ)		71	01OCT99	17JAN00
BMP203	PIM M&O Rev. & DOE Rev. Prep Support (SZ)		42	18JAN00	16MAR00
BMP204	PIM DOE Rev. & Final Accept. Support (SZ)		37	17MAR00	08MAY00



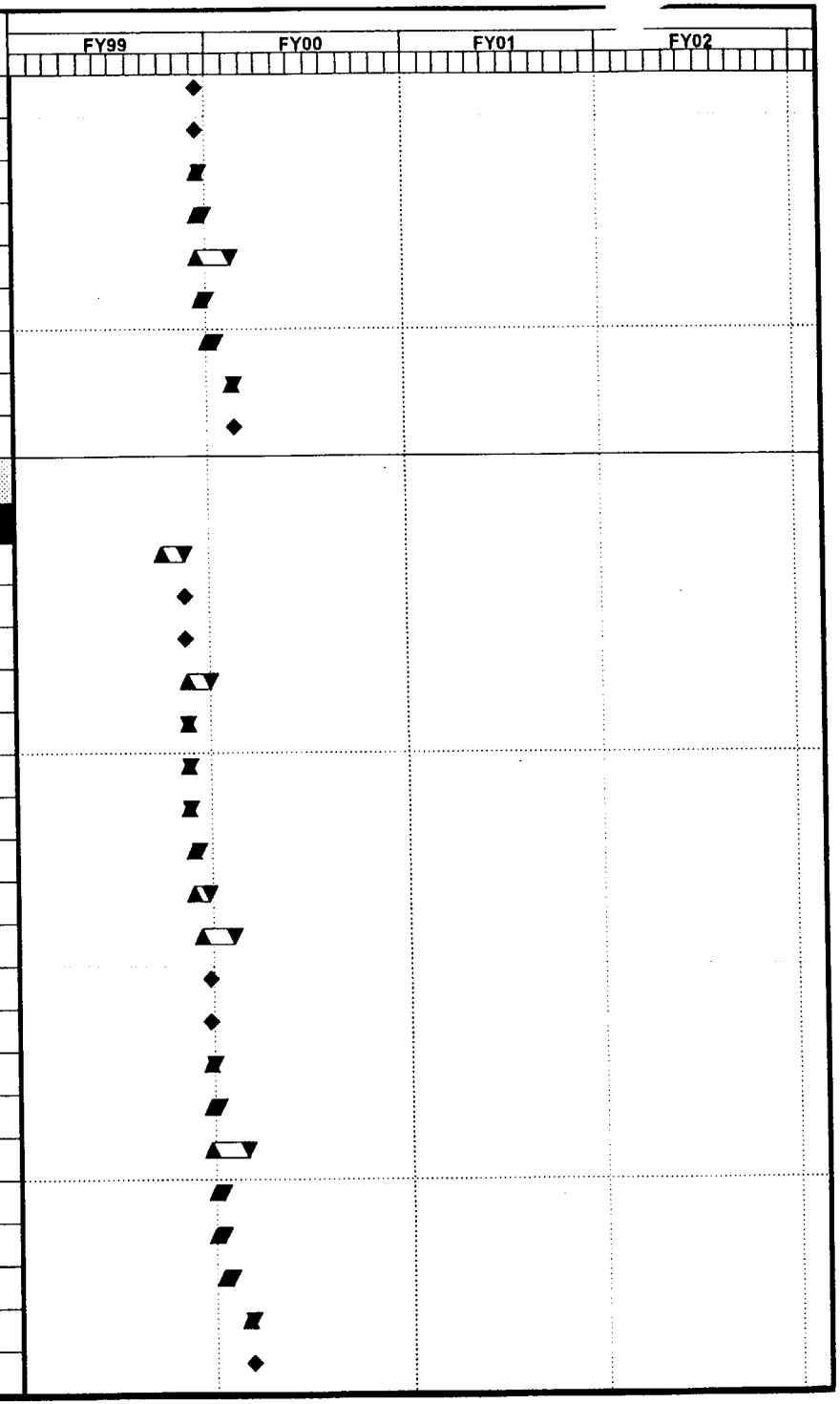
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
W WP PMR					
NEWJ					
130 Performance Assessment Operations					
WPQ1400	Abstraction of Water-Input Parameters and Data I		0		13AUG99
WPQ1402	Abstraction of Water-Models and Codes Identified		0		13AUG99
WPQ1404	Abstraction of Water-Determine DTN Assignment		2	16AUG99	17AUG99
WPQ1406	Abstraction of Water-Determine if Model-Rel SW i		5	16AUG99	20AUG99
WPQ1408	Abstraction of Water-Determine if Data/DTN in TD		3	18AUG99	20AUG99
WPQ1410	Abstraction of Water-Submit Data/DTN to TDMS as		22	23AUG99	22SEP99
WPQ1412	Abstraction of Water-Place Model-Related SW Unde		10	23AUG99	03SEP99
WPQ1414	Abstraction of Water-Verify Model-Related Softwa		44	07SEP99	08NOV99
WPQ1416	Abstraction of Water-Data Related Software Issue		0		22SEP99
WPQ1418	Abstraction of Water-Procurement Related Issues		0		22SEP99
WPQ1420	Abstraction of Water-Verify/Trace Data		44	23SEP99	29NOV99
WPQ1422	Abstraction of Water-Determine if Data Rel SW is		5	23SEP99	29SEP99
WPQ1424	Abstraction of Water-Rxesolve Procurement Relate		10	23SEP99	06OCT99
WPQ1426	Abstraction of Water-Place Under SMS Control as		10	30SEP99	14OCT99
WPQ1428	Abstraction of Water-Verify Data-Related Softwar		10	15OCT99	28OCT99
WPQ1430	Abstraction of Water-Update TDMS		5	30NOV99	06DEC99
WPQ1432	Abstraction of Water-Qualified/Verified Data Ava		0		06DEC99
W1020					
110 Waste Package Operations					
WPPMR180	3.10Q data (General Corrosion of WP Barrier)		42	03MAY99*	30JUN99
WPPMR185	Prepare Draft 3.10Q Gen Corr. Rev 00A		42	03MAY99*	30JUN99
WPP460M4	Provide Draft 3.10Q Gen Corr. Rev 00A	M4	0		30JUN99
WPW072	General Corr.-Input Parameters and Data Identifi		0		30JUN99
WPW073	General Corr.-Models and Codes Identified		0		30JUN99
WPPMR190	3.10Q Checking/Review General Corr.		22	01JUL99	02AUG99
WPW074	General Corr.-Determine DTN Assignment		2	01JUL99	02JUL99
WPW086	General Corr.-Determine if Model-Rel SW is Under		5	01JUL99	08JUL99



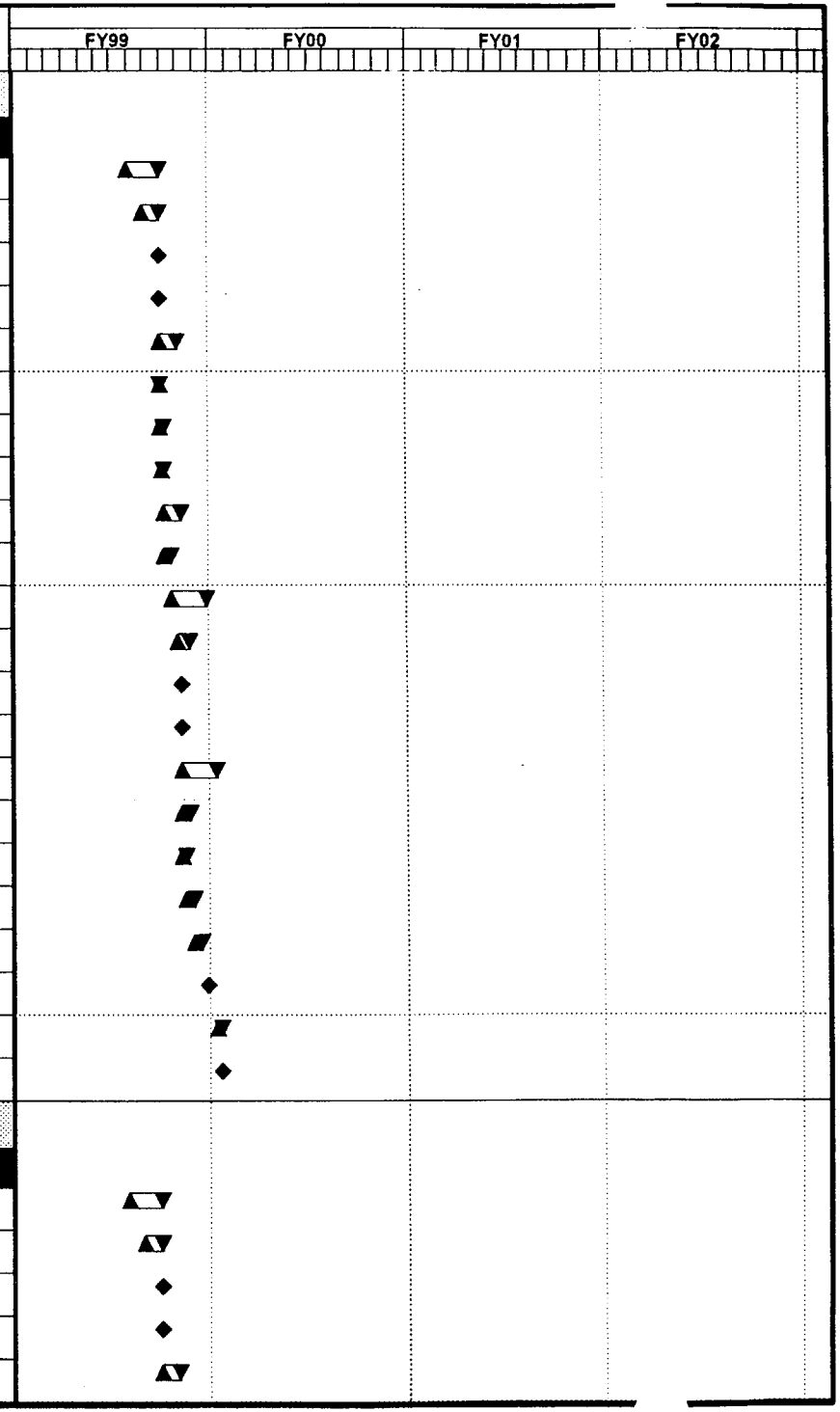
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPW075	General Corr.-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99
WPW076	General Corr.-Submit Data/DTN to TDMS as Necessa		22	09JUL99	09AUG99
WPW087	General Corr.-Place Model-Related SW Under SMS C		10	09JUL99	22JUL99
WPW088	General Corr.-Verify Model-Related Software		44	23JUL99	23SEP99
WPPMR195	Prepare Final 3.10Q Report General Corr.		20	03AUG99	30AUG99
WPW078	General Corr.-Procurement Related Issues ID'd to		0		09AUG99
WPW082	General Corr.-Data Related Software Issues Ident		0		09AUG99
WPW077	General Corr.-Verify/Trace Data		44	10AUG99	12OCT99
WPW079	General Corr.-Rxesolve Procurement Related Data		10	10AUG99	23AUG99
WPW083	General Corr.-Determine if Data Rel SW is Under		5	10AUG99	16AUG99
WPW084	General Corr.-Place Under SMS Control as Necessa		10	17AUG99	30AUG99
WPW085	General Corr.-Verify Data-Related Software		10	31AUG99	14SEP99
WPW089	General Corr.-Qualified/Verified SW Available		0		23SEP99
WPW080	General Corr.-Update TDMS		5	13OCT99	19OCT99
WPW081	General Corr.-Qualified/Verified Data Available		0		19OCT99
W1025					
130 Performance Assessment Operations					
SLPA3098	Prepare Draft Gen Corr. Alloy 22 3.10Q Rev 00A		31	18JUN99*	02AUG99
SLPA3096	Receive General Corrosion of Alloy 22 - AP3.10Q	M4	0		30JUN99
SLPA3108	Rpt Gen Corr. Alloy 22-Input Parameters and Data		0		02AUG99
SLPA3110	Rpt Gen Corr. Alloy 22-Models and Codes Identifi		0		02AUG99
SLPA3104	3.10Q Checking/Review		22	03AUG99	01SEP99
SLPA3112	Rpt Gen Corr. Alloy 22-Determine DTN Assignment		2	03AUG99	04AUG99
SLPA3114	Rpt Gen Corr. Alloy 22-Determine if Model-Rel SW		5	03AUG99	09AUG99
SLPA3116	Rpt Gen Corr. Alloy 22-Determine if Data/DTN in		3	05AUG99	09AUG99
SLPA3118	Rpt Gen Corr. Alloy 22-Place Model-Related SW Un		10	10AUG99	23AUG99
SLPA3120	Rpt Gen Corr. Alloy 22-Submit Data/DTN to TDMS a		22	10AUG99	09SEP99
SLPA3122	Rpt Gen Corr. Alloy 22-Verify Model-Related Soft		44	24AUG99	26OCT99
SLPA3100	Receive Model Abstraction-PAO - AP3.10Q	M4	0		01SEP99
SLPA3102	Provide Model Abstraction-PAO - AP3.10Q	M4	0		01SEP99*
SLPA3106	Prepare Final 3.10Q Report		20	02SEP99	30SEP99



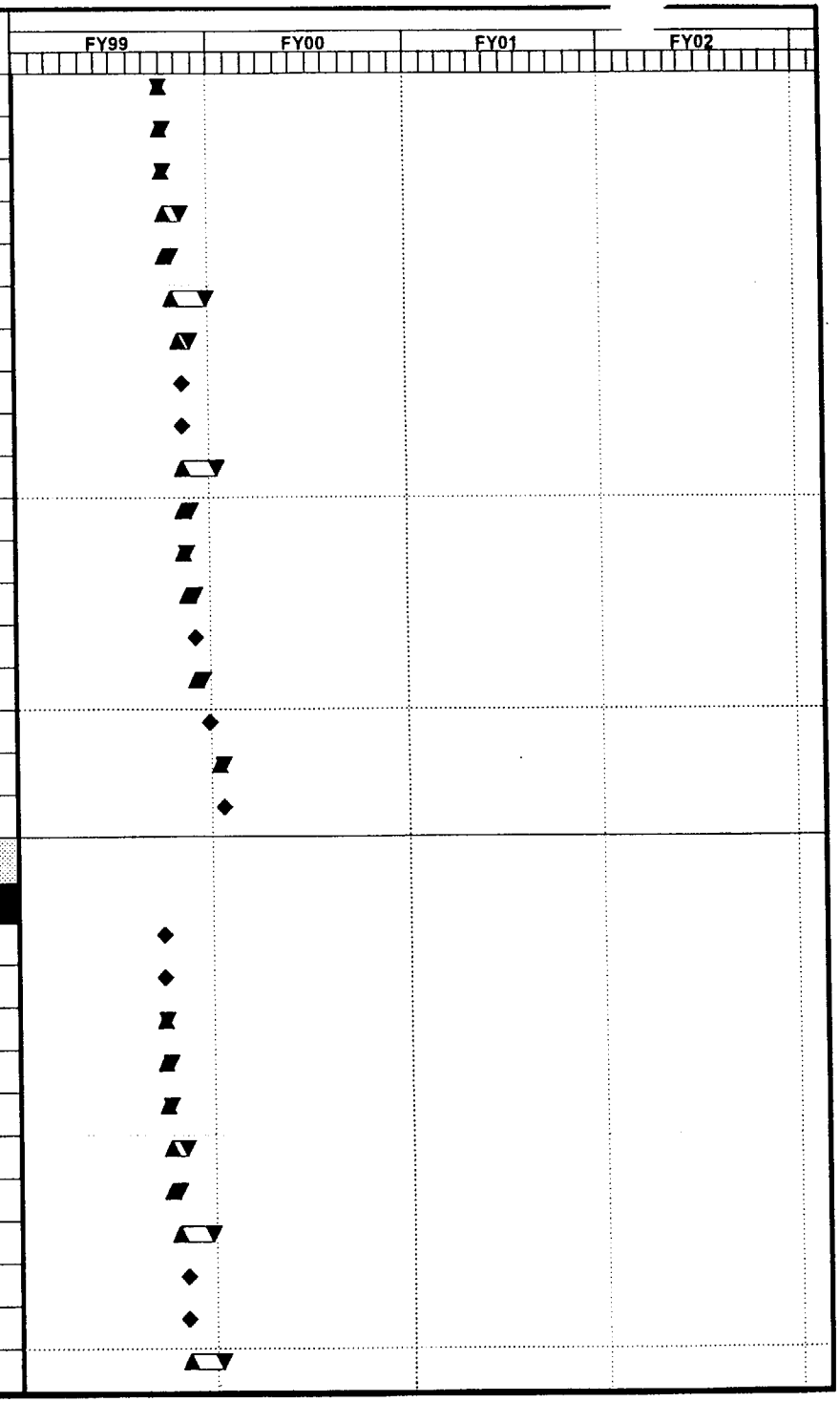
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3124	Rpt Gen Corr. Alloy 22-Data Related Software Iss		0		09SEP99
SLPA3126	Rpt Gen Corr. Alloy 22-Procurement Related Issue		0		09SEP99
SLPA3128	Rpt Gen Corr. Alloy 22-Determine if Data Rel SW		5	10SEP99	16SEP99
SLPA3130	Rpt Gen Corr. Alloy 22-Rxesolve Procurement Rela		10	10SEP99	23SEP99
SLPA3132	Rpt Gen Corr. Alloy 22-Verify/Trace Data		44	10SEP99	12NOV99
SLPA3134	Rpt Gen Corr. Alloy 22-Place Under SMS Control a		10	17SEP99	30SEP99
SLPA3136	Rpt Gen Corr. Alloy 22-Verify Data-Related Softw		10	01OCT99	15OCT99
SLPA3138	Rpt Gen Corr. Alloy 22-Update TDMS		5	15NOV99	19NOV99
SLPA3140	Rpt Gen Corr. Alloy 22-Qualified/Verified Data A		0		19NOV99
W1030					
130 Performance Assessment Operations					
SLPA3142	Prepare Draft WP Surface Chem 3.10Q Rev 00A		31	01JUL99*	13AUG99
SLPA3148	WP Surf Chem-Input Parameters and Data Identifie		0		13AUG99
SLPA3150	WP Surf Chem-Models and Codes Identified		0		13AUG99
SLPA3144	3.10Q Checking/Review WP Surface Chem		30	16AUG99	27SEP99
SLPA3152	WP Surf Chem-Determine DTN Assignment		2	16AUG99	17AUG99
SLPA3154	WP Surf Chem-Determine if Model-Rel SW is Under		5	16AUG99	20AUG99
SLPA3156	WP Surf Chem-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99
SLPA3158	WP Surf Chem-Place Model-Related SW Under SMS Co		10	23AUG99	03SEP99
SLPA3160	WP Surf Chem-Submit Data/DTN to TDMS as Necessar		22	23AUG99	22SEP99
SLPA3162	WP Surf Chem-Verify Model-Related Software		44	07SEP99	08NOV99
SLPA3164	WP Surf Chem-Data Related Software Issues Identi		0		22SEP99
SLPA3166	WP Surf Chem-Procurement Related Issues ID'd to		0		22SEP99
SLPA3168	WP Surf Chem-Determine if Data Rel SW is Under S		5	23SEP99	29SEP99
SLPA3170	WP Surf Chem-Rxesolve Procurement Related Data I		10	23SEP99	06OCT99
SLPA3172	WP Surf Chem-Verify/Trace Data		44	23SEP99	29NOV99
SLPA3146	Prepare Final 3.10Q Report WP Surface Chem		12	28SEP99	14OCT99
SLPA3174	WP Surf Chem-Place Under SMS Control as Necessar		10	30SEP99	14OCT99
SLPA3176	WP Surf Chem-Verify Data-Related Software		10	15OCT99	28OCT99
SLPA3178	WP Surf Chem-Update TDMS		5	30NOV99	06DEC99
SLPA3180	WP Surf Chem-Qualified/Verified Data Available		0		06DEC99



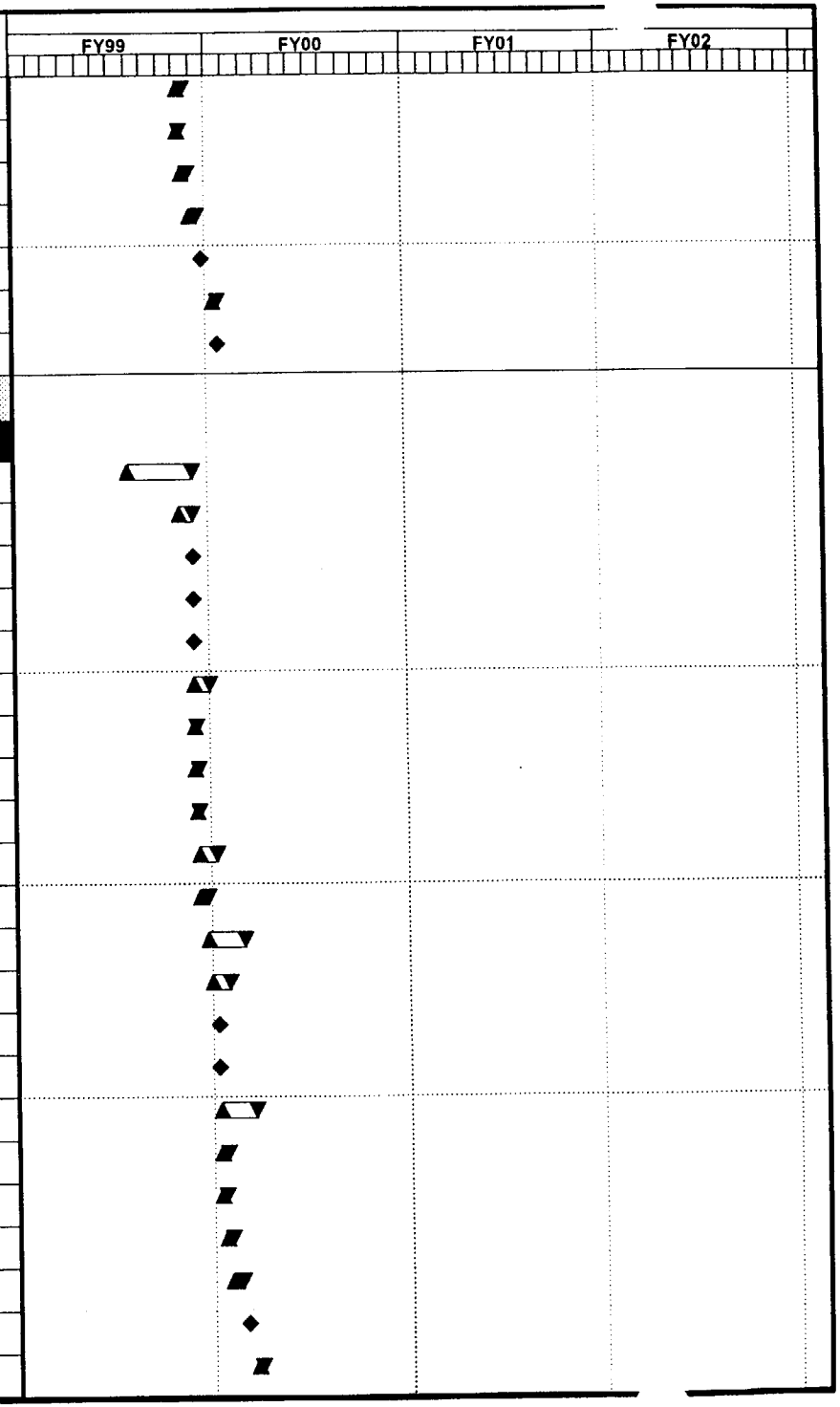
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
W1045					
110 Waste Package Operations					
WPPMR100	3.10Q data (Enviro - Surf Drip Shield & WP Barr)		42	03MAY99*	30JUN99
WPPMR105	Prepare Draft 3.10Q Enviro-Surf Drip Shld Rv 00A		22	01JUN99*	30JUN99
WPW000	Surf Drip Sh-Input Parameters and Data Identifi		0		30JUN99
WPW001	Surf Drip Sh-Models and Codes Identified		0		30JUN99
WPPMR110	3.10Q Checking/Review Enviro - Surf Drip Shield		22	01JUL99	02AUG99
WPW002	Surf Drip Sh-Determine DTN Assignment		2	01JUL99	02JUL99
WPW014	Surf Drip Sh-Determine if Model-Rel SW is Under		5	01JUL99	08JUL99
WPW003	Surf Drip Sh-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99
WPW004	Surf Drip Sh-Submit Data/DTN to TDMS as Necessa		22	09JUL99	09AUG99
WPW015	Surf Drip Sh-Place Model-Related SW Under SMS C		10	09JUL99	22JUL99
WPW016	Surf Drip Sh-Verify Model-Related Software		44	23JUL99	23SEP99
WPPMR115	Prepare Final 3.10Q Report Enviro - Surf Drip Sh		15	03AUG99	23AUG99
WPW006	Surf Drip Sh-Procurement Related Issues ID'd to		0		09AUG99
WPW010	Surf Drip Sh-Data Related Software Issues Ident		0		09AUG99
WPW005	Surf Drip Sh-Verify/Trace Data		44	10AUG99	12OCT99
WPW007	Surf Drip Sh-Rxesolve Procurement Related Data		10	10AUG99	23AUG99
WPW011	Surf Drip Sh-Determine if Data Rel SW is Under		5	10AUG99	16AUG99
WPW012	Surf Drip Sh-Place Under SMS Control as Necessa		10	17AUG99	30AUG99
WPW013	Surf Drip Sh-Verify Data-Related Software		10	31AUG99	14SEP99
WPW017	Surf Drip Sh-Qualified/Verified SW Available		0		23SEP99
WPW008	Surf Drip Sh-Update TDMS		5	13OCT99	19OCT99
WPW009	Surf Drip Sh-Qualified/Verified Data Available		0		19OCT99
W1060					
110 Waste Package Operations					
WPPMR140	3.10Q data (Phase Stability & Aging)		42	03MAY99*	30JUN99
WPPMR145	Prepare Draft 3.10Q Phase Stability & Ag Rev 00A		22	01JUN99*	30JUN99
WPW036	Stability & Ag-Input Parameters and Data Identif		0		30JUN99
WPW037	Stability & Ag-Models and Codes Identified		0		30JUN99
WPPMR150	3.10Q Checking/Review Phase Stability & Aging		22	01JUL99	02AUG99



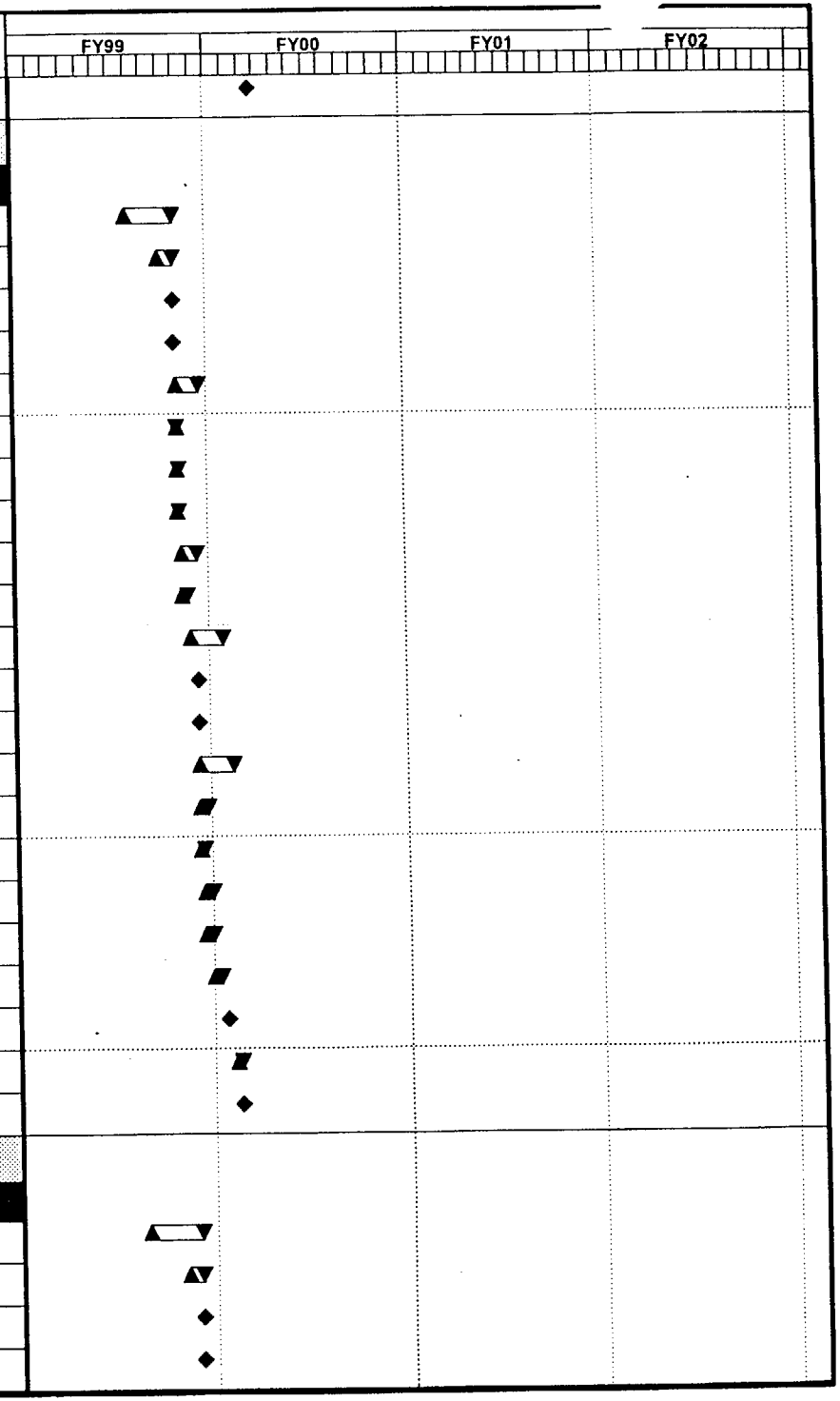
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPW038	Stability & Ag-Determine DTN Assignment		2	01JUL99	02JUL99
WPW050	Stability & Ag-Determine if Model-Rel SW is Unde		5	01JUL99	08JUL99
WPW039	Stability & Ag-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99
WPW040	Stability & Ag-Submit Data/DTN to TDMS as Neqess		22	09JUL99	09AUG99
WPW051	Stability & Ag-Place Model-Related SW Under SMS		10	09JUL99	22JUL99
WPW052	Stability & Ag-Verify Model-Related Software		44	23JUL99	23SEP99
WPPMR155	Prepare Final 3.10Q Report Phase Stability & Ag		15	03AUG99	23AUG99
WPW042	Stability & Ag-Procurement Related Issues ID'd t		0		09AUG99
WPW046	Stability & Ag-Data Related Software Issues Iden		0		09AUG99
WPW041	Stability & Ag-Verify/Trace Data		44	10AUG99	12OCT99
WPW043	Stability & Ag-Rxesolve Procurement Related Data		10	10AUG99	23AUG99
WPW047	Stability & Ag-Determine if Data Rel SW is Under		5	10AUG99	16AUG99
WPW048	Stability & Ag-Place Under SMS Control as Necess		10	17AUG99	30AUG99
WPP475M4	Provide Localizied Corrosion Rev 00A	M4	0		30AUG99
WPW049	Stability & Ag-Verify Data-Related Software		10	31AUG99	14SEP99
WPW053	Stability & Ag-Qualified/Verified SW Available		0		23SEP99
WPW044	Stability & Ag-Update TDMS		5	13OCT99	19OCT99
WPW045	Stability & Ag-Qualified/Verified Data Available		0		19OCT99
W1065					
110 Waste Package Operations					
WPW018	Juvenile Failures-Input Parameters and Data Iden		0		29JUN99
WPW019	Juvenile Failures-Models and Codes Identified		0		29JUN99
WPW020	Juvenile Failures-Determine DTN Assignment		2	30JUN99	01JUL99
WPW032	Juvenile Failures-Determine if Model-Rel SW is U		5	30JUN99	07JUL99
WPW021	Juvenile Failures-Determine if Data/DTN in TDMS		3	02JUL99	07JUL99
WPW022	Juvenile Failures-Submit Data/DTN to TDMS as Nec		22	08JUL99	06AUG99
WPW033	Juvenile Failures-Place Model-Related SW Under S		10	08JUL99	21JUL99
WPW034	Juvenile Failures-Verify Model-Related Software		44	22JUL99	22SEP99
WPW024	Juvenile Failures-Procurement Related Issues ID'		0		06AUG99
WPW028	Juvenile Failures-Data Related Software Issues I		0		06AUG99
WPW023	Juvenile Failures-Verify/Trace Data		44	09AUG99	08OCT99



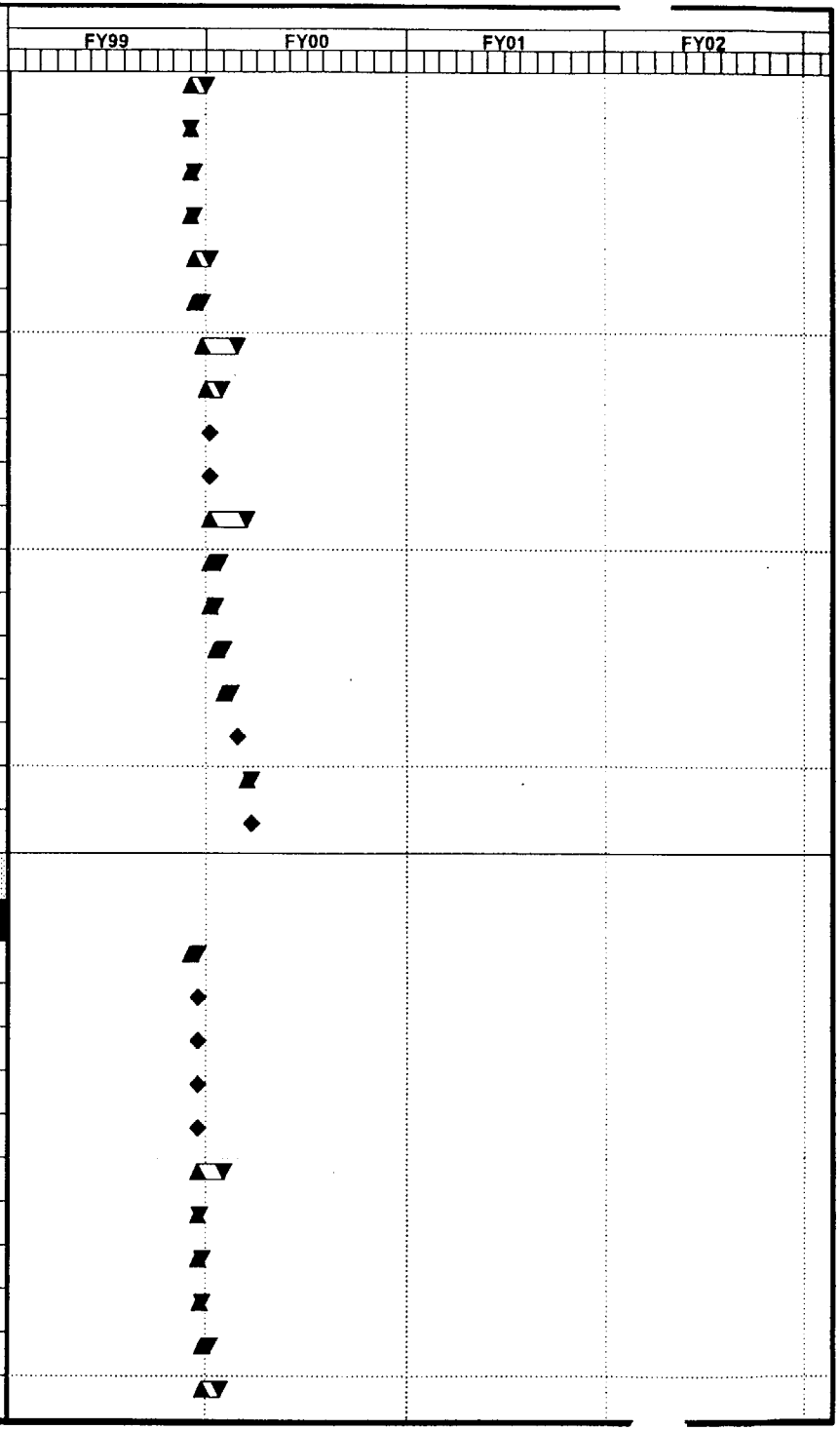
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPW025	Juvenile Failures-Rxesolve Procurement Related D		10	09AUG99	20AUG99
WPW029	Juvenile Failures-Determine if Data Rel SW is Un		5	09AUG99	13AUG99
WPW030	Juvenile Failures-Place Under SMS Control as Nec		10	16AUG99	27AUG99
WPW031	Juvenile Failures-Verify Data-Related Software		10	30AUG99	13SEP99
WPW035	Juvenile Failures-Qualified/Verified SW Availabl		0		22SEP99
WPW026	Juvenile Failures-Update TDMS		5	12OCT99	18OCT99
WPW027	Juvenile Failures-Qualified/Verified Data Availa		0		18OCT99
W1075					
110 Waste Package Operations					
WPPMR320	3.10Q data(Stress Corrosion Cracking WP Barrier)		85	03MAY99*	31AUG99
WPPMR325	pare Draft 3.10Q Stress Corrosion Cra Rev 00A		19	05AUG99*	31AUG99
WPP470M4	Provide Stress Corrosion Cra Rev 00A	M4	0		31AUG99
WPW198	Stress Corrosion-Input Parameters and Data Ident		0		31AUG99
WPW199	Stress Corrosion-Models and Codes Identified		0		31AUG99
WPPMR330	3.10Q Checking/Review Stress Corrosion Cracking		21	01SEP99	30SEP99
WPW200	Stress Corrosion-Determine DTN Assignment		2	01SEP99	02SEP99
WPW212	Stress Corrosion-Determine if Model-Rel SW is Un		5	01SEP99	08SEP99
WPW201	Stress Corrosion-Determine if Data/DTN in TDMS		3	03SEP99	08SEP99
WPW202	Stress Corrosion-Submit Data/DTN to TDMS as Nece		22	09SEP99	08OCT99
WPW213	Stress Corrosion-Place Model-Related SW Under SM		10	09SEP99	22SEP99
WPW214	Stress Corrosion-Verify Model-Related Software		44	23SEP99	29NOV99
WPPMR335	Prepare Final 3.10Q Report Stress Corrosion Crac		20	01OCT99	29OCT99
WPW204	Stress Corrosion-Procurement Related Issues ID'd		0		08OCT99
WPW208	Stress Corrosion-Data Related Software Issues Id		0		08OCT99
WPW203	Stress Corrosion-Verify/Trace Data		44	12OCT99	15DEC99
WPW205	Stress Corrosion-Rxesolve Procurement Related Da		10	12OCT99	25OCT99
WPW209	Stress Corrosion-Determine if Data Rel SW is Und		5	12OCT99	18OCT99
WPW210	Stress Corrosion-Place Under SMS Control as Nece		10	19OCT99	01NOV99
WPW211	Stress Corrosion-Verify Data-Related Software		10	02NOV99	16NOV99
WPW215	Stress Corrosion-Qualified/Verified SW Available		0		29NOV99
WPW206	Stress Corrosion-Update TDMS		5	16DEC99	22DEC99



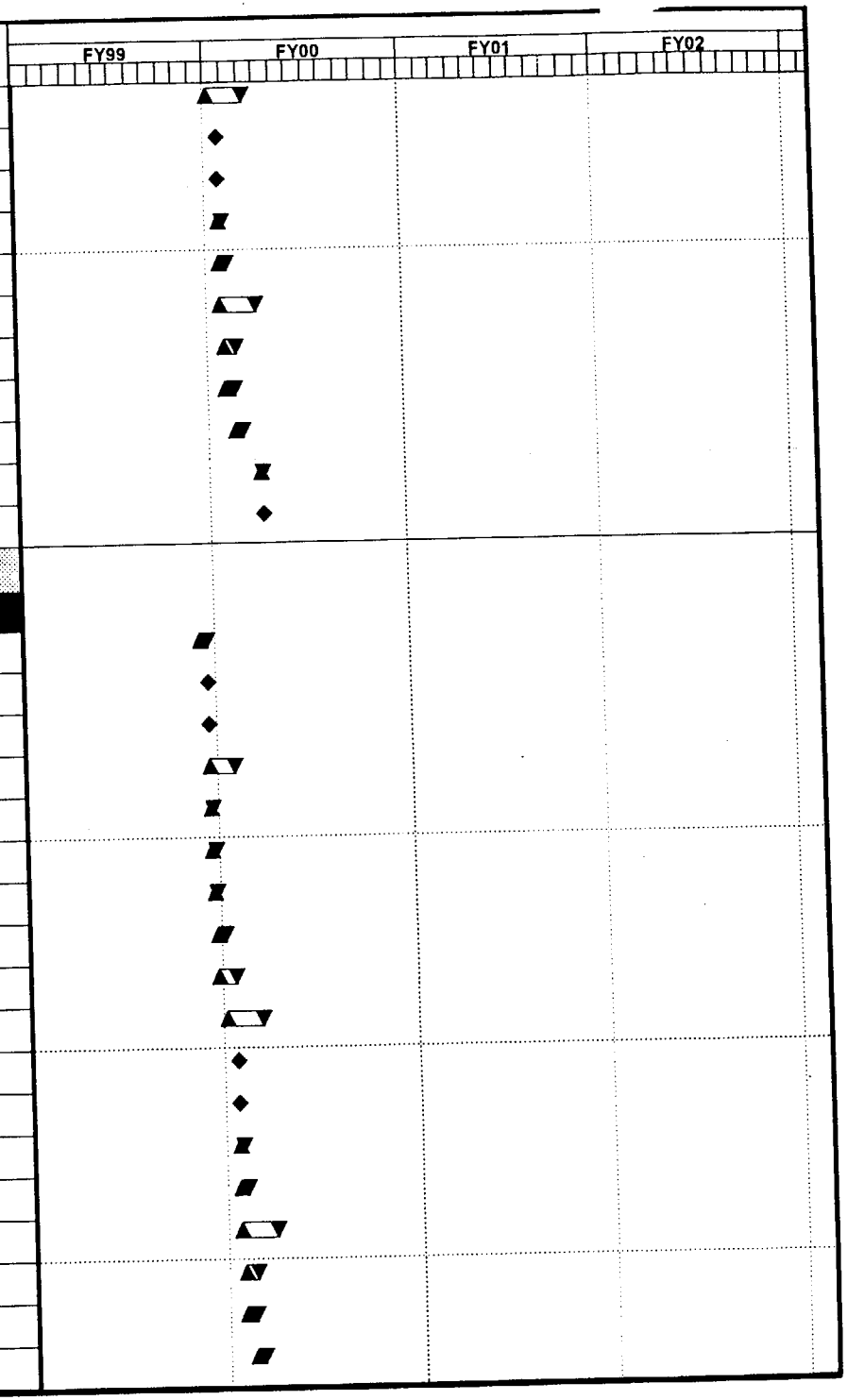
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPW207	Stress Corrosion-Qualified/Verified Data Availab		0		22DEC99
W1080					
110 Waste Package Operations					
WPPMR160	3.10Q data (Mechanical Failures Due to Rockfall)		63	03MAY99*	30JUL99
WPPMR165	Prepare Draft 3.10Q Failures Due to Rock Rev 00A		20	02JUL99*	30JUL99
WPW054	Failures / Roc99-Input Parameters and Data Ident		0		30JUL99
WPW055	Failures / Roc99-Models and Codes Identified		0		30JUL99
WPPMR170	3.10Q Checking/Review Failures Due to Rockfall		31	02AUG99	14SEP99
WPW056	Failures / Roc99-Determine DTN Assignment		2	02AUG99	03AUG99
WPW068	Failures / Roc99-Determine if Model-Rel SW is Un		5	02AUG99	06AUG99
WPW057	Failures / Roc99-Determine if Data/DTN in TDMS		3	04AUG99	06AUG99
WPW058	Failures / Roc99-Submit Data/DTN to TDMS as Nece		22	09AUG99	08SEP99
WPW069	Failures / Roc99-Place Model-Related SW Under SM		10	09AUG99	20AUG99
WPW070	Failures / Roc99-Verify Model-Related Software		44	23AUG99	25OCT99
WPW060	Failures / Roc99-Procurement Related Issues ID'd		0		08SEP99
WPW064	Failures / Roc99-Data Related Software Issues Id		0		08SEP99
WPW059	Failures / Roc99-Verify/Trace Data		44	09SEP99	10NOV99
WPW061	Failures / Roc99-Rxesolve Procurement Related Da		10	09SEP99	22SEP99
WPW065	Failures / Roc99-Determine if Data Rel SW is Und		5	09SEP99	15SEP99
WPPMR175	Prepare Final 3.10Q Report Failures Due to Roc99		11	15SEP99	29SEP99
WPW066	Failures / Roc99-Place Under SMS Control as Nece		10	16SEP99	29SEP99
WPW067	Failures / Roc99-Verify Data-Related Software		10	30SEP99	14OCT99
WPW071	Failures / Roc99-Qualified/Verified SW Available		0		25OCT99
WPW062	Failures / Roc99-Update TDMS		5	12NOV99	18NOV99
WPW063	Failures / Roc99-Qualified/Verified Data Availab		0		18NOV99
W1085					
110 Waste Package Operations					
WPPMR220	3.10Q data (Localizied Corrosion Mdl WP Barrier)		65	28MAY99*	30AUG99
WPPMR225	Prepare Draft 3.10Q Localizied Corrosion Rev 00A		18	05AUG99	30AUG99*
WPW108	Localizied Corrosion-Input Parameters and Data I		0		30AUG99
WPW109	Localizied Corrosion-Models and Codes Identified		0		30AUG99



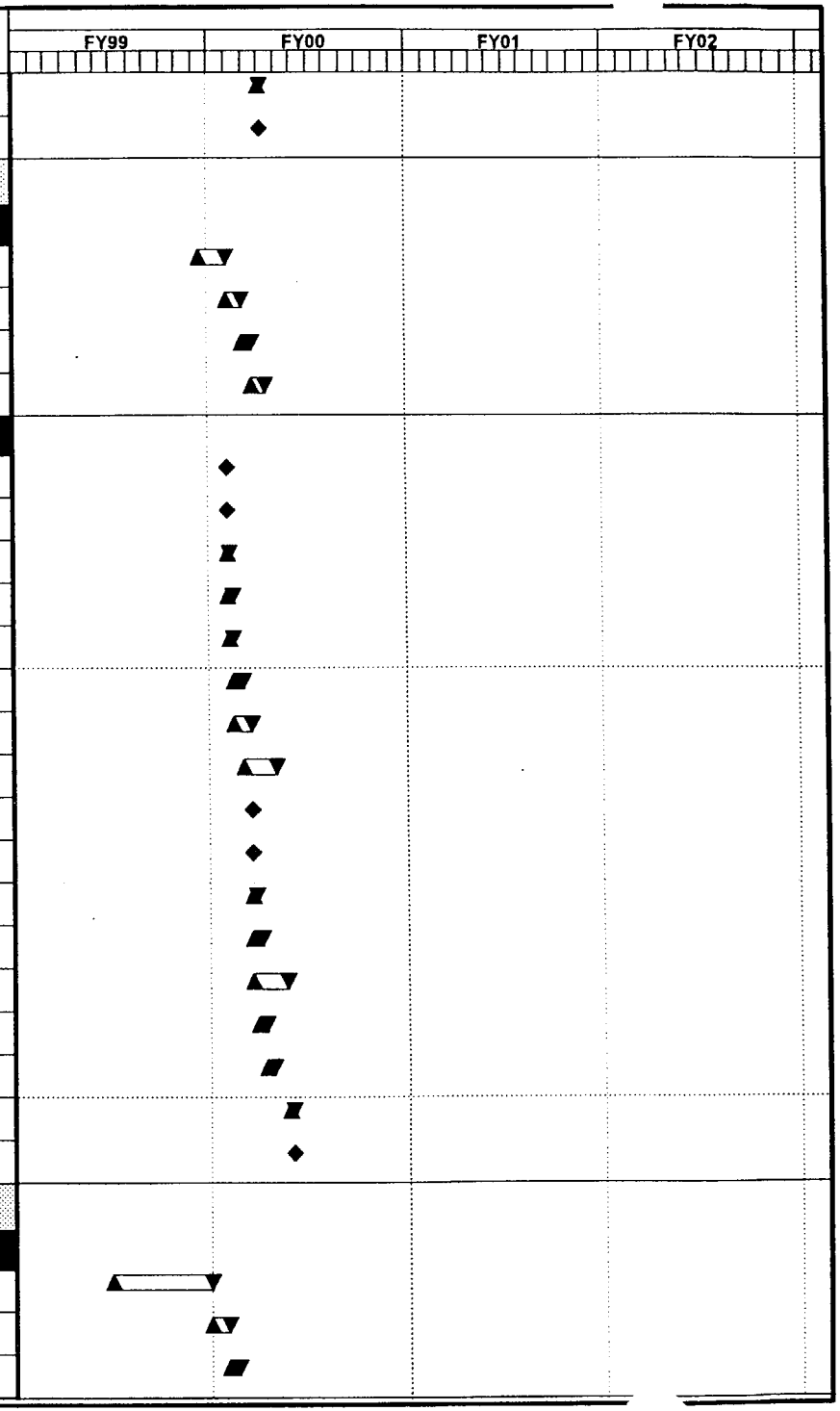
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPPMR230	3.10Q Checking/Review Localizied Corrosion		22	31AUG99	30SEP99
WPW110	Localizied Corrosion-Determine DTN Assignment		2	31AUG99	01SEP99
WPW122	Localizied Corrosion-Determine if Model-Rel SW i		5	31AUG99	07SEP99
WPW111	Localizied Corrosion-Determine if Data/DTN in TD		3	02SEP99	07SEP99
WPW112	Localizied Corrosion-Submit Data/DTN to TDMS as		22	08SEP99	07OCT99
WPW123	Localizied Corrosion-Place Model-Related SW Unde		10	08SEP99	21SEP99
WPW124	Localizied Corrosion-Verify Model-Related Softwa		44	22SEP99	24NOV99
WPPMR235	Prepare Final 3.10Q Report Localizied Corrosion		19	01OCT99	28OCT99
WPW114	Localizied Corrosion-Procurement Related Issues		0		07OCT99
WPW118	Localizied Corrosion-Data Related Software Issue		0		07OCT99
WPW113	Localizied Corrosion-Verify/Trace Data		44	08OCT99	14DEC99
WPW115	Localizied Corrosion-Rxesolve Procurement Relate		10	08OCT99	22OCT99
WPW119	Localizied Corrosion-Determine if Data Rel SW is		5	08OCT99	15OCT99
WPW120	Localizied Corrosion-Place Under SMS Control as		10	18OCT99	29OCT99
WPW121	Localizied Corrosion-Verify Data-Related Softwar		10	01NOV99	15NOV99
WPW125	Localizied Corrosion-Qualified/Verified SW Avail		0		24NOV99
[illegible]16	Localizied Corrosion-Update TDMS		5	15DEC99	21DEC99
WPW117	Localizied Corrosion-Qualified/Verified Data Ava		0		21DEC99
W1090					
130 Performance Assessment Operations					
SLPA3182	Prepare Draft Coor Alloy 22 Abs 3.10Q Rev 00A 99		11	31AUG99*	15SEP99
SLPA3184	Receive Model Abstraction - PAO - AP3.10Q	M4	0		15SEP99
SLPA3186	Provide Model Abstraction - PAO - AP3.10Q	M4	0		15SEP99
SLPA3192	Report-Input Parameters and Data Identified		0		15SEP99
SLPA3194	Report-Models and Codes Identified		0		15SEP99
SLPA3188	3.10Q Checking/Review		31	16SEP99	29OCT99
SLPA3196	Report-Determine DTN Assignment		2	16SEP99	17SEP99
SLPA3198	Report-Determine if Model-Rel SW is Under SMS Co		5	16SEP99	22SEP99
SLPA3200	Report-Determine if Data/DTN in TDMS		3	20SEP99	22SEP99
SLPA3202	Report-Place Model-Related SW Under SMS Control		10	23SEP99	06OCT99
SLPA3204	Report-Submit Data/DTN to TDMS as Necessary		22	23SEP99	25OCT99



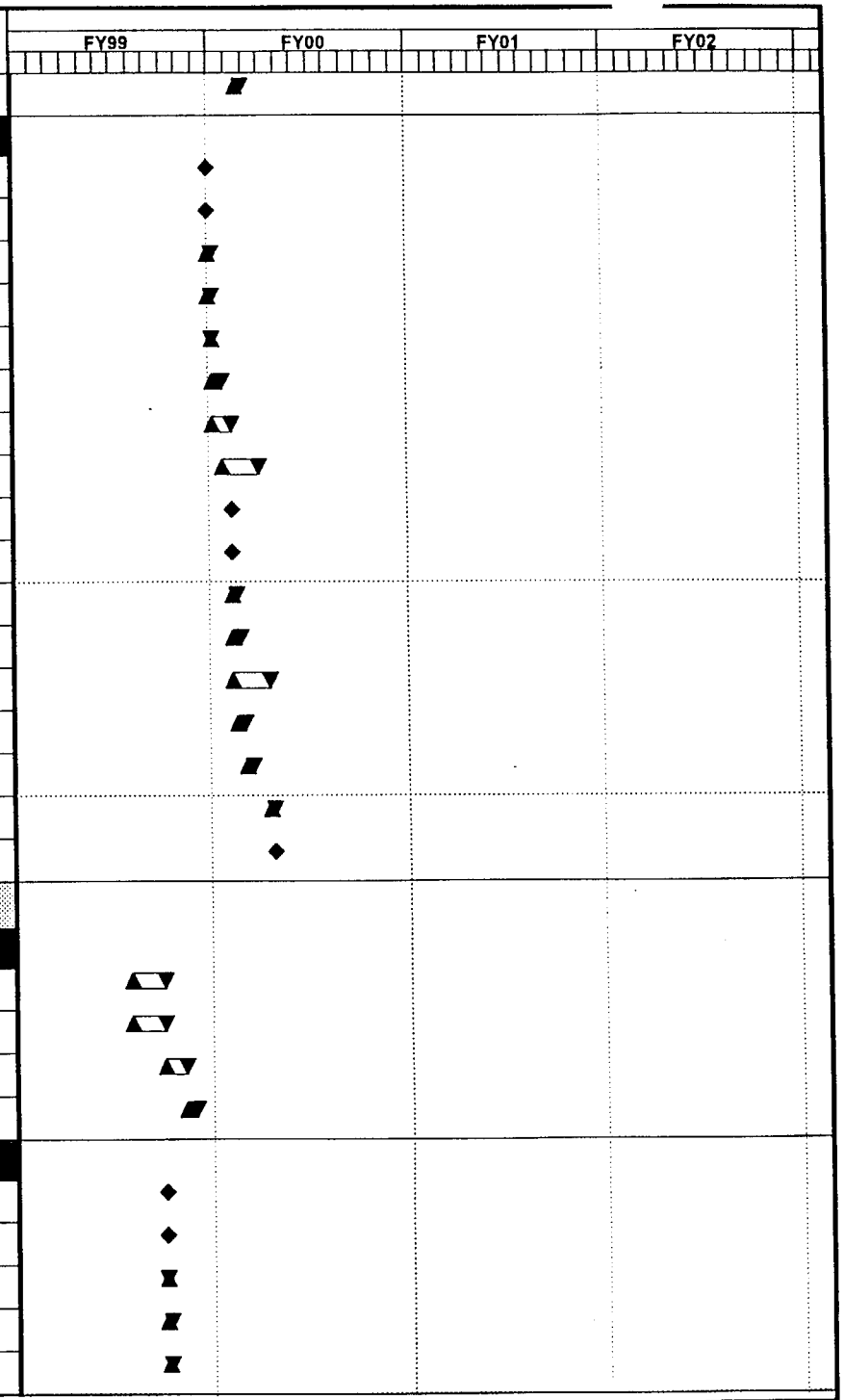
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3206	Report-Verify Model-Related Software		44	07OCT99	13DEC99
SLPA3208	Report-Data Related Software Issues Identified		0		25OCT99
SLPA3210	Report-Procurement Related Issues ID'd to Car Ma		0		25OCT99
SLPA3212	Report-Determine if Data Rel SW is Under SMS Con		5	26OCT99	01NOV99
SLPA3214	Report-Rxesolve Procurement Related Data Issues		10	26OCT99	08NOV99
SLPA3216	Report-Verify/Trace Data		44	26OCT99	30DEC99
SLPA3190	Prepare Final 3.10Q Report		15	01NOV99	22NOV99
SLPA3218	Report-Place Under SMS Control as Necessary		10	02NOV99	16NOV99
SLPA3220	Report-Verify Data-Related Software		10	17NOV99	02DEC99
SLPA3222	Report-Update TDMS		5	03JAN00	07JAN00
SLPA3224	Report-Qualified/Verified Data Available		0		07JAN00
W1095					
130 Performance Assessment Operations					
SLPA3226	Draft 3.10Q Alloy 22 Abs SCC Rev 00A		10	01SEP99	15SEP99
SLPA3232	Alloy 22 SCC-Input Parameters and Data Identifie		0		15SEP99
SLPA3234	Alloy 22 SCC-Models and Codes Identified		0		15SEP99
SLPA3228	Check3.10Q Alloy 22 SCC Rev 00A		31	16SEP99	29OCT99
SLPA3236	Alloy 22 SCC-Determine DTN Assignment		2	16SEP99	17SEP99
SLPA3238	Alloy 22 SCC-Determine if Model-Rel SW is Under		5	16SEP99	22SEP99
SLPA3240	Alloy 22 SCC-Determine if Data/DTN in TDMS		3	20SEP99	22SEP99
SLPA3242	Alloy 22 SCC-Place Model-Related SW Under SMS Co		10	23SEP99	06OCT99
SLPA3244	Alloy 22 SCC-Submit Data/DTN to TDMS as Necessar		22	23SEP99	25OCT99
SLPA3246	Alloy 22 SCC-Verify Model-Related Software		44	07OCT99	13DEC99
SLPA3248	Alloy 22 SCC-Data Related Software Issues Identi		0		25OCT99
SLPA3250	Alloy 22 SCC-Procurement Related Issues ID'd to		0		25OCT99
SLPA3252	Alloy 22 SCC-Determine if Data Rel SW is Under S		5	26OCT99	01NOV99
SLPA3254	Alloy 22 SCC-Rxesolve Procurement Related Data I		10	26OCT99	08NOV99
SLPA3256	Alloy 22 SCC-Verify/Trace Data		44	26OCT99	30DEC99
SLPA3230	Final 3.10Q Alloy 22 SCC Rev 00A		15	01NOV99	22NOV99
SLPA3258	Alloy 22 SCC-Place Under SMS Control as Necessar		10	02NOV99	16NOV99
SLPA3260	Alloy 22 SCC-Verify Data-Related Software		10	17NOV99	02DEC99



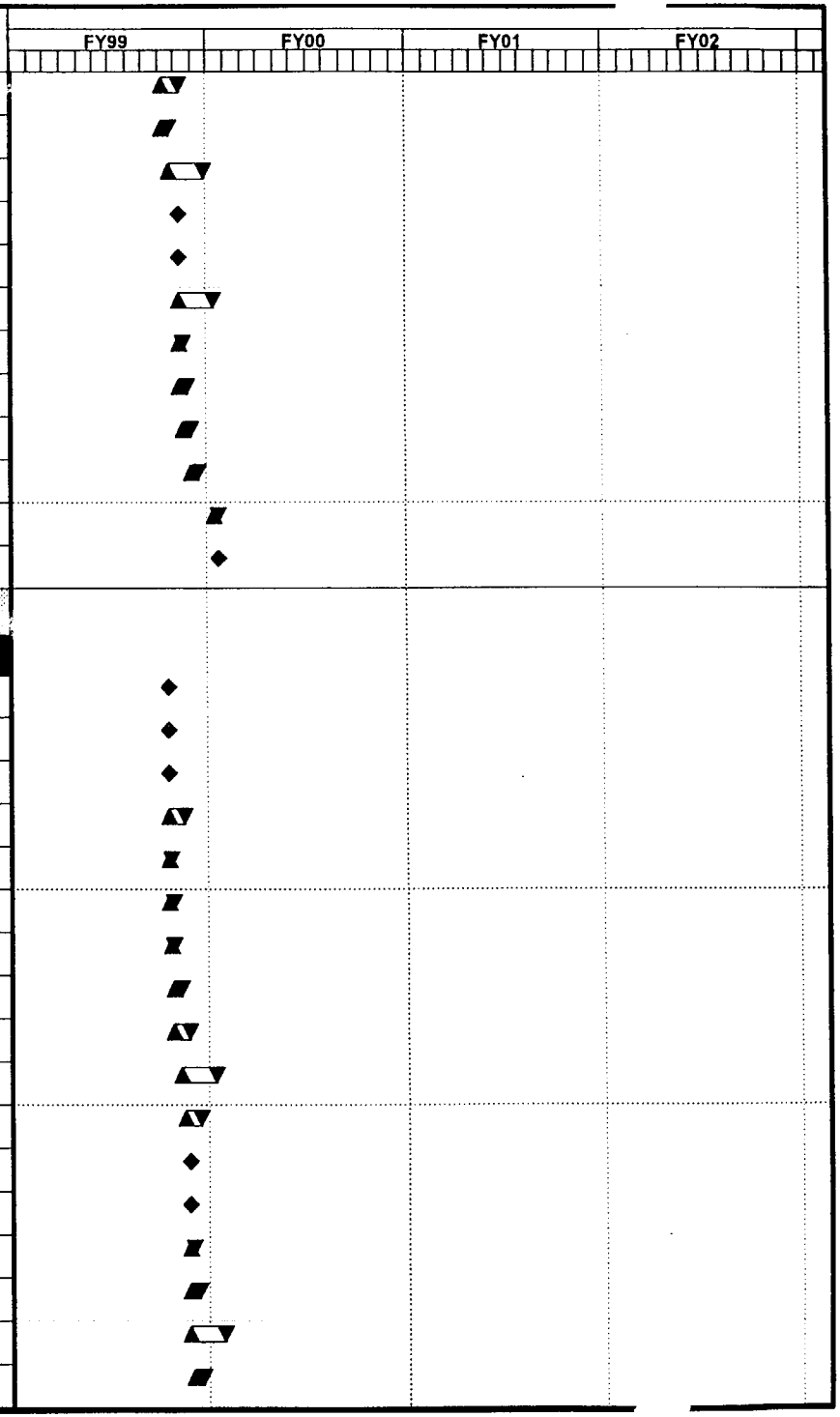
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3262	Alloy 22 SCC-Update TDMS		5	03JAN00	07JAN00
SLPA3264	Alloy 22 SCC-Qualified/Verified Data Available		0		07JAN00
W2006					
110 Waste Package Operations					
SLPA3266	3.10Q data WAPDEG Analysis		35	16SEP99	04NOV99
SLPA3268	3.10Q draft WAPDEG Analysis		15	05NOV99	30NOV99
SLPA3270	3.10Q Check WAPDEG Analysis		15	01DEC99	21DEC99
SLPA3272	3.10Q Final WAPDEG Analysis		15	22DEC99	13JAN00
130 Performance Assessment Operations					
SLPA3274	WAPDEG Analy-Input Parameters and Data Identifie		0		04NOV99
SLPA3276	WAPDEG Analy-Models and Codes Identified		0		04NOV99
SLPA3278	WAPDEG Analy-Determine DTN Assignment		2	05NOV99	08NOV99
SLPA3280	WAPDEG Analy-Determine if Model-Rel SW is Under		5	05NOV99	12NOV99
SLPA3282	WAPDEG Analy-Determine if Data/DTN in TDMS		3	09NOV99	12NOV99
SLPA3284	WAPDEG Analy-Place Model-Related SW Under SMS Co		10	15NOV99	30NOV99
SLPA3286	WAPDEG Analy-Submit Data/DTN to TDMS as Necessar		22	15NOV99	16DEC99
SLPA3288	WAPDEG Analy-Verify Model-Related Software		44	01DEC99	02FEB00
SLPA3290	WAPDEG Analy-Data Related Software Issues Identi		0		16DEC99
SLPA3292	WAPDEG Analy-Procurement Related Issues ID'd to		0		16DEC99
SLPA3294	WAPDEG Analy-Determine if Data Rel SW is Under S		5	17DEC99	23DEC99
SLPA3296	WAPDEG Analy-Rxesolve Procurement Related Data I		10	17DEC99	03JAN00
SLPA3298	WAPDEG Analy-Verify/Trace Data		44	17DEC99	18FEB00
SLPA3300	WAPDEG Analy-Place Under SMS Control as Necessar		10	27DEC99	10JAN00
SLPA3302	WAPDEG Analy-Verify Data-Related Software		10	11JAN00	24JAN00
SLPA3304	WAPDEG Analy-Update TDMS		5	22FEB00	28FEB00
SLPA3306	WAPDEG Analy-Qualified/Verified Data Available		0		28FEB00
W2007					
110 Waste Package Operations					
SLPA3308	3.10Q data WP FEPs Screen FY99		128	01APR99*	30SEP99
SLPA3310	3.10Q Draft WP FEPs Screen		20	01OCT99	29OCT99
SLPA3312	3.10Q Check WP FEPs Screen		14	01NOV99	19NOV99



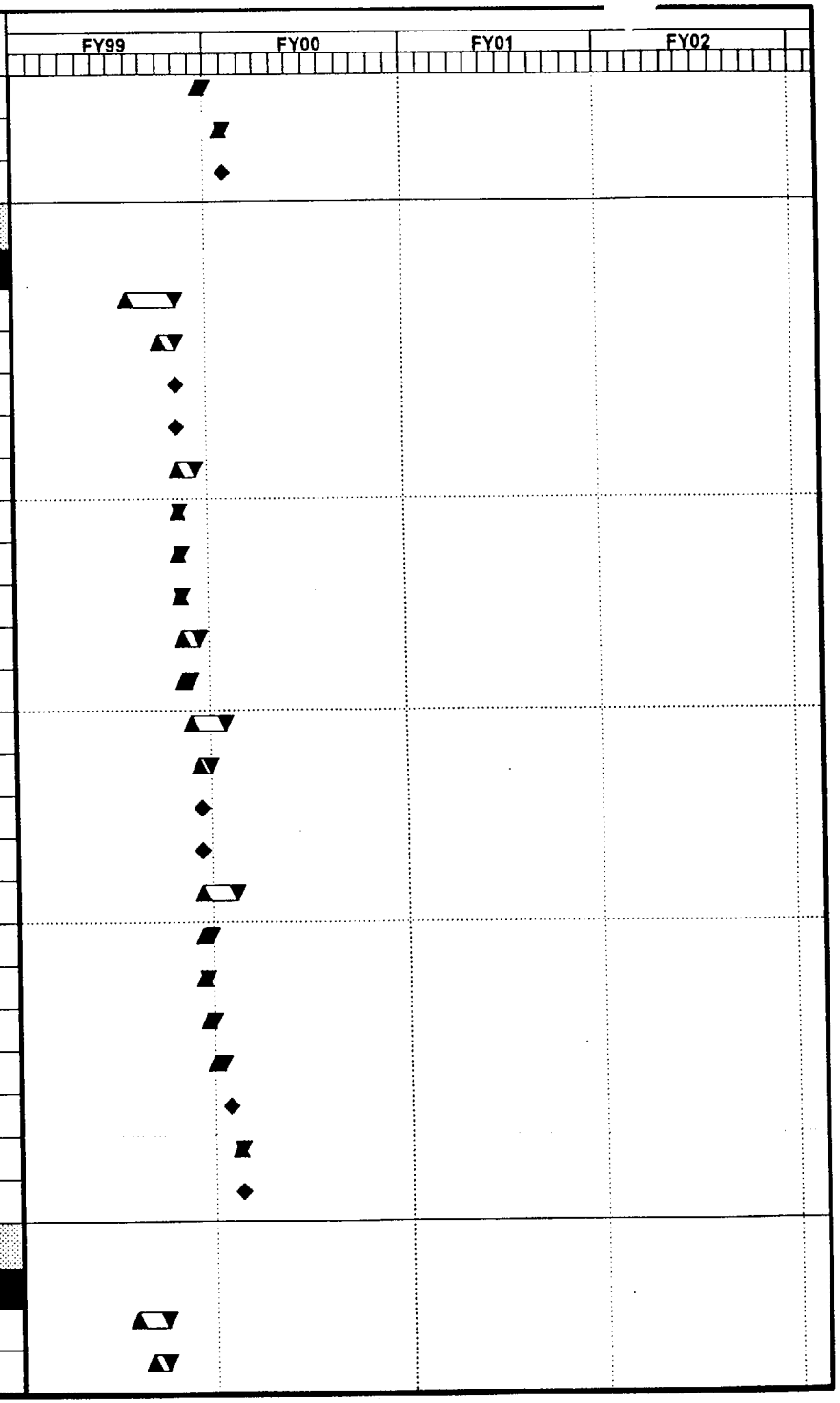
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3314	3.10Q Final WP FEPs Screen		6	22NOV99	01DEC99
130 Performance Assessment Operations					
SLPA3316	WP FEPs-Input Parameters and Data Identified		0		30SEP99
SLPA3318	WP FEPs-Models and Codes Identified		0		30SEP99
SLPA3320	WP FEPs-Determine DTN Assignment		2	01OCT99	04OCT99
SLPA3322	WP FEPs-Determine if Model-Rel SW is Under SMS C		5	01OCT99	07OCT99
SLPA3324	WP FEPs-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
SLPA3326	WP FEPs-Place Model-Related SW Under SMS Control		10	08OCT99	22OCT99
SLPA3328	WP FEPs-Submit Data/DTN to TDMS as Necessary		22	08OCT99	09NOV99
SLPA3330	WP FEPs-Verify Model-Related Software		44	25OCT99	29DEC99
SLPA3332	WP FEPs-Data Related Software Issues Identified		0		09NOV99
SLPA3334	WP FEPs-Procurement Related Issues ID'd to Car M		0		09NOV99
SLPA3336	WP FEPs-Determine if Data Rel SW is Under SMS Co		5	10NOV99	17NOV99
SLPA3338	WP FEPs-Rxesolve Procurement Related Data Issues		10	10NOV99	24NOV99
SLPA3340	WP FEPs-Verify/Trace Data		44	10NOV99	17JAN00
SLPA3342	WP FEPs-Place Under SMS Control as Necessary		10	18NOV99	03DEC99
SLPA3344	WP FEPs-Verify Data-Related Software		10	06DEC99	17DEC99
SLPA3346	WP FEPs-Update TDMS		5	18JAN00	24JAN00
SLPA3348	WP FEPs-Qualified/Verified Data Available		0		24JAN00
W2030					
110 Waste Package Operations					
WPPMR2A05	3.10Q data(General Corrosion of Drip Shield)		42	03MAY99*	30JUN99
WPPMR2A10	Prepare Draft 3.10Q General Corr of Drip Shield		42	03MAY99	30JUN99*
WPPMR2A15	3.10Q Checking/Review Gen Corr of Drip Shiel F99		27	01JUL99	09AUG99
WPPMR2A20	Prepare Final 3.10Q Report General Corr of Drip		13	10AUG99	26AUG99
130 Performance Assessment Operations					
WPQ1000	General Corr/Drip-Input Parameters and Data Iden		0		30JUN99
WPQ1002	General Corr/Drip-Models and Codes Identified		0		30JUN99
WPQ1004	General Corr/Drip-Determine DTN Assignment		2	01JUL99	02JUL99
WPQ1006	General Corr/Drip-Determine if Model-Rel SW is U		5	01JUL99	08JUL99
WPQ1008	General Corr/Drip-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99



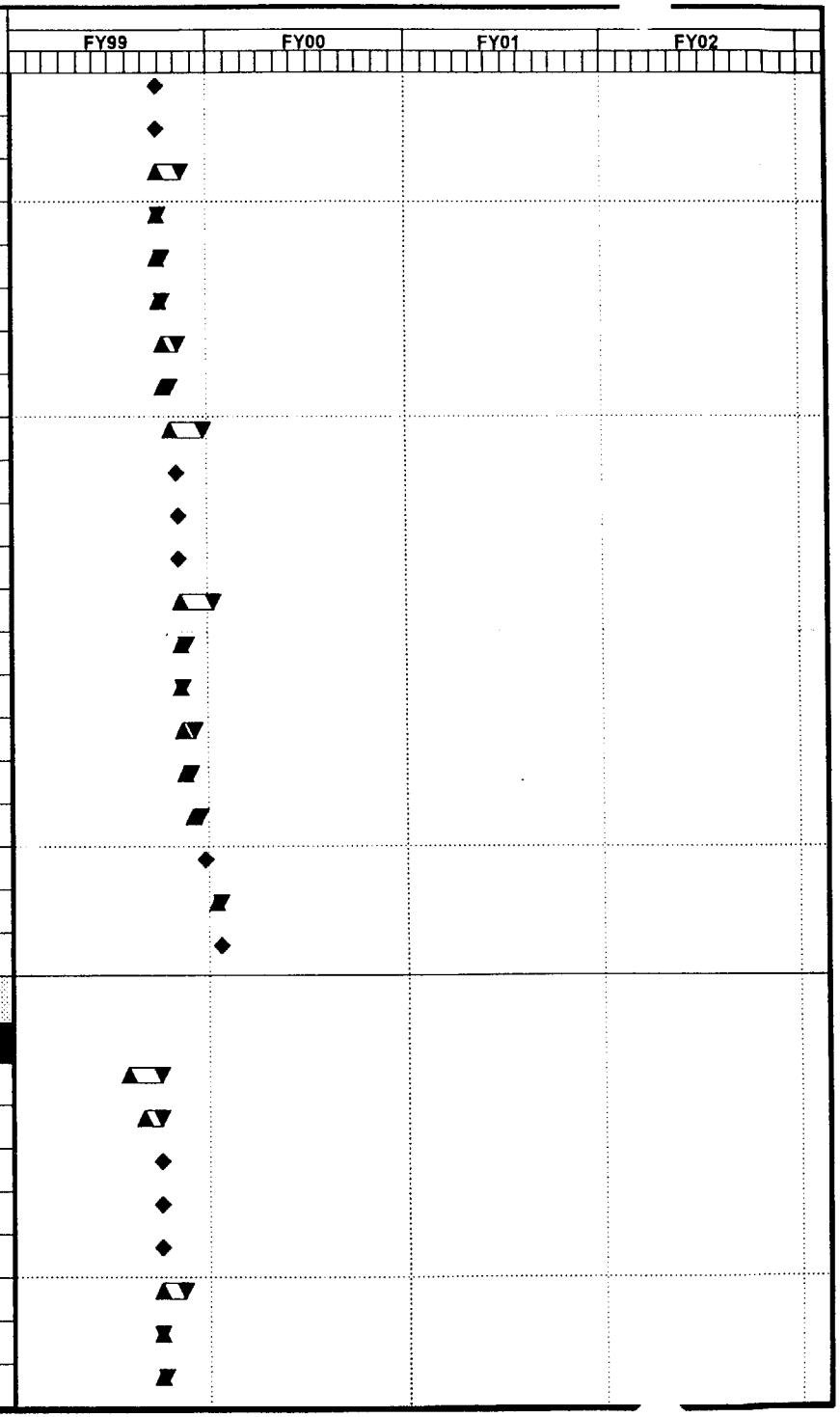
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPQ1010	General Corr/Drip-Submit Data/DTN to TDMS as Nec		22	09JUL99	09AUG99
WPQ1012	General Corr/Drip-Place Model-Related SW Under S		10	09JUL99	22JUL99
WPQ1014	General Corr/Drip-Verify Model-Related Software		44	23JUL99	23SEP99
WPQ1016	General Corr/Drip-Data Related Software Issues I		0		09AUG99
WPQ1018	General Corr/Drip-Procurement Related Issues ID'		0		09AUG99
WPQ1020	General Corr/Drip-Verify/Trace Data		44	10AUG99	12OCT99
WPQ1022	General Corr/Drip-Determine if Data Rel SW is Un		5	10AUG99	16AUG99
WPQ1024	General Corr/Drip-Rxesolve Procurement Related D		10	10AUG99	23AUG99
WPQ1026	General Corr/Drip-Place Under SMS Control as Nec		10	17AUG99	30AUG99
WPQ1028	General Corr/Drip-Verify Data-Related Software		10	31AUG99	14SEP99
WPQ1030	General Corr/Drip-Update TDMS		5	13OCT99	19OCT99
WPQ1032	General Corr/Drip-Qualified/Verified Data Availa		0		19OCT99
W2040					
130 Performance Assessment Operations					
SLPA3350	Abstraction -of Generak Cor. of Drip Shield	M4	0		19JUL99
SLPA3356	Report-Input Parameters and Data Identified		0		19JUL99
SLPA3358	Report-Models and Codes Identified		0		19JUL99
SLPA3352	3.10Q Checking/Review Cor. of Drip Shield		22	20JUL99	18AUG99
SLPA3360	Report-Determine DTN Assignment		2	20JUL99	21JUL99
SLPA3362	Report-Determine if Model-Rel SW is Under SMS Co		5	20JUL99	26JUL99
SLPA3364	Report-Determine if Data/DTN in TDMS		3	22JUL99	26JUL99
SLPA3366	Report-Place Model-Related SW Under SMS Control		10	27JUL99	09AUG99
SLPA3368	Report-Submit Data/DTN to TDMS as Necessary		22	27JUL99	25AUG99
SLPA3370	Report-Verify Model-Related Software		44	10AUG99	12OCT99
SLPA3354	Prepare Final 3.10Q Report Cor. of Drip Shield		19	19AUG99	15SEP99
SLPA3372	Report-Data Related Software Issues Identified		0		25AUG99
SLPA3374	Report-Procurement Related Issues ID'd to Car Ma		0		25AUG99
SLPA3376	Report-Determine if Data Rel SW is Under SMS Con		5	26AUG99	01SEP99
SLPA3378	Report-Rxesolve Procurement Related Data Issues		10	26AUG99	09SEP99
SLPA3380	Report-Verify/Trace Data		44	26AUG99	28OCT99
SLPA3382	Report-Place Under SMS Control as Necessary		10	02SEP99	16SEP99



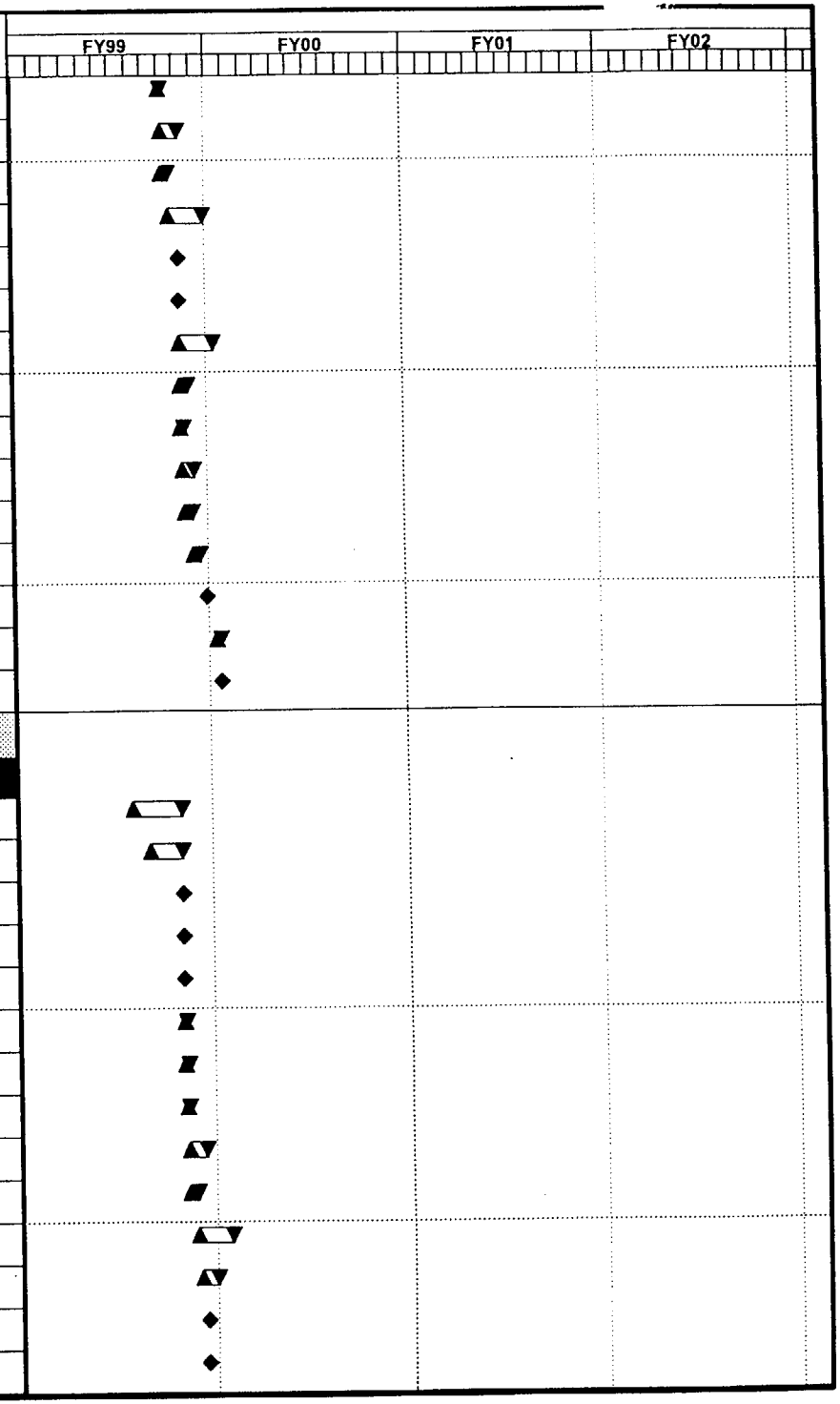
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3384	Report-Verify Data-Related Software		10	17SEP99	30SEP99
SLPA3386	Report-Update TDMS		5	29OCT99	04NOV99
SLPA3388	Report-Qualified/Verified Data Available		0		04NOV99
W2055					
110 Waste Package Operations					
WPPMRAD0	3.10Q data (Environment on DS Surface - EBS/WPO)		64	03MAY99*	02AUG99
WPPMRAD5	Prepare Draft 3.10Q Environment on DS Su Rev 00A		22	01JUL99*	02AUG99
WPW216	Environment/DS Sur-Input Parameters and Data Ide		0		02AUG99
WPW218	Environment/DS Sur-Models and Codes Identified		0		02AUG99
WPPMRAE0	3.10Q Checking/Review Environment on DS Surface		25	03AUG99	07SEP99
WPW220	Environment/DS Sur-Determine DTN Assignment		2	03AUG99	04AUG99
WPW244	Environment/DS Sur-Determine if Model-Rel SW is		5	03AUG99	09AUG99
WPW222	Environment/DS Sur-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99
WPW224	Environment/DS Sur-Submit Data/DTN to TDMS as Ne		22	10AUG99	09SEP99
WPW246	Environment/DS Sur-Place Model-Related SW Under		10	10AUG99	23AUG99
WPW248	Environment/DS Sur-Verify Model-Related Software		44	24AUG99	26OCT99
WPPMRAE5	Prepare Final 3.10Q Report Environment on DS Sur		17	08SEP99	30SEP99
WPW228	Environment/DS Sur-Procurement Related Issues ID		0		09SEP99
WPW236	Environment/DS Sur-Data Related Software Issues		0		09SEP99
WPW226	Environment/DS Sur-Verify/Trace Data		44	10SEP99	12NOV99
WPW230	Environment/DS Sur-Rxesolve Procurement Related		10	10SEP99	23SEP99
WPW238	Environment/DS Sur-Determine if Data Rel SW is U		5	10SEP99	16SEP99
WPW240	Environment/DS Sur-Place Under SMS Control as Ne		10	17SEP99	30SEP99
WPW242	Environment/DS Sur-Verify Data-Related Software		10	01OCT99	15OCT99
WPW250	Environment/DS Sur-Qualified/Verified SW Availab		0		26OCT99
WPW232	Environment/DS Sur-Update TDMS		5	15NOV99	19NOV99
WPW234	Environment/DS Sur-Qualified/Verified Data Avail		0		19NOV99
W2070					
110 Waste Package Operations					
WPPMRAD6	3.10Q data (Juvenile Failures of DS & WP)		41	03MAY99*	29JUN99
WPPMRAD9	Prepare Draft 3.10Q Juvenile Failures Rev 00A		21	01JUN99*	29JUN99



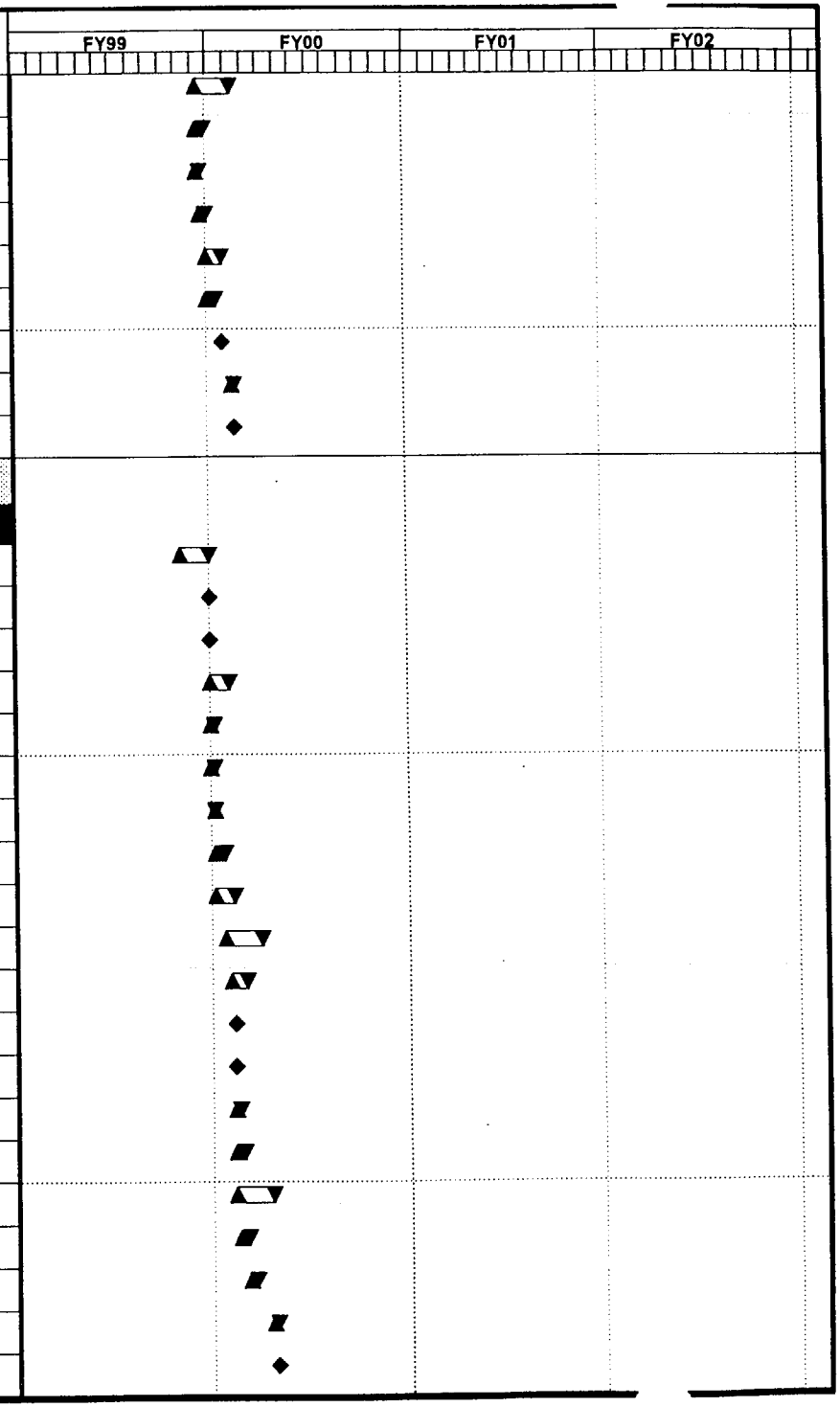
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPW251	Juvenile Failures-Input Parameters and Data Iden		0		29JUN99
WPW252	Juvenile Failures-Models and Codes Identified		0		29JUN99
WPPMRAD3	3.10Q Checking/Review Juvenile Failures		31	30JUN99	12AUG99
WPW253	Juvenile Failures-Determine DTN Assignment		2	30JUN99	01JUL99
WPW265	Juvenile Failures-Determine if Model-Rel SW is U		5	30JUN99	07JUL99
WPW254	Juvenile Failures-Determine if Data/DTN in TDMS		3	02JUL99	07JUL99
WPW255	Juvenile Failures-Submit Data/DTN to TDMS as Nec		22	08JUL99	06AUG99
WPW266	Juvenile Failures-Place Model-Related SW Under S		10	08JUL99	21JUL99
WPW267	Juvenile Failures-Verify Model-Related Software		44	22JUL99	22SEP99
WPW126	Juvenile Failures-Input Parameters and Data Iden		0		02AUG99
WPW257	Juvenile Failures-Procurement Related Issues ID'		0		06AUG99
WPW261	Juvenile Failures-Data Related Software Issues I		0		06AUG99
WPW256	Juvenile Failures-Verify/Trace Data		44	09AUG99	08OCT99
WPW258	Juvenile Failures-Rxesolve Procurement Related D		10	09AUG99	20AUG99
WPW262	Juvenile Failures-Determine if Data Rel SW is Un		5	09AUG99	13AUG99
WPPMRAE2	Prepare Final 3.10Q Report Juvenile Failures		15	13AUG99	02SEP99
WPW263	Juvenile Failures-Place Under SMS Control as Nec		10	16AUG99	27AUG99
WPW264	Juvenile Failures-Verify Data-Related Software		10	30AUG99	13SEP99
WPW268	Juvenile Failures-Qualified/Verified SW Availabl		0		22SEP99
WPW259	Juvenile Failures-Update TDMS		5	12OCT99	18OCT99
WPW260	Juvenile Failures-Qualified/Verified Data Availa		0		18OCT99
W2075					
110 Waste Package Operations					
WPPMR200	3.10Q data(NFE In-Drift T,H Analysis)		42	03MAY99*	30JUN99
WPPMR205	Prepare Draft 3.10Q NFE In-Drift T,H Ana Rev 00A		22	01JUN99	30JUN99
SLPA3390	Receive NFE In-Drift T,H Analysis- AP3.10Q	M4	0		30JUN99*
WPW090	NFE In-Drift T,H-Input Parameters and Data Ident		0		30JUN99
WPW091	NFE In-Drift T,H-Models and Codes Identified		0		30JUN99
WPPMR210	3.10Q Checking/Review NFE In-Drift T,H Analysis		30	01JUL99	12AUG99
WPW092	NFE In-Drift T,H-Determine DTN Assignment		2	01JUL99	02JUL99
WPW104	NFE In-Drift T,H-Determine if Model-Rel SW is Un		5	01JUL99	08JUL99



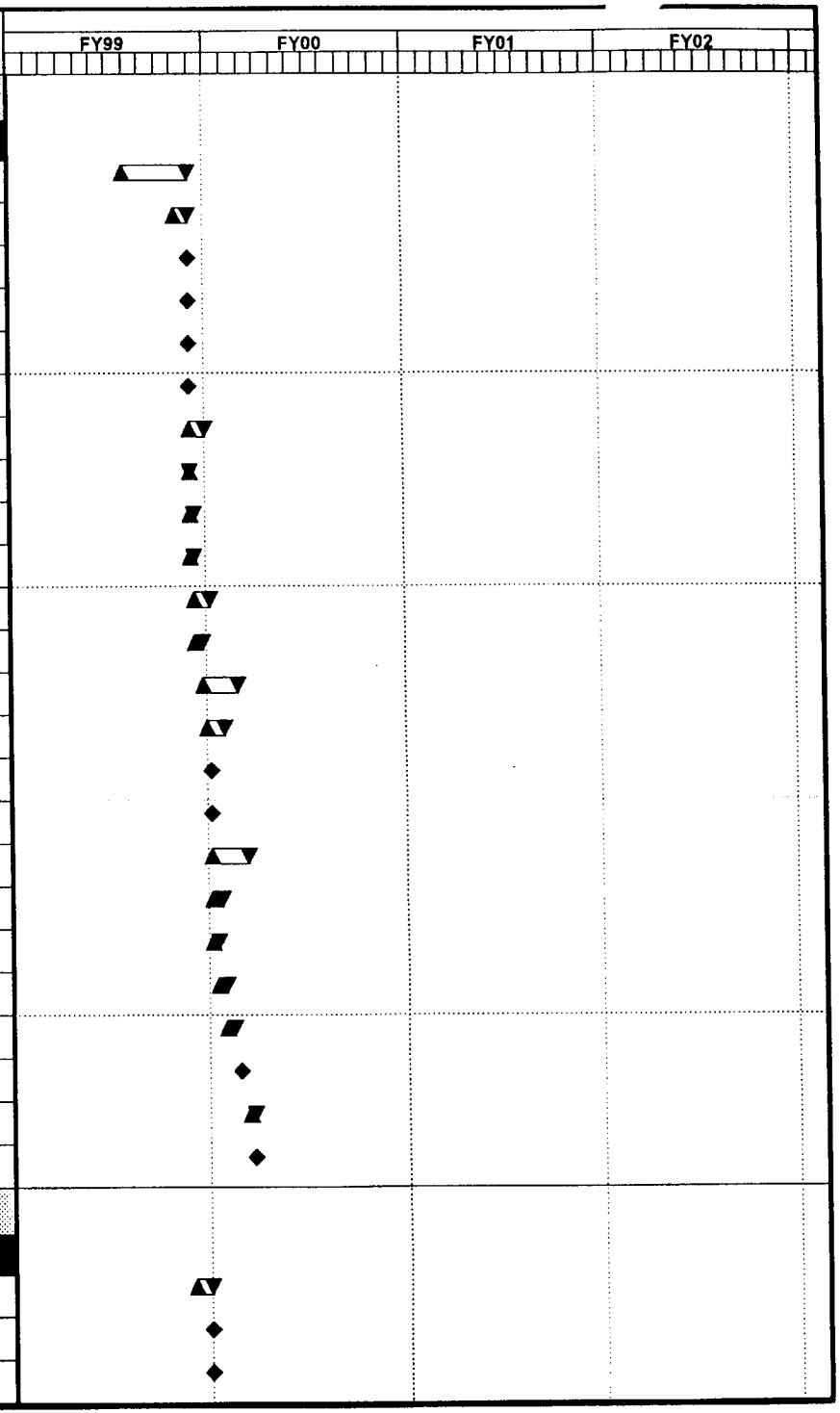
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPW093	NFE In-Drift T,H-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99
WPW094	NFE In-Drift T,H-Submit Data/DTN to TDMS as Nece		22	09JUL99	09AUG99
WPW105	NFE In-Drift T,H-Place Model-Related SW Under SM		10	09JUL99	22JUL99
WPW106	NFE In-Drift T,H-Verify Model-Related Software		44	23JUL99	23SEP99
WPW096	NFE In-Drift T,H-Procurement Related Issues ID'd		0		09AUG99
WPW100	NFE In-Drift T,H-Data Related Software Issues Id		0		09AUG99
WPW095	NFE In-Drift T,H-Verify/Trace Data		44	10AUG99	12OCT99
WPW097	NFE In-Drift T,H-Rxesolve Procurement Related Da		10	10AUG99	23AUG99
WPW101	NFE In-Drift T,H-Determine if Data Rel SW is Und		5	10AUG99	16AUG99
WPPMR215	Prepare Final 3.10Q Report NFE In-Drift T,H Anal		15	13AUG99	02SEP99
WPW102	NFE In-Drift T,H-Place Under SMS Control as Nece		10	17AUG99	30AUG99
WPW103	NFE In-Drift T,H-Verify Data-Related Software		10	31AUG99	14SEP99
WPW107	NFE In-Drift T,H-Qualified/Verified SW Available		0		23SEP99
WPW098	NFE In-Drift T,H-Update TDMS		5	13OCT99	19OCT99
WPW099	NFE In-Drift T,H-Qualified/Verified Data Availab		0		19OCT99
W2085					
110 Waste Package Operations					
WPPMR240	3.10Q data (Local Corros model for Drip Shield)		64	03MAY99*	02AUG99
WPPMR245	Prepare Draft 3.10Q Corros model for Drip Rv 00A		42	03JUN99	02AUG99
SLPA3392	Receive Locaalized Corrosion of Titanium Gr 7 -	M4	0		02AUG99
WPP510M4	Receive Locaalized Corrosion of Titanium Gr 7 -	M4	0		02AUG99
WPW127	Corros model for Drip-Models and Codes Identifie		0		02AUG99
WPW128	Corros model for Drip-Determine DTN Assignment		2	03AUG99	04AUG99
WPW140	Corros model for Drip-Determine if Model-Rel SW		5	03AUG99	09AUG99
WPW129	Corros model for Drip-Determine if Data/DTN in T		3	05AUG99	09AUG99
WPW130	Corros model for Drip-Submit Data/DTN to TDMS as		22	10AUG99	09SEP99
WPW141	Corros model for Drip-Place Model-Related SW Und		10	10AUG99	23AUG99
WPW142	Corros model for Drip-Verify Model-Related Softw		44	24AUG99	26OCT99
WPPMR250	3.10Q Checking/Review Corros model for Drip Shie		22	31AUG99*	30SEP99
WPW132	Corros model for Drip-Procurement Related Issues		0		09SEP99
WPW136	Corros model for Drip-Data Related Software Issu		0		09SEP99



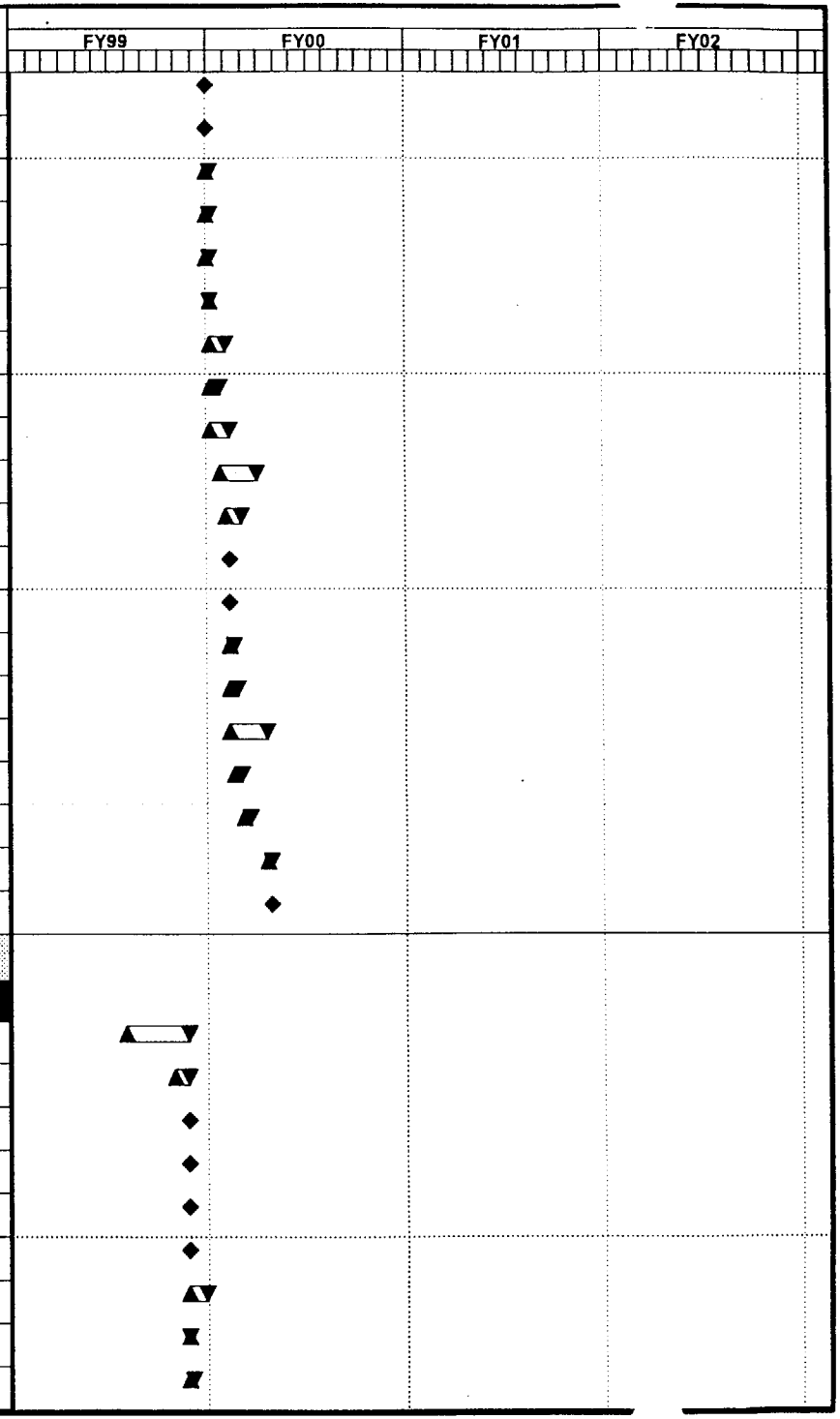
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPW131	Corros model for Drip-Verify/Trace Data		44	10SEP99	12NOV99
WPW133	Corros model for Drip-Rxesolve Procurement Relat		10	10SEP99	23SEP99
WPW137	Corros model for Drip-Determine if Data Rel SW i		5	10SEP99	16SEP99
WPW138	Corros model for Drip-Place Under SMS Contro as		10	17SEP99	30SEP99
WPPMR255	Prepare Final 3.10Q Report Corros model for Drip		19	01OCT99	28OCT99
WPW139	Corros model for Drip-Verify Data-Related Softwa		10	01OCT99	15OCT99
WPW143	Corros model for Drip-Qualified/Verified SW Avai		0		26OCT99
WPW134	Corros model for Drip-Update TDMS		5	15NOV99	19NOV99
WPW135	Corros model for Drip-Qualified/Verified Data Av		0		19NOV99
W2090					
130 Performance Assessment Operations					
SLPA3394	Abs localized Corr. Mdl for DS		39	06AUG99*	30SEP99
SLPA3400	Report Rev 00A-Input Parameters and Data Identif		0		30SEP99
SLPA3402	Report Rev 00A-Models and Codes Identified		0		30SEP99
SLPA3396	3.10Q Checking/Review		22	01OCT99	02NOV99
SLPA3404	Report Rev 00A-Determine DTN Assignment		2	01OCT99	04OCT99
SLPA3406	Report Rev 00A-Determine if Model-Rel SW is Unde		5	01OCT99	07OCT99
SLPA3408	Report Rev 00A-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
SLPA3410	Report Rev 00A-Place Model-Related SW Under SMS		10	08OCT99	22OCT99
SLPA3412	Report Rev 00A-Submit Data/DTN to TDMS as Necess		22	08OCT99	09NOV99
SLPA3414	Report Rev 00A-Verify Model-Related Software		44	25OCT99	29DEC99
SLPA3398	Prepare Final 3.10Q Report		20	03NOV99	03DEC99
SLPA3416	Report Rev 00A-Data Related Software Issues Iden		0		09NOV99
SLPA3418	Report Rev 00A-Procurement Related Issues ID'd t		0		09NOV99
SLPA3420	Report Rev 00A-Determine if Data Rel SW is Under		5	10NOV99	17NOV99
SLPA3422	Report Rev 00A-Rxesolve Procurement Related Data		10	10NOV99	24NOV99
SLPA3424	Report Rev 00A-Verify/Trace Data		44	10NOV99	17JAN00
SLPA3426	Report Rev 00A-Place Under SMS Control as Necess		10	18NOV99	03DEC99
SLPA3428	Report Rev 00A-Verify Data-Related Software		10	06DEC99	17DEC99
SLPA3430	Report Rev 00A-Update TDMS		5	18JAN00	24JAN00
SLPA3432	Report Rev 00A-Qualified/Verified Data Available		0		24JAN00



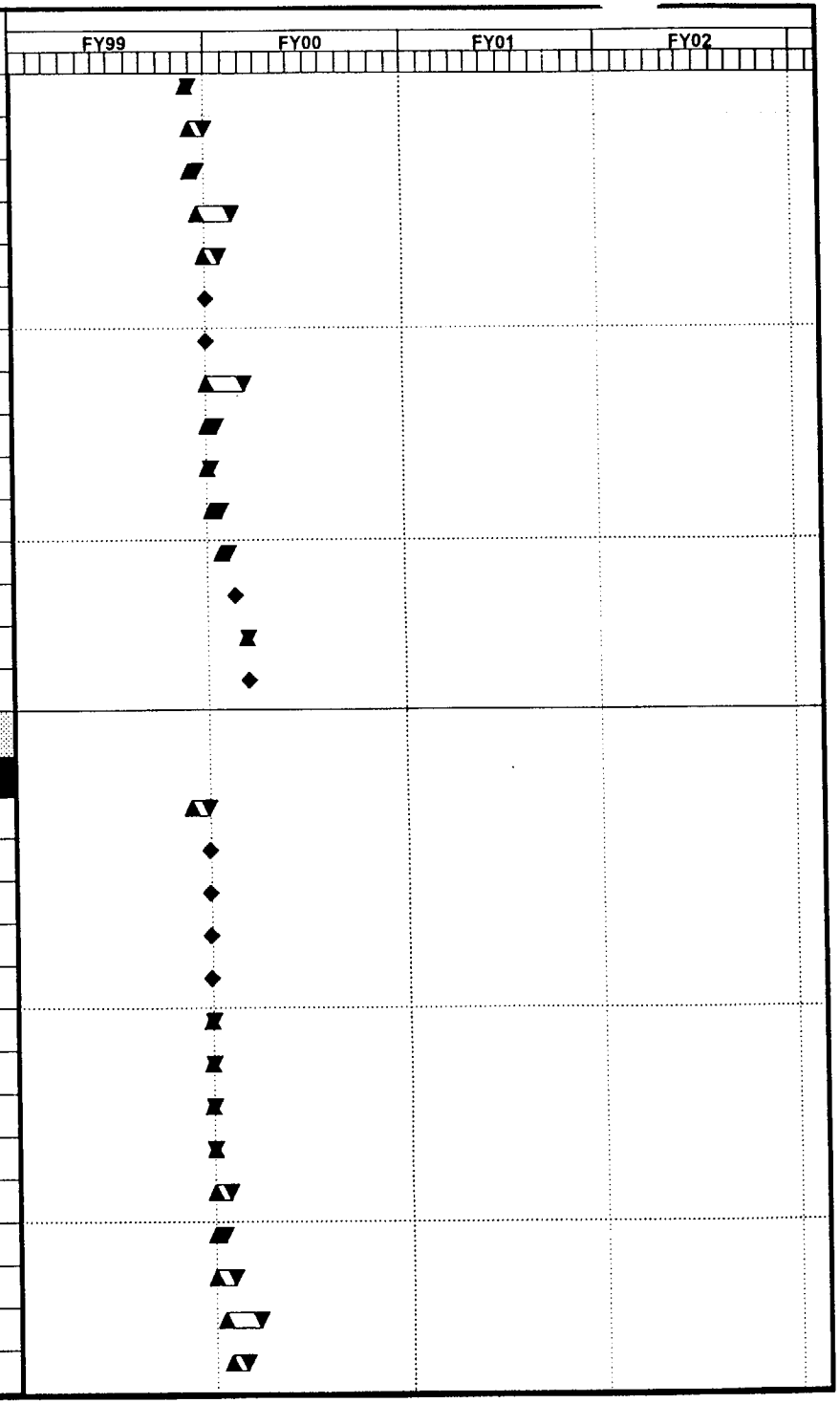
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
W3000					
110 Waste Package Operations					
WPPMR260	3.10Q data(Stress Corros Crack model Drip Shiel)		84	03MAY99*	30AUG99
WPPMR265	Prepare Draft 3.10Q Stress Corros Crack Rev 00A		17	06AUG99*	30AUG99
SLPA3434	Receive Ti SCC Model - AP3.10Q	M4	0		30AUG99
WPP520M4	Provide Ti SCC Model - AP3.10Q	M4	0		30AUG99
WPW144	Stress Corros Crack-Input Parameters and Data Id		0		30AUG99
WPW145	Stress Corros Crack-Models and Codes Identified		0		30AUG99
WPPMR270	3.10Q Checking/Review Stress Corros Crack model		22	31AUG99	30SEP99
WPW146	Stress Corros Crack-Determine DTN Assignment		2	31AUG99	01SEP99
WPW158	Stress Corros Crack-Determine if Model-Rel SW is		5	31AUG99	07SEP99
WPW147	Stress Corros Crack-Determine if Data/DTN in TDM		3	02SEP99	07SEP99
WPW148	Stress Corros Crack-Submit Data/DTN to TDMS as N		22	08SEP99	07OCT99
WPW159	Stress Corros Crack-Place Model-Related SW Under		10	08SEP99	21SEP99
WPW160	Stress Corros Crack-Verify Model-Related Softwar		44	22SEP99	24NOV99
WPPMR275	Prepare Final 3.10Q Report Stress Corros Crack m		20	01OCT99	29OCT99
WPW150	Stress Corros Crack-Procurement Related Issues I		0		07OCT99
WPW154	Stress Corros Crack-Data Related Software Issues		0		07OCT99
WPW149	Stress Corros Crack-Verify/Trace Data		44	08OCT99	14DEC99
WPW151	Stress Corros Crack-Rxesolve Procurement Related		10	08OCT99	22OCT99
WPW155	Stress Corros Crack-Determine if Data Rel SW is		5	08OCT99	15OCT99
WPW156	Stress Corros Crack-Place Under SMS Control as N		10	18OCT99	29OCT99
WPW157	Stress Corros Crack-Verify Data-Related Software		10	01NOV99	15NOV99
WPW161	Stress Corros Crack-Qualified/Verified SW Availa		0		24NOV99
WPW152	Stress Corros Crack-Update TDMS		5	15DEC99	21DEC99
WPW153	Stress Corros Crack-Qualified/Verified Data Avai		0		21DEC99
W3005					
130 Performance Assessment Operations					
SLPA3436	Prepare Draft DS SCC Abs		22	31AUG99	30SEP99
SLPA3438	Receive Model Abstraction PAO - AP3.10Q	M4	0		30SEP99
SLPA3440	Provide Model Abstraction PAO - AP3.10Q	M4	0		30SEP99



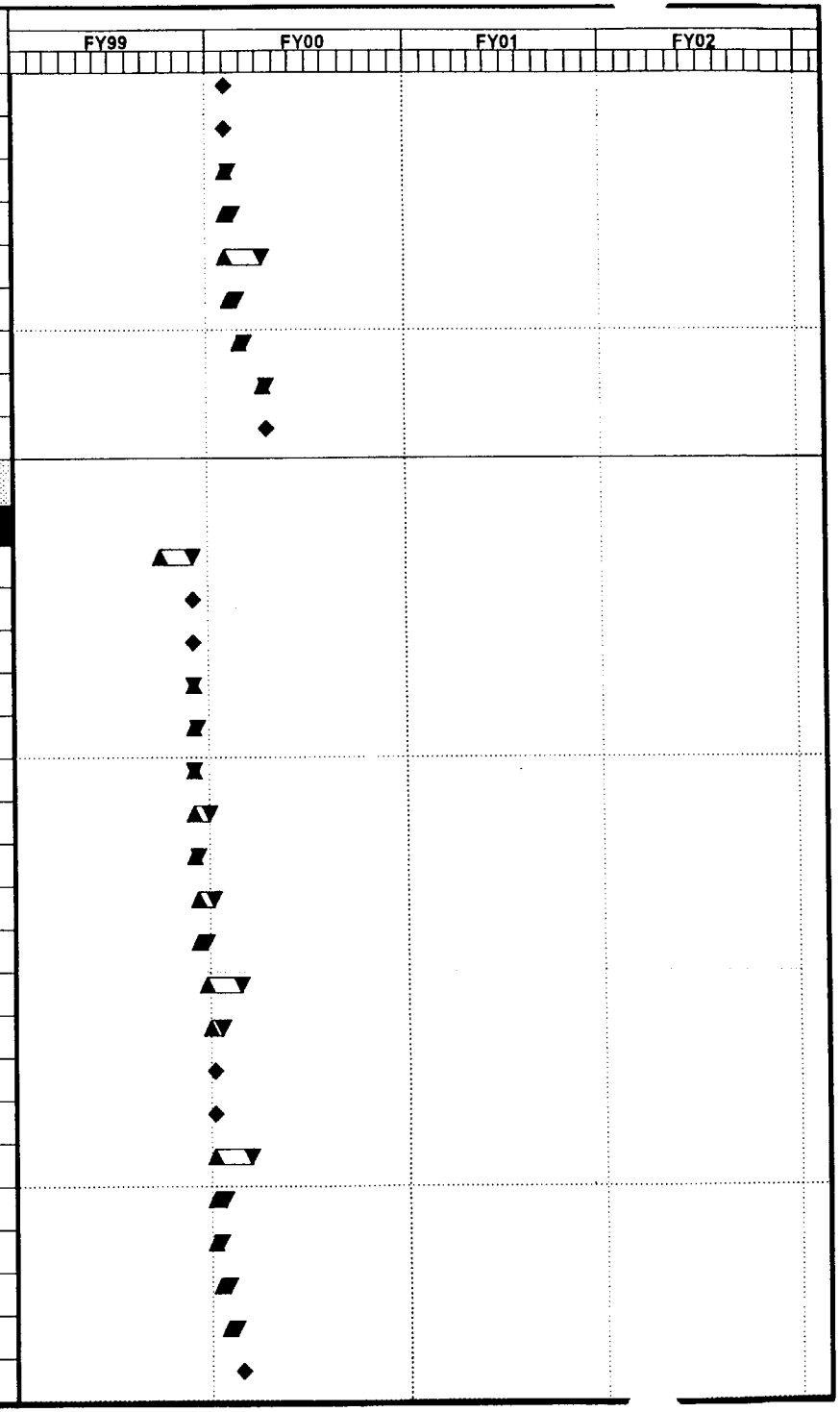
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3448	Report Ti SCC Abs-Input Parameters and Data Iden		0		30SEP99
SLPA3450	Report Ti SCC Abs-Models and Codes Identified		0		30SEP99
SLPA3442	3.10Q Checking/Review FY99		5	01OCT99	07OCT99
SLPA3452	Report Ti SCC Abs-Determine DTN Assignment		2	01OCT99	04OCT99
SLPA3454	Report Ti SCC Abs-Determine if Model-Rel SW is U		5	01OCT99	07OCT99
SLPA3456	Report Ti SCC Abs-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
SLPA3444	3.10Q Checking/Review FY00		17	08OCT99	02NOV99
SLPA3458	Report Ti SCC Abs-Place Model-Related SW Under S		10	08OCT99	22OCT99
SLPA3460	Report Ti SCC Abs-Submit Data/DTN to TDMS as Nec		22	08OCT99	09NOV99
SLPA3462	Report Ti SCC Abs-Verify Model-Related Software		44	25OCT99	29DEC99
SLPA3446	Prepare Final 3.10Q Report		20	03NOV99	0[illegible]DEC99
SLPA3464	Report Ti SCC Abs-Data Related Software Issues I		0		09NOV99
SLPA3466	Report Ti SCC Abs-Procurement Related Issues ID'		0		09NOV99
SLPA3468	Report Ti SCC Abs-Determine if Data Rel SW is Un		5	10NOV99	17NOV99
SLPA3470	Report Ti SCC Abs-Rxesolve Procurement Related D		10	10NOV99	24NOV99
SLPA3472	Repo[illegible]C Abs-Verify/Trace Data		44	10NOV99	17JAN00
SLPA3474	Report Ti SCC Abs-Place Under SMS Control as Nec		10	18NOV99	03DEC99
SLPA3476	Report Ti SCC Abs-Verify Data-Related Software		10	06DEC99	17DEC99
SLPA3478	Report Ti SCC Abs-Update TDMS		5	18JAN00	24JAN00
SLPA3480	Report Ti SCC Abs-Qualified/Verified Data Availa		0		24JAN00
W3020					
110 Waste Package Operations					
WPPMR280	3.10Q data (Hydrog Induced Cracking in Titanium)		79	03MAY99*	23AUG99
WPPMR285	Prepare Draft 3.10Q Hydrog Induced Cracki Rv 00A		18	29JUL99*	23AUG99
SLPA3482	Receive Hydrogen Induced Cracking in Titanium -	M4	0		23AUG99*
WPP530M4	Receive Hydrogen Induced Cracking in Titanium -	M4	0		23AUG99
WPW162	Hydrog Induced Crack-Input Parameters and Data I		0		23AUG99
WPW163	Hydrog Induced Crack-Models and Codes Identified		0		23AUG99
WPPMR290	3.10Q Checking/Review Hydrog Induced Cracking		22	24AUG99	23SEP99
WPW164	Hydrog Induced Crack-Determine DTN Assignment		2	24AUG99	25AUG99
WPW176	Hydrog Induced Crack-Determine if Model-Rel SW i		5	24AUG99	30AUG99



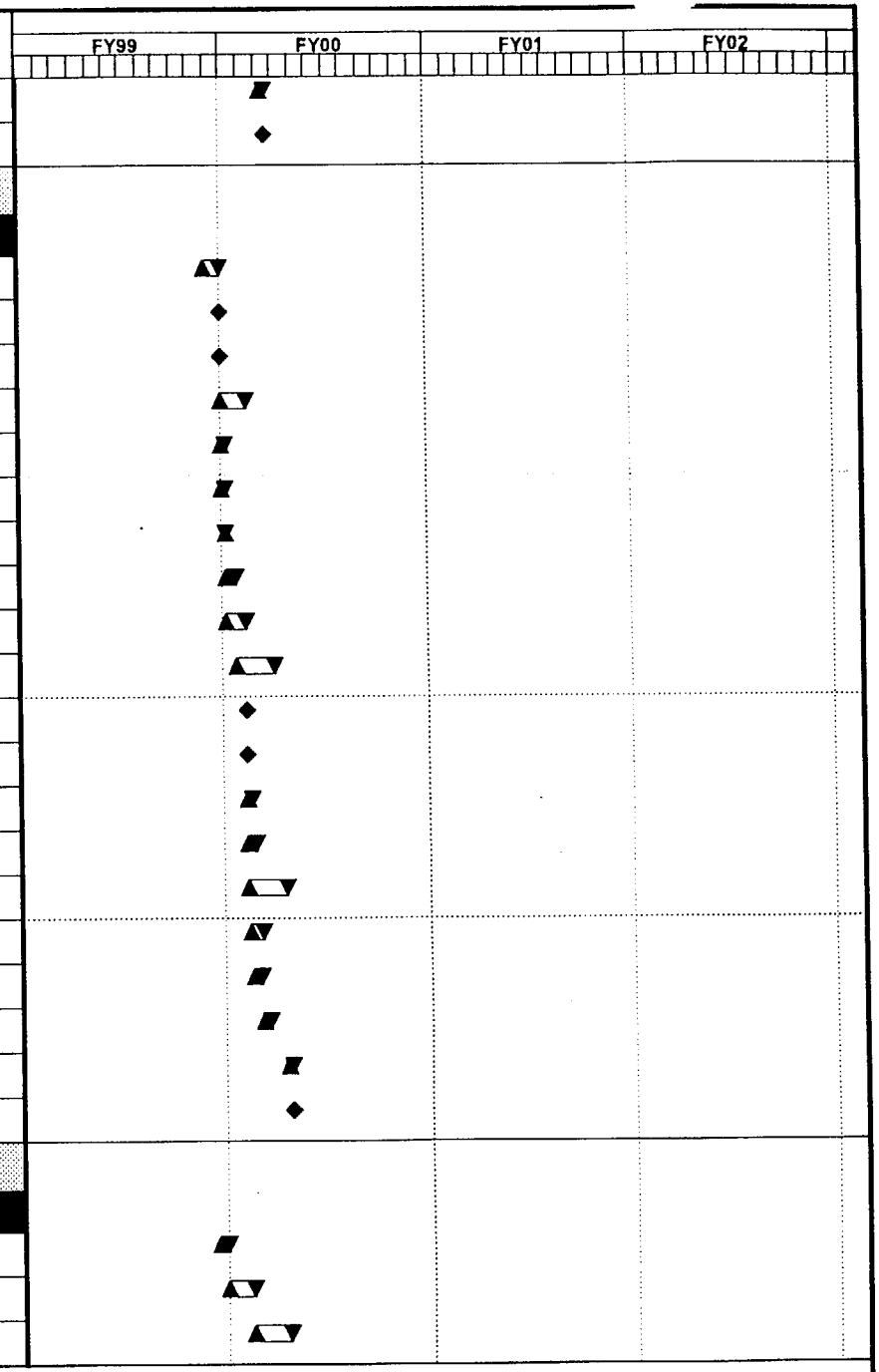
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPW165	Hydrog Induced Crack-Determine if Data/DTN in TD		3	26AUG99	30AUG99
WPW166	Hydrog Induced Crack-Submit Data/DTN to TDMS as		22	31AUG99	30SEP99
WPW177	Hydrog Induced Crack-Place Model-Related SW Unde		10	31AUG99	14SEP99
WPW178	Hydrog Induced Crack-Verify Model-Related Softwa		44	15SEP99	17NOV99
WPPMR295	Prepare Final 3.10Q Report Hydrog Induced Cracki		20	24SEP99	22OCT99
WPW168	Hydrog Induced Crack-Procurement Related Issues		0		30SEP99
WPW172	Hydrog Induced Crack-Data Related Software Issue		0		30SEP99
WPW167	Hydrog Induced Crack-Verify/Trace Data		44	01OCT99	07DEC99
WPW169	Hydrog Induced Crack-Rxesolve Procurement Relate		10	01OCT99	15OCT99
WPW173	Hydrog Induced Crack-Determine if Data Rel SW is		5	01OCT99	07OCT99
WPW174	Hydrog Induced Crack-Place Under SMS Control as		10	08OCT99	22OCT99
WPW175	Hydrog Induced Crack-Verify Data-Related Softwar		10	25OCT99	05NOV99
WPW179	Hydrog Induced Crack-Qualified/Verified SW Avail		0		17NOV99
WPW170	Hydrog Induced Crack-Update TDMS		5	08DEC99	14DEC99
WPW171	Hydrog Induced Crack-Qualified/Verified Data Ava		0		14DEC99
W3030					
130 Performance Assessment Operations					
SLPA3484	Abs HIC in Ti DS		22	24AUG99	23SEP99
SLPA3486	Receive Model Abstraction - PAO - AP3.10Q	M4	0		23SEP99
SLPA3494	Report Cracking Ti-Input Parameters and Data Ide		0		23SEP99
SLPA3496	Report Cracking Ti-Models and Codes Identified		0		23SEP99
WPP535M4	Receive Model Abstraction - PAO - AP3.10Q	M4	0		23SEP99
SLPA3488	3.10Q Checking/Review FY99		4	24SEP99	29SEP99
SLPA3498	Report Cracking Ti-Determine DTN Assignment		2	24SEP99	27SEP99
SLPA3500	Report Cracking Ti-Determine if Model-Rel SW is		5	24SEP99	30SEP99
SLPA3502	Report Cracking Ti-Determine if Data/DTN in TDMS		3	28SEP99	30SEP99
SLPA3490	3.10Q Checking/Review FY00		18	30SEP99	26OCT99
SLPA3504	Report Cracking Ti-Place Model-Related SW Under		10	01OCT99	15OCT99
SLPA3506	Report Cracking Ti-Submit Data/DTN to TDMS as Ne		22	01OCT99	02NOV99
SLPA3508	Report Cracking Ti-Verify Model-Related Software		44	18OCT99	21DEC99
SLPA3492	Prepare Final 3.10Q Report		20	27OCT99	24NOV99



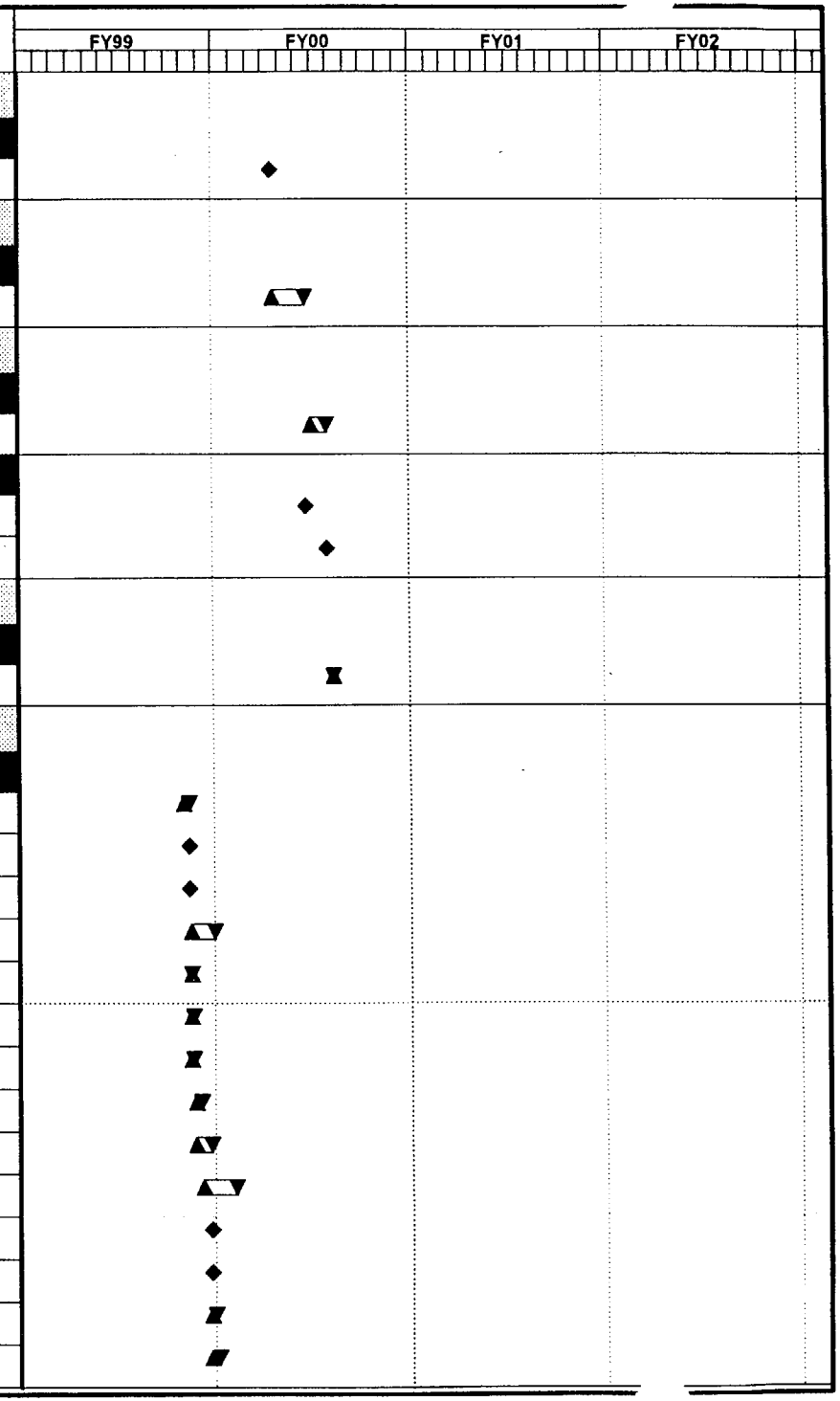
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3510	Report Cracking Ti-Data Related Software Issues		0		02NOV99
SLPA3512	Report Cracking Ti-Procurement Related Issues ID		0		02NOV99
SLPA3514	Report Cracking Ti-Determine if Data Rel SW is U		5	03NOV99	09NOV99
SLPA3516	Report Cracking Ti-Rxesolve Procurement Related		10	03NOV99	17NOV99
SLPA3518	Report Cracking Ti-Verify/Trace Data		44	03NOV99	10JAN00
SLPA3520	Report Cracking Ti-Place Under SMS Control as Ne		10	10NOV99	24NOV99
SLPA3522	Report Cracking Ti-Verify Data-Related Software		10	29NOV99	10DEC99
SLPA3524	Report Cracking Ti-Update TDMS		5	11JAN00	17JAN00
SLPA3526	Report Cracking Ti-Qualified/Verified Data Avail		0		17JAN00
W3055					
110 Waste Package Operations					
WPPMR300	3.10Q data(Degrad Stainless Steel Struct Mat'l)		42	01JUL99*	30AUG99
WPW180	Degrad Stainless-Input Parameters and Data Ident		0		30AUG99
WPW181	Degrad Stainless-Models and Codes Identified		0		30AUG99
WPW182	Degrad Stainless-Determine DTN Assignment		2	31AUG99	01SEP99
WPW194	Degrad Stainless-Determine if Model-Rel SW is Un		5	31AUG99	07SEP99
WPPMR305	Prepare Draft 3.10Q Degrad Stainless Stee Rv 00A		0	01SEP99*	31AUG99
WPPMR310	3.10Q Checking/Review Degrad Stainless Steel		21	01SEP99	30SEP99
WPW183	Degrad Stainless-Determine if Data/DTN in TDMS		3	02SEP99	07SEP99
WPW184	Degrad Stainless-Submit Data/DTN to TDMS as Nece		22	08SEP99	07OCT99
WPW195	Degrad Stainless-Place Model-Related SW Under SM		10	08SEP99	21SEP99
WPW196	Degrad Stainless-Verify Model-Related Software		44	22SEP99	24NOV99
WPPMR315	Prepare Final 3.10Q Report Degrad Stainless Stee		13	01OCT99	20OCT99
WPW186	Degrad Stainless-Procurement Related Issues ID'd		0		07OCT99
WPW190	Degrad Stainless-Data Related Software Issues Id		0		07OCT99
WPW185	Degrad Stainless-Verify/Trace Data		44	08OCT99	14DEC99
WPW187	Degrad Stainless-Rxesolve Procurement Related Da		10	08OCT99	22OCT99
WPW191	Degrad Stainless-Determine if Data Rel SW is Und		5	08OCT99	15OCT99
WPW192	Degrad Stainless-Place Under SMS Control as Nece		10	18OCT99	29OCT99
WPW193	Degrad Stainless-Verify Data-Related Software		10	01NOV99	15NOV99
WPW197	Degrad Stainless-Qualified/Verified SW Available		0		24NOV99



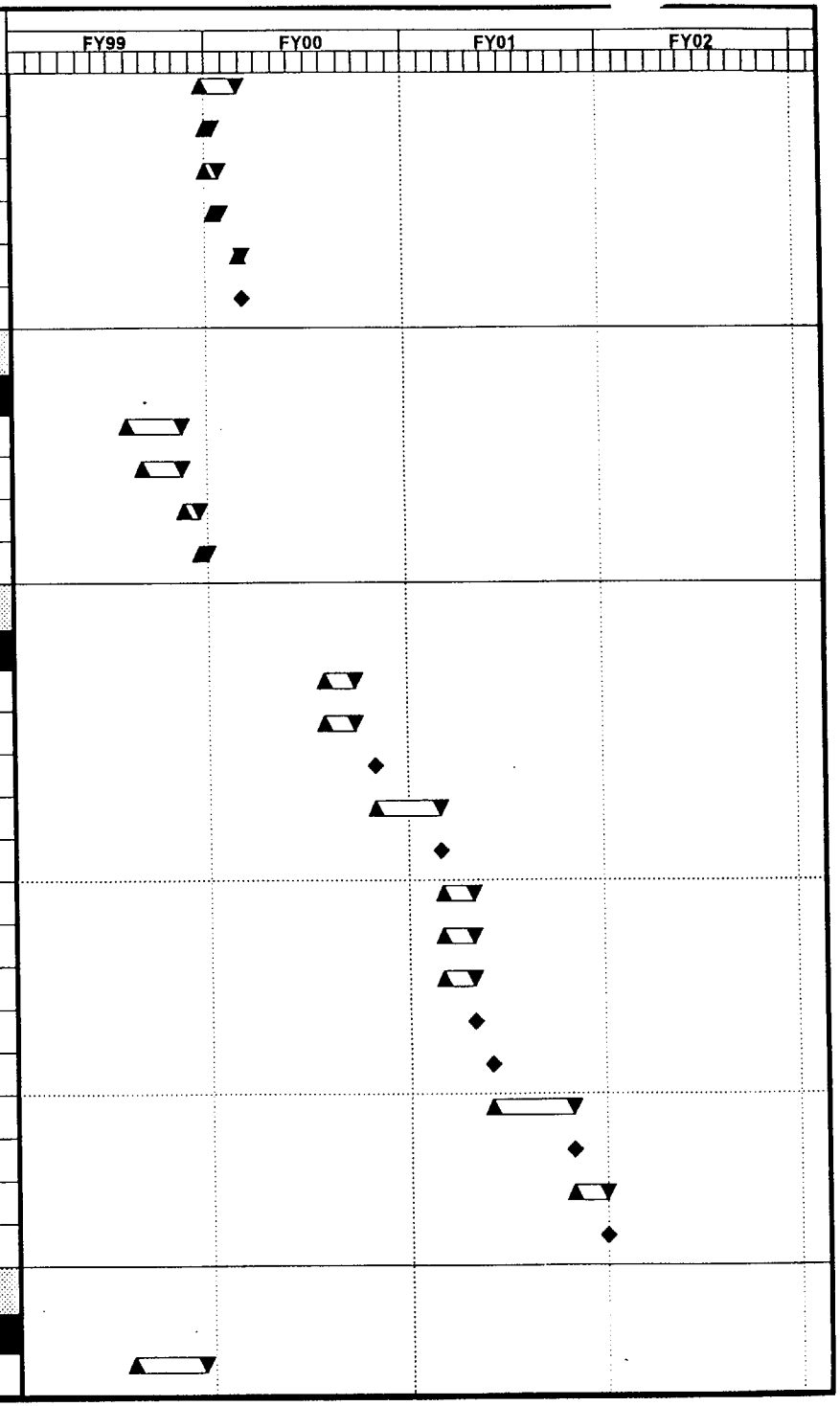
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
WPW188	Degrad Stainless-Update TDMS		5	15DEC99	21DEC99
WPW189	Degrad Stainless-Qualified/Verified Data Availab		0		21DEC99
W3060					
130 Performance Assessment Operations					
SLPA3528	Draft 316 SS Corr Abs 3.10Q Rev 00A		21	01SEP99	30SEP99
SLPA3534	SS Abs-Input Parameters and Data Identified		0		30SEP99
SLPA3536	SS Abs-Models and Codes Identified		0		30SEP99
SLPA3530	3.10Q Checking/Review SS Abstraction		30	01OCT99	15NOV99
SLPA3538	SS Abs-Determine DTN Assignment		2	01OCT99	04OCT99
SLPA3540	SS Abs-Determine if Model-Rel SW is Under SMS Co		5	01OCT99	07OCT99
SLPA3542	SS Abs-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99
SLPA3544	SS Abs-Place Model-Related SW Under SMS Control		10	08OCT99	22OCT99
SLPA3546	SS Abs-Submit Data/DTN to TDMS as Necessary		22	08OCT99	09NOV99
SLPA3548	SS Abs-Verify Model-Related Software		44	25OCT99	29DEC99
SLPA3550	SS Abs-Data Related Software Issues Identified		0		09NOV99
SLPA3552	SS Abs-Procurement Related Issues ID'd to Car Ma		0		09NOV99
SLPA3554	SS Abs-Determine if Data Rel SW is Under SMS Con		5	10NOV99	17NOV99
SLPA3556	SS Abs-Rxesolve Procurement Related Data Issues		10	10NOV99	24NOV99
SLPA3558	SS Abs-Verify/Trace Data		44	10NOV99	17JAN00
SLPA3532	Prepare Final 3.10Q Report SS Abstraction		13	16NOV99	06DEC99
SLPA3560	SS Abs-Place Under SMS Control as Necessary		10	18NOV99	03DEC99
SLPA3562	SS Abs-Verify Data-Related Software		10	06DEC99	17DEC99
SLPA3564	SS Abs-Update TDMS		5	18JAN00	24JAN00
SLPA3566	SS Abs-Qualified/Verified Data Available		0		24JAN00
W3070					
110 Waste Package Operations					
WPPMR499	Initiate Developmemt WP PMR Rev 00A Text		13	14SEP99*	30SEP99
WPPMR50A	Initiate Developmemt WP PMR Rev 00A Text		29	01OCT99	12NOV99
WPPMR500	Develop Waste Package PMR Rev 00A Text		42	15NOV99	17JAN00



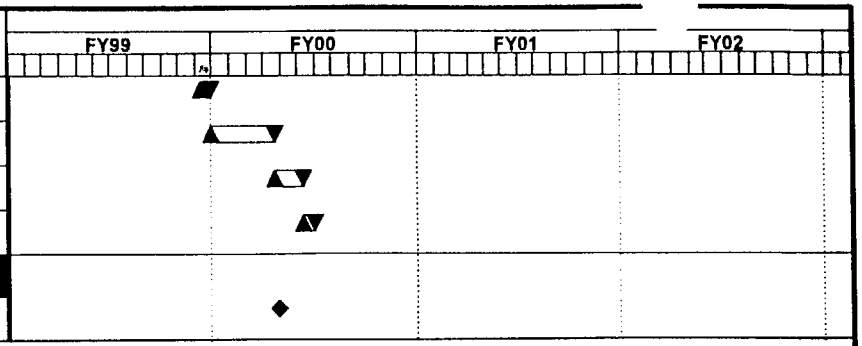
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
W3075					
110 Waste Package Operations					
WPPMRM4	Waste Package PMR Rev 00A	M4	0		17JAN00
W3080					
110 Waste Package Operations					
WPPMR510	Waste Package PMR M&O Review		43	20JAN00	21MAR00
W3095					
110 Waste Package Operations					
WPPMR520	Waste Package PMR DOE Review		20	03APR00	28APR00*
300 Regulatory & Licensing					
SLPMRFM3	Waste Package PMR Rev 00	M3	0		21MAR00
SLPMRGM3	Rev 01 Waste Package PMR	M3	0		28APR00
W500					
110 Waste Package Operations					
W5000	EIS Chapter 5	ZZ	1	12MAY00	12MAY00*
WNEWF					
130 Performance Assessment Operations					
SLPA3568	Draft 3.10Q MechFailures Abs - Rockfall Rev 00A		10	02AUG99	13AUG99
SLPA3574	MechFailures Abs-Input Parameters and Data Ident		0		13AUG99
SLPA3576	MechFailures Abs-Models and Codes Identified		0		13AUG99
SLPA3570	Check3.10Q MechFailures Abs -Rockfall Rev 00A 99		33	16AUG99	30SEP99
SLPA3578	MechFailures Abs-Determine DTN Assignment		2	16AUG99	17AUG99
SLPA3580	MechFailures Abs-Determine if Model-Rel SW is Un		5	16AUG99	20AUG99
SLPA3582	MechFailures Abs-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99
SLPA3584	MechFailures Abs-Place Model-Related SW Under SM		10	23AUG99	03SEP99
SLPA3586	MechFailures Abs-Submit Data/DTN to TDMS as Nece		22	23AUG99	22SEP99
SLPA3588	MechFailures Abs-Verify Model-Related Software		44	07SEP99	08NOV99
SLPA3590	MechFailures Abs-Data Related Software Issues Id		0		22SEP99
SLPA3592	MechFailures Abs-Procurement Related Issues ID'd		0		22SEP99
SLPA3594	MechFailures Abs-Determine if Data Rel SW is Und		5	23SEP99	29SEP99
SLPA3596	MechFailures Abs-Rxesolve Procurement Related Da		10	23SEP99	06OCT99



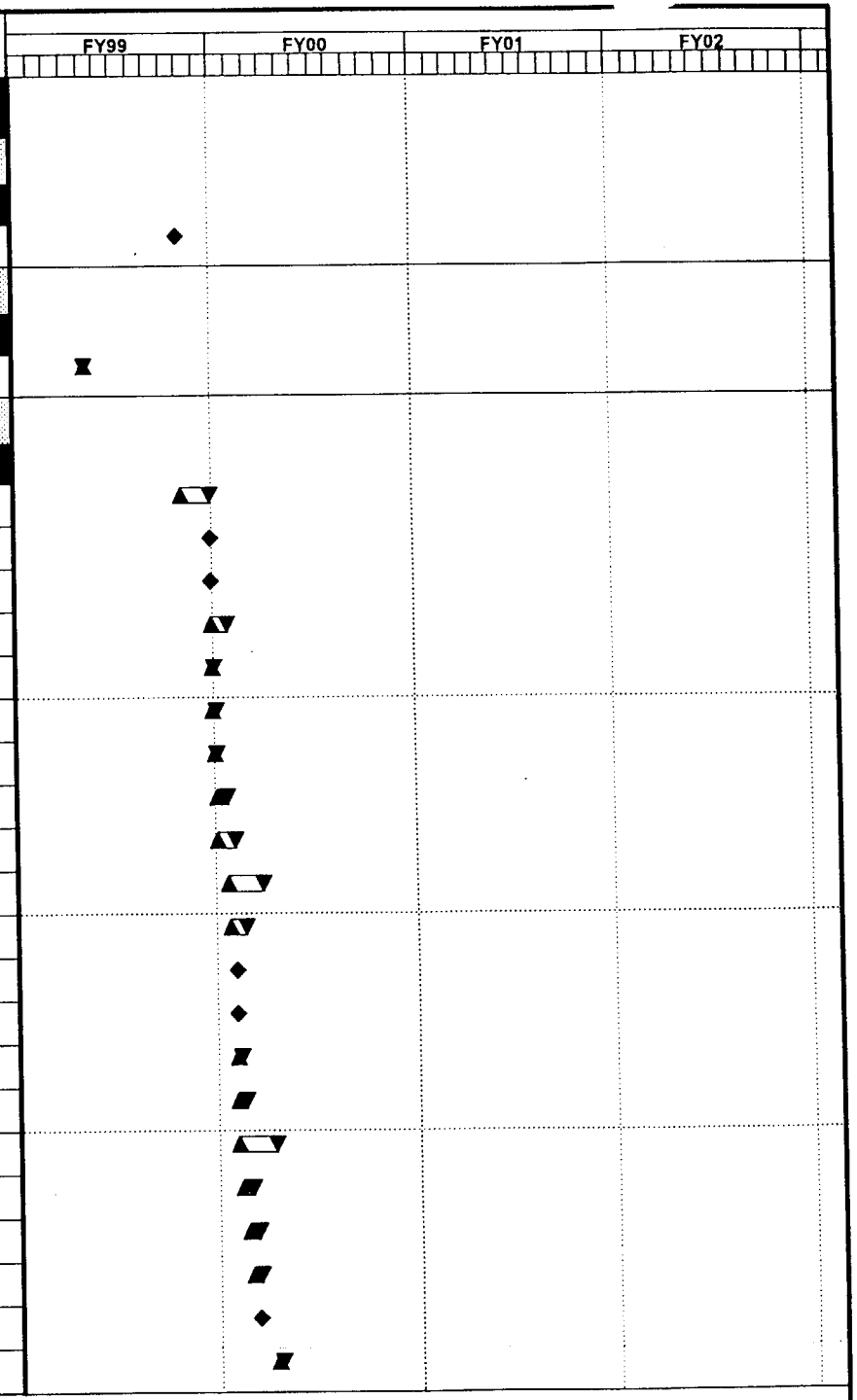
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3598	MechFailures Abs-Verify/Trace Data		44	23SEP99	29NOV99
SLPA3600	MechFailures Abs-Place Under SMS Control as Nece		10	30SEP99	14OCT99
SLPA3572	Final 3.10Q Mech Failures Abs - Rockfall Rev 00A		15	01OCT99	22OCT99
SLPA3602	MechFailures Abs-Verify Data-Related Software		10	15OCT99	28OCT99
SLPA3604	MechFailures Abs-Update TDMS		5	30NOV99	06DEC99
SLPA3606	MechFailures Abs-Qualified/Verified Data Availab		0		06DEC99
WNEWJ					
130 Performance Assessment Operations					
SLPA3608	3.10Q Abstraction of Water Chem inside Breach WP		73	03MAY99*	13AUG99
SLPA3610	Prepare Draft 3.10Q Abstraction of Water Chem		53	01JUN99*	13AUG99
SLPA3612	3.10Q Checking/Review Abstraction of Water Chem		22	16AUG99	15SEP99
SLPA3614	Prepare Final 3.10Q Report Abstraction of Water		11	16SEP99	30SEP99
Z9999 PMR Rev 02 thru Rev 05					
300 Regulatory & Licensing					
WPW00A	Revise WP PMR AP 3.10Q's for SR		41	01MAY00	27JUN00
WPW00B	Prepare WP PMR REV-02A for SR		41	01MAY00	27JUN00
WPW00BM4	WP PMR Rev-02A for SR	M4	0		01AUG00*
WPW00C	M&O Review WP PMR Rev-02A for SR		83	02AUG00	01DEC00
WPW00CM3	WP PMR Rev-02 for SR	M3	0		01DEC00
WPW00D	DOE Review WP PMR 02 for SR		41	04DEC00	31JAN01
WPW00P	Revise WP PMR AP 3.10Q's for LA		41	04DEC00	31JAN01
WPW00Q	Prepare WP PMR REV-04A for LA		41	04DEC00	31JAN01
WPW00EM3	Rev 03 WP PMR for SR	M3	0		31JAN01
WPW00QM4	WP PMR Rev-04A for LA	M4	0		01MAR01*
WPW00R	M&O Review WP PMR Rev-04A for LA		106	02MAR01	31JUL01
WPW00RM3	WP PMR Rev-04 for LA	M3	0		31JUL01
WPW00S	DOE Review WP PMR 04 for LA		42	01AUG01	28SEP01
WPW00SM3	pRev 05 WP PMR for LA	M3	0		28SEP01
150 Support Operations					
BMP210	PIM 3.10Q/PMR Planning & Text Support (WP)		92	03MAY99*	10SEP99



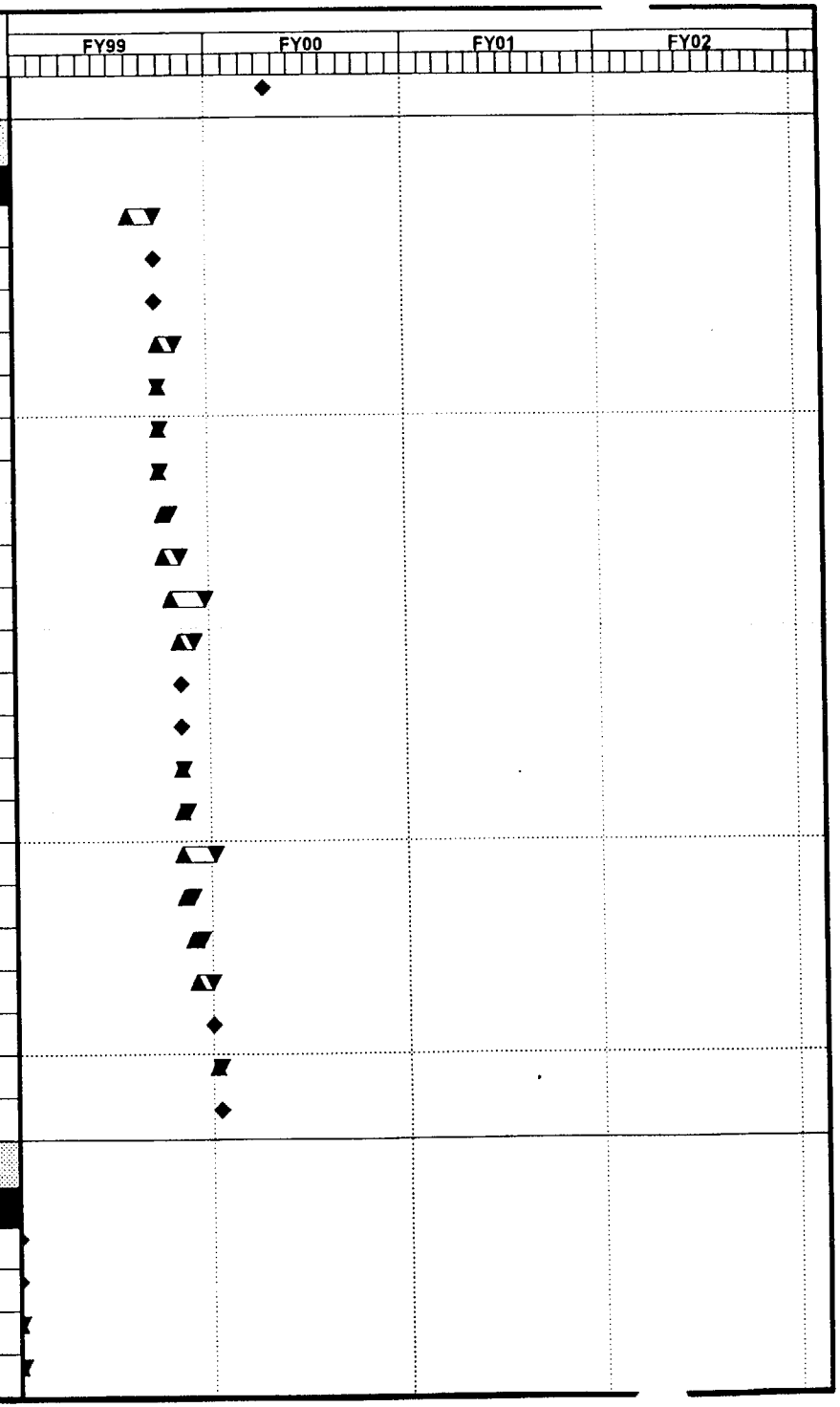
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMP212	PIM Text & M&O Review Prep Support (WP)		13	13SEP99	29SEP99
BMP214	Cont. PIM Text & M&O Review Prep Support (WP)		74	30SEP99	19JAN00
BMP216	PIM M&O Rev. & DOE Rev.Prep Support (WP)		36	20JAN00	10MAR00
BMP218	PIM DOE Rev. & Final Accept. Support (WP)		15	13MAR00	31MAR00
SLE01M4	Rec Confirm EBS PMR SW Verified/Qualified	M4	0		28JAN00



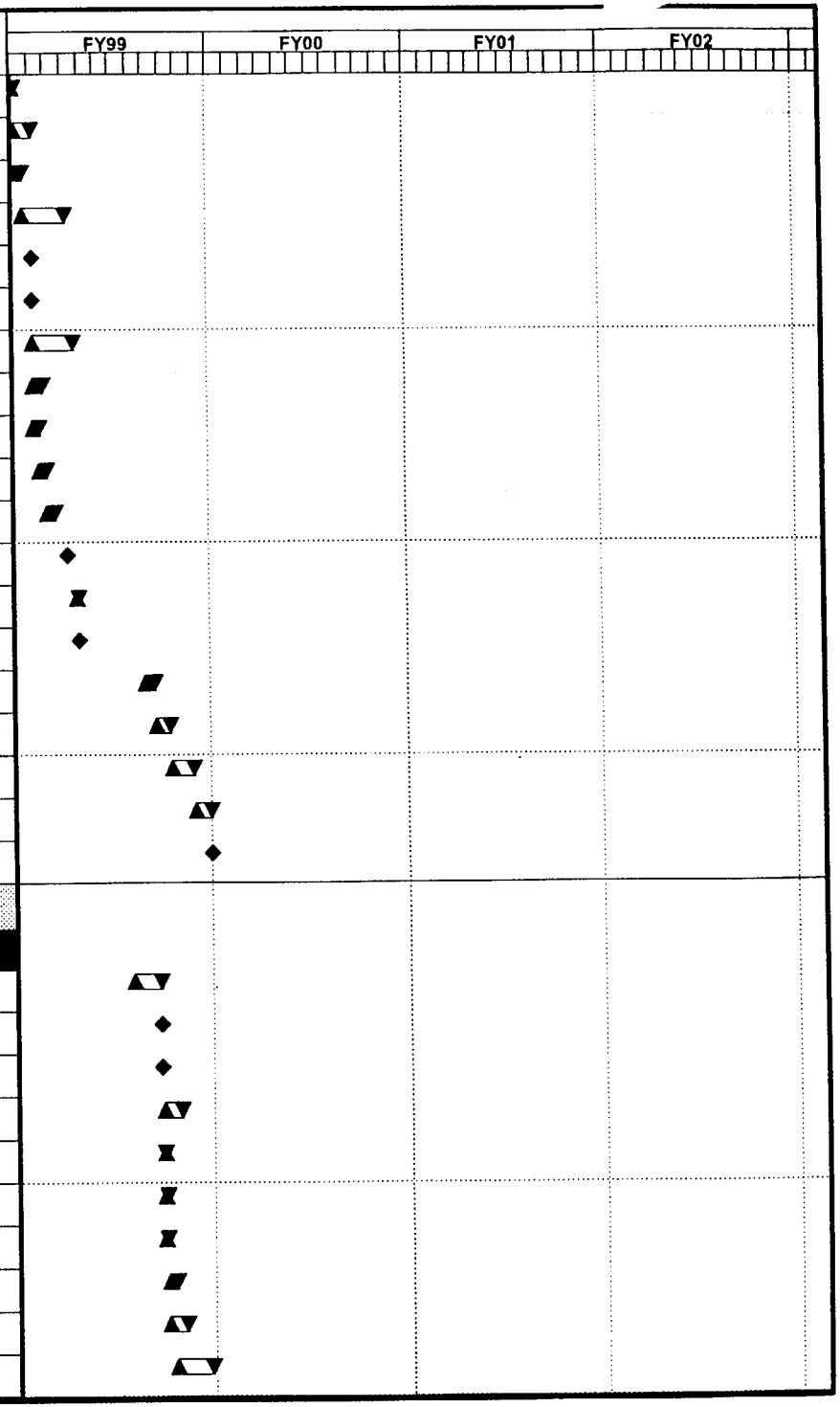
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
T Tectonics PMR					
0PA PA Input					
SLPA3616	Receive Tectonics Input	M4	0		30JUL99
AAA1 Conduct FEPs Workshop					
130 Performance Assessment Operations					
SLPA3618	Conduct Workshop (FEPs)		1	09FEB99*	08FEB99
ABS Abstraction					
130 Performance Assessment Operations					
SLPA3620	AP3.10Q Data - Disruptive Events Abstraction		39	02AUG99	24SEP99
SLPA3630	Disrup Events Abs-Input Parameters and Data Iden		0		24SEP99
SLPA3632	Disrup Events Abs-Models and Codes Identified		0		24SEP99
SLPA3622	AP3.10Q Draft - Disruptive Events Abstraction		20	27SEP99	25OCT99
SLPA3634	Disrup Events Abs-Determine DTN Assignment		2	27SEP99	28SEP99
SLPA3636	Disrup Events Abs-Determine if Model-Rel SW is U		5	27SEP99	01OCT99
SLPA3638	Disrup Events Abs-Determine if Data/DTN in TDMS		3	29SEP99	01OCT99
SLPA3640	Disrup Events Abs-Place Model-Related SW Under S		10	04OCT99	18OCT99
SLPA3642	Disrup Events Abs-Submit Data/DTN to TDMS as Nec		22	04OCT99	03NOV99
SLPA3644	Disrup Events Abs-Verify Model-Related Software		44	19OCT99	22DEC99
SLPA3624	AP3.10Q Check - Disruptive Events Abstraction		19	26OCT99	22NOV99
SLPA3646	Disrup Events Abs-Data Related Software Issues I		0		03NOV99
SLPA3648	Disrup Events Abs-Procurement Related Issues ID'		0		03NOV99
SLPA3650	Disrup Events Abs-Determine if Data Rel SW is Un		5	04NOV99	10NOV99
SLPA3652	Disrup Events Abs-Rxesolve Procurement Related D		10	04NOV99	18NOV99
SLPA3654	Disrup Events Abs-Verify/Trace Data		44	04NOV99	11JAN00
SLPA3656	Disrup Events Abs-Place Under SMS Control as Nec		10	12NOV99	29NOV99
SLPA3626	AP3.10Q Final - Disruptive Events Abstraction		8	23NOV99	09DEC99
SLPA3658	Disrup Events Abs-Verify Data-Related Software		10	30NOV99	13DEC99
SLPA3628	AP3.10Q Final - Disruptive Events Abstraction	M4	0		09DEC99
SLPA3660	Disrup Events Abs-Update TDMS		5	12JAN00	18JAN00



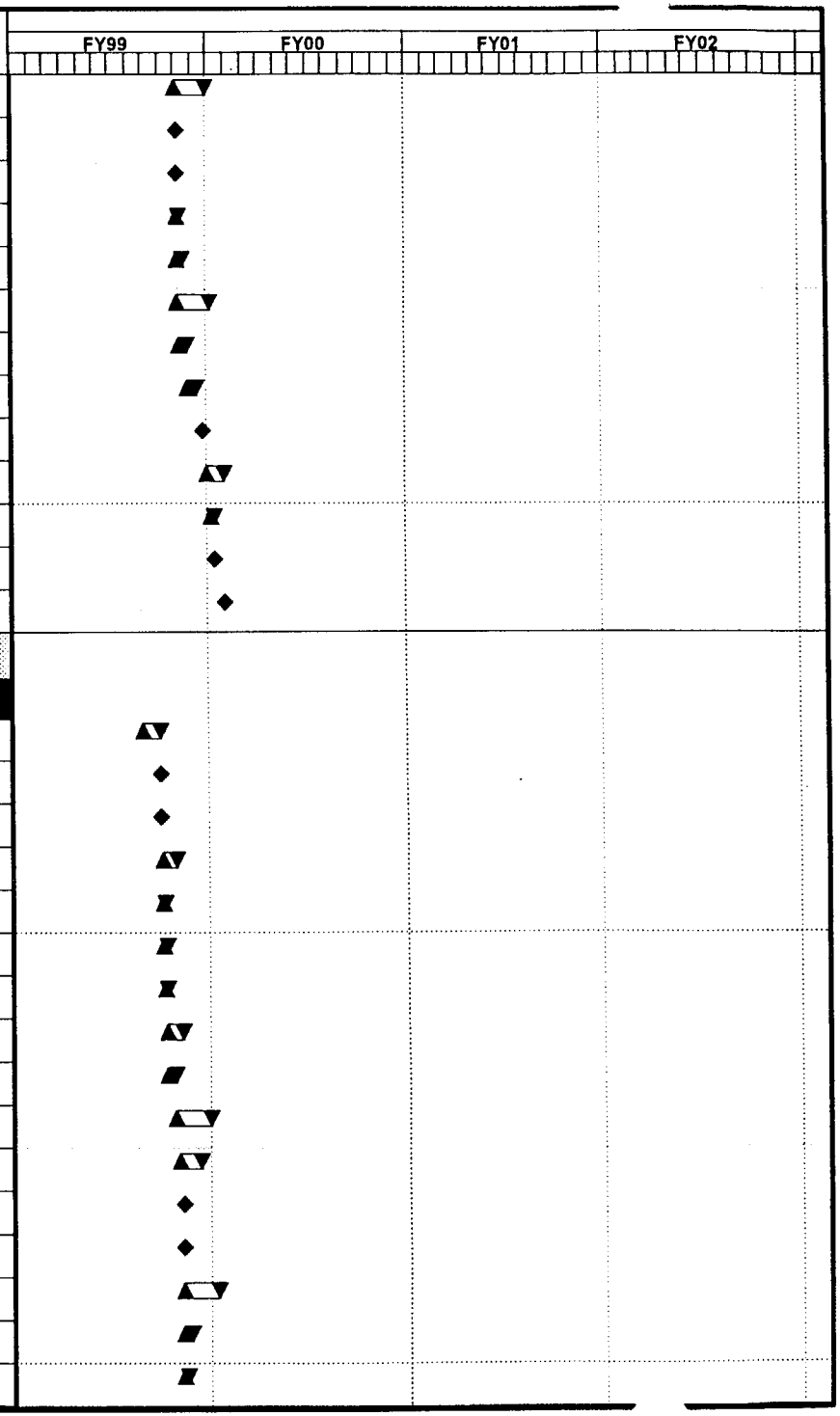
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3662	Disrup Events Abs-Qualified/Verified Data Availa		0		18JAN00
ADD1					
130 Performance Assessment Operations					
SLPA3664	AP3.10Q Data - Evaluate / Screen Tectonics FEPs		37	05MAY99*	25JUN99
SLPA3674	Tectonics FEPs-Input Parameters and Data Identif		0		25JUN99
SLPA3676	Tectonics FEPs-Models and Codes Identified		0		25JUN99
SLPA3666	AP3.10Q Draft - Evaluate / Screen Tectonics FEPs		24	28JUN99	30JUL99
SLPA3678	Tectonics FEPs-Determine DTN Assignment		2	28JUN99	29JUN99
SLPA3680	Tectonics FEPs-Determine if Model-Rel SW is Unde		5	28JUN99	02JUL99
SLPA3682	Tectonics FEPs-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99
SLPA3684	Tectonics FEPs-Place Model-Related SW Under SMS		10	06JUL99	19JUL99
SLPA3686	Tectonics FEPs-Submit Data/DTN to TDMS as Necess		22	06JUL99	04AUG99
SLPA3688	Tectonics FEPs-Verify Model-Related Software		44	20JUL99	20SEP99
SLPA3668	AP3.10Q Check - Evaluate / Screen Tectonics FEPs		22	02AUG99	31AUG99
SLPA3690	Tectonics FEPs-Procurement Related Issues ID'd t		0		04AUG99
SLPA3692	Tectonics FEPs-Data Related Software Issues Iden		0		04AUG99
SLPA3694	Tectonics FEPs-Determine if Data Rel SW is Under		5	05AUG99	11AUG99
SLPA3696	Tectonics FEPs-Rxesolve Procurement Related Data		10	05AUG99	18AUG99
SLPA3698	Tectonics FEPs-Verify/Trace Data		44	05AUG99	06OCT99
SLPA3700	Tectonics FEPs-Place Under SMS Control as Necess		10	12AUG99	25AUG99
SLPA3702	Tectonics FEPs-Verify Data-Related Software		10	26AUG99	09SEP99
SLPA3670	AP3.10Q Final - Evaluate / Screen Tectonics FEPs		21	01SEP99	30SEP99
SLPA3672	AP3.10Q Final - Evaluate / Screen Tectonics FEPs	M4	0		30SEP99
SLPA3704	Tectonics FEPs-Update TDMS		5	07OCT99	14OCT99
SLPA3706	Tectonics FEPs-Qualified/Verified Data Available		0		14OCT99
V1110					
SLT036	Igneous Activity-Input Parameters and Data Ident		0		30SEP98
SLT038	Igneous Activity-Models and Codes Identified		0		30SEP98
SLT040	Igneous Activity-Determine DTN Assignment		2	01OCT98*	02OCT98
SLT064	Igneous Activity-Determine if Model-Rel SW is Un		5	01OCT98*	07OCT98



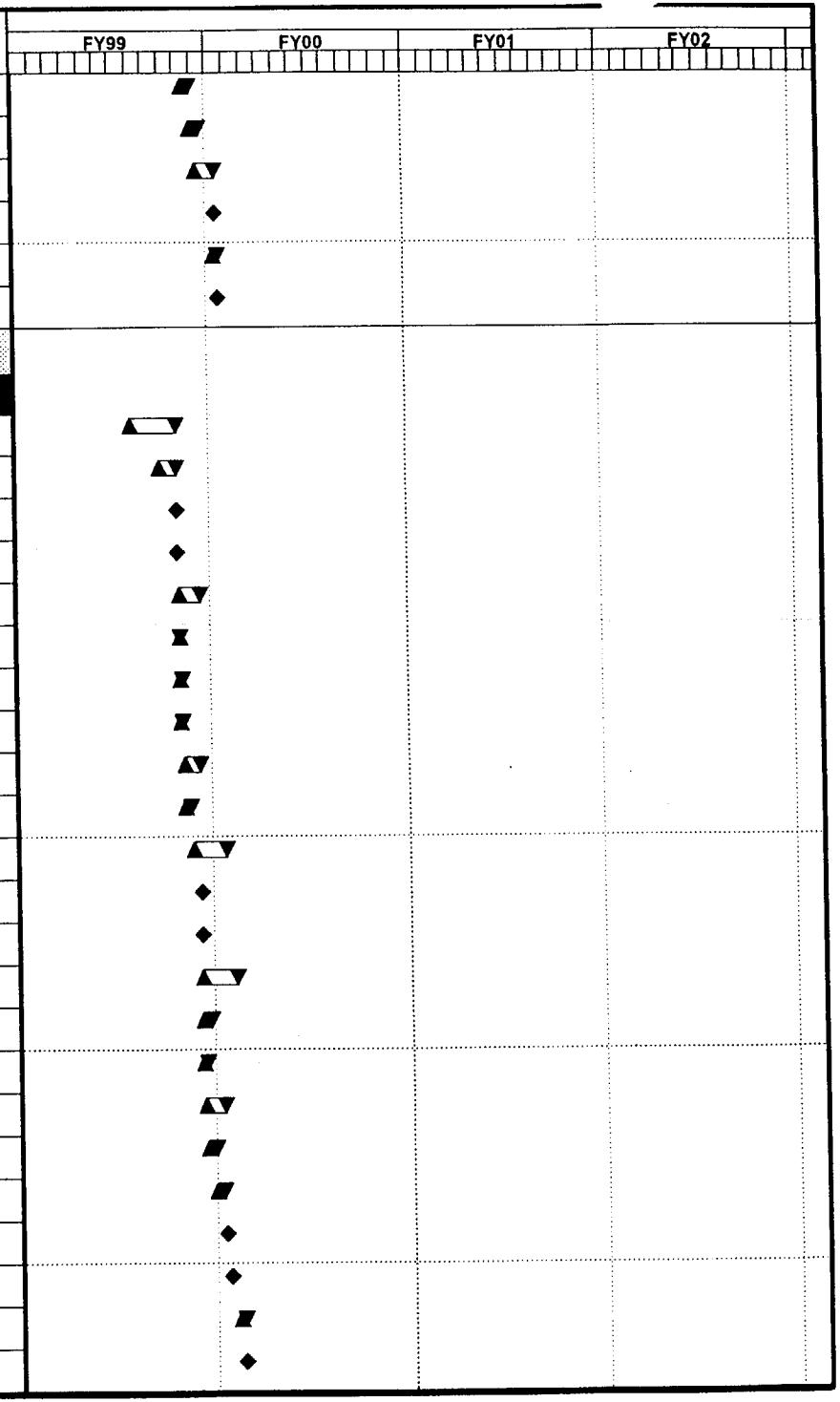
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLT042	Igneous Activity-Determine if Data/DTN in TDMS		3	05OCT98	07OCT98
SLT044	Igneous Activity-Submit Data/DTN to TDMS as Nece		22	08OCT98	09NOV98
SLT066	Igneous Activity-Place Model-Related SW Under SM		10	08OCT98	22OCT98
SLT068	Igneous Activity-Verify Model-Related Software		44	23OCT98	06JAN99
SLT048	Igneous Activity-Procurement Related Issues ID'd		0		09NOV98
SLT056	Igneous Activity-Data Related Software Issues Id		0		09NOV98
SLT046	Igneous Activity-Verify/Trace Data		44	10NOV98	22JAN99
SLT050	Igneous Activity-Rxesolve Procurement Related Da		10	10NOV98	24NOV98
SLT058	Igneous Activity-Determine if Data Rel SW is Und		5	10NOV98	17NOV98
SLT060	Igneous Activity-Place Under SMS Control as Nece		10	18NOV98	03DEC98
SLT062	Igneous Activity-Verify Data-Related Software		10	04DEC98	17DEC98
SLT070	Igneous Activity-Qualified/Verified SW Available		0		06JAN99
SLT052	Igneous Activity-Update TDMS		5	25JAN99	29JAN99
SLT054	Igneous Activity-Qualified/Verified Data Availab		0		29JAN99
SLA8010	AP3.10Q Data - Framework for Igneous Activity		14	01JUN99*	18JUN99
SLA8012	AP3.10Q Draft - Framework for Igneous Activity		19	21JUN99	16JUL99
SLA8014	AP3.10Q Check - Framework for Igneous Activity		30	19JUL99	27AUG99
SLA8016	AP3.10Q Final - Framework for Igneous Activity		23	30AUG99	30SEP99
SLA8016M4	AP3.10Q Final - Framework for Igneous Activity	M4	0		30SEP99
V1140					
130 Performance Assessment Operations					
SLPA3708	AP3.10Q Data - Dike Propagation Near Drifts		37	05MAY99*	25JUN99
SLPA3718	Dike Prop / Drifts-Input Parameters and Data Ide		0		25JUN99
SLPA3720	Dike Prop / Drifts-Models and Codes Identified		0		25JUN99
SLPA3710	AP3.10Q Draft - Dike Propagation Near Drifts		24	28JUN99	30JUL99
SLPA3722	Dike Prop / Drifts-Determine DTN Assignment		2	28JUN99	29JUN99
SLPA3724	Dike Prop / Drifts-Determine if Model-Rel SW is		5	28JUN99	02JUL99
SLPA3726	Dike Prop / Drifts-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99
SLPA3728	Dike Prop / Drifts-Place Model-Related SW Under		10	06JUL99	19JUL99
SLPA3730	Dike Prop / Drifts-Submit Data/DTN to TDMS as Ne		22	06JUL99	04AUG99
SLPA3732	Dike Prop / Drifts-Verify Model-Related Software		44	20JUL99	20SEP99



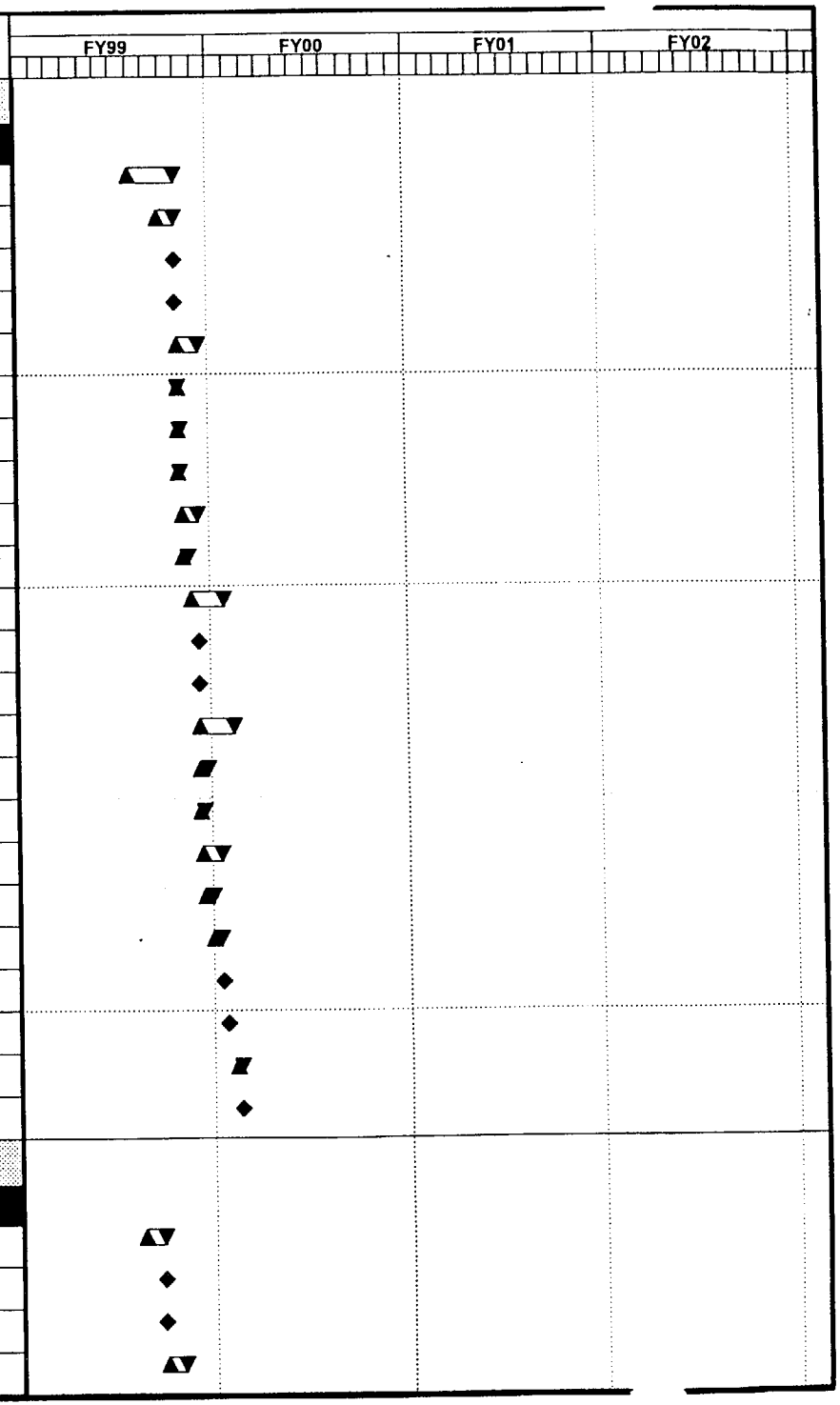
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3712	AP3.10Q Check - Dike Propagation Near Drifts		43	02AUG99	30SEP99
SLPA3734	Dike Prop / Drifts-Procurement Related Issues ID		0		04AUG99
SLPA3736	Dike Prop / Drifts-Data Related Software Issues		0		04AUG99
SLPA3738	Dike Prop / Drifts-Determine if Data Rel SW is U		5	05AUG99	11AUG99
SLPA3740	Dike Prop / Drifts-Rxesolve Procurement Related		10	05AUG99	18AUG99
SLPA3742	Dike Prop / Drifts-Verify/Trace Data		44	05AUG99	06OCT99
SLPA3744	Dike Prop / Drifts-Place Under SMS Control as Ne		10	12AUG99	25AUG99
SLPA3746	Dike Prop / Drifts-Verify Data-Related Software		10	26AUG99	09SEP99
SLPA3748	Dike Prop / Drifts-Qualified/Verified SW Availab		0		20SEP99
SLPA3714	AP3.10Q Final - Dike Propagation Near Drifts		20	01OCT99	29OCT99
SLPA3750	Dike Prop / Drifts-Update TDMS		5	07OCT99	14OCT99
SLPA3752	Dike Prop / Drifts-Qualified/Verified Data Avail		0		14OCT99
SLPA3716	AP3.10Q Final - Dike Propagation Near Drifts	M4	0		29OCT99
V1150					
SLA8040	AP3.10Q Data - Characterize Eruptive Process		24	01JUN99*	02JUL99
SLT144	Char Eruptive-Input Parameters and Data Identifi		0		02JUL99
SLT146	Char Eruptive-Models and Codes Identified		0		02JUL99
SLA8042	AP3.10Q Draft - Characterize Eruptive Process		19	06JUL99	30JUL99
SLT148	Char Eruptive-Determine DTN Assignment		2	06JUL99	07JUL99
SLT172	Char Eruptive-Determine if Model-Rel SW is Under		5	06JUL99	12JUL99
SLT150	Char Eruptive-Determine if Data/DTN in TDMS		3	08JUL99	12JUL99
SLT152	Char Eruptive-Submit Data/DTN to TDMS as Necessa		22	13JUL99	11AUG99
SLT174	Char Eruptive-Place Model-Related SW Under SMS C		10	13JUL99	26JUL99
SLT176	Char Eruptive-Verify Model-Related Software		44	27JUL99	27SEP99
SLA8044	AP3.10Q Check - Characterize Eruptive Process		29	02AUG99	10SEP99
SLT156	Char Eruptive-Procurement Related Issues ID'd to		0		11AUG99
SLT164	Char Eruptive-Data Related Software Issues Ident		0		11AUG99
SLT154	Char Eruptive-Verify/Trace Data		44	12AUG99	14OCT99
SLT158	Char Eruptive-Rxesolve Procurement Related Data		10	12AUG99	25AUG99
SLT166	Char Eruptive-Determine if Data Rel SW is Under		5	12AUG99	18AUG99



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLT168	Char Eruptive-Place Under SMS Control as Necessa		10	19AUG99	01SEP99
SLT170	Char Eruptive-Verify Data-Related Software		10	02SEP99	16SEP99
SLA8046	AP3.10Q Final - Characterize Eruptive Process		24	13SEP99	15OCT99
SLA8046M4	AP3.10Q Final - Characterize Eruptive Process	M4	0		15OCT99
SLT160	Char Eruptive-Update TDMS		5	15OCT99	21OCT99
SLT162	Char Eruptive-Qualified/Verified Data Available		0		21OCT99
V1160					
SLA8050	AP3.10Q Data - Waste Package Behavior - Magma		61	05MAY99*	30JUL99
SLA8052	AP3.10Q Draft - Waste Package Behavior - Magma		24	28JUN99*	30JUL99
SLT180	WP Behavior/Magma-Input Parameters and Data Iden		0		30JUL99
SLT182	WP Behavior/Magma-Models and Codes Identified		0		30JUL99
SLA8054	AP3.10Q Check - Waste Package Behavior - Magma		29	02AUG99	10SEP99
SLT184	WP Behavior/Magma-Determine DTN Assignment		2	02AUG99	03AUG99
SLT208	WP Behavior/Magma-Determine if Model-Rel SW is U		5	02AUG99	06AUG99
SLT186	WP Behavior/Magma-Determine if Data/DTN in TDMS		3	04AUG99	06AUG99
SLT188	WP Behavior/Magma-Submit Data/DTN to TDMS as Nec		22	09AUG99	08SEP99
SLT210	WP Behavior/Magma-Place Model-Related SW Under S		10	09AUG99	20AUG99
SLT212	WP Behavior/Magma-Verify Model-Related Software		44	23AUG99	25OCT99
SLT192	WP Behavior/Magma-Procurement Related Issues ID'		0		08SEP99
SLT200	WP Behavior/Magma-Data Related Software Issues I		0		08SEP99
SLT190	WP Behavior/Magma-Verify/Trace Data		44	09SEP99	10NOV99
SLT194	WP Behavior/Magma-Rxesolve Procurement Related D		10	09SEP99	22SEP99
SLT202	WP Behavior/Magma-Determine if Data Rel SW is Un		5	09SEP99	15SEP99
SLA8056	AP3.10Q Final - Waste Package Behavior - Magma		24	13SEP99	15OCT99
SLT204	WP Behavior/Magma-Place Under SMS Control as Nec		10	16SEP99	29SEP99
SLT206	WP Behavior/Magma-Verify Data-Related Software		10	30SEP99	14OCT99
SLA8056M4	AP3.10Q Final - Waste Package Behavior - Magma	M4	0		15OCT99
SLT214	WP Behavior/Magma-Qualified/Verified SW Availabl		0		25OCT99
SLT196	WP Behavior/Magma-Update TDMS		5	12NOV99	18NOV99
SLT198	WP Behavior/Magma-Qualified/Verified Data Availa		0		18NOV99



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
V1170					
SLA8060	AP3.10Q Data - Waste Form Behavior - Magma		61	05MAY99*	30JUL99
SLA8062	AP3.10Q Draft - Waste Form Behavior - Magma		24	28JUN99*	30JUL99
SLT216	WF Behavior/Magma-Input Parameters and Data Iden		0		30JUL99
SLT218	WF Behavior/Magma-Models and Codes Identified		0		30JUL99
SLA8064	AP3.10Q Check - Waste Form Behavior - Magma		29	02AUG99	10SEP99
SLT220	WF Behavior/Magma-Determine DTN Assignment		2	02AUG99	03AUG99
SLT244	WF Behavior/Magma-Determine if Model-Rel SW is U		5	02AUG99	06AUG99
SLT222	WF Behavior/Magma-Determine if Data/DTN in TDMS		3	04AUG99	06AUG99
SLT224	WF Behavior/Magma-Submit Data/DTN to TDMS as Nec		22	09AUG99	08SEP99
SLT246	WF Behavior/Magma-Place Model-Related SW Under S		10	09AUG99	20AUG99
SLT248	WF Behavior/Magma-Verify Model-Related Software		44	23AUG99	25OCT99
SLT228	WF Behavior/Magma-Procurement Related Issues ID'		0		08SEP99
SLT236	WF Behavior/Magma-Data Related Software Issues I		0		08SEP99
SLT226	WF [illegible]ior/Magma-Verify/Trace Data		44	09SEP99	10NOV99
SLT230	WF Behavior/Magma-Rxesolve Procurement Related D		10	09SEP99	22SEP99
SLT238	WF Behavior/Magma-Determine if Data Rel SW is Un		5	09SEP99	15SEP99
SLA8066	AP3.10Q Final - Waste Form Behavior - Magma		24	13SEP99	15OCT99
SLT240	WF Behavior/Magma-Place Under SMS Control as Nec		10	16SEP99	29SEP99
SLT242	WF Behavior/Magma-Verify Data-Related Software		10	30SEP99	14OCT99
SLA8066M4	AP3.10Q Final - Waste Form Behavior - Magma	M4	0		15OCT99
SLT250	WF Behavior/Magma-Qualified/Verified SW Availabl		0		25OCT99
SLT232	WF Behavior/Magma-Update TDMS		5	12NOV99	18NOV99
SLT234	WF Behavior/Magma-Qualified/Verified Data Availa		0		18NOV99
V1180					
130 Performance Assessment Operations					
SLPA3754	AP3.10Q Data - Direct Surf Release from Eruption		27	19MAY99*	25JUN99
SLPA3764	Surf Release from Erup-Input Parameters and Data		0		25JUN99
SLPA3766	Surf Release from Erup-Models and Codes Identifi		0		25JUN99
SLPA3756	AP3.10Q Draft - Direct Surf Release from Eruptio		24	28JUN99	30JUL99



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3768	Surf Release from Erup-Determine DTN Assignment		2	28JUN99	29JUN99
SLPA3770	Surf Release from Erup-Determine if Model-Rel SW		5	28JUN99	02JUL99
SLPA3772	Surf Release from Erup-Determine if Data/DTN in		3	30JUN99	02JUL99
SLPA3774	Surf Release from Erup-Place Model-Related SW Un		10	06JUL99	19JUL99
SLPA3776	Surf Release from Erup-Submit Data/DTN to TDMS a		22	06JUL99	04AUG99
SLPA3778	Surf Release from Erup-Verify Model-Related Soft		44	20JUL99	20SEP99
SLPA3758	AP3.10Q Check - Direct Surf Release from Eruptio		35	02AUG99	20SEP99
SLPA3780	Surf Release from Erup-Data Related Software Iss		0		04AUG99
SLPA3782	Surf Release from Erup-Procurement Related Issue		0		04AUG99
SLPA3784	Surf Release from Erup-Determine if Data Rel SW		5	05AUG99	11AUG99
SLPA3786	Surf Release from Erup-Rxesolve Procurement Rela		10	05AUG99	18AUG99
SLPA3788	Surf Release from Erup-Verify/Trace Data		44	05AUG99	06OCT99
SLPA3790	Surf Release from Erup-Place Under SMS Control a		10	12AUG99	25AUG99
SLPA3792	Surf Release from Erup-Verify Data-Related Softw		10	26AUG99	09SEP99
SLPA3794	Surf Release from Erup-Qualified/Verified SW Ava		0		20SEP99
SLPA3760	AP3.10Q Final - Direct Surf Release from Eruptio		28	21SEP99	29OCT99
SLPA3796	Surf Release from Erup-Update TDMS		5	07OCT99	14OCT99
SLPA3798	Surf Release from Erup-Qualified/Verified Data A		0		14OCT99
SLPA3762	AP3.10Q Final - Direct Surf Release from Eruptio	M4	0		29OCT99

V1190

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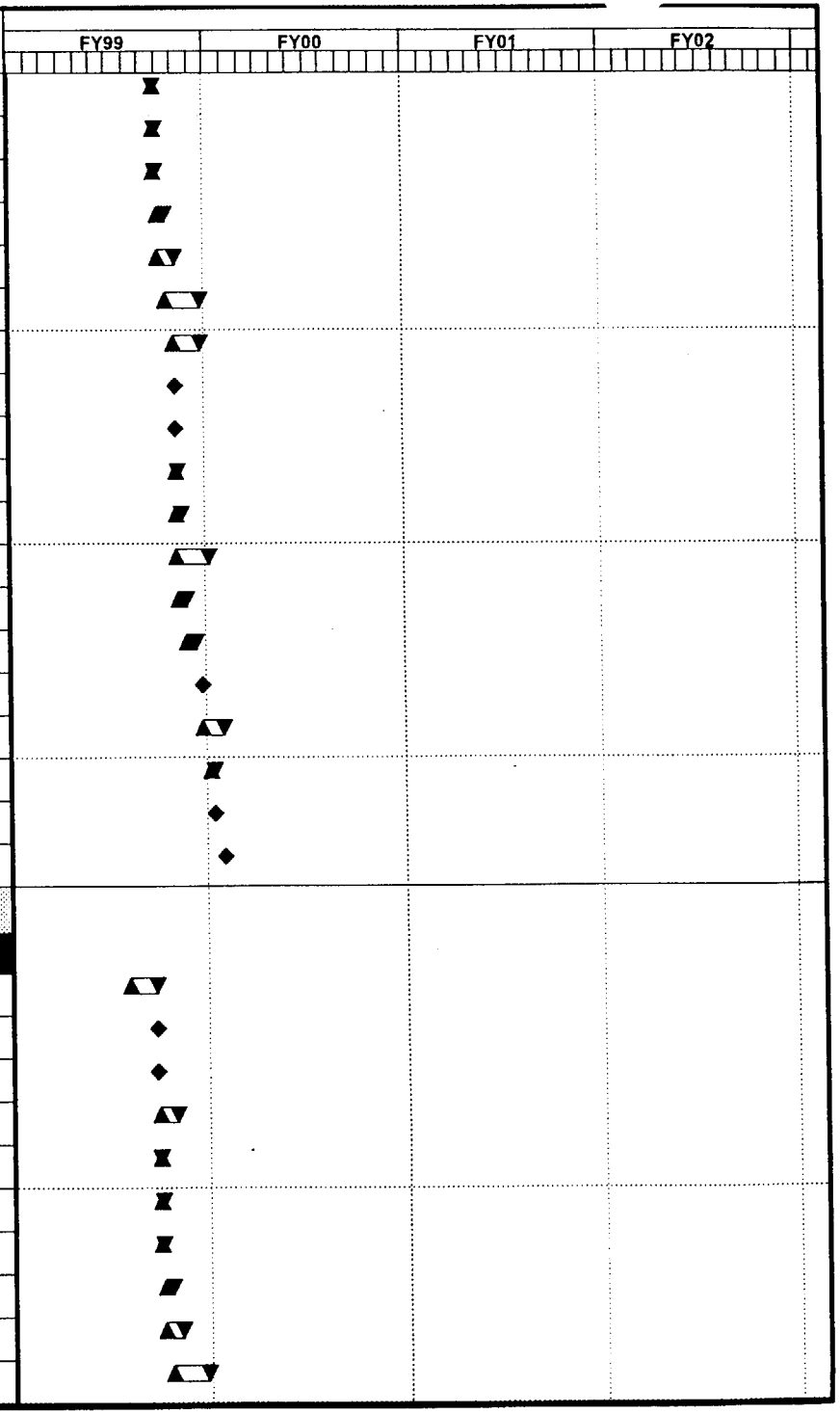
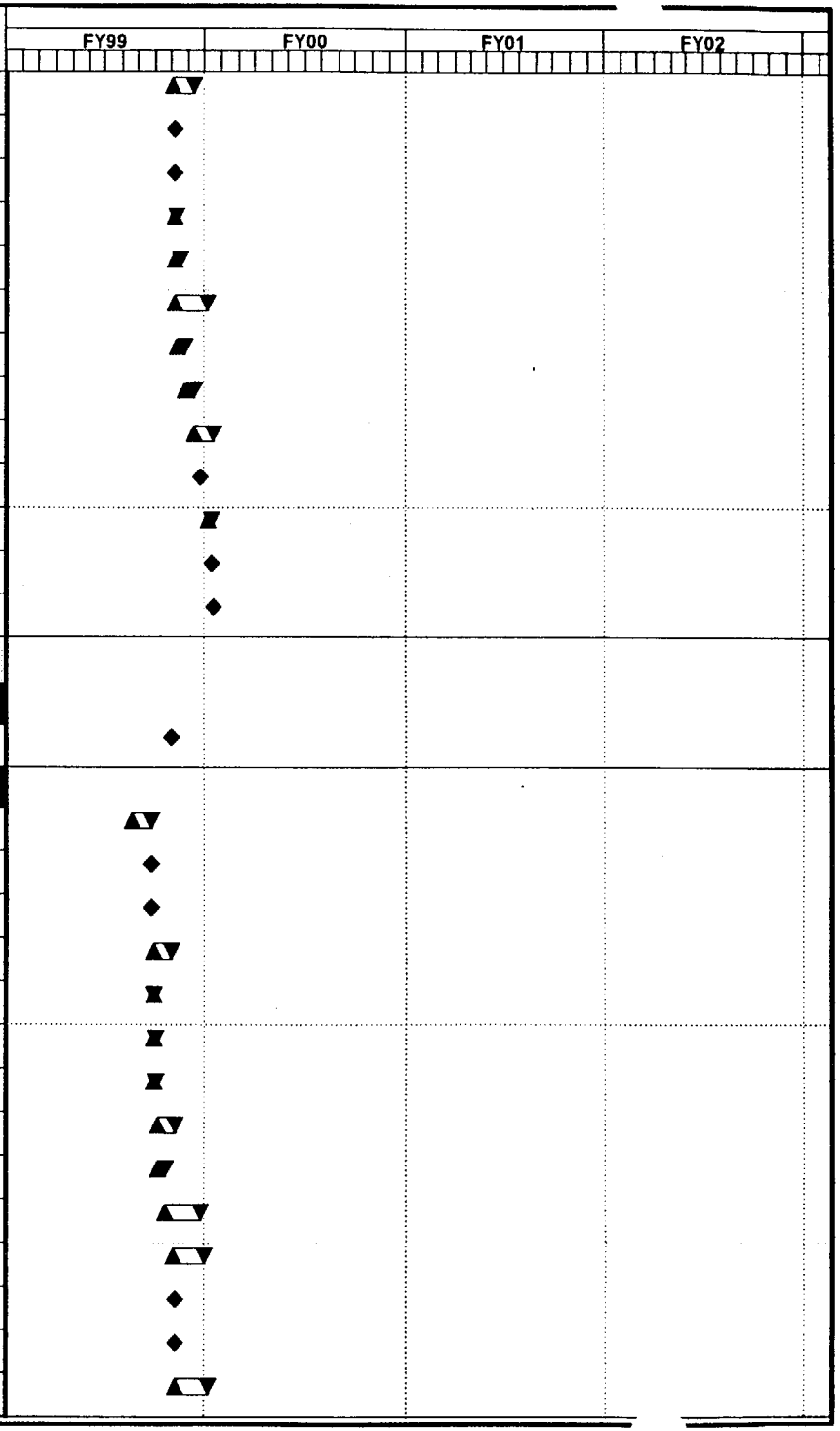
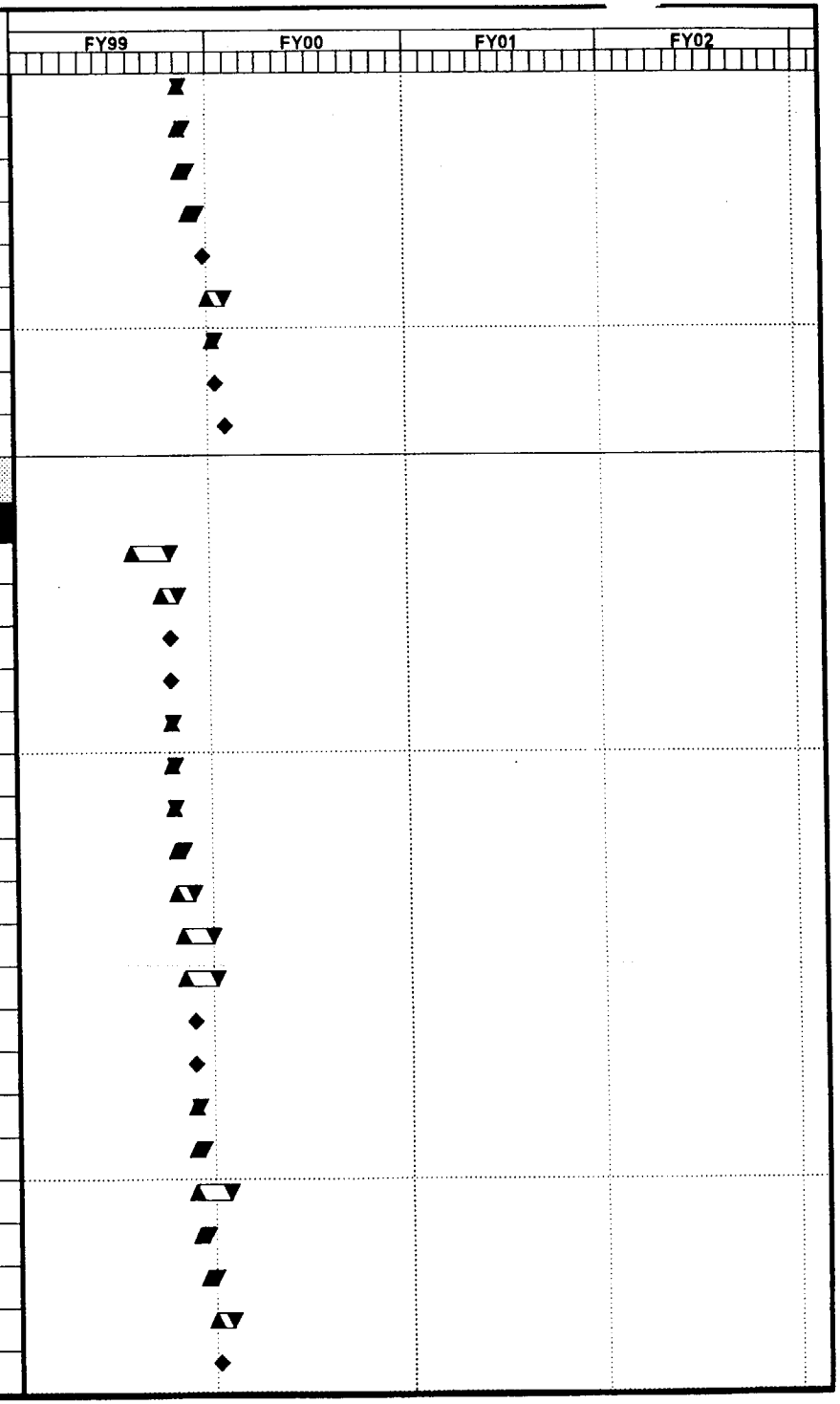
SLPA3800	AP3.10Q Data - Deposition of Ash/Dose Pathways		37	05MAY99*	25JUN99
SLPA3810	Ash/Dose Pathways-Input Parameters and Data Ide		0		25JUN99
SLPA3812	Ash/Dose Pathways-Models and Codes Identified		0		25JUN99
SLPA3802	AP3.10Q Draft - Deposition of Ash/Dose Pathways		24	28JUN99	30JUL99
SLPA3814	Ash/Dose Pathways-Determine DTN Assignment		2	28JUN99	29JUN99
SLPA3816	Ash/Dose Pathways-Determine if Model-Rel SW is		5	28JUN99	02JUL99
SLPA3818	Ash/Dose Pathways-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99
SLPA3820	Ash/Dose Pathways-Place Model-Related SW Under		10	06JUL99	19JUL99
SLPA3822	Ash/Dose Pathways-Submit Data/DTN to TDMS as Ne		22	06JUL99	04AUG99
SLPA3824	Ash/Dose Pathways-Verify Model-Related Software		44	20JUL99	20SEP99



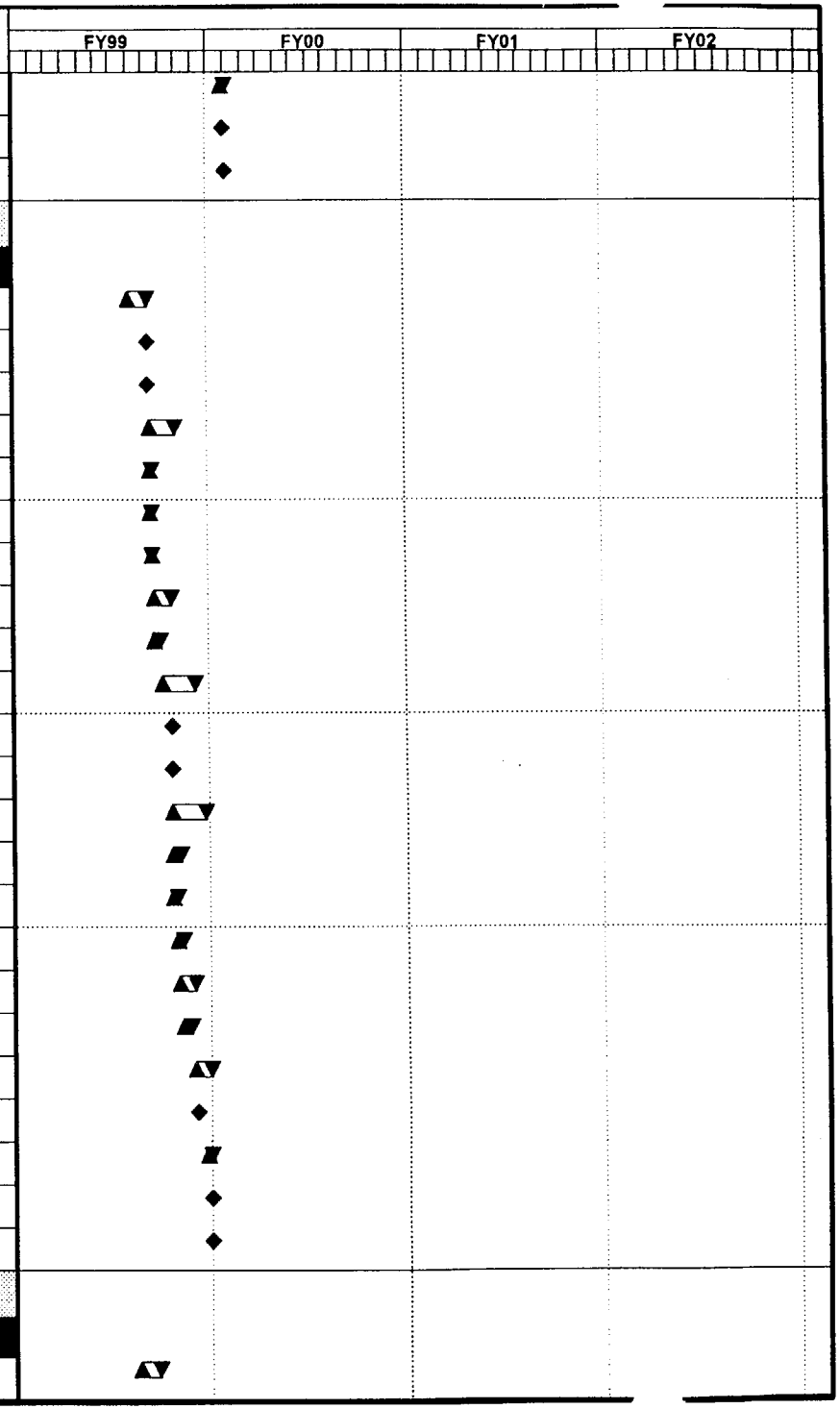
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3804	AP3.10Q Check - Deposition of Ash/Dose Pathways		29	02AUG99	10SEP99
SLPA3826	Ash/Dose Pathways-Procurement Related Issues ID		0		04AUG99
SLPA3828	Ash/Dose Pathways-Data Related Software Issues		0		04AUG99
SLPA3830	Ash/Dose Pathways-Determine if Data Rel SW is U		5	05AUG99	11AUG99
SLPA3832	Ash/Dose Pathways-Rxesolve Procurement Related		10	05AUG99	18AUG99
SLPA3834	Ash/Dose Pathways-Verify/Trace Data		44	05AUG99	06OCT99
SLPA3836	Ash/Dose Pathways-Place Under SMS Control as Ne		10	12AUG99	25AUG99
SLPA3838	Ash/Dose Pathways-Verify Data-Related Software		10	26AUG99	09SEP99
SLPA3806	AP3.10Q Final - Deposition of Ash/Dose Pathways		24	13SEP99	15OCT99
SLPA3840	Ash/Dose Pathways-Qualified/Verified SW Availab		0		20SEP99
SLPA3842	Ash/Dose Pathways-Update TDMS		5	07OCT99	14OCT99
SLPA3844	Ash/Dose Pathways-Qualified/Verified Data Avail		0		14OCT99
SLPA3808	AP3.10Q Final - Deposition of Ash/Dose Pathways	M4	0		15OCT99
V1220					
130 Performance Assessment Operations					
SLPA3846	Receive TSPA Design Layout	M4	0		30JUL99*
RPT1000	AP3 [illegible] ata - Repository & Drift Design		27	19MAY99*	25JUN99
RPT1002	Repository & Drift Des-Input Parameters and Dat		0		25JUN99
RPT1004	Repository & Drift Des-Models and Codes Identif		0		25JUN99
RPT1006	AP3.10Q Draft - Repository & Drift Design		24	28JUN99	30JUL99
RPT1008	Repository & Drift Des-Determine DTN Assignment		2	28JUN99	29JUN99
RPT1010	Repository & Drift Des-Determine if Model-Rel S		5	28JUN99	02JUL99
RPT1012	Repository & Drift Des-Determine if Data/DTN in		3	30JUN99	02JUL99
RPT1014	Repository & Drift Des-Submit Data/DTN to TDMS		22	06JUL99	04AUG99
RPT1016	Repository & Drift Des-Place Model-Related SW U		10	06JUL99	19JUL99
RPT1018	Repository & Drift Des-Verify Model-Related Sof		44	20JUL99	20SEP99
RPT1020	AP3.10Q Check - Repository & Drift Design		43	02AUG99	30SEP99
RPT1022	Repository & Drift Des-Data Related Software Is		0		04AUG99
RPT1024	Repository & Drift Des-Procurement Related Issu		0		04AUG99
RPT1026	Repository & Drift Des-Verify/Trace Data		44	05AUG99	06OCT99



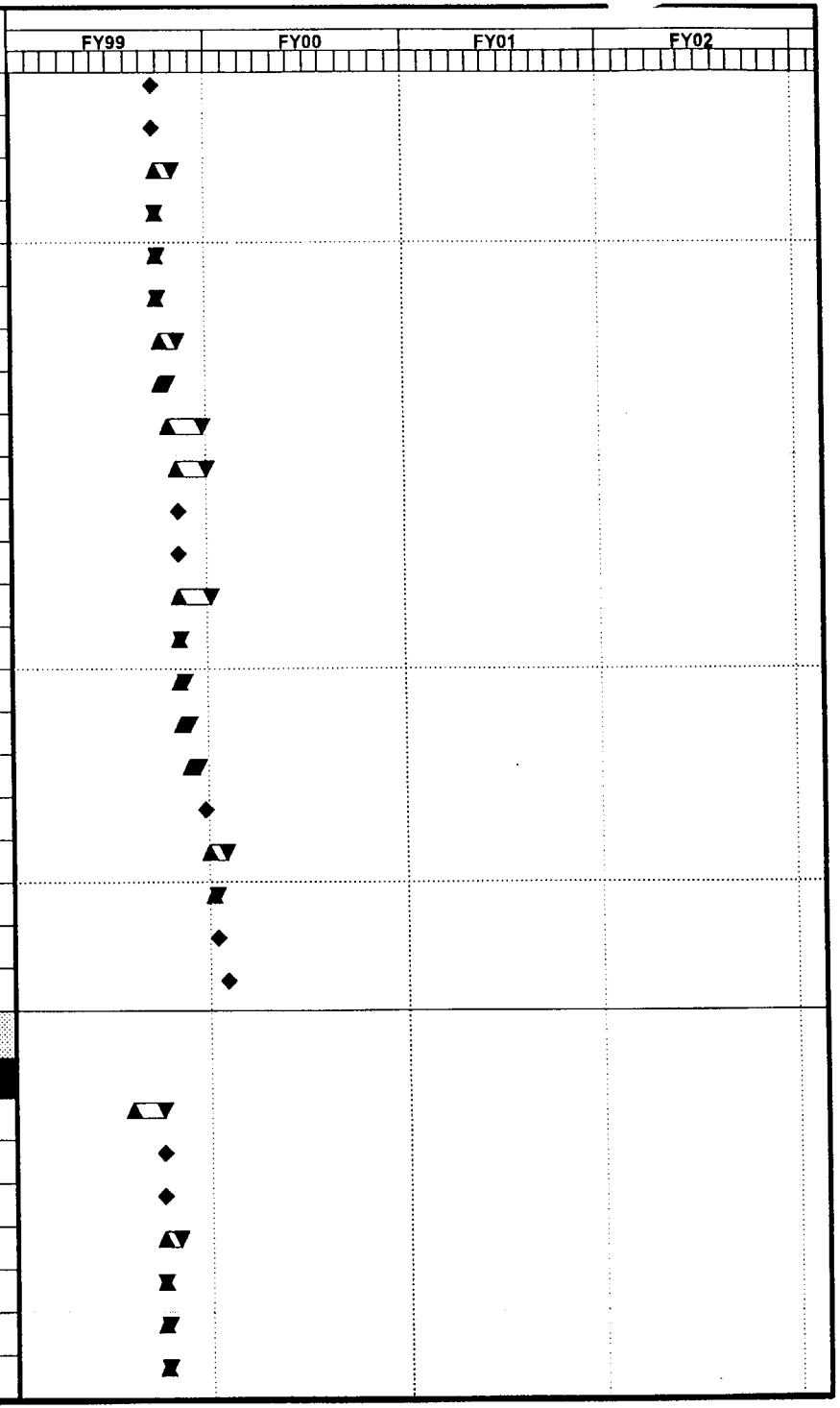
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
RPT1028	Repository & Drift Des-Determine if Data Rel SW		5	05AUG99	11AUG99
RPT1030	Repository & Drift Des-Rxesolve Procurement Rel		10	05AUG99	18AUG99
RPT1032	Repository & Drift Des-Place Under SMS Control		10	12AUG99	25AUG99
RPT1034	Repository & Drift Des-Verify Data-Related Soft		10	26AUG99	09SEP99
RPT1036	Repository & Drift Des-Qualified/Verified SW Av		0		20SEP99
RPT1038	AP3.10Q Final - Repository & Drift Design		20	01OCT99	29OCT99
RPT1040	Repository & Drift Des-Update TDMS		5	07OCT99	14OCT99
RPT1042	Repository & Drift Des-Qualified/Verified Data		0		14OCT99
RPT1044	AP3.10Q Final - Repository & Drift Design	M4	0		29OCT99
V1230					
130 Performance Assessment Operations					
SLPA3848	AP3.10Q Data - Number of Packages Hit		50	05MAY99*	15JUL99
SLPA3850	AP3.10Q Draft - Number of Packages Hit		24	28JUN99*	30JUL99
SLPA3858	# of Packages Hit-Input Parameters and Data Iden		0		15JUL99
SLPA3860	# of Packages Hit-Models and Codes Identified		0		15JUL99
SLPA3862	# of Packages Hit-Determine DTN Assignment		2	16JUL99	19JUL99
SLPA3864	# of Packages Hit-Determine if Model-Rel SW is U		5	16JUL99	22JUL99
SLPA3866	# of Packages Hit-Determine if Data/DTN in TDMS		3	20JUL99	22JUL99
SLPA3868	# of Packages Hit-Place Model-Related SW Under S		10	23JUL99	05AUG99
SLPA3870	# of Packages Hit-Submit Data/DTN to TDMS as Nec		22	23JUL99	23AUG99
SLPA3852	AP3.10Q Check - Number of Packages Hit		43	02AUG99	30SEP99
SLPA3872	# of Packages Hit-Verify Model-Related Software		44	06AUG99	07OCT99
SLPA3874	# of Packages Hit-Procurement Related Issues ID'		0		23AUG99
SLPA3876	# of Packages Hit-Data Related Software Issues i		0		23AUG99
SLPA3878	# of Packages Hit-Determine if Data Rel SW is Un		5	24AUG99	30AUG99
SLPA3880	# of Packages Hit-Rxesolve Procurement Related D		10	24AUG99	07SEP99
SLPA3882	# of Packages Hit-Verify/Trace Data		44	24AUG99	26OCT99
SLPA3884	# of Packages Hit-Place Under SMS Control as Nec		10	31AUG99	14SEP99
SLPA3886	# of Packages Hit-Verify Data-Related Software		10	15SEP99	28SEP99
SLPA3854	AP3.10Q Final - Number of Packages Hit		20	01OCT99	29OCT99
SLPA3888	# of Packages Hit-Qualified/Verified SW Availabl		0		07OCT99



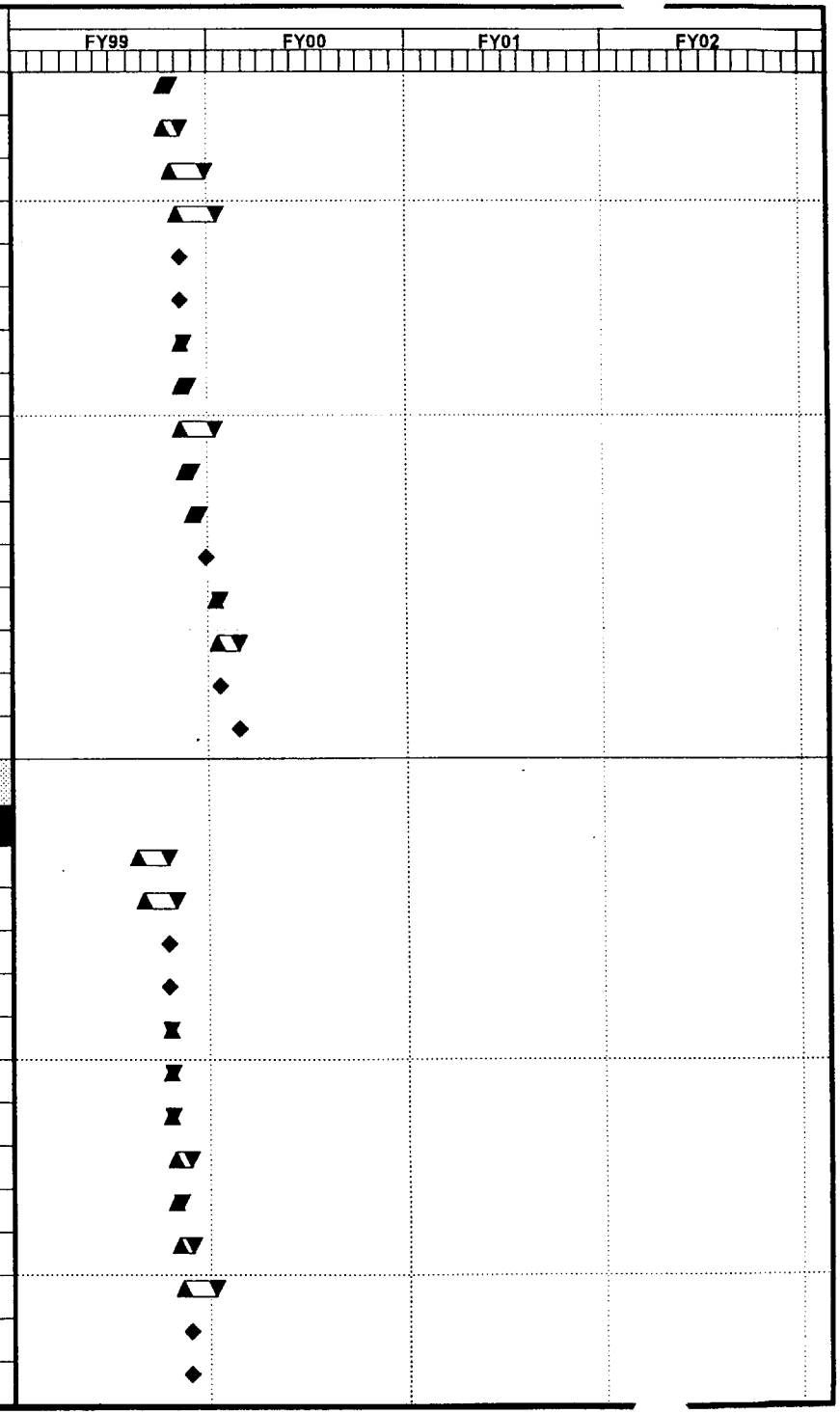
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3890	# of Packages Hit-Update TDMS		5	27OCT99	02NOV99
SLPA3856	AP3.10Q Final - Number of Packages Hit	M4	0		29OCT99
SLPA3892	# of Packages Hit-Qualified/Verified Data Availa		0		02NOV99
V1310					
SLA8140	AP3.10Q Data - Waste Entrainment (PDF)		27	05MAY99*	11JUN99
SLT504	Waste Entrainment-Input Parameters and Data Iden		0		11JUN99
SLT506	Waste Entrainment-Models and Codes Identified		0		11JUN99
SLA8142	AP3.10Q Draft - Waste Entrainment (PDF)		34	14JUN99	30JUL99
SLT508	Waste Entrainment-Determine DTN Assignment		2	14JUN99	15JUN99
SLT532	Waste Entrainment-Determine if Model-Rel SW is U		5	14JUN99	18JUN99
SLT510	Waste Entrainment-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99
SLT512	Waste Entrainment-Submit Data/DTN to TDMS as Nec		22	21JUN99	21JUL99
SLT534	Waste Entrainment-Place Model-Related SW Under S		10	21JUN99	02JUL99
SLT536	Waste Entrainment-Verify Model-Related Software		44	06JUL99	03SEP99
SLT516	Waste Entrainment-Procurement Related Issues ID'		0		21JUL99
SLT524	Waste Entrainment-Data Related Software Issues I		0		21JUL99
SLT514	Waste Entrainment-Verify/Trace Data		44	22JUL99	22SEP99
SLT518	Waste Entrainment-Rxesolve Procurement Related D		10	22JUL99	04AUG99
SLT526	Waste Entrainment-Determine if Data Rel SW is Un		5	22JUL99	28JUL99
SLT528	Waste Entrainment-Place Under SMS Control as Nec		10	29JUL99	11AUG99
SLA8144	AP3.10Q Check - Waste Entrainment (PDF)		22	02AUG99	31AUG99
SLT530	Waste Entrainment-Verify Data-Related Software		10	12AUG99	25AUG99
SLA8146	AP3.10Q Final - Waste Entrainment (PDF)		21	01SEP99	30SEP99
SLT538	Waste Entrainment-Qualified/Verified SW Availabl		0		03SEP99
SLT520	Waste Entrainment-Update TDMS		5	23SEP99	29SEP99
SLT522	Waste Entrainment-Qualified/Verified Data Availa		0		29SEP99
SLA8146M4	AP3.10Q Final - Waste Entrainment (PDF)	M4	0		30SEP99
V1370					
SET1000	AP3.10Q Data - Waste Redistribution & BDCFs		27	19MAY99*	25JUN99



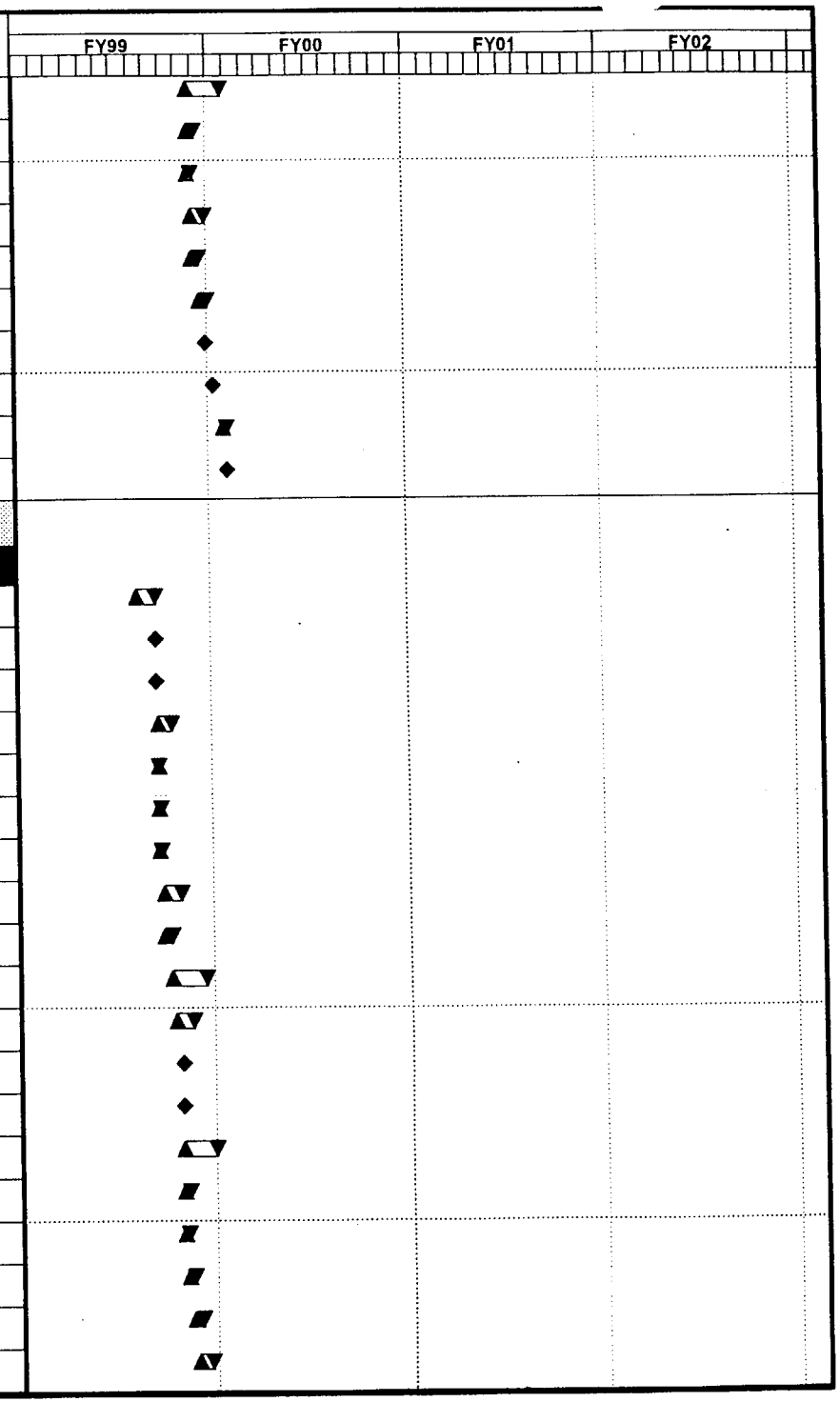
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SET1002	Waste Redist BDCFs-Input Parameters and Data Ide		0		25JUN99
SET1004	Waste Redist BDCFs-Models and Codes Identified		0		25JUN99
SET1006	AP3.10Q Draft - Waste Redistribution & BDCFs		24	28JUN99	30JUL99
SET1008	Waste Redist BDCFs-Determine DTN Assignment		2	28JUN99	29JUN99
SET1010	Waste Redist BDCFs-Determine if Model-Rel SW is		5	28JUN99	02JUL99
SET1012	Waste Redist BDCFs-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99
SET1014	Waste Redist BDCFs-Submit Data/DTN to TDMS as Ne		22	06JUL99	04AUG99
SET1016	Waste Redist BDCFs-Place Model-Related SW Under		10	06JUL99	19JUL99
SET1018	Waste Redist BDCFs-Verify Model-Related Software		44	20JUL99	20SEP99
SET1020	AP3.10Q Check - Waste Redistribution & BDCFs		43	02AUG99	30SEP99
SET1022	Waste Redist BDCFs-Data Related Software Issues		0		04AUG99
SET1024	Waste Redist BDCFs-Procurement Related Issues ID		0		04AUG99
SET1026	Waste Redist BDCFs-Verify/Trace Data		44	05AUG99	06OCT99
SET1028	Waste Redist BDCFs-Determine if Data Rel SW is U		5	05AUG99	11AUG99
SET1030	Waste Redist BDCFs-Rxesolve Procurement Related		10	05AUG99	18AUG99
SET1032	Waste Redist BDCFs-Place Under SMS Control as Ne		10	12AUG99	25AUG99
SET1034	Waste Redist BDCFs-Verify Data-Related Software		10	26AUG99	09SEP99
SET1036	Waste Redist BDCFs-Qualified/Verified SW Availab		0		20SEP99
SET1038	AP3.10Q Final - Waste Redistribution & BDCFs		20	01OCT99	29OCT99
SET1040	Waste Redist BDCFs-Update TDMS		5	07OCT99	14OCT99
SET1042	Waste Redist BDCFs-Qualified/Verified Data Avail		0		14OCT99
SET1044	AP3.10Q Final - Waste Redistribution & BDCFs	M4	0		29OCT99
V1410					
130 Performance Assessment Operations					
SLPA3894	AP3.10Q Data -Consequence Analy/Direct Release		40	05MAY99*	30JUN99
SLPA3904	Direct Release-Input Parameters and Data Identif		0		30JUN99
SLPA3906	Direct Release-Models and Codes Identified		0		30JUN99
SLPA3896	AP3.10Q Draft -Consequence Analy/Direct Release		21	01JUL99	30JUL99
SLPA3908	Direct Release-Determine DTN Assignment		2	01JUL99	02JUL99
SLPA3910	Direct Release-Determine if Model-Rel SW is Unde		5	01JUL99	08JUL99
SLPA3912	Direct Release-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99



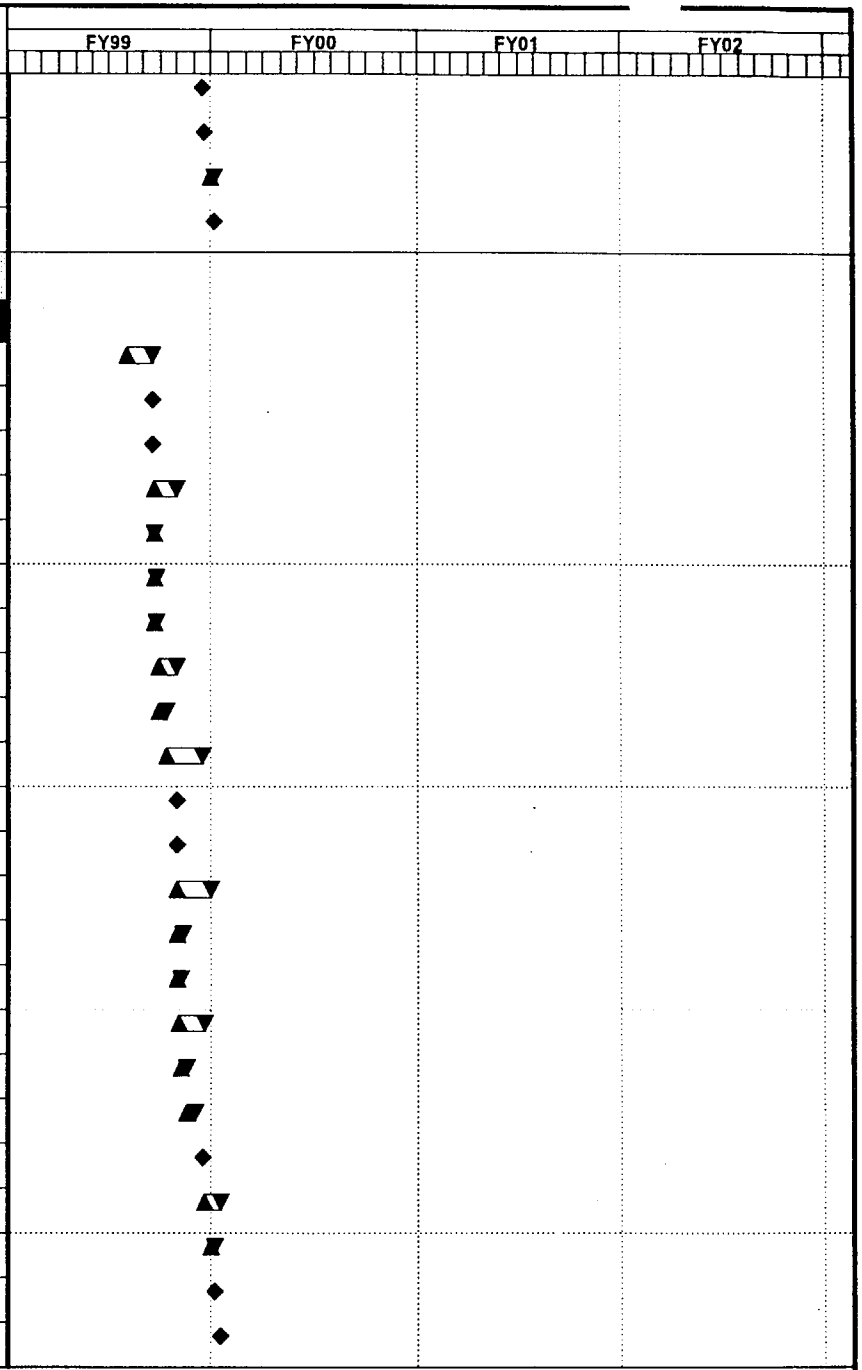
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA3914	Direct Release-Place Model-Related SW Under SMS		10	09JUL99	22JUL99
SLPA3916	Direct Release-Submit Data/DTN to TDMS as Necess		22	09JUL99	09AUG99
SLPA3918	Direct Release-Verify Model-Related Software		44	23JUL99	23SEP99
SLPA3898	AP3.10Q Check -Consequence Analy/Direct Release		53	02AUG99	15OCT99
SLPA3920	Direct Release-Procurement Related Issues ID'd t		0		09AUG99
SLPA3922	Direct Release-Data Related Software Issues Iden		0		09AUG99
SLPA3924	Direct Release-Determine if Data Rel SW is Under		5	10AUG99	16AUG99
SLPA3926	Direct Release-Rxesolve Procurement Related Data		10	10AUG99	23AUG99
SLPA3928	Direct Release-Verify/Trace Data		44	10AUG99	12OCT99
SLPA3930	Direct Release-Place Under SMS Control as Necess		10	17AUG99	30AUG99
SLPA3932	Direct Release-Verify Data-Related Software		10	31AUG99	14SEP99
SLPA3934	Direct Re[illegible]ualified/Verified SW Available		0		23SEP99
SLPA3936	Direct Re[illegible]pdate TDMS		5	13OCT99	19OCT99
SLPA3900	AP3.10Q Final -Consequence Analy/Direct Release		27	18OCT99	24NOV99
SLPA3938	Direct Release-Qualified/Verified Data Available		0		19OCT99
SLPA3902	AP3.10Q Final -Consequence Analy/Direct Release	M4	0		24NOV99
Z1030					
SLA8240	AP3.10Q Data -Framework for Seis./Struc. Deform		41	19MAY99*	16JUL99
SLA8242	AP3.10Q Draft -Framework for Seis./Struc. Deform		43	01JUN99*	30JUL99
SLT864	Seis./Struc. Deform-Input Parameters and Data Id		0		16JUL99
SLT866	Seis./Struc. Deform-Models and Codes Identified		0		16JUL99
SLT868	Seis./Struc. Deform-Determine DTN Assignment		2	19JUL99	20JUL99
SLT892	Seis./Struc. Deform-Determine if Model-Rel SW is		5	19JUL99	23JUL99
SLT870	Seis./Struc. Deform-Determine if Data/DTN in TDM		3	21JUL99	23JUL99
SLT872	Seis./Struc. Deform-Submit Data/DTN to TDMS as N		22	26JUL99	24AUG99
SLT894	Seis./Struc. Deform-Place Model-Related SW Under		10	26JUL99	06AUG99
SLA8244	AP3.10Q Check -Framework for Seis./Struc. Deform		20	02AUG99	27AUG99
SLT896	Seis./Struc. Deform-Verify Model-Related Softwar		44	09AUG99	08OCT99
SLT876	Seis./Struc. Deform-Procurement Related Issues I		0		24AUG99
SLT884	Seis./Struc. Deform-Data Related Software Issues		0		24AUG99



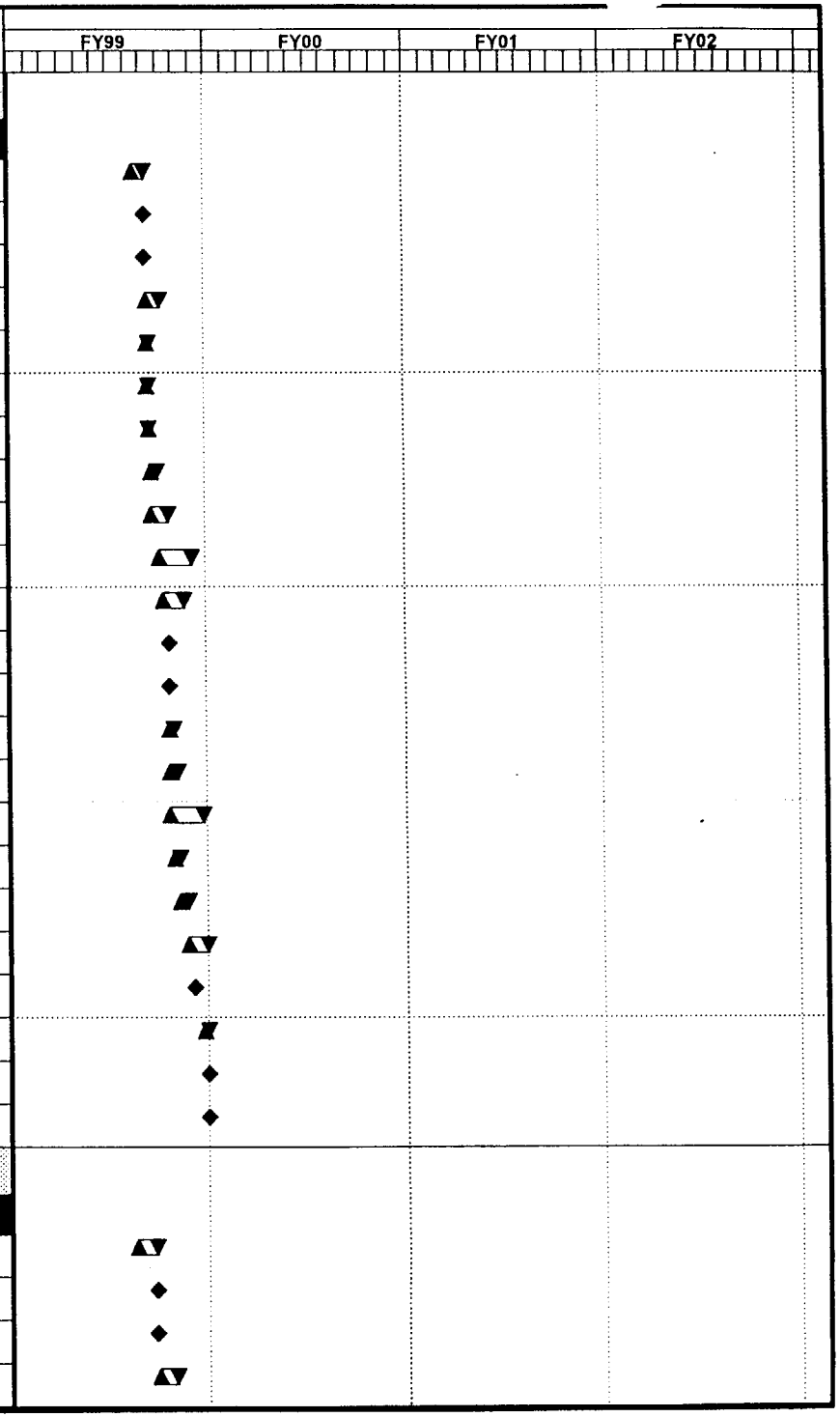
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLT874	Seis./Struc. Deform-Verify/Trace Data		44	25AUG99	27OCT99
SLT878	Seis./Struc. Deform-Rxesolve Procurement Related		10	25AUG99	08SEP99
SLT886	Seis./Struc. Deform-Determine if Data Rel SW is		5	25AUG99	31AUG99
SLA8246	AP3.10Q Final -Framework for Seis./Struc. Deform		19	30AUG99	24SEP99
SLT888	Seis./Struc. Deform-Place Under SMS Control as N		10	01SEP99	15SEP99
SLT890	Seis./Struc. Deform-Verify Data-Related Software		10	16SEP99	29SEP99
SLA8246M4	AP3.10Q Final -Framework for Seis./Struc. Deform	M4	0		24SEP99
SLT898	Seis./Struc. Deform-Qualified/Verified SW Availa		0		08OCT99
SLT880	Seis./Struc. Deform-Update TDMS		5	28OCT99	03NOV99
SLT882	Seis./Struc. Deform-Qualified/Verified Data Avai		0		03NOV99
Z1060					
SLA8260	AP3.10Q Data - Characteristics of Faults		26	13MAY99*	18JUN99
SLT936	Char of Faults-Input Parameters and Data Identif		0		18JUN99
SLT938	Char of Faults-Models and Codes Identified		0		18JUN99
SLA8262	AP3.10Q Draft - Characteristics of Faults		19	21JUN99	16JUL99
SLT940	Char of Faults-Determine DTN Assignment		2	21JUN99	22JUN99
SLT964	Char of Faults-Determine if Model-Rel SW is Unde		5	21JUN99	25JUN99
SLT942	Char of Faults-Determine if Data/DTN in TDMS		3	23JUN99	25JUN99
SLT944	Char of Faults-Submit Data/DTN to TDMS as Necess		22	28JUN99	28JUL99
SLT966	Char of Faults-Place Model-Related SW Under SMS		10	28JUN99	12JUL99
SLT968	Char of Faults-Verify Model-Related Software		44	13JUL99	13SEP99
SLA8264	AP3.10Q Check - Characteristics of Faults		25	19JUL99	20AUG99
SLT948	Char of Faults-Procurement Related Issues ID'd t		0		28JUL99
SLT956	Char of Faults-Data Related Software Issues Iden		0		28JUL99
SLT946	Char of Faults-Verify/Trace Data		44	29JUL99	29SEP99
SLT950	Char of Faults-Rxesolve Procurement Related Data		10	29JUL99	11AUG99
SLT958	Char of Faults-Determine if Data Rel SW is Under		5	29JUL99	04AUG99
SLT960	Char of Faults-Place Under SMS Control as Necess		10	05AUG99	18AUG99
SLT962	Char of Faults-Verify Data-Related Software		10	19AUG99	01SEP99
SLA8266	AP3.10Q Final - Characteristics of Faults		19	23AUG99	17SEP99



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLT970	Char of Faults-Qualified/Verified SW Available		0		13SEP99
SLA8266M4	AP3.10Q Final - Characteristics of Faults	M4	0		17SEP99
SLT952	Char of Faults-Update TDMS		5	30SEP99	06OCT99
SLT954	Char of Faults-Qualified/Verified Data Available		0		06OCT99
Z1070					
SLA8270	AP3.10Q Data - Repository Effects from Fault		34	03MAY99*	18JUN99
SLTA000	Effects from Fault-Input Parameters and Data Ide		0		18JUN99
SLTA002	Effects from Fault-Models and Codes Identified		0		18JUN99
SLA8272	AP3.10Q Draft - Repository Effects from Fault		29	21JUN99	30JUL99
SLTA004	Effects from Fault-Determine DTN Assignment		2	21JUN99	22JUN99
SLTA028	Effects from Fault-Determine if Model-Rel SW is		5	21JUN99	25JUN99
SLTA006	Effects from Fault-Determine if Data/DTN in TDMS		3	23JUN99	25JUN99
SLTA008	Effects from Fault-Submit Data/DTN to TDMS as Ne		22	28JUN99	28JUL99
SLTA030	Effects from Fault-Place Model-Related SW Under		10	28JUN99	12JUL99
SLTA032	Effects from Fault-Verify Model-Related Software		44	13JUL99	13SEP99
SLTA012	Effects from Fault-Procurement Related Issues ID		0		28JUL99
SLTA020	Effects from Fault-Data Related Software Issues		0		28JUL99
SLTA010	Effects from Fault-Verify/Trace Data		44	29JUL99	29SEP99
SLTA014	Effects from Fault-Rxesolve Procurement Related		10	29JUL99	11AUG99
SLTA022	Effects from Fault-Determine if Data Rel SW is U		5	29JUL99	04AUG99
SLA8274	AP3.10Q Check - Repository Effects from Fault		34	02AUG99	17SEP99
SLTA024	Effects from Fault-Place Under SMS Control as Ne		10	05AUG99	18AUG99
SLTA026	Effects from Fault-Verify Data-Related Software		10	19AUG99	01SEP99
SLTA034	Effects from Fault-Qualified/Verified SW Availab		0		13SEP99
SLA8276	AP3.10Q Final - Repository Effects from Fault		19	20SEP99	15OCT99
SLTA016	Effects from Fault-Update TDMS		5	30SEP99	06OCT99
SLTA018	Effects from Fault-Qualified/Verified Data Avail		0		06OCT99
SLA8276M4	AP3.10Q Final - Repository Effects from Fault	M4	0		15OCT99



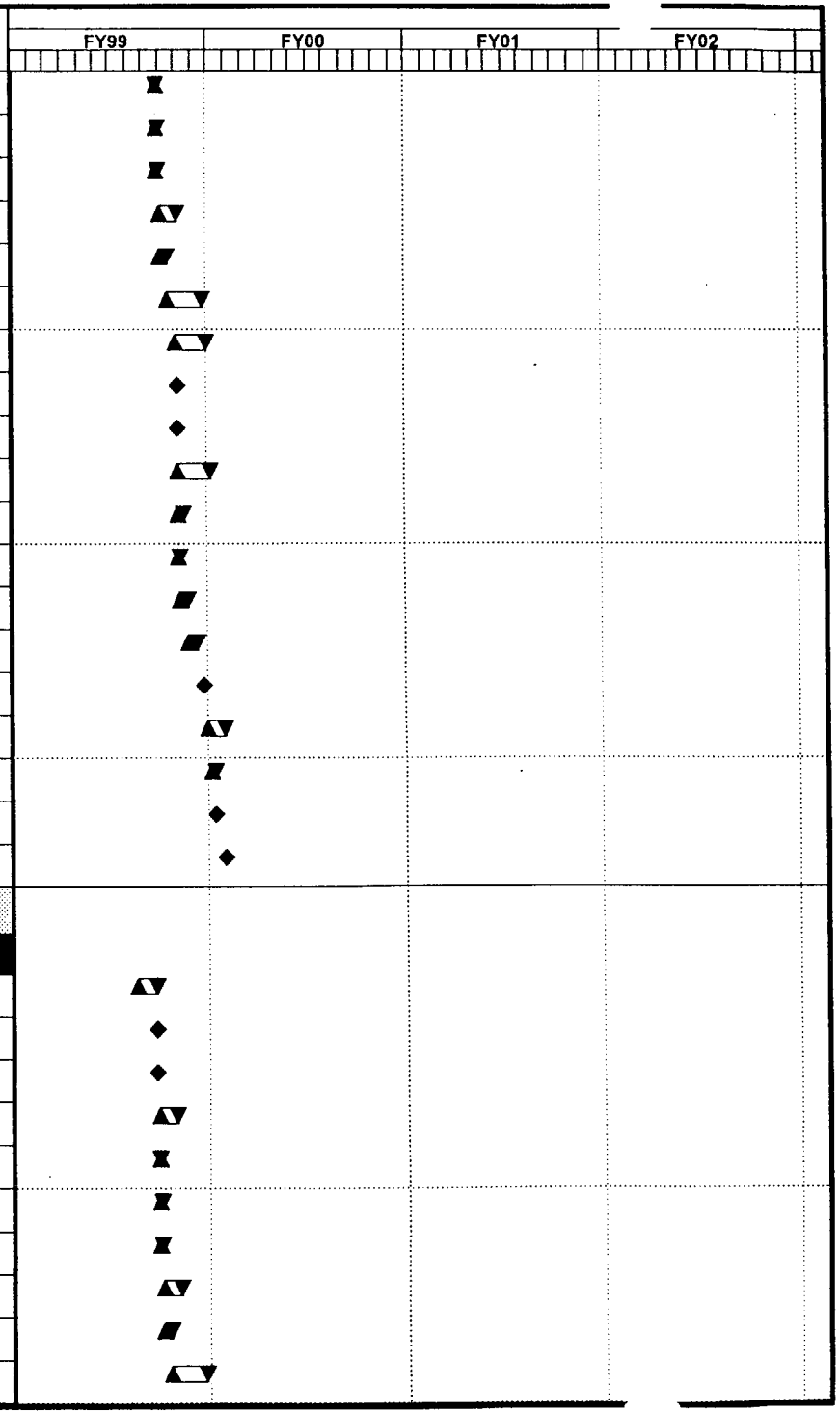
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
Z1080					
130 Performance Assessment Operations					
SLPA3940	AP3.10Q Data - Fault Diplacement Impacts / Hydro		17	19MAY99*	11JUN99
SLPA3950	Fault Diplacement-Input Parameters and Data Iden		0		11JUN99
SLPA3952	Fault Diplacement-Models and Codes Identified		0		11JUN99
SLPA3942	AP3.10Q Draft - Fault Diplacement Impacts /Hydro		19	14JUN99	09JUL99
SLPA3954	Fault Diplacement-Determine DTN Assignment		2	14JUN99	15JUN99
SLPA3956	Fault Diplacement-Determine if Model-Rel SW is U		5	14JUN99	18JUN99
SLPA3958	Fault Diplacement-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99
SLPA3960	Fault Diplacement-Place Model-Related SW Under S		10	21JUN99	02JUL99
SLPA3962	Fault Diplacement-Submit Data/DTN to TDMS as Nec		22	21JUN99	21JUL99
SLPA3964	Fault Diplacement-Verify Model-Related Software		44	06JUL99	03SEP99
SLPA3944	AP3.10Q Check - Fault Diplacement Impacts /Hydro		30	12JUL99	20AUG99
SLPA3966	Fault Diplacement-Procurement Related Issues ID'		0		21JUL99
SLPA3968	Fault Diplacement-Data Related Software Issues I		0		21JUL99
SLPA3970	Fault Diplacement-Determine if Data Rel SW is Un		5	22JUL99	28JUL99
SLPA3972	Fault Diplacement-Rxesolve Procurement Related D		10	22JUL99	04AUG99
SLPA3974	Fault Diplacement-Verify/Trace Data		44	22JUL99	22SEP99
SLPA3976	Fault Diplacement-Place Under SMS Control as Nec		10	29JUL99	11AUG99
SLPA3978	Fault Diplacement-Verify Data-Related Software		10	12AUG99	25AUG99
SLPA3946	AP3.10Q Final - Fault Diplacement Impacts /Hyrdo		28	23AUG99	30SEP99
SLPA3980	Fault Diplacement-Qualified/Verified SW Availabl		0		03SEP99
SLPA3982	Fault Diplacement-Update TDMS		5	23SEP99	29SEP99
SLPA3984	Fault Diplacement-Qualified/Verified Data Availa		0		29SEP99
SLPA3948	AP3.10Q Final - Fault Diplacement Impacts /Hyrdo	M4	0		30SEP99
Z1100					
SLA8290	AP3.10Q Data - Rockfall Damage Model (PDF)		27	19MAY99*	25JUN99
SLTA072	Rockfall Damage-Input Parameters and Data Identi		0		25JUN99
SLTA074	Rockfall Damage-Models and Codes Identified		0		25JUN99
SLA8292	AP3.10Q Draft - Rockfall Damage Model (PDF)		24	28JUN99	30JUL99



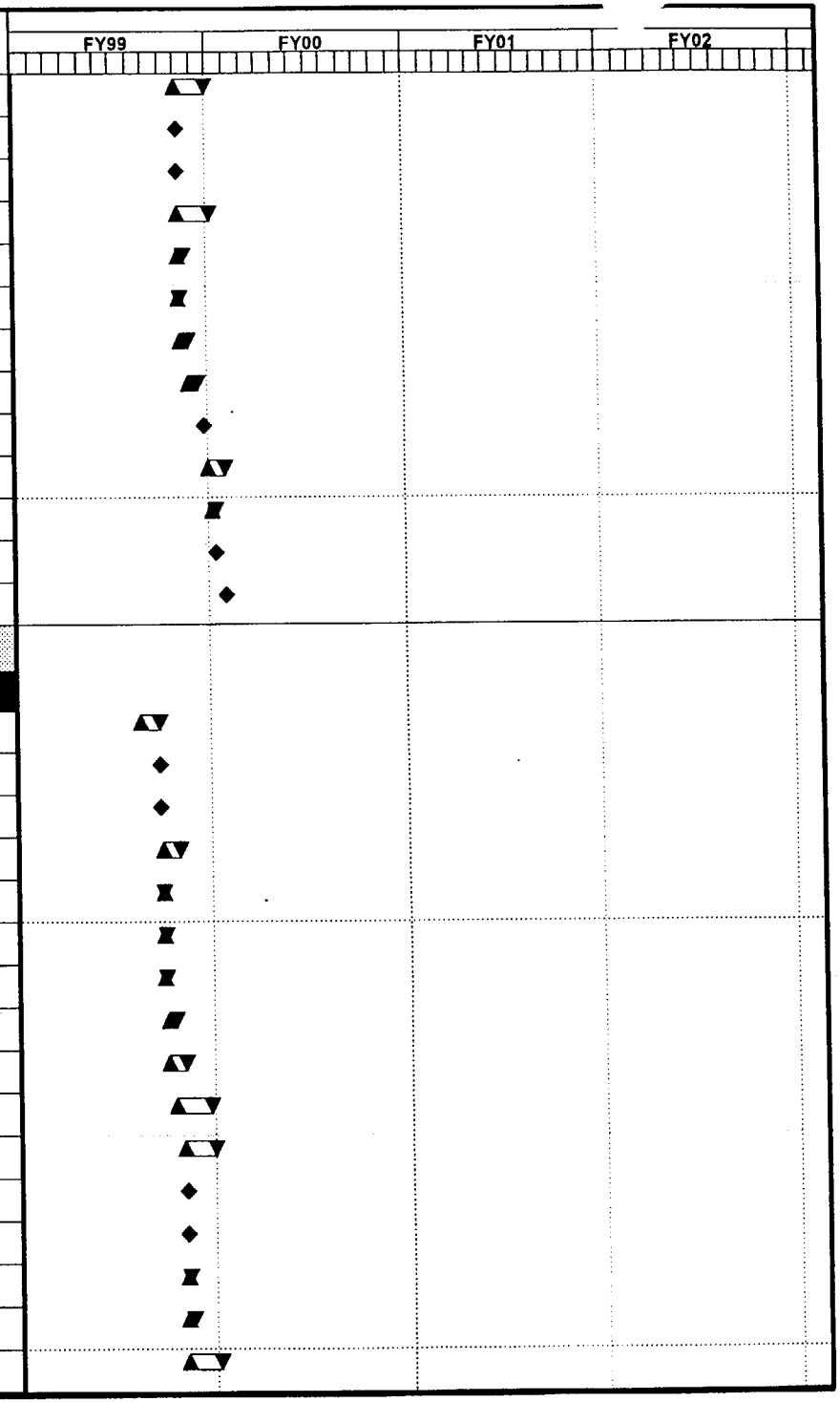
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLTA076	Rockfall Damage-Determine DTN Assignment		2	28JUN99	29JUN99
SLTA100	Rockfall Damage-Determine if Model-Rel SW is Und		5	28JUN99	02JUL99
SLTA078	Rockfall Damage-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99
SLTA080	Rockfall Damage-Submit Data/DTN to TDMS as Neces		22	06JUL99	04AUG99
SLTA102	Rockfall Damage-Place Model-Related SW Under SMS		10	06JUL99	19JUL99
SLTA104	Rockfall Damage-Verify Model-Related Software		44	20JUL99	20SEP99
SLA8294	AP3.10Q Check - Rockfall Damage Model (PDF)		43	02AUG99	30SEP99
SLTA084	Rockfall Damage-Procurement Related Issues ID'd		0		04AUG99
SLTA092	Rockfall Damage-Data Related Software Issues Ide		0		04AUG99
SLTA082	Rockfall Damage-Verify/Trace Data		44	05AUG99	06OCT99
SLTA086	Rockfall Damage-Rxesolve Procurement Related Dat		10	05AUG99	18AUG99
SLTA094	Rockfall Damage-Determine if Data Rel SW is Unde		5	05AUG99	11AUG99
SLTA096	Rockfall Damage-Place Under SMS Control as Neces		10	12AUG99	25AUG99
SLTA098	Rockfall Damage-Verify Data-Related Software		10	26AUG99	09SEP99
SLTA106	Rockfall Damage-Qualified/Verified SW Available		0		20SEP99
SLA8296	AP3.10Q Final - Rockfall Damage Model (PDF)		20	01OCT99	29OCT99
SLTA088	Rockfall Damage-Update TDMS		5	07OCT99	14OCT99
SLTA090	Rockfall Damage-Qualified/Verified Data Availabl		0		14OCT99
SLA8296M4	AP3.10Q Final - Rockfall Damage Model (PDF)	M4	0		29OCT99

Z1120

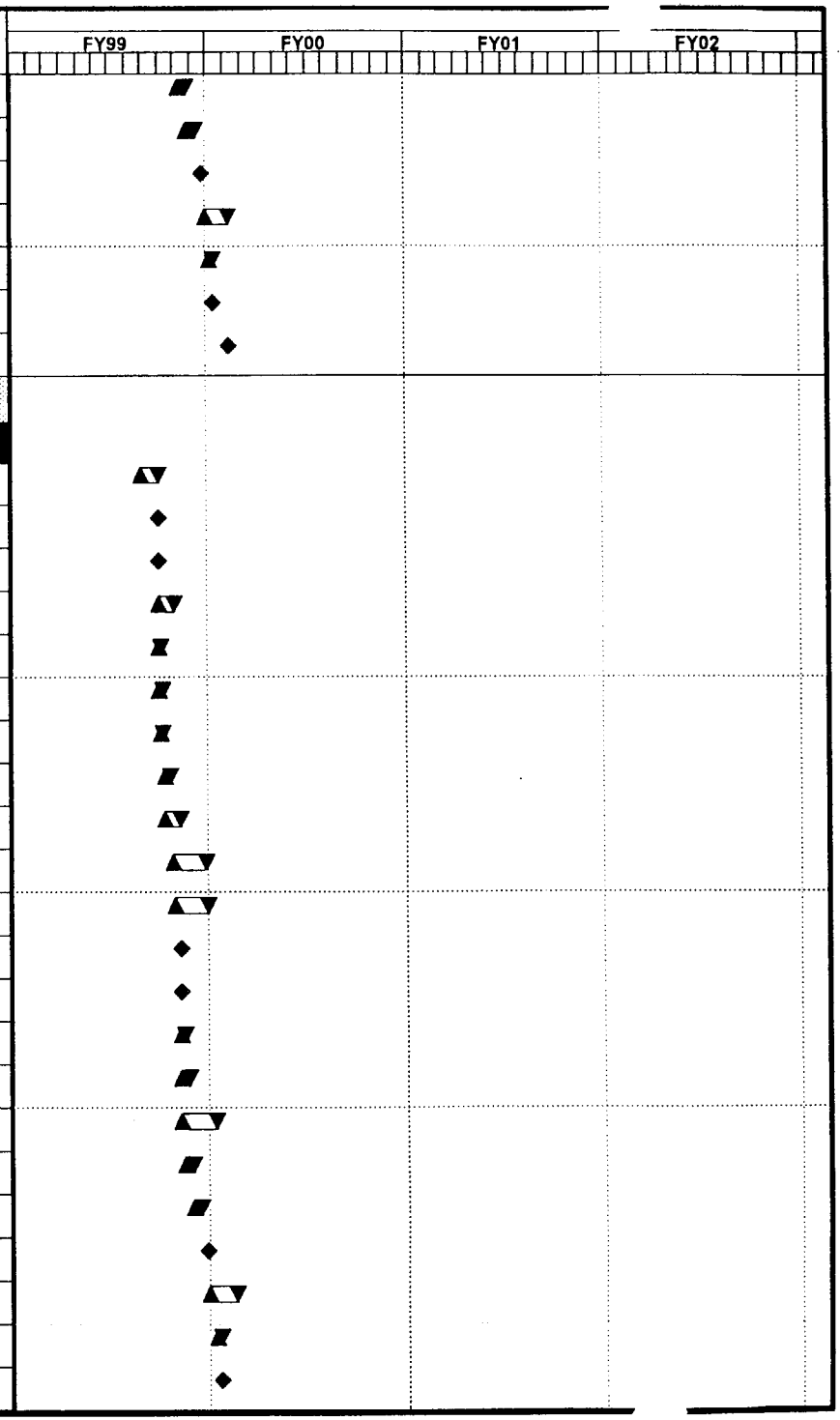
SLA8310	AP3.10Q Data - Enhanced Degradation of WF (PDF)		27	19MAY99*	25JUN99
SLTA160	Enhanced Deg/WF-Input Parameters and Data Identi		0		25JUN99
SLTA162	Enhanced Deg/WF-Models and Codes Identified		0		25JUN99
SLA8312	AP3.10Q Draft - Enhanced Degradation of WF (PDF)		24	28JUN99	30JUL99
SLTA164	Enhanced Deg/WF-Determine DTN Assignment		2	28JUN99	29JUN99
SLTA188	Enhanced Deg/WF-Determine if Model-Rel SW is Und		5	28JUN99	02JUL99
SLTA166	Enhanced Deg/WF-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99
SLTA168	Enhanced Deg/WF-Submit Data/DTN to TDMS as Neces		22	06JUL99	04AUG99
SLTA190	Enhanced Deg/WF-Place Model-Related SW Under SMS		10	06JUL99	19JUL99
SLTA192	Enhanced Deg/WF-Verify Model-Related Software		44	20JUL99	20SEP99



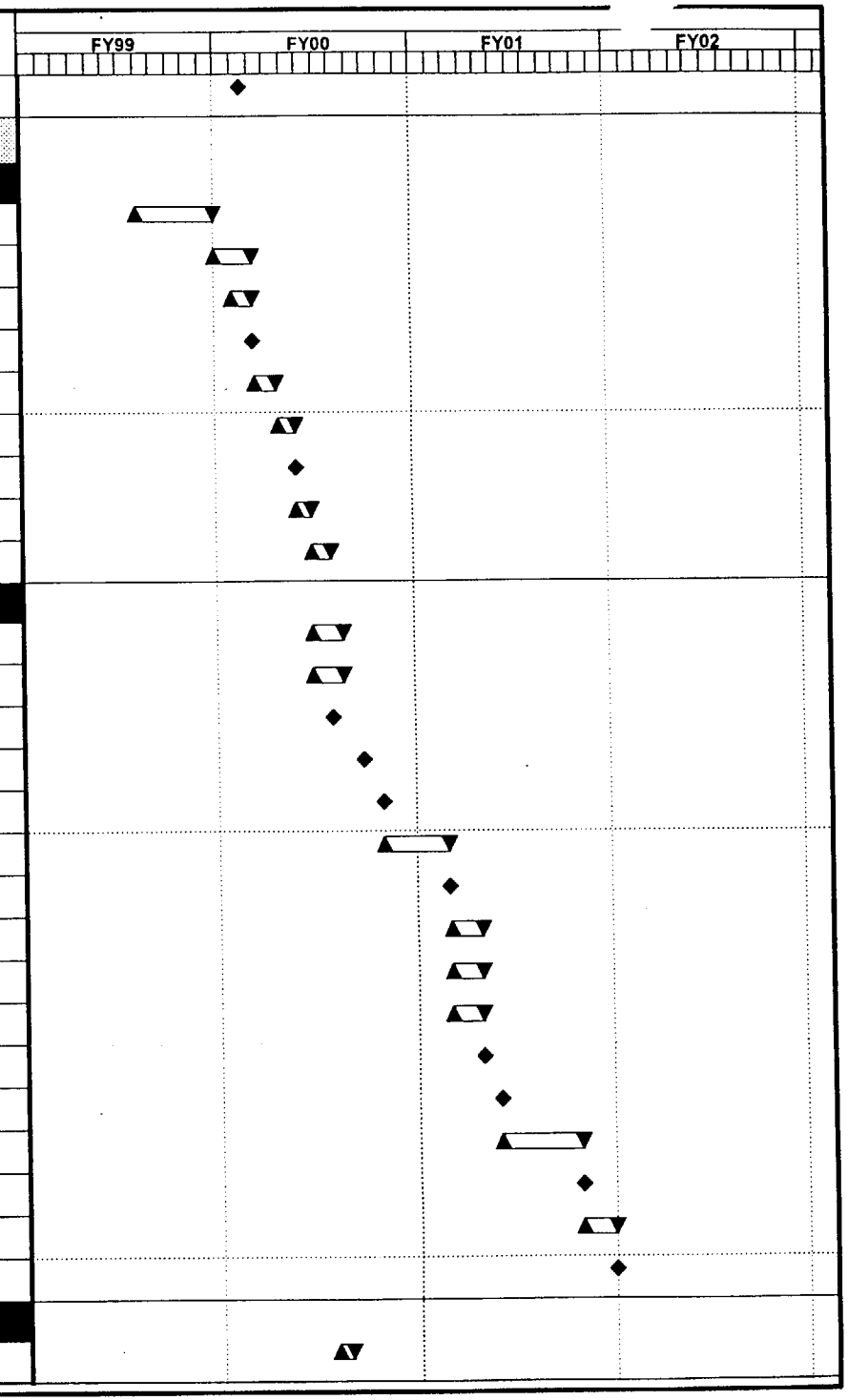
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLA8314	AP3.10Q Check - Enhanced Degradation of WF (PDF)		43	02AUG99	30SEP99
SLTA172	Enhanced Deg/WF-Procurement Related Issues ID'd		0		04AUG99
SLTA180	Enhanced Deg/WF-Data Related Software Issues Ide		0		04AUG99
SLTA170	Enhanced Deg/WF-Verify/Trace Data		44	05AUG99	06OCT99
SLTA174	Enhanced Deg/WF-Rxesolve Procurement Related Dat		10	05AUG99	18AUG99
SLTA182	Enhanced Deg/WF-Determine if Data Rel SW is Unde		5	05AUG99	11AUG99
SLTA184	Enhanced Deg/WF-Place Under SMS Control as Neces		10	12AUG99	25AUG99
SLTA186	Enhanced Deg/WF-Verify Data-Related Software		10	26AUG99	09SEP99
SLTA194	Enhanced Deg/WF-Qualified/Verified SW Available		0		20SEP99
SLA8316	AP3.10Q Final - Enhanced Degradation of WF (PDF)		20	01OCT99	29OCT99
SLTA176	Enhanced Deg/WF-Update TDMS		5	07OCT99	14OCT99
SLTA178	Enhanced Deg/WF-Qualified/Verified Data Availabl		0		14OCT99
SLA8316M4	AP3.10Q Final - Enhanced Degradation of WF (PDF)	M4	0		29OCT99
Z1130					
130 Performance Assessment Operations					
SLPA3986	AP3.10Q Data - RIP Source / Seismic Rockfall		27	19MAY99*	25JUN99
SLPA3996	Seismic Rockfall-Input Parameters and Data Ident		0		25JUN99
SLPA3998	Seismic Rockfall-Models and Codes Identified		0		25JUN99
SLPA3988	AP3.10Q Draft - RIP Source / Seismic Rockfall		24	28JUN99	30JUL99
SLPA4000	Seismic Rockfall-Determine DTN Assignment		2	28JUN99	29JUN99
SLPA4002	Seismic Rockfall-Determine if Model-Rel SW is Un		5	28JUN99	02JUL99
SLPA4004	Seismic Rockfall-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99
SLPA4006	Seismic Rockfall-Place Model-Related SW Under SM		10	06JUL99	19JUL99
SLPA4008	Seismic Rockfall-Submit Data/DTN to TDMS as Nece		22	06JUL99	04AUG99
SLPA4010	Seismic Rockfall-Verify Model-Related Software		44	20JUL99	20SEP99
SLPA3990	AP3.10Q Check - RIP Source / Seismic Rockfall		43	02AUG99	30SEP99
SLPA4012	Seismic Rockfall-Procurement Related Issues ID'd		0		04AUG99
SLPA4014	Seismic Rockfall-Data Related Software Issues Id		0		04AUG99
SLPA4016	Seismic Rockfall-Determine if Data Rel SW is Und		5	05AUG99	11AUG99
SLPA4018	Seismic Rockfall-Rxesolve Procurement Related Da		10	05AUG99	18AUG99
SLPA4020	Seismic Rockfall-Verify/Trace Data		44	05AUG99	06OCT99



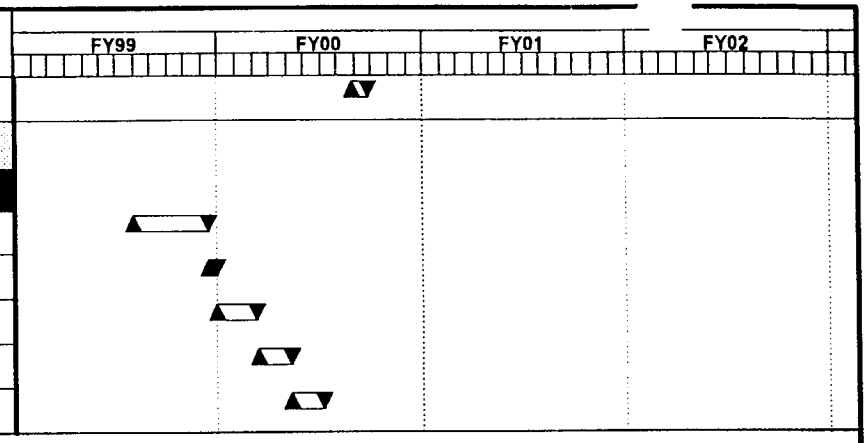
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA4022	Seismic Rockfall-Place Under SMS Control as Nece		10	12AUG99	25AUG99
SLPA4024	Seismic Rockfall-Verify Data-Related Software		10	26AUG99	09SEP99
SLPA4026	Seismic Rockfall-Qualified/Verified SW Available		0		20SEP99
SLPA3992	AP3.10Q Final - RIP Source / Seismic Rockfall		28	01OCT99	10NOV99
SLPA4028	Seismic Rockfall-Update TDMS		5	07OCT99	14OCT99
SLPA4030	Seismic Rockfall-Qualified/Verified Data Availab		0		14OCT99
SLPA3994	AP3.10Q Final - RIP Source / Seismic Rockfall	M4	0		10NOV99
Z1160					
130 Performance Assessment Operations					
SLPA4032	AP3.10Q Data - Consequence Analysis Results		23	01JUN99*	01JUL99
SLPA4042	Cons Analy-Input Parameters and Data Identified		0		01JUL99
SLPA4044	Cons Analy-Models and Codes Identified		0		01JUL99
SLPA4034	AP3.10Q Draft - Consequence Analysis Results		19	02JUL99	29JUL99
SLPA4046	Cons Analy-Determine DTN Assignment		2	02JUL99	06JUL99
SLPA4048	Cons Analy-Determine if Model-Rel SW is Under SM		5	02JUL99	09JUL99
SLPA4050	Cons Analy-Determine if Data/DTN in TDMS		3	07JUL99	09JUL99
SLPA4052	Cons Analy-Place Model-Related SW Under SMS Cont		10	12JUL99	23JUL99
SLPA4054	Cons Analy-Submit Data/DTN to TDMS as Necessary		22	12JUL99	10AUG99
SLPA4056	Cons Analy-Verify Model-Related Software		44	26JUL99	24SEP99
SLPA4036	AP3.10Q Check - Consequence Analysis Results		43	30JUL99	29SEP99
SLPA4058	Cons Analy-Procurement Related Issues ID'd to Ca		0		10AUG99
SLPA4060	Cons Analy-Data Related Software Issues Identifi		0		10AUG99
SLPA4062	Cons Analy-Determine if Data Rel SW is Under SMS		5	11AUG99	17AUG99
SLPA4064	Cons Analy-Rxesolve Procurement Related Data Iss		10	11AUG99	24AUG99
SLPA4066	Cons Analy-Verify/Trace Data		44	11AUG99	13OCT99
SLPA4068	Cons Analy-Place Under SMS Control as Necessary		10	18AUG99	31AUG99
SLPA4070	Cons Analy-Verify Data-Related Software		10	01SEP99	15SEP99
SLPA4072	Cons Analy-Qualified/Verified SW Available		0		24SEP99
SLPA4038	AP3.10Q Final - Consequence Analysis Results		34	30SEP99	18NOV99
SLPA4074	Cons Analy-Update TDMS		5	14OCT99	20OCT99
SLPA4076	Cons Analy-Qualified/Verified Data Available		0		20OCT99



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA4040	AP3.10Q Final - Consequence Analysis Results	M4	0		18NOV99
Z9999 PMR Rev 02 thru Rev 05					
130 Performance Assessment Operations					
SLPA4078	Prepare Report for Tectonics PMR		104	05MAY99*	30SEP99
SLPA4080	Continue Prep. Report for Tectonics PMR		47	01OCT99*	10DEC99
SLPA4082	Tectonics PMR Text Process		27	01NOV99*	10DEC99
SLPA4084	Tectonics PMR Check Draft		0		10DEC99
SLPA4086	Tectonics Check Review		28	13DEC99	21JAN00
SLPA4088	Resolve Check Comments & Finalize Rev 00A		24	24JAN00	25FEB00
SLPA4090	Tectonics PMR Rev 00A		0		25FEB00
SLPA4092	Tectonics M&O Review		20	28FEB00	24MAR00
SLPA4094	Resolve M&O Review Comments & Finalize		25	27MAR00	28APR00
300 Regulatory & Licensing					
SLT00A	Revise Tec PMR AP 3.10Q's for SR		41	27MAR00	22MAY00
SLT00B	Prepare Tec PMR REV-02A for SR		41	27MAR00	22MAY00
SLA9100M3	Tectonics PMR Rev 00	M3	0		28APR00
SLA9010M3	Rev 01 Tectonics PMR	M3	0		26JUN00
SLT00BM4	Tec PMR Rev-02A for SR	M4	0		01AUG00*
SLT00C	M&O Review Tec PMR Rev-02A for SR		83	02AUG00	01DEC00
SLT00CM3	Tec PMR Rev-02 for SR	M3	0		01DEC00
SLT00D	DOE Review Tec PMR 02 for SR		41	04DEC00	31JAN01
SLT00P	Revise Tec PMR AP 3.10Q's for LA		41	04DEC00	31JAN01
SLT00Q	Prepare Tec PMR REV-04A for LA		41	04DEC00	31JAN01
SLT00EM3	Rev 03 Tec PMR for SR	M3	0		31JAN01
SLT00QM4	Tec PMR Rev-04A for LA	M4	0		01MAR01*
SLT00R	M&O Review Tec PMR Rev-04A for LA		106	02MAR01	31JUL01
SLT00RM3	Tec PMR Rev-04 for LA	M3	0		31JUL01
SLT00S	DOE Review Tec PMR 04 for LA		42	01AUG01	28SEP01
SLT00SM3	Rev 05 Tec PMR for LA	M3	0		28SEP01
SLA9120	DOE Tectonics PMR Review		20	01MAY00	26MAY00



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLA9130	Resolve DOE Review Comments & Finalize		20	30MAY00	26JUN00
150 Support Operations					
BMP220	PIM 3.10Q/PMR Planning & Text Support (TECH)		93	03MAY99*	13SEP99
BMP222	Cont PIM 3.10Q/PMR Planning & Text Support(TECH)		37	14SEP99	30SEP99
BMP224	PIM Text & M&O Review Prep Support (TECH)		47	01OCT99	10DEC99
BMP226	PIM M&O Rev. & DOE Rev.Prep Support (TECH)		41	13DEC99	09FEB00
BMP228	PIM DOE Rev. & Final Accept. Support (TECH)		37	10FEB00	03APR00



P TSPA SR AP3.10Qs

8.4.1 Nominal Case Analysis

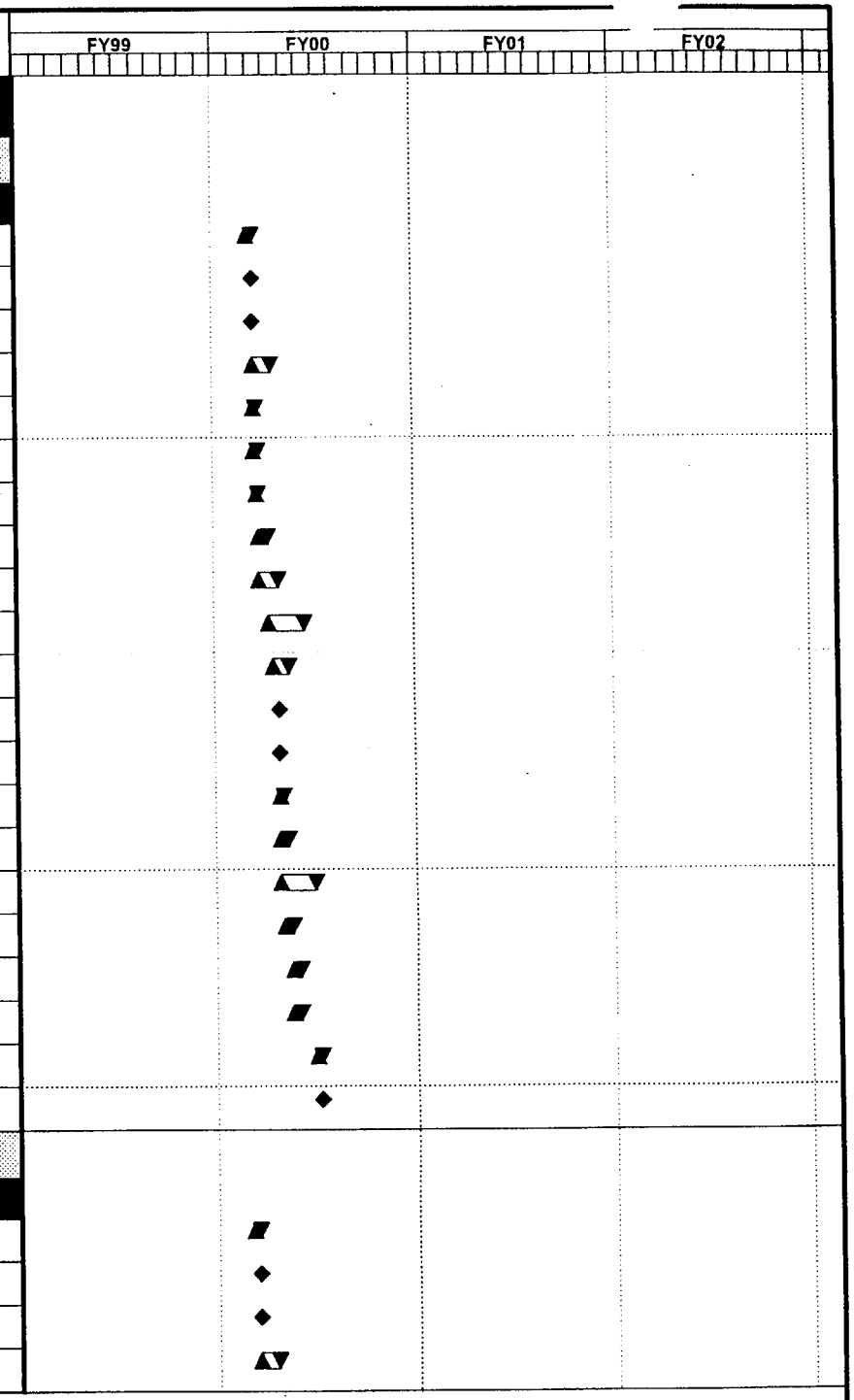
130 Performance Assessment Operations

Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA4096	AP3.10Q Data - Nominal Case Analysis		10	01DEC99	14DEC99
SLPA4104	Nominal Case-Input Parameters and Data Identifie		0		14DEC99
SLPA4106	Nominal Case-Models and Codes Identified		0		14DEC99
SLPA4098	AP3.10Q Draft - Nominal Case Analysis		20	15DEC99	13JAN00
SLPA4108	Nominal Case-Determine DTN Assignment		2	15DEC99	16DEC99
SLPA4110	Nominal Case-Determine if Model-Rel SW is Under		5	15DEC99	21DEC99
SLPA4112	Nominal Case-Determine if Data/DTN in TDMS		3	17DEC99	21DEC99
SLPA4114	Nominal Case-Place Model-Related SW Under SMS Co		10	22DEC99	06JAN00
SLPA4116	Nominal Case-Submit Data/DTN to TDMS as Necessar		22	22DEC99	24JAN00
SLPA4118	Nominal Case-Verify Model-Related Software		44	07JAN00	09MAR00
SLPA4100	AP3.10Q Check - Nominal Case Analysis		21	14JAN00	11FEB00
SLPA4120	Nominal Case-Data Related Software Issues Identi		0		24JAN00
SLPA4122	Nominal Case-Procurement Related Issues ID'd to		0		24JAN00
SLPA4124	Nominal Case-Determine if Data Rel SW is Under S		5	25JAN00	31JAN00
SLPA4126	Nominal Case-Rxesolve Procurement Related Data I		10	25JAN00	07FEB00
SLPA4128	Nominal Case-Verify/Trace Data		44	25JAN00	27MAR00
SLPA4130	Nominal Case-Place Under SMS Control as Necessar		10	01FEB00	14FEB00
SLPA4102	AP3.10Q Final - Nominal Case Analysis		11	14FEB00	29FEB00
SLPA4132	Nominal Case-Verify Data-Related Software		10	15FEB00	29FEB00
SLPA4134	Nominal Case-Update TDMS		5	28MAR00	03APR00
SLPA4136	Nominal Case-Qualified/Verified Data Available		0		03APR00

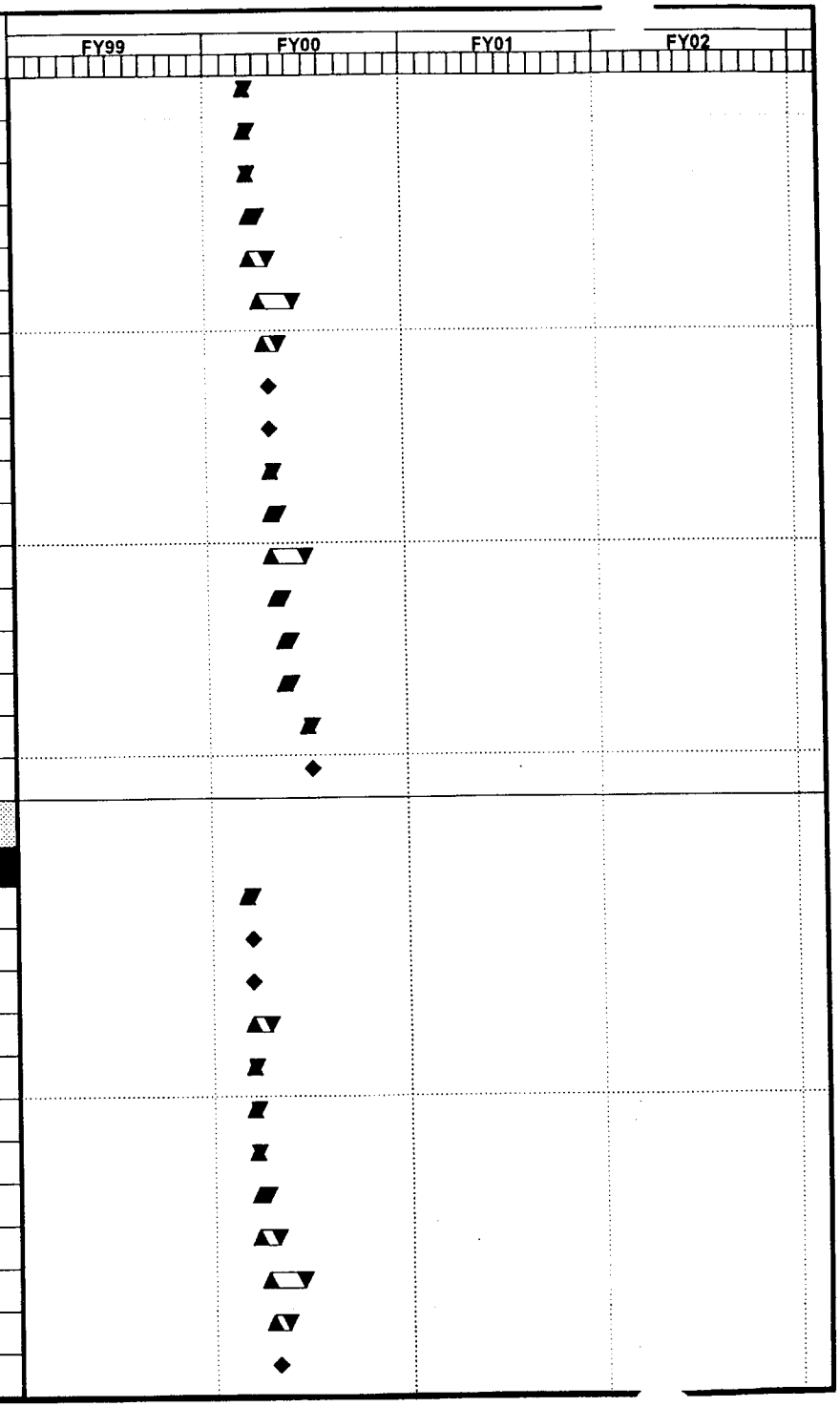
8.4.2 Disruptive Events Analysis

130 Performance Assessment Operations

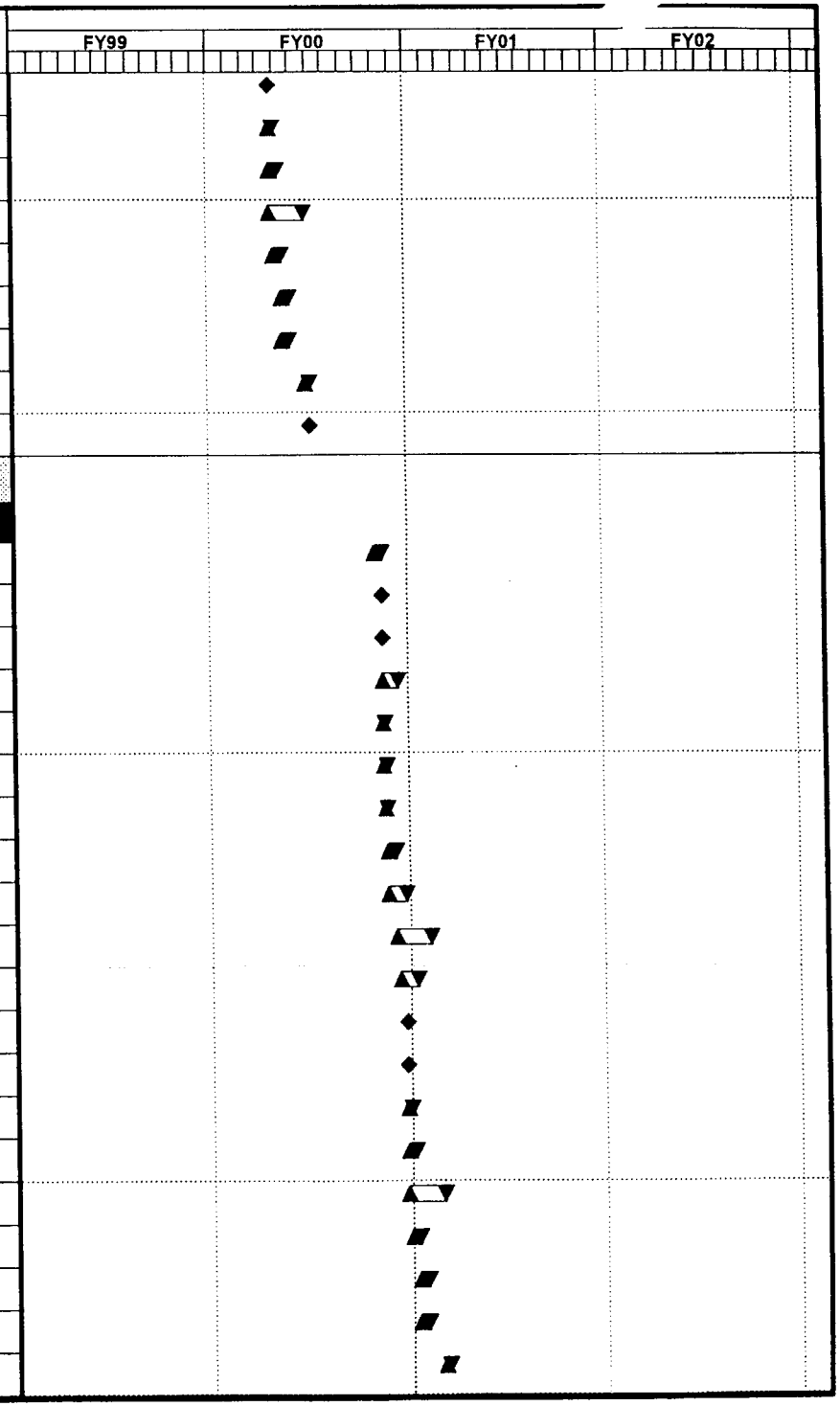
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA4138	AP3.10Q Data - Disruptive Events Analysis		10	01DEC99	14DEC99
SLPA4146	Disrup Events Analy-Input Parameters and Data Id		0		14DEC99
SLPA4148	Disrup Events Analy-Models and Codes Identified		0		14DEC99
SLPA4140	AP3.10Q Draft - Disruptive Events Analysis		20	15DEC99	13JAN00



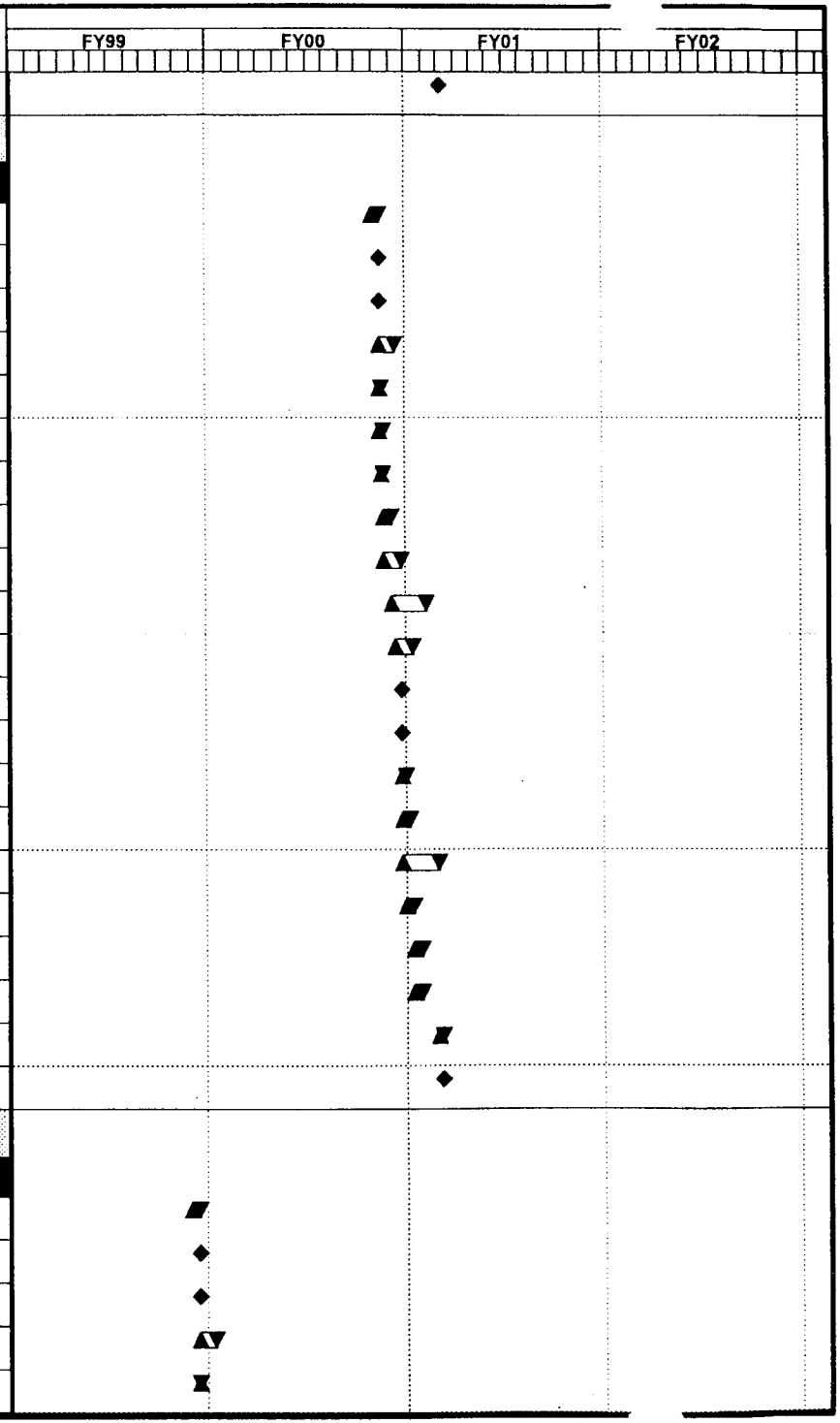
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA4150	Disrup Events Analy-Determine DTN Assignment		2	15DEC99	16DEC99
SLPA4152	Disrup Events Analy-Determine if Model-Rel SW is		5	15DEC99	21DEC99
SLPA4154	Disrup Events Analy-Determine if Data/DTN in TDM		3	17DEC99	21DEC99
SLPA4156	Disrup Events Analy-Place Model-Related SW Under		10	22DEC99	06JAN00
SLPA4158	Disrup Events Analy-Submit Data/DTN to TDMS as N		22	22DEC99	24JAN00
SLPA4160	Disrup Events Analy-Verify Model-Related Softwar		44	07JAN00	09MAR00
SLPA4142	AP3.10Q Check - Disruptive Events Analysis		21	14JAN00	11FEB00
SLPA4162	Disrup Events Analy-Data Related Software Issues		0		24JAN00
SLPA4164	Disrup Events Analy-Procurement Related Issues I		0		24JAN00
SLPA4166	Disrup Events Analy-Determine if Data Rel SW is		5	25JAN00	31JAN00
SLPA4168	Disrup Events Analy-Rxesolve Procurement Related		10	25JAN00	07FEB00
SLPA4170	Disrup Events Analy-Verify/Trace Data		44	25JAN00	27MAR00
SLPA4172	Disrup Events Analy-Place Under SMS Control as N		10	01FEB00	14FEB00
SLPA4144	AP3.10Q Final - Disruptive Events Analysis		11	14FEB00	29FEB00
SLPA4174	Disrup Events Analy-Verify Data-Related Software		10	15FEB00	29FEB00
SLPA4176	Disrup Events Analy-Update TDMS		5	28MAR00	03APR00
SLPA4178	Disrup Events Analy-Qualified/Verified Data Avai		0		03APR00
8.5 Human Intrusion Analysis					
130 Performance Assessment Operations					
SLPA4180	AP3.10Q Data - Human Intrusion Analysis		10	01DEC99	14DEC99
SLPA4188	Human Intrusion-Input Parameters and Data Identi		0		14DEC99
SLPA4190	Human Intrusion-Models and Codes Identified		0		14DEC99
SLPA4182	AP3.10Q Draft - Human Intrusion Analysis		20	15DEC99	13JAN00
SLPA4192	Human Intrusion-Determine DTN Assignment		2	15DEC99	16DEC99
SLPA4194	Human Intrusion-Determine if Model-Rel SW is Und		5	15DEC99	21DEC99
SLPA4196	Human Intrusion-Determine if Data/DTN in TDMS		3	17DEC99	21DEC99
SLPA4198	Human Intrusion-Place Model-Related SW Under SMS		10	22DEC99	06JAN00
SLPA4200	Human Intrusion-Submit Data/DTN to TDMS as Neces		22	22DEC99	24JAN00
SLPA4202	Human Intrusion-Verify Model-Related Software		44	07JAN00	09MAR00
SLPA4184	AP3.10Q Check - Human Intrusion Analysis		21	14JAN00	11FEB00
SLPA4204	Human Intrusion-Data Related Software Issues Ide		0		24JAN00



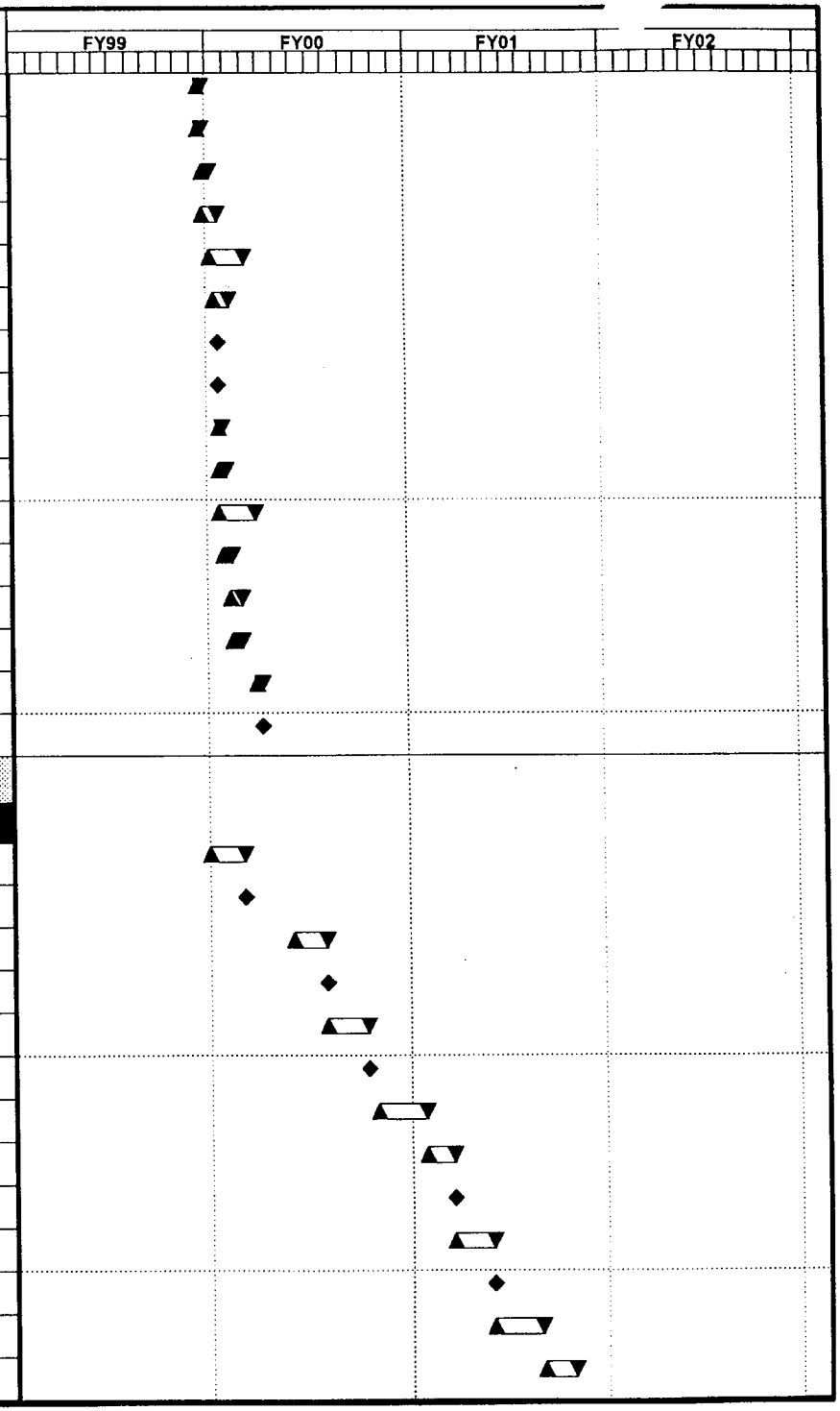
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA4206	Human Intrusion-Procurement Related Issues ID'd		0		24JAN00
SLPA4208	Human Intrusion-Determine if Data Rel SW is Unde		5	25JAN00	31JAN00
SLPA4210	Human Intrusion-Rxesolve Procurement Related Dat		10	25JAN00	07FEB00
SLPA4212	Human Intrusion-Verify/Trace Data		44	25JAN00	27MAR00
SLPA4214	Human Intrusion-Place Under SMS Control as Neces		10	01FEB00	14FEB00
SLPA4186	AP3.10Q Final - Human Intrusion Analysis		11	14FEB00	29FEB00
SLPA4216	Human Intrusion-Verify Data-Related Software		10	15FEB00	29FEB00
SLPA4218	Human Intrusion-Update TDMS		5	28MAR00	03APR00
SLPA4220	Human Intrusion-Qualified/Verified Data Availabl		0		03APR00
8.6 Multiple Barrier Analysis					
130 Performance Assessment Operations					
SLPA4222	AP3.10Q Data - Multiple Barrier Analysis		10	02AUG00	15AUG00
SLPA4230	Multiple Barrier-Input Parameters and Data Ident		0		15AUG00
SLPA4232	Multiple Barrier-Models and Codes Identified		0		15AUG00
SLPA4224	AP3.10Q Draft - Multiple Barrier Analysis		20	16AUG00	13SEP00
SLPA4234	Multiple Barrier-Determine DTN Assignment		2	16AUG00	17AUG00
SLPA4236	Multiple Barrier-Determine if Model-Rel SW is Un		5	16AUG00	22AUG00
SLPA4238	Multiple Barrier-Determine if Data/DTN in TDMS		3	18AUG00	22AUG00
SLPA4240	Multiple Barrier-Place Model-Related SW Under SM		10	23AUG00	06SEP00
SLPA4242	Multiple Barrier-Submit Data/DTN to TDMS as Nece		22	23AUG00	22SEP00
SLPA4244	Multiple Barrier-Verify Model-Related Software		44	07SEP00	08NOV00
SLPA4226	AP3.10Q Check - Multiple Barrier Analysis		21	14SEP00	13OCT00
SLPA4246	Multiple Barrier-Data Related Software Issues Id		0		22SEP00
SLPA4248	Multiple Barrier-Procurement Related Issues ID'd		0		22SEP00
SLPA4250	Multiple Barrier-Determine if Data Rel SW is Und		5	25SEP00	29SEP00
SLPA4252	Multiple Barrier-Rxesolve Procurement Related Da		10	25SEP00	06OCT00
SLPA4254	Multiple Barrier-Verify/Trace Data		44	25SEP00	29NOV00
SLPA4256	Multiple Barrier-Place Under SMS Control as Nece		10	02OCT00	16OCT00
SLPA4228	AP3.10Q Final - Multiple Barrier Analysis		11	16OCT00	30OCT00
SLPA4258	Multiple Barrier-Verify Data-Related Software		10	17OCT00	30OCT00
SLPA4260	Multiple Barrier-Update TDMS		5	30NOV00	06DEC00



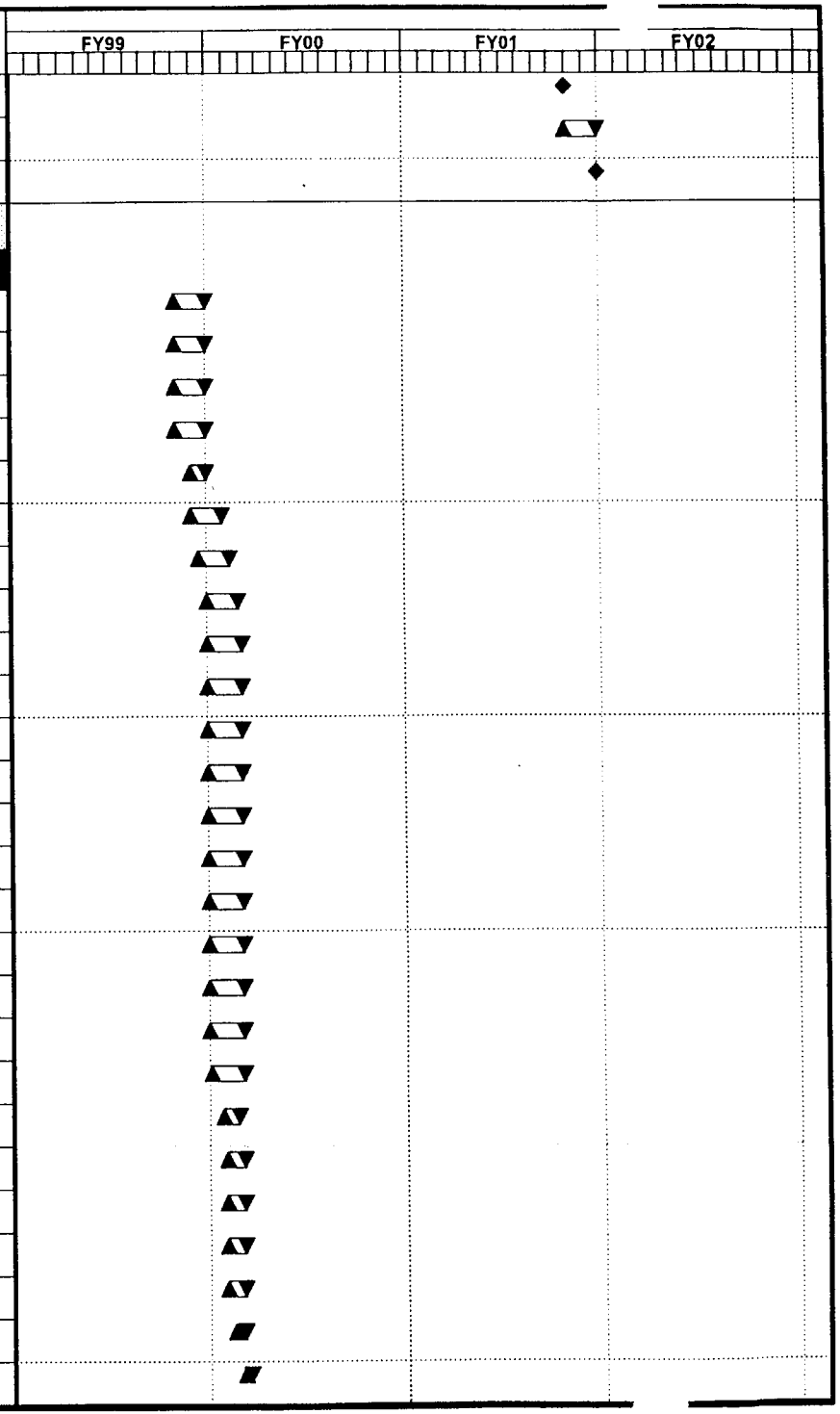
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA4262	Multiple Barrier-Qualified/Verified Data Availab		0		06DEC00
8.7 Alternative Design Analysis					
130 Performance Assessment Operations					
SLPA4264	AP3.10Q Data - Alternative Design Analysis		10	02AUG00	15AUG00
SLPA4272	Altern Design-Input Parameters and Data Identifi		0		15AUG00
SLPA4274	Altern Design-Models and Codes Identified		0		15AUG00
SLPA4266	AP3.10Q Draft - Alternative Design Analysis		20	16AUG00	13SEP00
SLPA4276	Altern Design-Determine DTN Assignment		2	16AUG00	17AUG00
SLPA4278	Altern Design-Determine if Model-Rel SW is Under		5	16AUG00	22AUG00
SLPA4280	Altern Design-Determine if Data/DTN in TDMS		3	18AUG00	22AUG00
SLPA4282	Altern Design-Place Model-Related SW Under SMS C		10	23AUG00	06SEP00
SLPA4284	Altern Design-Submit Data/DTN to TDMS as Necessa		22	23AUG00	22SEP00
SLPA4286	Altern Design-Verify Model-Related Software		44	07SEP00	08NOV00
SLPA4268	AP3.10Q Check- Alternative Design Analysis		21	14SEP00	13OCT00
SLPA4288	Altern Design-Data Related Software Issues Ident		0		22SEP00
SLPA4290	Altern Design-Procurement Related Issues ID'd to		0		22SEP00
SLPA4292	Altern Design-Determine if Data Rel SW is Under		5	25SEP00	29SEP00
SLPA4294	Altern Design-Rxesolve Procurement Related Data		10	25SEP00	06OCT00
SLPA4296	Altern Design-Verify/Trace Data		44	25SEP00	29NOV00
SLPA4298	Altern Design-Place Under SMS Control as Necessa		10	02OCT00	16OCT00
SLPA4270	AP3.10Q Final - Alternative Design Analysis		11	16OCT00	30OCT00
SLPA4300	Altern Design-Verify Data-Related Software		10	17OCT00	30OCT00
SLPA4302	Altern Design-Update TDMS		5	30NOV00	06DEC00
SLPA4304	Altern Design-Qualified/Verified Data Available		0		06DEC00
ASTROID Astroid 3.10					
130 Performance Assessment Operations					
SLPA4306	AP3.10Q Data - FEPs Analysis		10	30AUG99*	13SEP99
SLPA4314	Astroid Analysis-Input Parameters and Data Ident		0		13SEP99
SLPA4316	Astroid Analysis-Models and Codes Identified		0		13SEP99
SLPA4308	AP3.10Q Draft - FEPs Analysis		20	14SEP99	12OCT99
SLPA4318	Astroid Analysis-Determine DTN Assignment		2	14SEP99	15SEP99



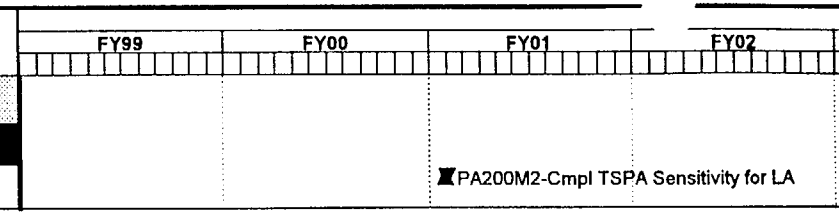
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLPA4320	Astroid Analysis-Determine if Model-Rel SW is Un		5	14SEP99	20SEP99
SLPA4322	Astroid Analysis-Determine if Data/DTN in TDMS		3	16SEP99	20SEP99
SLPA4324	Astroid Analysis-Place Model-Related SW Under SM		10	21SEP99	04OCT99
SLPA4326	Astroid Analysis-Submit Data/DTN to TDMS as Nece		22	21SEP99	21OCT99
SLPA4328	Astroid Analysis-Verify Model-Related Software		44	05OCT99	09DEC99
SLPA4310	AP3.10Q Check - FEPs Analysis		21	13OCT99	10NOV99
SLPA4330	Astroid Analysis-Data Related Software Issues Id		0		21OCT99
SLPA4332	Astroid Analysis-Procurement Related Issues ID'd		0		21OCT99
SLPA4334	Astroid Analysis-Determine if Data Rel SW is Und		5	22OCT99	28OCT99
SLPA4336	Astroid Analysis-Rxesolve Procurement Related Da		10	22OCT99	04NOV99
SLPA4338	Astroid Analysis-Verify/Trace Data		44	22OCT99	28DEC99
SLPA4340	Astroid Analysis-Place Under SMS Control as Nece		10	29OCT99	12NOV99
SLPA4312	AP3.10Q Final - FEPs Analysis		11	12NOV99	30NOV99
SLPA4342	Astroid Analysis-Verify Data-Related Software		10	15NOV99	30NOV99
SLPA4344	Astroid Analysis-Update TDMS		5	29DEC99	05JAN00
SLPA4346	Astroid Analysis-Qualified/Verified Data Availab		0		05JAN00
BASE Baseline Activities					
130 Performance Assessment Operations					
SL90958	Incorporate Abstraction (Baseline)		39	01OCT99*	30NOV99
SL90960M4	Receive input for TSPA Run Rev 00	M4	0		30NOV99*
SL90962	Interpret / Document		43	01MAR00	28APR00
SL921M4	TSPA Input to Site Suitibility -Rev 00	M4	0		28APR00*
SL91000	M&O Review		53	01MAY00	14JUL00
SL921M3	TSPA-SR - Rev 00	M3	0		14JUL00*
SL91962	Run TSPA-SR Probabilistic Analyses Rev 01		62	02AUG00*	30OCT00
SL91964	Interpret / Document		32	31OCT00	18DEC00
SL924M4	TSPA Input to SR - Rev 01	M4	0		18DEC00
SL91972	M&O Review		50	19DEC00	01MAR01
SL924M3	TSPA-SR Final - Rev 01	M3	0		01MAR01
SL91080	Run Baseline TSPA - Rev 02		65	02MAR01*	01JUN01
SL91120	Document and Interpert Rev 02		42	04JUN01*	01AUG01



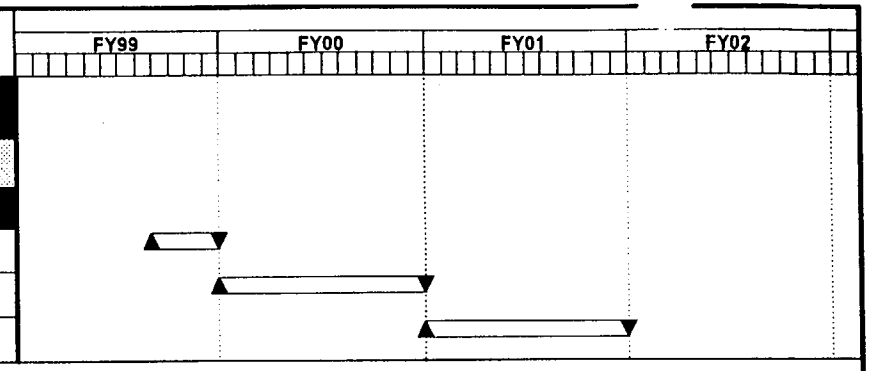
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SL980M4	TSPA Input to LA Rev 02	M4	0		01AUG01
SL91125	Review and Revise Rev 02		42	02AUG01	01OCT01
SL980M3	TSPA - LA Final	M3	0		01OCT01*
RIP Run RIP					
130 Performance Assessment Operations					
SLPA4348	Basecase Results NFE Input to RIP FY99		42	03AUG99	30SEP99
SLPA4350	Desc. on Basecase NFE Input to RIP FY99		42	03AUG99	30SEP99
SLPA4352	THC Process NFE Input to RIP FY99		42	03AUG99	30SEP99
SLPA4354	THC Abstraction NFE Input to RIP FY99		42	03AUG99	30SEP99
SLPA4356	Disruptive Events (Bio) Input to RIP FY99		22	31AUG99	30SEP99
SLPA4358	Other WP Abs (WF) Input to Rip		39	31AUG99	26OCT99
SLPA4360	Coupled Process Seepage Abs (UZ) Input to Rip		39	16SEP99	10NOV99
SLPA4362	Coupled Process Abs (UZ) Input to Rip		39	28SEP99	23NOV99
SLPA4364	Disruptive Events (Bio) Input to RIP FY00		39	01OCT99	30NOV99
SLPA4366	Particle Tracking Model (UZ) Input to Rip		39	01OCT99	30NOV99
SLPA4368	Colloid Source Term Abs (WF) Input to Rip		39	01OCT99	30NOV99
SLPA4370	WP Transport Abs (WF) Input to Rip		39	01OCT99	30NOV99
SLPA4372	Infilltration Uncert Analysis (UZ) Input to Rip		39	01OCT99	30NOV99
SLPA4374	Flow Field Abs (UZ) Input to Rip		39	01OCT99	30NOV99
SLPA4376	Basecase Results NFE Input to RIP FY00		39	01OCT99	30NOV99
SLPA4378	Desc. on Basecase NFE Input to RIP FY00		39	01OCT99	30NOV99
SLPA4380	THC Process NFE Input to RIP FY00		39	01OCT99	30NOV99
SLPA4382	THC Abstraction NFE Input to RIP FY00		39	01OCT99	30NOV99
SLPA4384	Base Case (SZ) Input to RIP		38	04OCT99	30NOV99
SLPA4386	Disruptive Events Abs (Tectonics) Input to RIP		19	26OCT99	22NOV99
SLPA4388	Water Usage (Bio) Input to RIP		19	01NOV99	30NOV99
SLPA4390	Water Dist/Rem Abs (EBS) Input to RIP		18	02NOV99	30NOV99
SLPA4392	Rad. Trans. Abs (EBS) Input to RIP		18	02NOV99	30NOV99
SLPA4394	Degr Model/FEPs Abs (EBS) Input to RIP		18	02NOV99	30NOV99
SLPA4396	Radionuclide / Soil (Bio) Input to RIP		9	16NOV99	30NOV99
SLPA4398	WAPDEG Analysis (WP) Input to RIP		9	01DEC99	13DEC99



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
M2NW	TSPA-SR Rev.01	M2	1	31OCT00	31OCT00



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
A PMR Management & Intergration					
300 Regulatory & Licensing					
SLPMR01	PMR Management & Integration (FY99)		86	01JUN99*	30SEP99
SLPMR02	PMR Management & Integration (FY00)		251	01OCT99	29SEP00
SLPMR03	PMR Management & Integration (FY01)		250	02OCT00	28SEP01

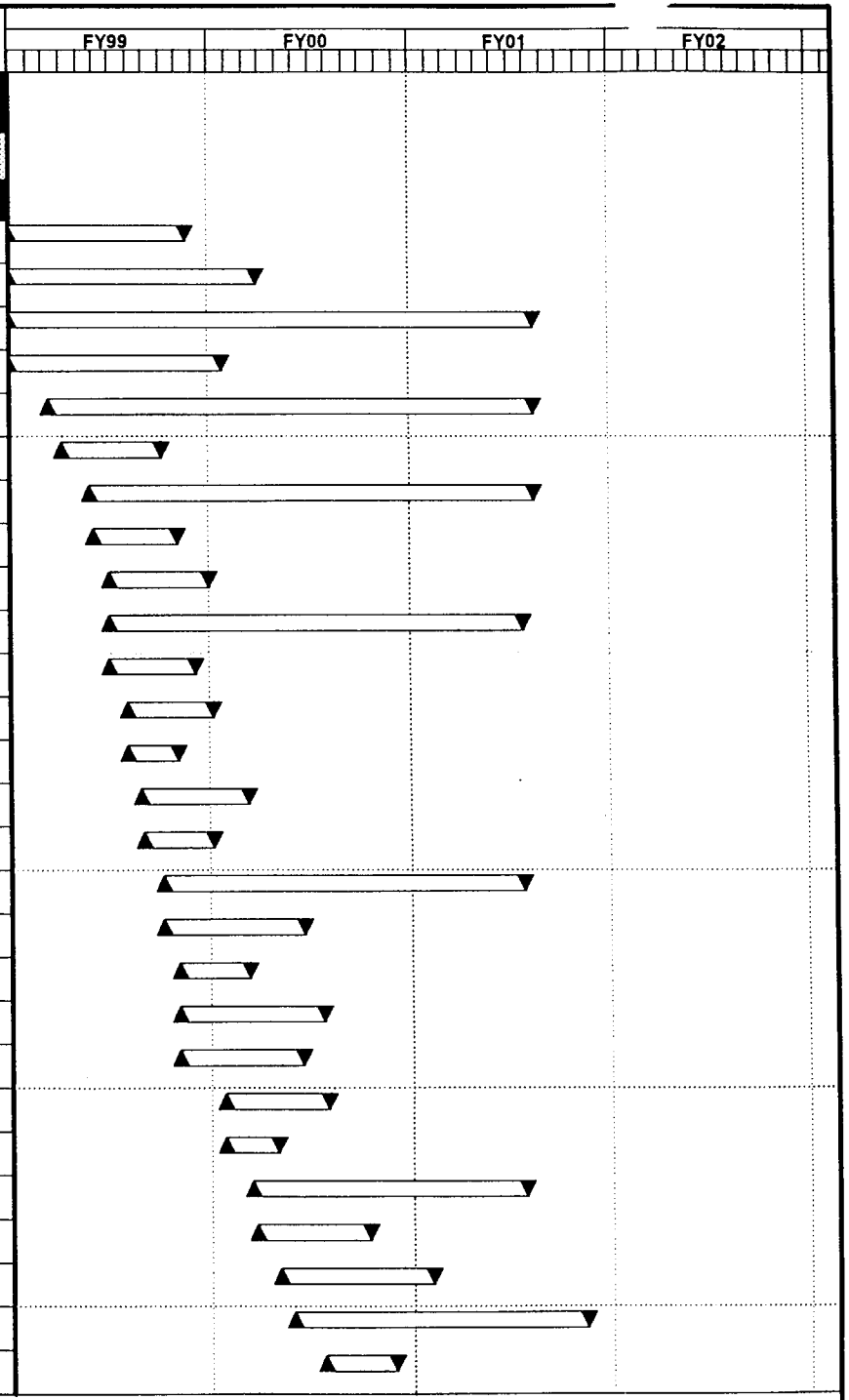


M Systems Eng SDD's

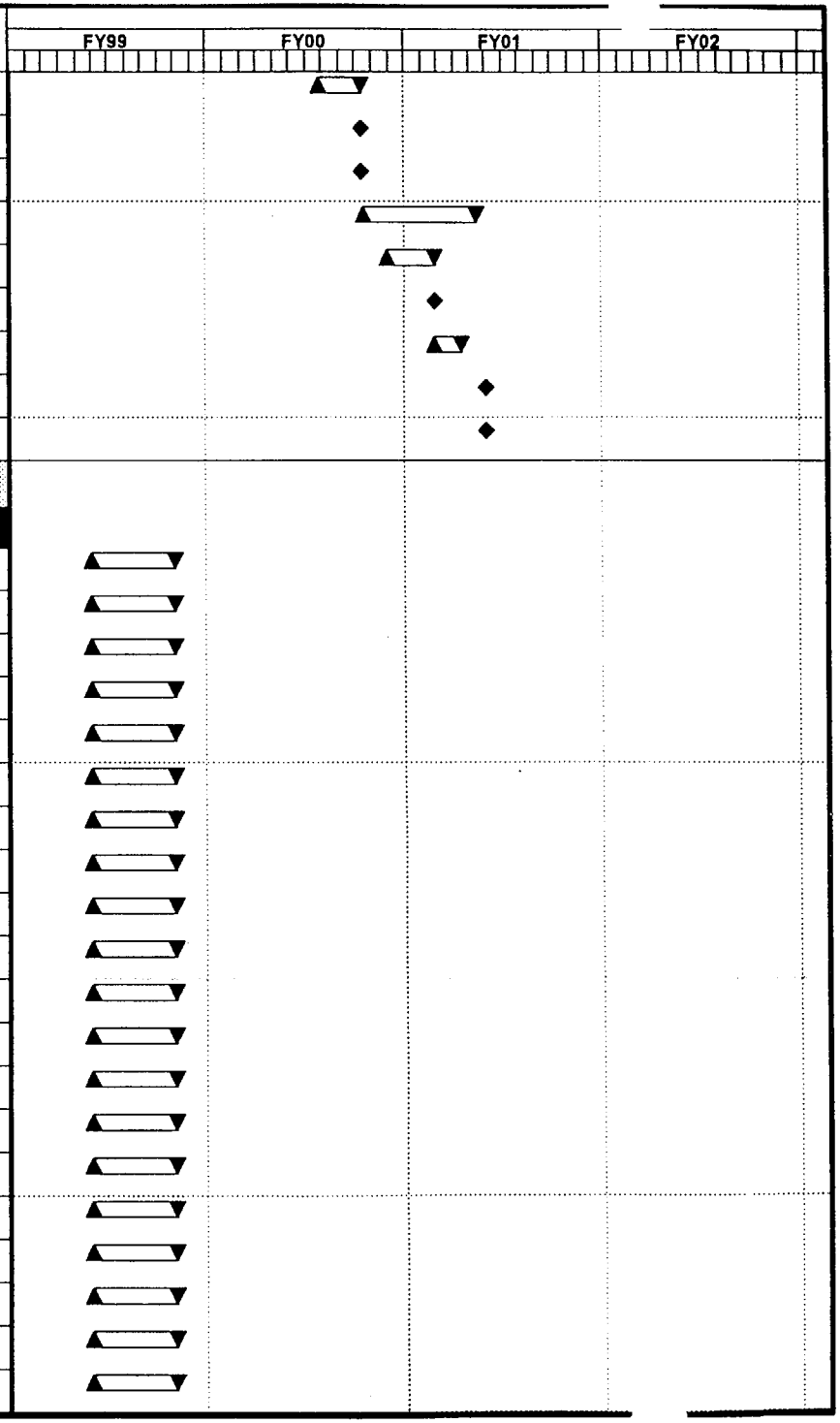
SA Summary Activities for SE

160 Systems Engineering & Integration Office - LV

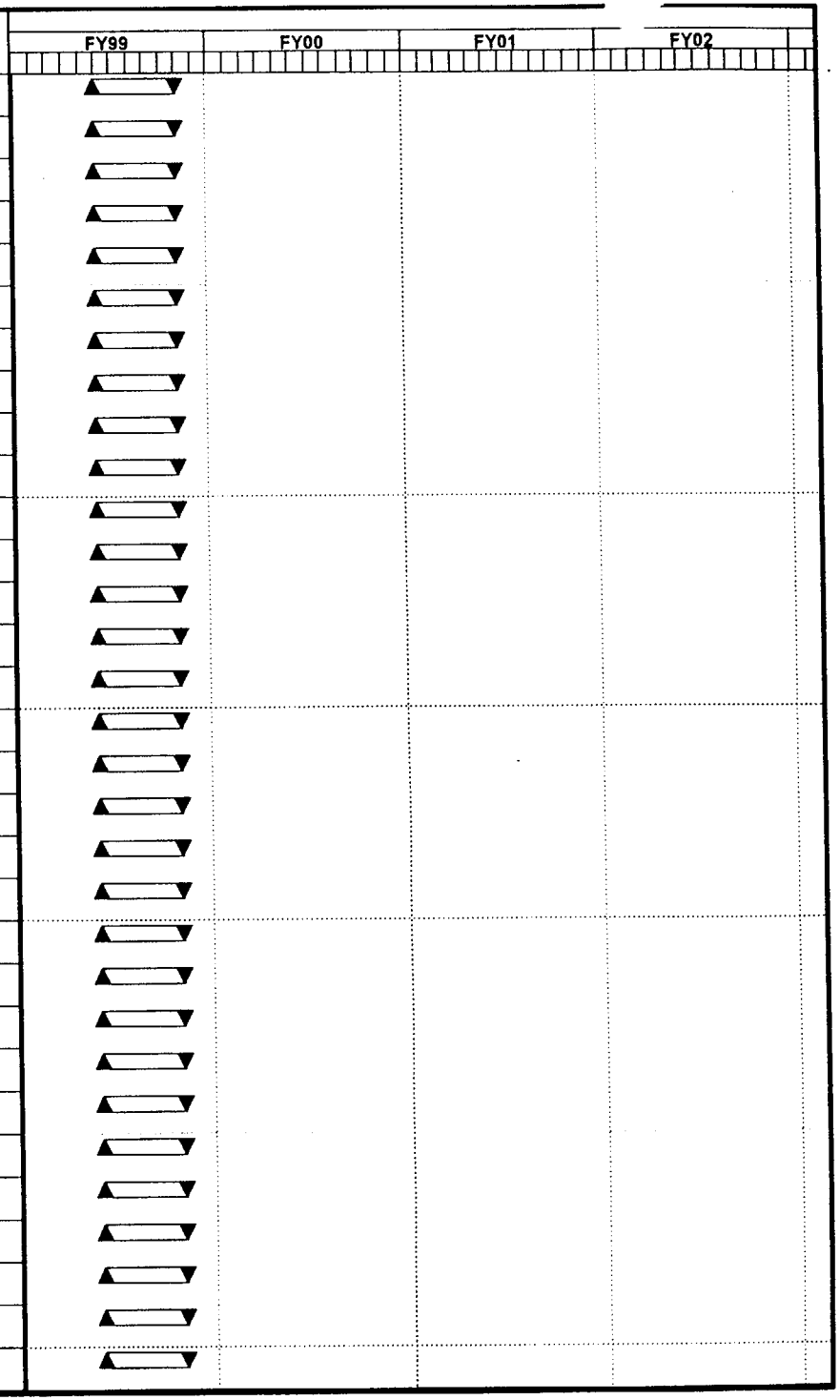
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SE1040	SDD Section 1 w/o (EDA II/CFR63)		217	01OCT98	19AUG99
SE1515	Compliance Packages		304	01OCT98	28DEC99
SE1699	TBX Resolution (ongoing)		652	01OCT98	15MAY01
SE1820	Conformance Verification Matrices (CVM)		261	01OCT98	22OCT99
SE1600	Maintenance of Issued Section I SDD's (Ongoing)		607	09DEC98	15MAY01
SE1800	Interface Requirements Analyses (IRA)		129	04JAN99*	06JUL99
SE1695	Maintenance of Compliance Packages (ongoing)		562	22FEB99	15MAY01
SE1050	Classification Analysis (Sec I and DBE)		110	01MAR99	03AUG99
SE1060	3.10Q Analysis to support SDD Section II		60	01APR99*	27SEP99
SE1698	Maintenance of ICD and Waste Accep Doc's (ongoin		522	01APR99	27APR01
SE1810	Program ICD's		109	01APR99*	02SEP99
SE1080	QAP3-12 Design inputs to Support DBE Analysis		109	03MAY99*	05OCT99
SE1520	CRD		65	03MAY99*	03AUG99
SE1000	SDD Sec 1 Revision (EDA II/CFR63) Key Systems		133	28MAY99	09DEC99
SE1525	MGR-RD		88	01JUN99*	04OCT99
SE1697	Maintenance of Classification Analysis (ongoing)		455	07JUL99	27APR01
SE1805	Interface Requirements Analyses (IRA) for SR/LA		175	07JUL99	17MAR00
SE1530	PDD/ 10CFR63		87	02AUG99*	07DEC99
SE1020	3.10Q System Analysis feed to SR		180	04AUG99	21APR00
SE1030	DBE Analysis Report (3.10Q) from 3.12 input		152	04AUG99	14MAR00
SE1822	CVM Package Development		130	25OCT99	01MAY00
SE1824	Test and Evaluation Draft Update		65	25OCT99	28JAN00
SE1690	Maintenance of Issued DBE's (ongoing)		345	15DEC99	27APR01
SE1010	SDD Sec II (Key Systems)		143	22DEC99*	14JUL00
SE1826	Test and Evaluation Update		196	31JAN00	06NOV00
SE1610	Maintenance of Issued Section II SDD's (ongoing)		370	28FEB00	14AUG01
SE1650	3.10Q Analysis to support SDD Section II		1	24APR00	29AUG00



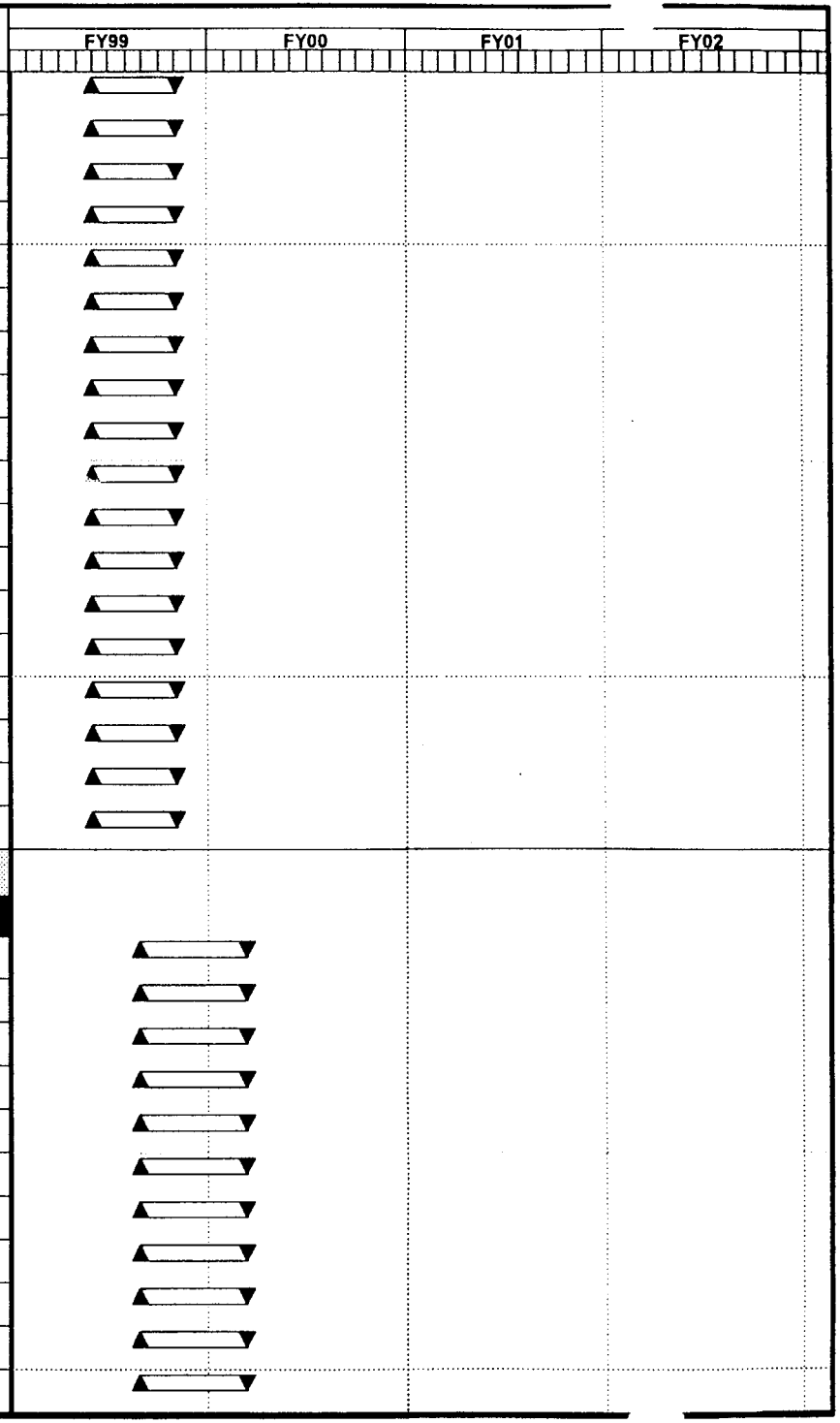
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SE1500	Complete all Checking and Review		55	27APR00*	14JUL00
SE1070M4	All Analysis Issued to Support SR Hearings	M4	0		14JUL00
SE1510M4	Consideration Hearing Product issued to DOE	M4	0		14JUL00
SE1815	Final Waste Acceptance Documents		145	17JUL00	13FEB01
SE1630	SDD Sec II for Notification SR		1	30AUG00	28NOV00
SE1660M4	All Analysis Issued to Support Notification SR	M4	0		28NOV00
SE1670	Complete all Checking and Review -Notification S		32	29NOV00	15JAN01
SE1680M4	Notification Hearing product issued to DOE	M4	0		01MAR01*
SE1780M4	SR/LA product Issued to DOE	M4	0		01MAR01
CA Classification Analysis					
160 Systems Engineering & Integration Office - LV					
SE1081	EXTERNAL HAZARDS ANALYSIS		110	01MAR99*	03AUG99
SE1085	INTERNAL HAZARDS ANALYSIS		110	01MAR99*	03AUG99
SE1090	INDUSTRIAL / MILITARY ANALYSIS		110	01MAR99*	03AUG99
SE1095	PRELIM MGR DBE's		110	01MAR99*	03AUG99
SE1100	AIRCRAFT HAZARDS ASSESSMENT		110	01MAR99*	03AUG99
SE1105	RELEASE FRACTION'S FOR COMMERCIAL SNF		110	01MAR99*	03AUG99
SE1107	WIND / TORNADO ANALYSIS		110	01MAR99*	03AUG99
SE1110	PA01 - CA Performance Confirmation Waste Isolati		110	01MAR99*	03AUG99
SE1115	SS01 - CA Subsurface Facility Sys		110	01MAR99*	03AUG99
SE1120	SS02 - CA Ex-Container Sys		110	01MAR99*	03AUG99
SE1125	SS03 - CA Ground Control Sys		110	01MAR99*	03AUG99
SE1130	SS05 - CA Subsurface Ventilation Sys		110	01MAR99*	03AUG99
SE1135	SS06 - CA Subsurface Electrical Distribution Sys		110	01MAR99*	03AUG99
SE1140	SS08 - CA Subsurface Compressed Air Sys		110	01MAR99*	03AUG99
SE1145	SS09 - CA Subsurface Water Distribution Sys		110	01MAR99*	03AUG99
SE1150	SS10 - CA Subsurface Safety and Monitoring Sys		110	01MAR99*	03AUG99
SE1155	SS12 - CA Subsurface Ops Monitoring and Control		110	01MAR99*	03AUG99
SE1160	SS14 - CA Performance Confirmation Emplacement D		110	01MAR99*	03AUG99
SE1165	SS15 - CA Muck Handling Sys		110	01MAR99*	03AUG99
SE1170	SS16 - CA Subsurface Development Transportation		110	01MAR99*	03AUG99



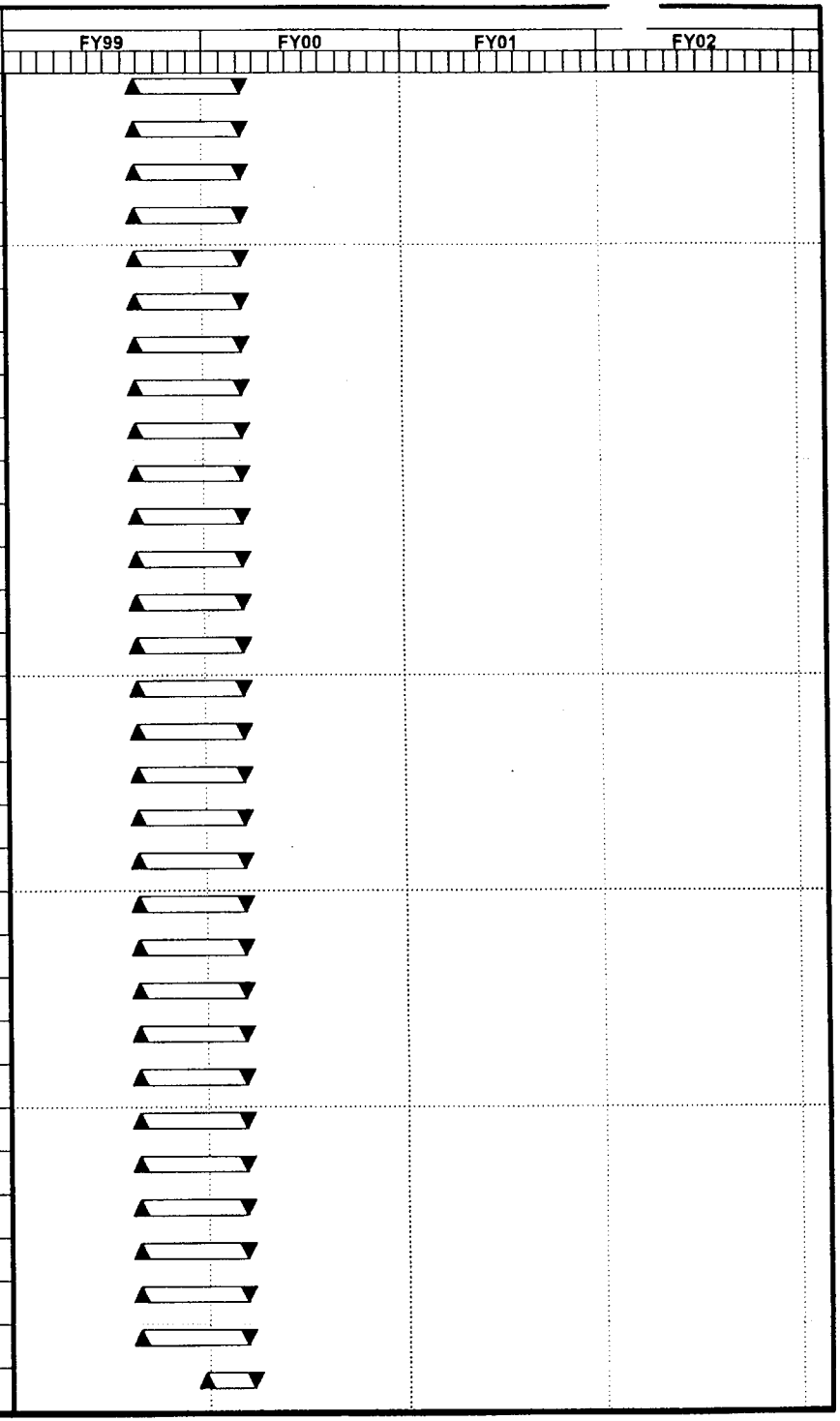
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SE1175	SS17 - CA Waste Emplacement Sys		110	01MAR99*	03AUG99
SE1180	SS18 - CA Backfill Emplacement Sys		110	01MAR99*	03AUG99
SE1185	SS19 - CA Subsurface Closure & Seal Sys		110	01MAR99*	03AUG99
SE1190	SS20 - CA Subsurface Water Collection/Removal Sy		110	01MAR99*	03AUG99
SE1195	SS21 - CA Waste Retrieval Sys		110	01MAR99*	03AUG99
SE1200	SS24 - CA Subsurface Emplacement Transportation		110	01MAR99*	03AUG99
SE1205	SS25 - CA Subsurface Excavation Sys		110	01MAR99*	03AUG99
SE1210	SS26 - CA Subsurface Fire Protection Sys		110	01MAR99*	03AUG99
SE1215	SU01 - CA Monitored Geologic Repository Site Lay		110	01MAR99*	03AUG99
SE1220	SU02 - CA Waste Handling BLDG. Sys		110	01MAR99*	03AUG99
SE1225	SU04 - CA Waste Treatment BLDG. Sys		110	01MAR99*	03AUG99
SE1230	SU05 - CA Carrier Preparation BLDG. Sys		110	01MAR99*	03AUG99
SE1235	SU08 - CA Carrier Preparation BLDG. Materials Ha		110	01MAR99*	03AUG99
SE1240	SU09 - CA Carrier/Cask Handling Sys		110	01MAR99*	03AUG99
SE1245	SU10 - CA Assembly Transfer Sys		110	01MAR99*	03AUG99
SE1250	SU11 - CA Canister Transfer Sys		110	01MAR99*	03AUG99
SE1255	SU12 - CA Waste Package Remediation Sys		110	01MAR99*	03AUG99
SE1260	SU13 - CA Disposal Container Handling Sys		110	01MAR99*	03AUG99
SE1265	SU16 - CA Carrier/Cask Transport Sys		110	01MAR99*	03AUG99
SE1270	SU18 - CA Waste Handling BLDG. Electrical Sys		110	01MAR99*	03AUG99
SE1275	SU22 - CA Waste Handling BLDG. Ventilation Sys		110	01MAR99*	03AUG99
SE1280	SU24 - CA Waste Treatment BLDG. Ventilation Sys		110	01MAR99*	03AUG99
SE1285	SU29 - CA Site Radiological Monitoring Sys		110	01MAR99*	03AUG99
SE1290	SU33 - CA Waste Handling BLDG. Fire Protection S		110	01MAR99*	03AUG99
SE1295	SU37 - CA Site Generated Radiological Waste Hand		110	01MAR99*	03AUG99
SE1300	SU40 - CA Emergency Response Sys		110	01MAR99*	03AUG99
SE1305	SU41 - CA Health Safety Sys		110	01MAR99*	03AUG99
SE1310	SU42 - CA Site Communications Sys		110	01MAR99*	03AUG99
SE1315	SU43 - CA Site Water Sys		110	01MAR99*	03AUG99
SE1320	SU44 - CA Site Electrical Power Sys		110	01MAR99*	03AUG99
SE1325	SU45 - CA Site Compressed Air Sys		110	01MAR99*	03AUG99



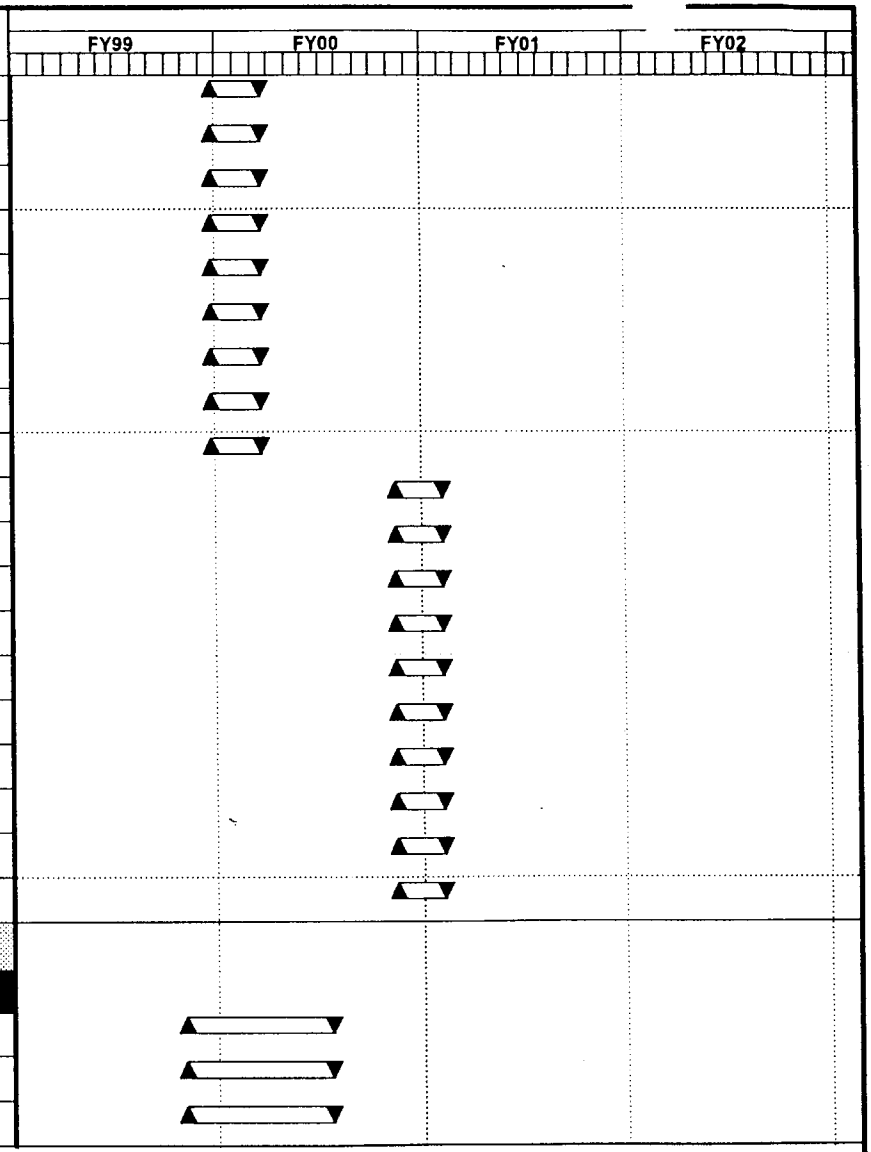
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SE1330	SU47 - CA Site Generated Hazardous, Nonhazardous		110	01MAR99*	03AUG99
SE1335	SU48 - CA Safeguards and Security Sys		110	01MAR99*	03AUG99
SE1340	SU49 - CA Surface Environmental Monitoring Sys		110	01MAR99*	03AUG99
SE1345	SU50 - CA Administration Sys		110	01MAR99*	03AUG99
SE1350	SU51 - CA Maintenance and Supply Sys		110	01MAR99*	03AUG99
SE1355	SU52 - CA Site Operations Sys		110	01MAR99*	03AUG99
SE1360	SU53 - CA Off-Site Utilities Sys		110	01MAR99*	03AUG99
SE1365	SU54 - CA General Site Transportation Sys		110	01MAR99*	03AUG99
SE1370	SU55 - CA Performance Confirmation Data Acquisit		110	01MAR99*	03AUG99
SE1375	SU56 - CA Pool Water Treatment and Cooling Sys		110	01MAR99*	03AUG99
SE1380	SU57 - CA Surface Operations Monitoring and Cont		110	01MAR99*	03AUG99
SE1385	SU58 - CA Site Fire Protection Sys		110	01MAR99*	03AUG99
SE1390	WP01 - CA Uncanistered SNF Disposal Container Sy		110	01MAR99*	03AUG99
SE1395	WP02 - CA Canistered SNF Disposal Container Sys		110	01MAR99*	03AUG99
SE1400	WP03 - CA Defense High Level Waste Disposal Cont		110	01MAR99*	03AUG99
SE1405	WP04 - CA DOE SNF Disposal Container Sys		110	01MAR99*	03AUG99
SE1410	WP07 - CA Non-Fuel Components Disposal Container		110	01MAR99*	03AUG99
SE1415	WP09 - CA Naval SNF Disposal Container Sys		110	01MAR99*	03AUG99
SDD System Design Document (SDD)					
160 Systems Engineering & Integration Office - LV					
PA01S1A	(PA01-Sec 1) Performance Confirmation Waste Isol		1	28MAY99*	09DEC99
SS01S1A	(SS01-Sec 1) Subsurface Facility System		1	28MAY99*	09DEC99
SS02S1A	(SS02-Sec 1) Ex-Container System		1	28MAY99*	09DEC99
SS03S1A	(SS03-Sec 1) Ground Control System		1	28MAY99*	09DEC99
SS05S1A	(SS05-Sec 1) Subsurface Ventilation System		1	28MAY99*	09DEC99
SS08S1A	(SS08-Sec 1) Subsurface Compressed Air System		1	28MAY99*	09DEC99
SS09S1A	(SS09-Sec 1) Subsurface Water Distribution Syste		1	28MAY99*	09DEC99
SS10S1A	(SS10-Sec 1) Subsurface Safety and Monitoring Sy		1	28MAY99*	09DEC99
SS12S1A	(SS12-Sec 1) Subsurface Operations Monitoring &		1	28MAY99*	09DEC99
SS14S1A	(SS14-Sec 1) Performance Confirmation Emplacemen		1	28MAY99*	09DEC99
SS17S1A	(SS17-Sec 1) Waste Emplacement System		1	28MAY99*	09DEC99



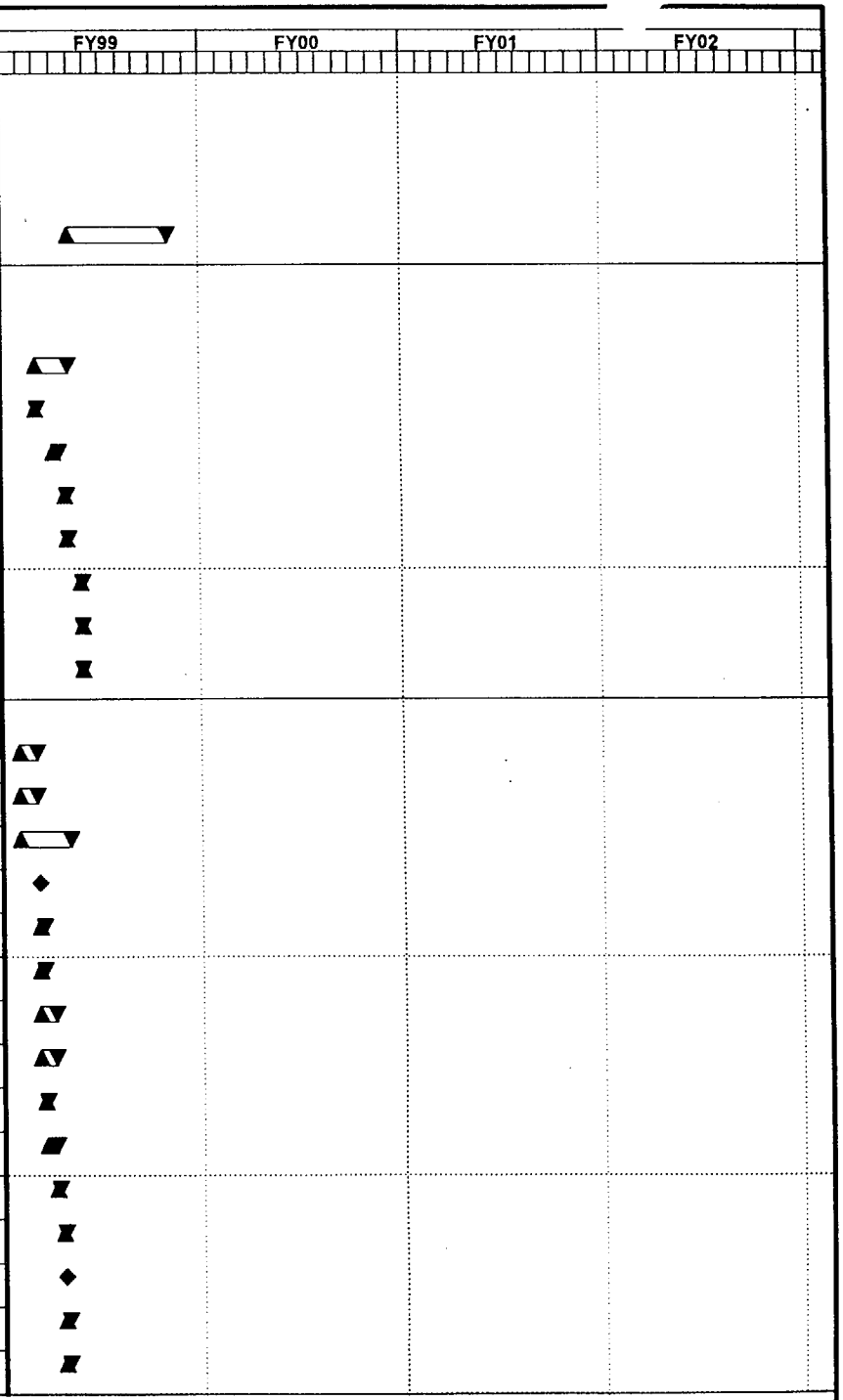
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SS18S1A	(SS18-Sec 1) Backfill Emplacement System		1	28MAY99*	09DEC99
SS19S1A	(SS19-Sec 1) Subsurface Closure & Seal System		1	28MAY99*	09DEC99
SS20S1A	(SS20-Sec 1) Subsurface Water Collection/Removal		1	28MAY99*	09DEC99
SS21S1A	(SS21-Sec 1) Waste Retrieval System		1	28MAY99*	09DEC99
SS26S1A	(SS26-Sec 1) Subsurface Fire Protection System		1	28MAY99*	09DEC99
SU01S1A	(SU01-Sec 1) MGR Site Layout		1	28MAY99*	09DEC99
SU02S1A	(SU02-Sec 1) Waste Handling Building System		1	28MAY99*	09DEC99
SU08S1A	(SU08-Sec 1) Carrier Preparation Building Materi		1	28MAY99*	09DEC99
SU09S1A	(SU09-Sec 1) Carrier/Cask Handling System		1	28MAY99*	09DEC99
SU10S1A	(SU10-Sec 1) Assembly Transfer System		1	28MAY99*	09DEC99
SU11S1A	(SU11-Sec 1) Canister Transfer System		1	28MAY99*	09DEC99
SU12S1A	(SU12-Sec 1) Waste Package Remediation System		1	28MAY99*	09DEC99
SU13S1A	(SU13-Sec 1) Disposal Container Handling System		1	28MAY99*	09DEC99
SU18S1A	(SU18-Sec 1) Waste Handling Building Electrical		1	28MAY99*	09DEC99
SU22S1A	(SU22-Sec 1) Waste Handling Building Ventilation		1	28MAY99*	09DEC99
SU24S1A	(SU24-Sec 1) Waste Treatment Building Ventilatio		1	28MAY99*	09DEC99
SU29S1A	(SU29-Sec 1) Site Radiological Monitoring System		1	28MAY99*	09DEC99
SU33S1A	(SU33-Sec 1) Waste Handling Building Fire Protec		1	28MAY99*	09DEC99
SU37S1A	(SU37-Sec 1) Site-Generated Radiological Waste H		1	28MAY99*	09DEC99
SU40S1A	(SU40-Sec 1) Emergency Response System		1	28MAY99*	09DEC99
SU43S1A	(SU43-Sec 1) Site Water System		1	28MAY99*	09DEC99
SU48S1A	(SU48-Sec 1) Safeguards and Security System		1	28MAY99*	09DEC99
SU49S1A	(SU49-Sec 1) Surface Environmental Monitoring Sy		1	28MAY99*	09DEC99
SU55S1A	(SU55-Sec 1) Performance Confirmation Data Acqui		1	28MAY99*	09DEC99
SU56S1A	(SU56-Sec 1) Pool Water Treatment & Cooling Syst		1	28MAY99*	09DEC99
SU57S1A	(SU57-Sec 1) Surface Operations Monitoring & Con		1	28MAY99*	09DEC99
SUCGS1A	(SUCG-Sec 1) Compressed Gas System		1	28MAY99*	09DEC99
WP01S1A	(WP01-Sec 1) Uncanistered SNF Disposal Container		1	28MAY99*	09DEC99
WP03S1A	(WP03-Sec 1) DHLW Disposal Container		1	28MAY99*	09DEC99
WP09S1A	(WP09-Sec 1) Naval Spent Nuclear Fuel Disposal C		1	28MAY99*	09DEC99
SS01S2A	(SS01-Sec 2) Subsurface Facility System		1	23SEP99*	21DEC99



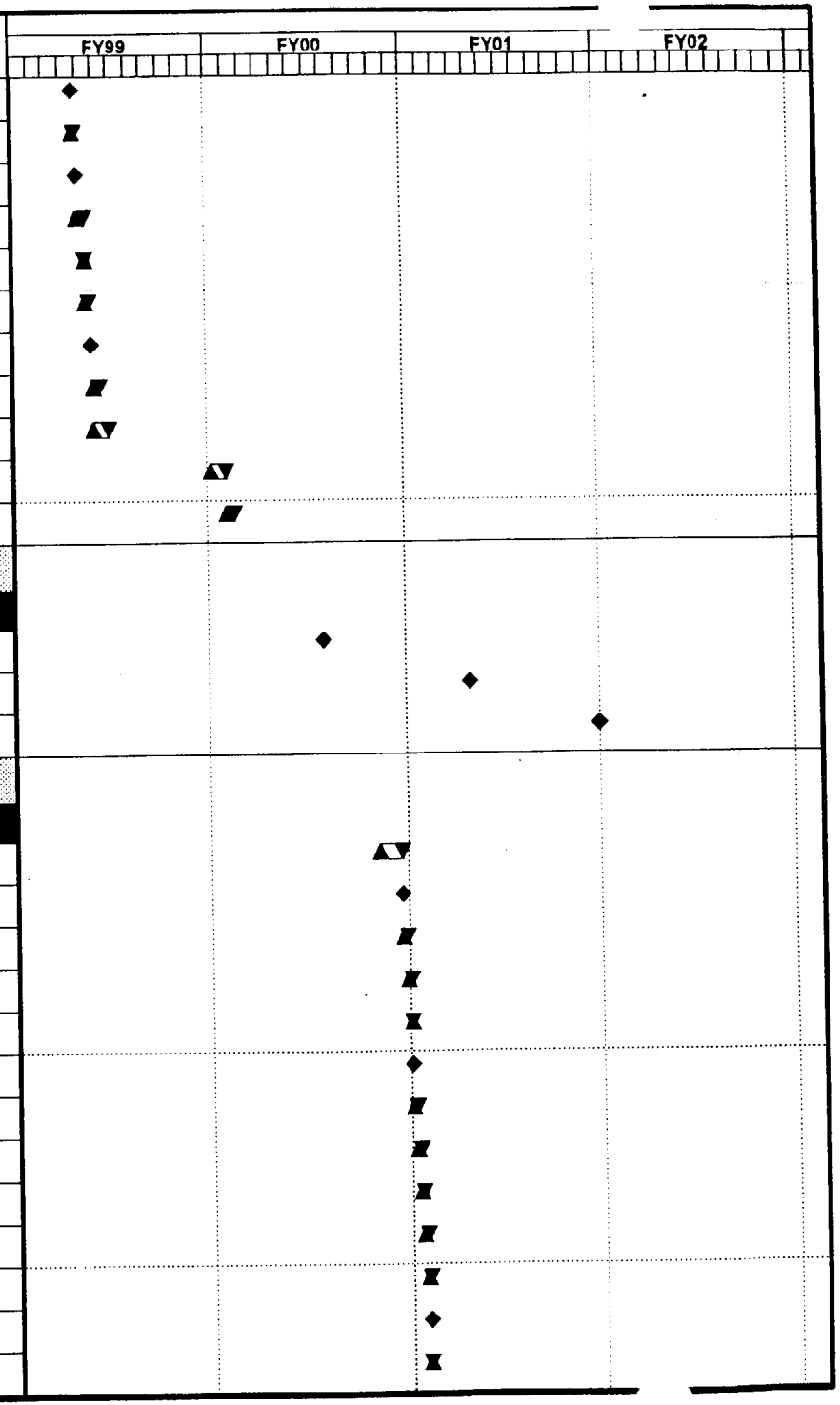
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SS02S2A	(SS02-Sec 2) Ex-Container System		1	23SEP99*	21DEC99
SS03S2A	(SS03-Sec 2) Ground Control System		1	23SEP99*	21DEC99
SS05S2A	(SS05-Sec 2) Subsurface Ventilation System		1	23SEP99*	21DEC99
SS10S2A	(SS10-Sec 2) Subsurface Safety and Monitoring Sy		1	23SEP99*	21DEC99
SS12S2A	(SS12-Sec 2) Subsurface Operations Monitoring &		1	23SEP99*	21DEC99
SS14S2A	(SS14-Sec 2) Performance Confirmation Emplacemen		1	23SEP99*	21DEC99
SS17S2A	(SS17-Sec 2) Waste Emplacement System		1	23SEP99*	21DEC99
SS19S2A	(SS19-Sec 2) Subsurface Closure & Seal System		1	23SEP99*	21DEC99
SS21S2A	(SS21-Sec 2) Waste Retrieval System		1	23SEP99*	21DEC99
SU02S2B	(SU02-Sec 2) Waste Handling Building System		1	14AUG00*	07NOV00
SU10S2B	(SU10-Sec 2) Assembly Transfer System		1	14AUG00*	07NOV00
SU11S2B	(SU11- Sec 2) Canister Transfer System		1	14AUG00*	07NOV00
SU12S2B	(SU12-Sec 2) Waste Package Remediation System		1	14AUG00*	07NOV00
SU13S2B	(SU13-Sec 2) Disposal Container Handling System		1	14AUG00*	07NOV00
SU18S2B	(SU18-Sec 2) Waste Handling Building Electrical		1	14AUG00*	07NOV00
SU22S2B	(SU22-Sec 2) Waste Handling Building Ventilation		1	14AUG00*	07NOV00
SU56S2B	(SU56-Sec 2) Pool Water Treatment & Cooling Syst		1	14AUG00*	07NOV00
SU57S2B	(SU57-Sec 2) Surface Operations Monitoring & Con		1	14AUG00*	07NOV00
SUCGS2B	(SUCG-Sec 2) Compressed Gas System		1	14AUG00*	07NOV00
310 AP3.10Q					
160 Systems Engineering & Integration Office - LV					
WP01QA	(WP01-3.10Q) Uncanistered SNF Disposal Container		1	02AUG99*	19APR00
WP03QA	(WP03-3.10Q) DHLW Disposal Container		1	02AUG99*	19APR00
WP09QA	(WP09-3.10Q) Naval Spent Nuclear Fuel Disposal C		1	02AUG99*	19APR00



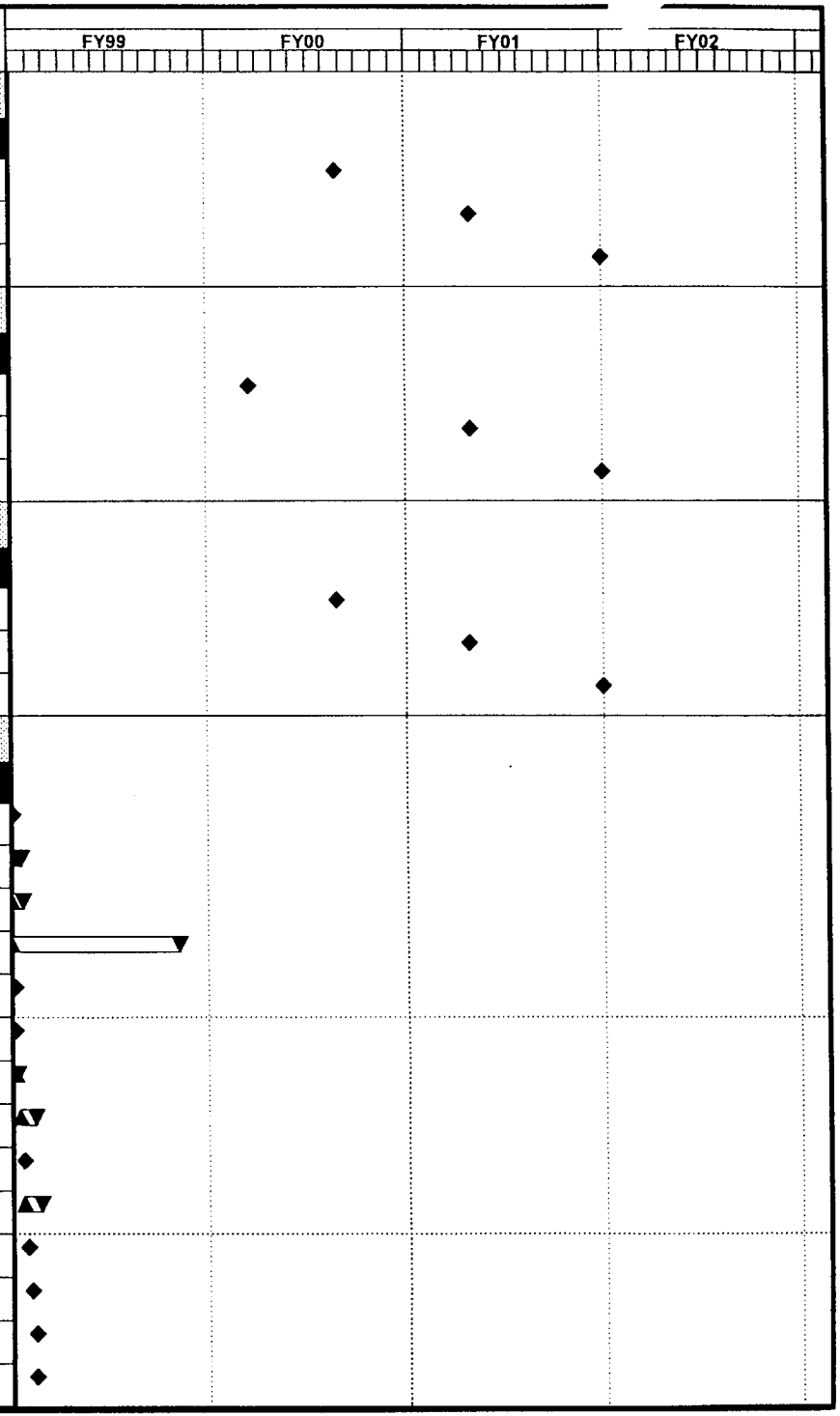
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
X Detailed SR Schedule					
111					
160 Systems Engineering & Integration Office - LV					
SEF8146	SA Support for SDD Develop. and Maint. of SDDs		127	03FEB99*	03AUG99
AO					
150 Support Operations					
BMSR5035	Establish SR Report Electronic Story Board		37	02DEC98*	01FEB99
BMSR5010	QC Check of SR AO/Comment Incorporation		2	04DEC98*	07DEC98
BMSR5041	CDP Format SR AO Rev 1 Review Draft		8	05JAN99*	14JAN99
BMSR5044	QC Check SR AO Rev 1 Approval Draft		2	27JAN99*	28JAN99
BMSR5046	CDP Final Edit/Repro SR AO Rev 1 Approval Draft		2	29JAN99*	01FEB99
BMSR5031	SR AO Rev 1 Final QC Check		2	24FEB99*	25FEB99
BMSR5032	Repro & Prepare SR AO Rev 1 Approval Package		1	26FEB99*	26FEB99
BMSR5047	Post SR AO Rev 1 on Story Board		1	26FEB99*	26FEB99
300 Regulatory & Licensing					
SLCE0005	Prepare SR Vol 2 AO Rev 0 Draft		21	02NOV98*	03DEC98
SLSR5000	Prepare SR Vol 1 AO Rev 0 Draft		21	02NOV98*	03DEC98
SLSR5070	Prepare SR Management Plan		56	02NOV98*	01FEB99
SLSR50M4	Distribute SR AO Prelim Draft to SR Team/Consult	M4	0		07DEC98*
SLSR5015	SR Team Review SR AO Prelim. Draft		5	08DEC98*	14DEC98
SLSR5016	YMSCO SR AO Prelim Draft Review		5	08DEC98*	14DEC98
SLSR5045	Prepare SR Report Author List		13	08DEC98*	04JAN99
SLSR5060	Prepare SR Report Authors' Guide		13	08DEC98*	04JAN99
SLSR5017	SR AO Prelim Draft Comment Review Meeting		1	15DEC98*	15DEC98
SLSR5040	Complete Preliminary SR AO Rev 1 Review Draft		7	16DEC98*	04JAN99
SLSR5048	SR Team AO Comment Review Meeting		2	06JAN99*	07JAN99
SLSR5049	Revise Preliminary SR AO		3	15JAN99*	19JAN99
SLSR55M4	Submit SR AO Rev 1 Draft for M&O Review	M4	0		19JAN99*
SLSR5042	M&O-wide Review SR AO Rev 1 Approval Draft		5	20JAN99*	25JAN99
SLSR5052	YMSCO SR AO Preliminary Informal Review		5	20JAN99*	25JAN99



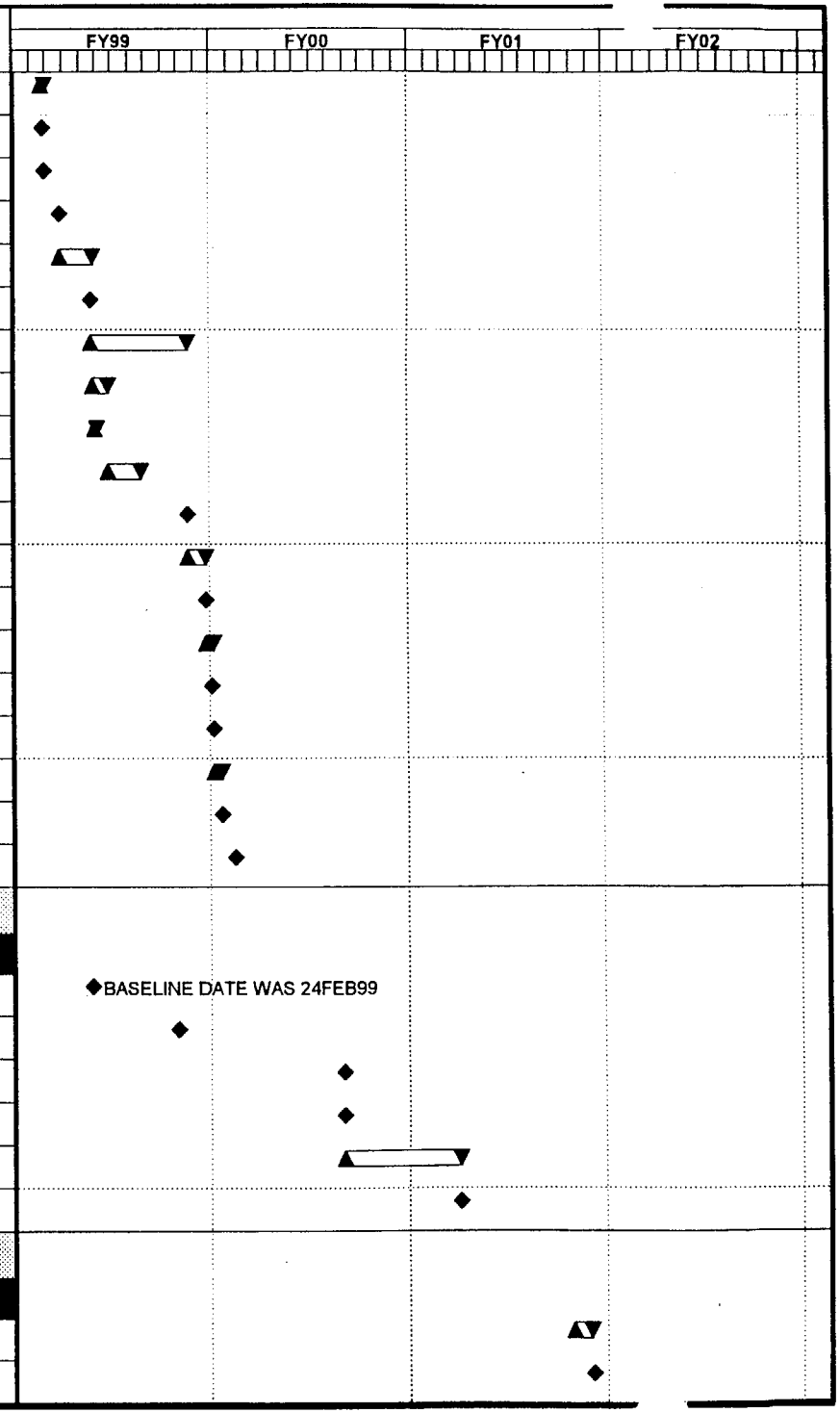
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLSR5051	Receive M&O SR AO Review Comments	M4	0		25JAN99*
SLSR5043	Incorporate SR AO Rev 1 Prelim Review Comments		2	26JAN99*	27JAN99
SLSR51M3	Submit SR AO Rev 1 for YMSCO/DOE Reviews	M3	0		01FEB99*
SLSR5027	YMSCO/DOE 6.2 Review SR AO Rev 1 Draft		10	02FEB99*	16FEB99
SLSR5028	Final SR AO Rev 1 Comment Resolution Meeting		1	16FEB99*	16FEB99
SLSR5029	Incorporate Comments/Finalize SR AO Rev 1		5	17FEB99*	23FEB99
SLSR53M3	Complete SR AO Rev 1 Development	M3	0		26FEB99*
SLSR5025	SR Annotated Outline Rev 1 Acceptance Review		10	01MAR99	12MAR99
SLSR5030	SR Report Author Training		23	01MAR99	31MAR99
SLCE0020	Update Site Recommendation AO		21	06OCT99	04NOV99
SLCE0025	DOE Reviev Site Recommendation AO Update		10	05NOV99	19NOV99
BIO PMR					
150 Support Operations					
SLB272M4	Rec Bio PMR Rev01/SR Consideration Hearing Draft	M4	0		28APR00
SLB274M4	Rec Bio PMR Rev 03 for SR Notification Draft	M4	0		31JAN01
SLB276M4	Rec Bio PMR Rev 05 for License Application	M4	0		28SEP01
CHFR					
300 Regulatory & Licensing					
SLRCH005	Prepare Draft SR Hearing Notice for FR		30	07AUG00*	18SEP00
SLCH01M4	Complete Initial Draft SR Hearing Notice	M4	0		18SEP00
SLRCH010	M&O Review Draft SR Hearings Notice		5	19SEP00	25SEP00
[illegible]015	Incorporate M&O Comments-Draft SR Hearing Notice		5	26SEP00	02OCT00
SLRCH020	M&O Finalize Draft SR Hearing Notice		2	03OCT00	04OCT00
SLCH01M3	M&O Provide Draft SR Hearing Notice to YMSCO	M3	0		04OCT00
SLRCH025	YMSCO Review Draft SR Hearing Notice		5	05OCT00	12OCT00
SLRCH030	M&O Finalize Draft SR Hearing Notice		5	13OCT00	19OCT00
SLRCH035	YMSCO Forward Draft SR Hearing Notice to OCRWM		1	20OCT00	20OCT00
SLRCH040	OCRWM/X-1 Review SR Consideration Hearing Notice		5	23OCT00	27OCT00
SLRCH045	M&O Finalize SR Consideration Hearing Notice		2	30OCT00	31OCT00
P1CH	RW-1 Forward Consideration Hearings FR Notice	P1	0		01NOV00
SLRCH050	RW-1 Approve Consideration Hearing FR Notice		1	01NOV00	01NOV00



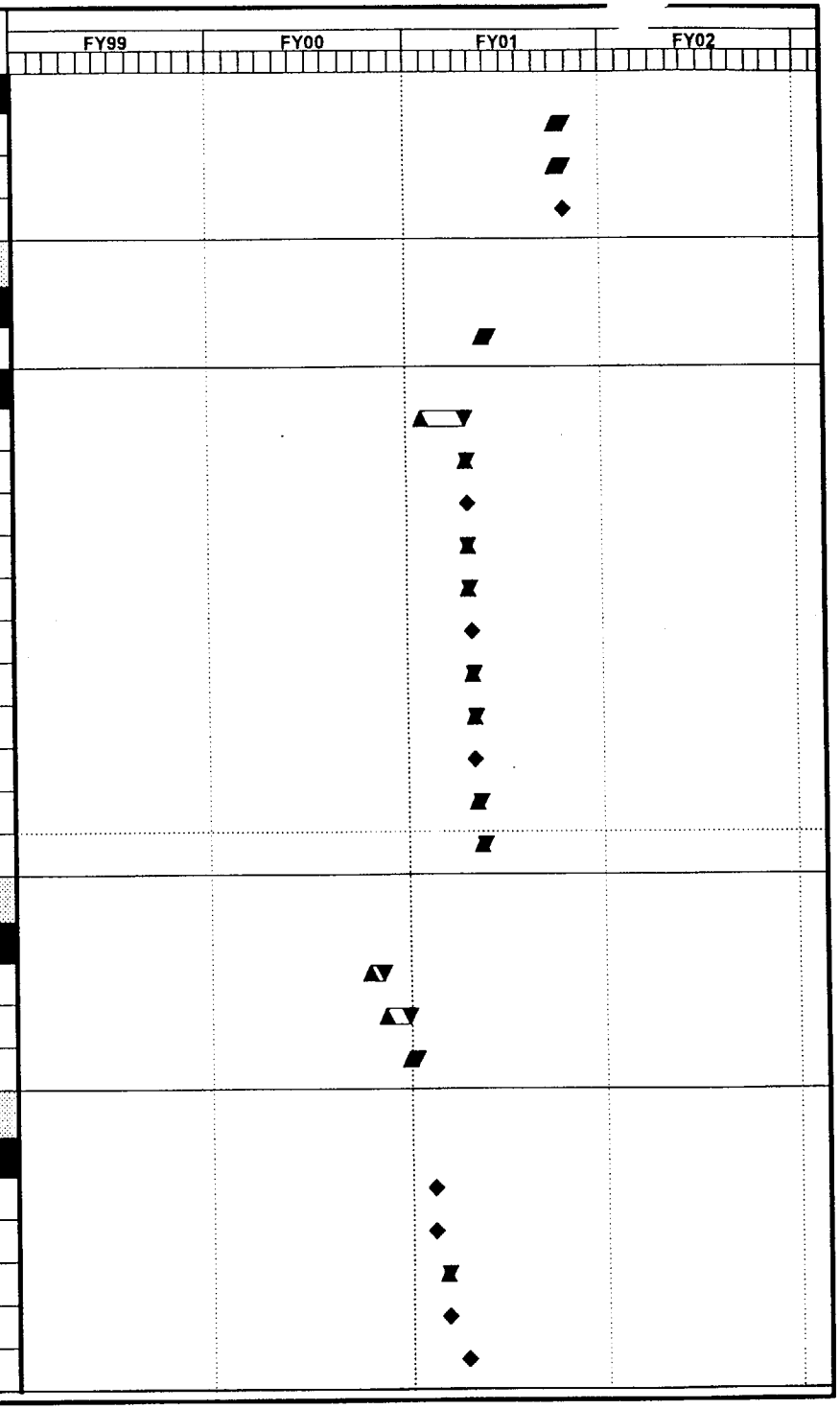
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
EBS PMR					
120 Engineered Barrier System Operations					
SLE812M4	Rec EBS PMR Rev01/SR Consideration Hearing Draft	M4	0		23MAY00
SLE814M4	Rec EBS PMR Rev 03 for SR Notification Draft	M4	0		31JAN01
SLE816M4	Rec EBS PMR Rev 05 for License Application	M4	0		28SEP01
ISM PMR					
140 Natural Environment Program Operations					
SLM182M4	Rec ISM PMR Rev01/SR Consideration Hearing Draft	M4	0		15DEC99
SLM184M4	Rec ISM PMR Rev 03 for SR Notification Draft	M4	0		31JAN01
SLM186M4	Rec ISM PMR Rev 05 for License Application	M4	0		28SEP01
NFE PMR					
140 Natural Environment Program Operations					
SLN542M4	Rec NFE PMR Rev01/SR Consideration Hearing Draft	M4	0		26MAY00
SLN544M4	Rec NFE PMR Rev 03 for SR Notification Draft	M4	0		25JAN01
SLN546M4	Rec NFE PMR Rev 05 for Licesnse Application	M4	0		28SEP01
RM					
300 Regulatory & Licensing					
SLR68AM4	YMSCO Manager Proposed 10CFR960 Briefing # 1	M4	0		01OCT98*
SLSR6945	Develop Proposed 10CFR960 Final Issues/Structure		16	01OCT98*	16OCT98
SLSR6985	HQ Review/Approval of Proposed 10CFR960		11	01OCT98*	20OCT98
SLTR705	Prepare & Publish Revised 10CFR960		207	01OCT98*	05AUG99
SLR68BM4	YMSCO Manager Proposed 10CFR960 Briefing # 2	M4	0		07OCT98*
SLR69AM4	Distribute Draft 10CFR960 Issues/Structure	M4	0		07OCT98*
SLSR6952	Review Draft Proposed 10CFR960 Issues/Structure		2	08OCT98*	09OCT98
SLSR6960	Write Proposed 10CFR960 Rule		21	13OCT98*	10NOV98
SLSR6990	Complete HQ Review of Proposed 10CFR960		0		20OCT98
SLSR6986	Secretarial Review of Proposed 10CFR963		22	21OCT98	20NOV98
SLR68CM4	YMSCO Manager Proposed 10CFR960 Briefing # 4	M4	0		29OCT98*
SLR68DM4	YMSCO Manager Proposed 10CFR960 Briefing # 5	M4	0		05NOV98*
SLR68EM4	YMSCO Manager Proposed 10CFR960 Briefing # 6	M4	0		12NOV98*
SLR69BM4	Brief YMSCO Manager - 10CFR960 Concurrence Draft	M4	0		12NOV98*



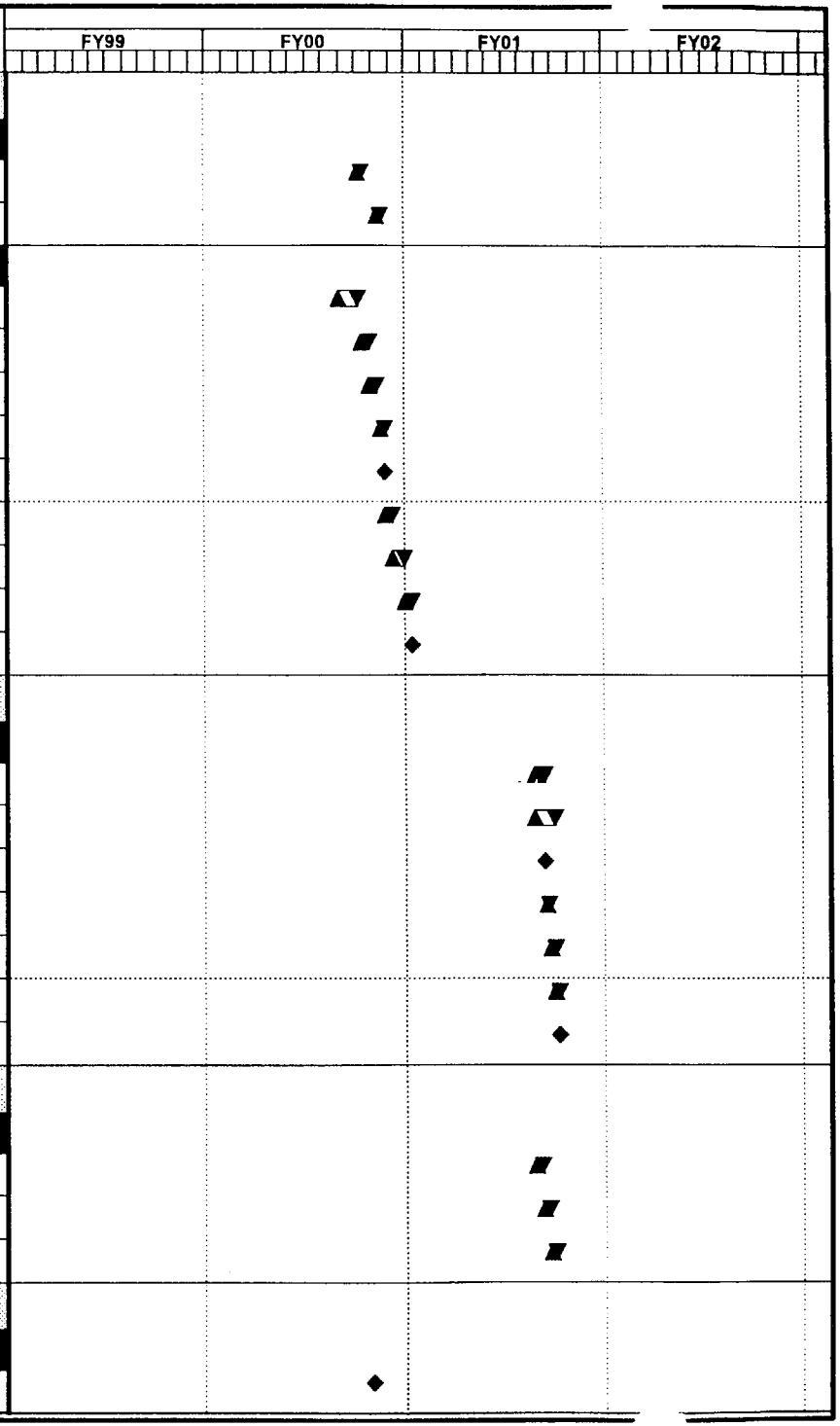
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLSR6995	Finalize Draft Proposed 10CFR960 Rule		7	21NOV98	27NOV98
SLR69CM4	Submit Proposed 10CFR960 to DOE/HO	M4	0		25NOV98*
SLR69DM4	Transmit Proposed 10CFR960 Rule to DOE HQ	M4	0		30NOV98*
M1AD	OCRWM Pub.Supp.Not.Prop.Rulemaking 10CFR960 FR	M1	0		28DEC98*
SLBR0010	Proposed 10CFR960 Comment Period		60	29DEC98	26FEB99
SLSR60M4	NRC Proposed Rule 10CFR Part63 Draft Published	MX	0		22FEB99*
SLBR0025	10CFR960 NRC Concurrence Review		126	23FEB99*	19AUG99
SLBR0015	Proposed 10CFR960 Extended Comment Period		30	27FEB99	28MAR99
SLDEC01	Secretarial Decision on 10CFR960/10CFR963 Option		1	04MAR99	04MAR99
SLBR0020	Prepare 10CFR960 Comment Response		42	29MAR99	25MAY99
SLBR00M4	Obtain NRC Concurrence - Proposed 10CFR960	M4	0		19AUG99
SLBR0035	Prepare Revised Final 10CFR960		21	20AUG99	20SEP99
SLBR40M4	Complete Revised Final 10CFR960	M4	0		20SEP99
SLBR0045	DOE Concurrence on Revised Final 10CFR960		11	21SEP99	05OCT99
SLSR61M4	EPA Publish Final 10CFR197 Rule	MX	0		01OCT99*
SLBR50M1	DOE Concur on Revised Final 10CFR960	P1	0		05OCT99
SLBR0055	Prepare Camera Ready Revised 10CFR960 f/FR		8	06OCT99	18OCT99
M1AP	Publish Revised 10CFR960 Rule in Fed Register	M1	0		18OCT99
SLSR65M4	NRC Publish Final 10CFR Part 63	MX	0		15NOV99*
RSS1					
300 Regulatory & Licensing					
M2MP	Licensing Case Selection Rev 0 (SR)	M2	0		24FEB99*
SL06X7M3	Submit Repository Safety Strategy Rev 3	M3	0		28JUL99*
M2MR	Licensing Case Selection Rev 1 (LA)	M2	0		01JUN00*
SL08X7M3	Submit Repository Safety Strategy Rev 4	M3	0		01JUN00*
SLTR19	Develop Sufficiency Case		148	02JUN00	05JAN01
MXRS	Complete Sufficiency Case Development	M4	0		05JAN01
SRA					
150 Support Operations					
BMSTR905	SR Document Reproduction		25	30JUL01	31AUG01
BMR905MX	Start Distribution of SR Documents	MX	0	04SEP01	



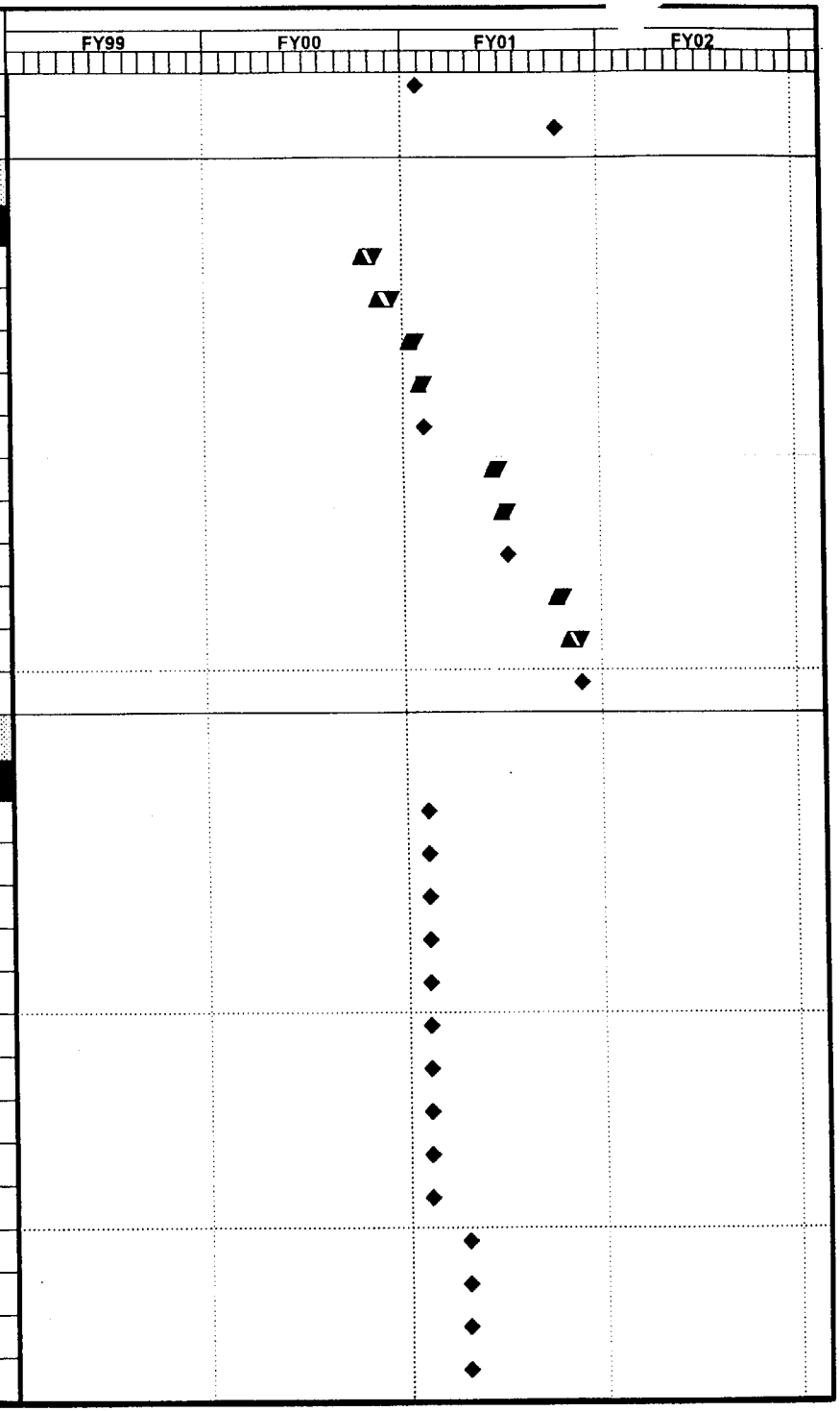
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
300 Regulatory & Licensing					
SLTR220	Secretarial Review of SR Product (Vol 1)		12	12JUL01	27JUL01
SLTR245C	S-1 Review Response to State Views/Concur Vol. 3		12	12JUL01	27JUL01
M0AJ	Secretary Issue SR Product to President	M0	0		27JUL01
SRBR					
150 Support Operations					
SL10845	CDP Prepare Camera Ready Copy of BOR		12	21FEB01	08MAR01
300 Regulatory & Licensing					
SL10001	Prelim. Draft SR Basis of Recommendation (BOR)		53	31OCT00	18JAN01
SL10865	Prepare BOR First Mockup		2	19JAN01	22JAN01
SL100M4	BOR First Mockup Available for Mgmt. Review	M4	0		23JAN01
SL10825	BOR First Design Meeting		1	23JAN01	23JAN01
SL11040	BOR First Management Review		2	24JAN01	25JAN01
SL108M4	BOR Draft Illustrations Completed	M4	0	.	29JAN01
SL10810	Prepare BOR 2nd Mockup, with illustrations		4	30JAN01	02FEB01
SL10855	BOR Second Management Review		3	02FEB01	06FEB01
SL109M4	BOR Second Mockup Available for Mgmt. Review	M4	0		02FEB01
SL10875	Prepare BOR 3rd Mockup		5	07FEB01	13FEB01
SL10835	BOR Third Management Review		4	14FEB01	20FEB01
SRCD					
150 Support Operations					
BM50850	Establish VA Cover Design Graphics Standards		20	17JUL00	11AUG00
BM50860	Viability Assessment Cover Design Period		30	14AUG00	25SEP00
BM50870	Viability Assess. Cover Design Approval Period		10	26SEP00	10OCT00
SRCH					
300 Regulatory & Licensing					
M0AC	Publish FR Notice of SR Consideration Hearings	M0	0		13NOV00*
M1BB	OCRWM Releases Consid.Hear.Draft SR - Public Rev	M1	0		13NOV00
SLTR202	Conduct Public Consideration Hearings		5	04DEC00	08DEC00
M1BD	Complete SR Consideration Hearings	M1	0		08DEC00
M1BE	Close Public & State Comment Period f/SR Conside	M1	0		12JAN01



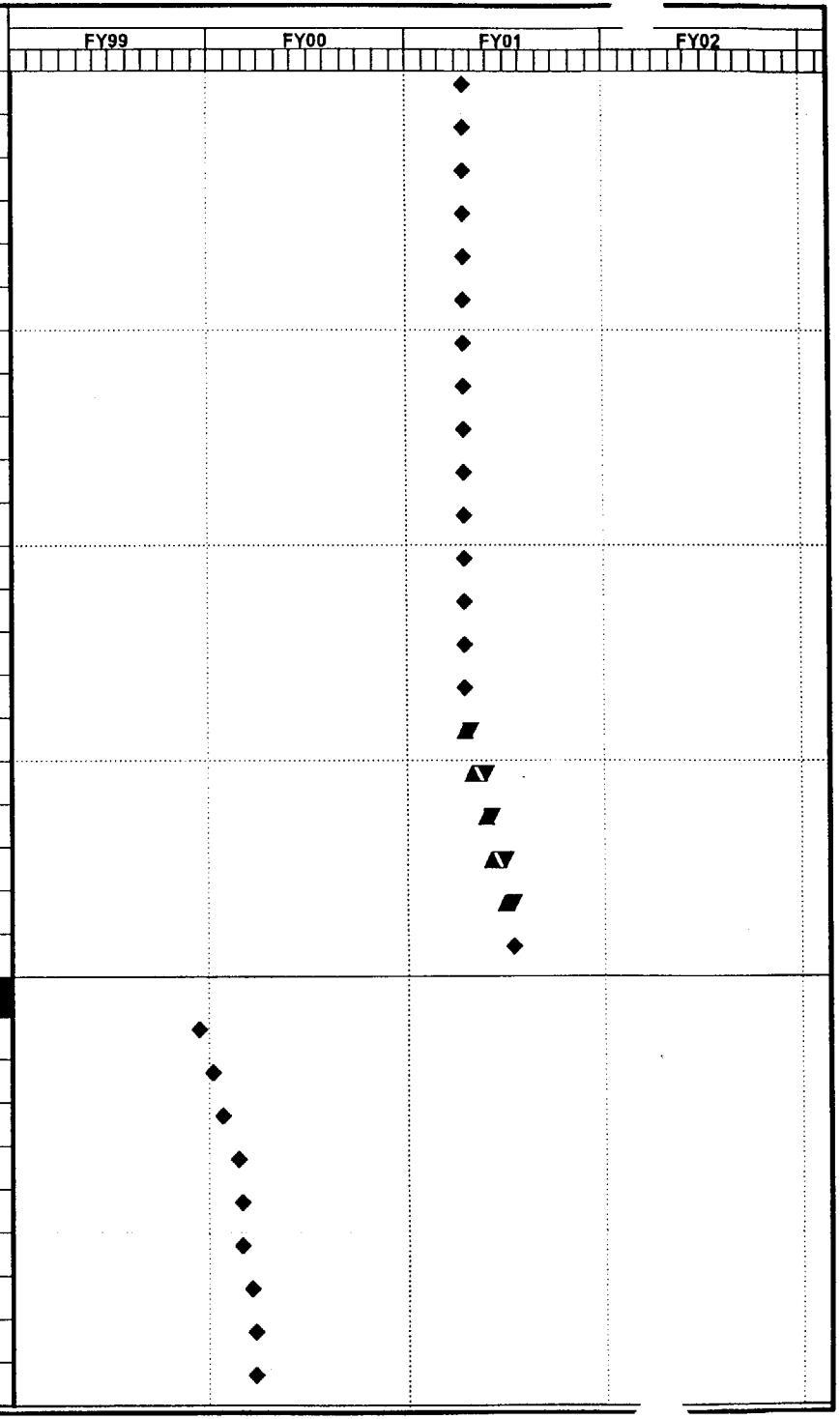
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SRCRD					
150 Support Operations					
BMRCR010	CDP Format CRD Process Document		5	07JUL00	13JUL00
BMRCR025	M&O QC Check CRD Process Document		5	11AUG00	17AUG00
300 Regulatory & Licensing					
SLRCR005	Prepare Draft CRD Process & System Document		25	01JUN00*	06JUL00
SLRCR015	M&O Review CRD Process Document		10	14JUL00	27JUL00
SLRCR020	Incorporate M&O Review Comments-CRD Procss Doc.		10	28JUL00	10AUG00
SLRCR030	M&O Incorporate QC Comments on CRD Process Doc.		5	18AUG00	24AUG00
SLRCR1M3	M&O Submit CRD System & Process Document	M3	0		24AUG00
SLRCR035	YMSCO Review CRD Process Document		10	25AUG00	08SEP00
SLRCR040	M&O Incorporate YMSCO Comments-CRD Process		15	11SEP00	29SEP00
SLRCR045	HQ Review Hearings CRD Process		9	02OCT00	13OCT00
SLRM4	YMSCO Approve SR Hearing CRD Process Doc.	M4	0		13OCT00
SRDP1					
300 Regulatory & Licensing					
SLSR7330	Prepare Final SR Volume 1		14	29MAY01	15JUN01
SLTR230	Prepare SR Action Memo for President		25	29MAY01	02JUL01
M2NG	YMSCO Submits Complete SR for DOE Review	M2	0		15JUN01
SLSR7340	DOE Review Final SR Volume 1		5	18JUN01	22JUN01
SLSR7350	Resolve Comments on Final SR Volume 1		6	25JUN01	02JUL01
SLTR245A	RW-1/X-1 Concurrence on SR Final Package		6	03JUL01	11JUL01
M1BH	OCRWM Completes DOE Review & Concurrence of SR	M1	0		11JUL01
SRDP2					
300 Regulatory & Licensing					
SLSR6160	Prepare Final Compliance Evaluation Report-Vol 2		9	29MAY01	08JUN01
SLSR6170	DOE Review Final Compl Eval (Vol 2)		10	11JUN01	22JUN01
SLSR6180	Resolve Comments on Final Compl Eval (Vol 2)		6	25JUN01	02JUL01
SRDR					
300 Regulatory & Licensing					
SLSR7EM4	Receive Waste Form Characteristics Report	M4	0		01AUG00*



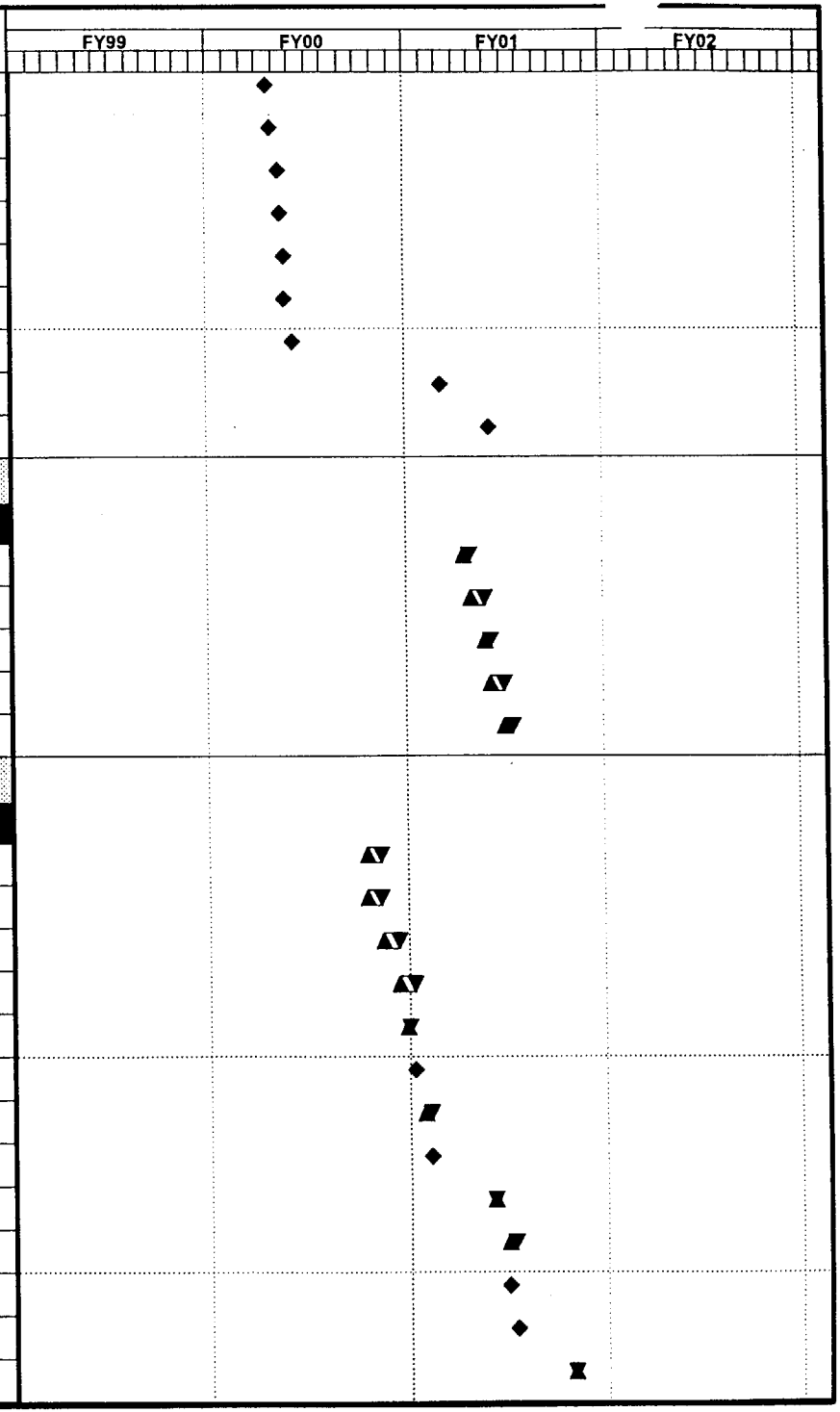
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SL92XM4	Complete DOE Review of SR References (TSPA/SD)	M4	0		30OCT00*
M2JX	Complete Administrative Record for SR	M2	0		18JUL01*
SRGP					
150 Support Operations					
BM50775	Establish GPO Printing Requirements		20	17JUL00	11AUG00
BM51000	GPO Obtain Preliminary Bids (OCRWM Approved)		20	14AUG00	11SEP00
BM51010	GPO Obtain Final Bids -SR Consid Hear Printing		10	11OCT00	24OCT00
BM51020	GPO Printing of SR Consideration Hearing Draft		8	31OCT00	09NOV00
BM513M4	GPO Deliver SR Consideration Hearing Draft	M4	0		09NOV00
BM51040	GPO Obtain Final Bids -SR Notif.Draft Printing		10	13MAR01	26MAR01
BM51050	GPO Printing of SR Notification Draft		8	03APR01	12APR01
BM516M4	GPO Deliver SR Notification Draft	M4	0		12APR01
BM51070	GPO Obtain Final Bids -SR Recommendatio Printing		10	12JUL01	25JUL01
BM51080	GPO Printing of SR Recommendation Report Draft		20	30JUL01	24AUG01
BM519M4	GPO Deliver SR Recommendation Report	M4	0		24AUG01
SRND1					
300 Regulatory & Licensing					
SLNU02M4	Rec Waste Handling Building System SDD Sec 2	M4	0		07NOV00
SLNU10M4	Rec Assembly Transfer System SDD Sec 2	M4	0		07NOV00
SLNU11M4	Rec Canister Transfer System SDD Sec 2	M4	0		07NOV00
SLNU12M4	Rec Waste Package Remediation System SDD Sec 2	M4	0		07NOV00
SLNU13M4	Disposal Container Handling System SDD Sec 2	M4	0		07NOV00
SLNU18M4	Rec Waste Handling Bldg Electr. Sys. SDD Sec 2	M4	0		07NOV00
SLNU22M4	Waste Handling Bldg Ventilation Sys SDD Sec 2	M4	0		07NOV00
SLNU56M4	Rec Pool Water Treatment & Cooling Sys SDD Sec 2	M4	0		07NOV00
SLNU57M4	Rec Surface Ops Monitoring/Control Sys SDD Sec 2	M4	0		07NOV00
SLNUCGM4	Rec Site Compressed Gas System SDD Sec 2	M4	0		07NOV00
SLNP01M4	Rec Uncanistered SNF Disp. Container SDD Sec 1	M4	0		15JAN01
SLNP03M4	Receive DHLW Disposal Container SDD Sec 1	M4	0		15JAN01
SLNP09M4	Receive Navy Fuel Disposal Container SDD Sec 1	M4	0		15JAN01
SLNS01M4	Receive Subsurface Facility System SDD Sec 2	M4	0		15JAN01



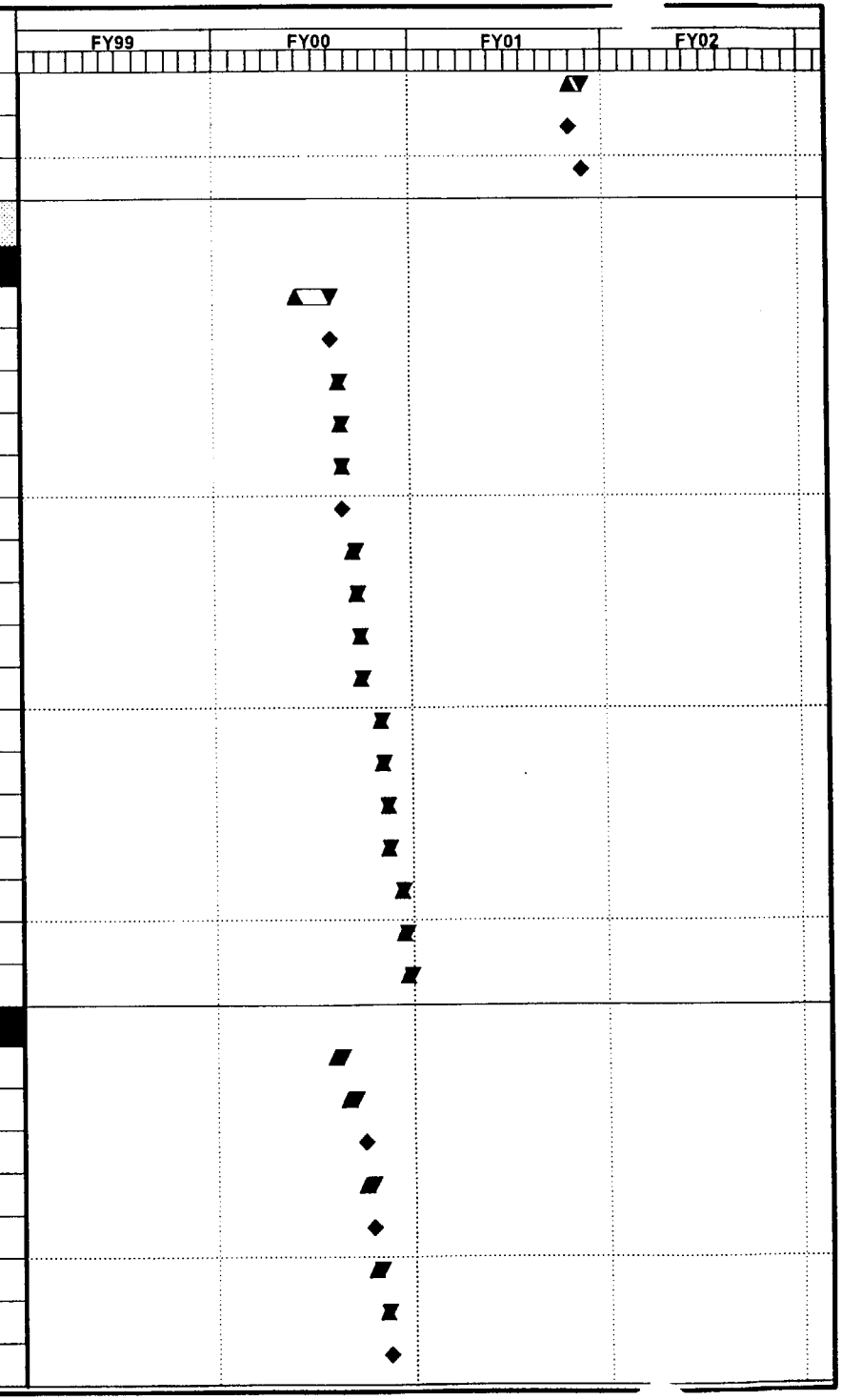
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLNS02M4	Receive Ex-Container Systems SDD Sec 2	M4	0		15JAN01
SLNS03M4	Receive Ground Control System SDD Sec 2	M4	0		15JAN01
SLNS05M4	Receive SS Ventilation System SDD Sec 2	M4	0		15JAN01
SLNS06M4	Rec SS Electrical Distr. Sys SDD Class Analysis	M4	0		15JAN01
SLNS10M4	Receive SS Safety & Monitoring System SDD Sec 2	M4	0		15JAN01
SLNS12M4	Rec SS Ops Monitoring & Control System SDD Sec 2	M4	0		15JAN01
SLNS14M4	Rec. PC Emplacement Drift Monitor Sys. SDD Sec 2	M4	0		15JAN01
SLNS17M4	Rec Waste Emplacement System SDD Sec 2	M4	0		15JAN01
SLNS18M4	Rec Backfill Emplacement System SDD Sec 1	M4	0		15JAN01
SLNS19M4	Rec SS Closure & Seal System SDD Sec 2	M4	0		15JAN01
SLNS21M4	Rec Waste Retrieval System SDD Sec 2	M4	0		15JAN01
SLNS25M4	Rec Subsurface Excavation System SDD Class Analy	M4	0		15JAN01
SLNS26M4	Rec SS Fire Protection System SDD Sec 1	M4	0		15JAN01
SLNU44M4	Rec Site Electrical Power System SDD Class Analy	M4	0		15JAN01
SLNU52M4	Rec Central C&C Ops. System SDD Class Analysis	M4	0		15JAN01
SLSR7210	Rvw/Consolidate Comments for SR Notification Drf		10	15JAN01	26JAN01
SLSR7220	Prepare SR Notification Draft		19	29JAN01	23FEB01
SLSR7230	DOE Review/Finalize SR Notification Draft		6	26FEB01	05MAR01
SLSR7240	RW-1/X-1 Concurrence on SR Update		19	06MAR01	30MAR01
SLSR7250	S-1 Concurrence on SR Update		9	03APR01	13APR01
M0AG	Sec. Notifies State - Decision to Recommend Site	M0	0		13APR01
SLM01M4	Rec Confirm ISM PMR SW Verified/Qualified	M4	0		09SEP99
SLM02M4	Rec Confirmation ISM PMR Data Verified/Qualified	M4	0		04OCT99
SLT01M4	Rec Confirm Techtonics PMR SW Verified/Qualified	M4	0		25OCT99
SLS01M4	Rec Confirm SZ PMR SW Verified/Qualified	M4	0		22NOV99
SLN01M4	Rec Confirm NFE PMR SW Verified/Qualified	M4	0		29NOV99
SLW01M4	Rec Confirm WP PMR SW Verified/Qualified	M4	0		29NOV99
SLS02M4	Rec Confirmation SZ PMR Data Verified/Qualified	M4	0		17DEC99
SLN02M4	Rec Confirmation NFE PMR Data Verified/Qualified	M4	0		22DEC99
SLW02M4	Rec Confirmation WP PMR Data Verified/Qualified	M4	0		22DEC99



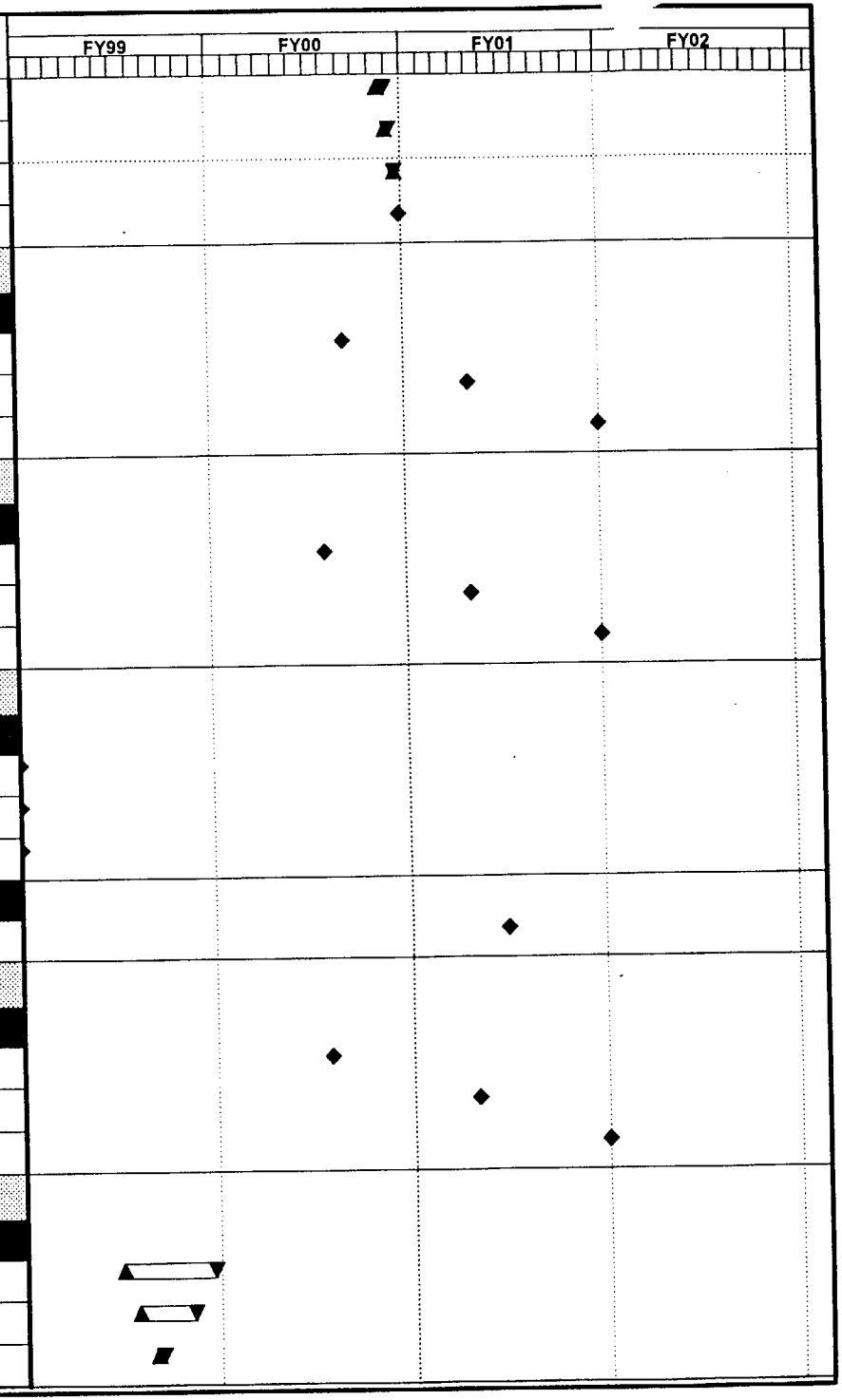
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLU01M4	Rec Confirm UZ PMR SW Verified/Qualified	M4	0		20JAN00
SLB01M4	Rec Confirm BIO PMR SW Verified/Qualified	M4	0		28JAN00
SLF01M4	Rec Confirm WFD PMR SW Verified/Qualified	M4	0		11FEB00
SLU02M4	Rec Confirmation UZ PMR Data Verified/Qualified	M4	0		14FEB00
SLB02M4	Rec Confirmation BIO PMR Data Verified/Qualified	M4	0		23FEB00
SLE02M4	Rec Confirmation EBS PMR Data Verified/Qualified	M4	0		23FEB00
SLF02M4	Rec Confirmation WFD PMR Data Verified/Qualified	M4	0		08MAR00
SLT02M4	Rec Confirmation Tec PMR Data Verified/Qualified	M4	0		06DEC00
M2KD	YMSCO Submits Draft State Notif. SR for DOE Rev.	M2	0		05MAR01
SRND2					
300 Regulatory & Licensing					
SLSR6110	Review Hearings Comments for Compl Eval Update		10	15JAN01	26JAN01
SLSR6120	Prepare Compl. Eval Update (incorporate coments)		19	29JAN01	23FEB01
SLSR6130	DOE Review/Finalize Compl Eval Update		6	26FEB01	05MAR01
SLSR6140	RW-1/X-1 Concurrence on Compl Eval Update		19	06MAR01	30MAR01
SLSR6150	S-1 Concurrence on Compl Eval Update		9	03APR01	13APR01
SRP					
150 Support Operations					
BM50900	Establish SR CD-ROM Requirements		20	17JUL00	11AUG00
BM50910	Investigate CD-ROM Vendors for SR		20	17JUL00	11AUG00
BM50965	Prepare SR CD-ROM Vendor RFP Requirements		20	14AUG00	11SEP00
SL50920	Procure & Select SR CD-ROM Vendor/Award Contract		20	12SEP00	10OCT00
BM50976	Prepare SR Consid Hearing CD ROM Master Copy		2	28SEP00	29SEP00
BM509M4	Furnish SR Consid Hearing Master CD for Dupl.	M4	0	11OCT00	
BM50930	Vendor Produce SR Consid Hearing CD-ROM Version		8	31OCT00	09NOV00
BM504M4	SR Consid. Hearing CD-ROMs Available	M4	0		09NOV00*
BM51005	Prepare SR Notification Draft CD ROM Master Copy		2	06MAR01	07MAR01
BM51007	Vendor Produce SR Notification Dr CD-ROM Version		8	03APR01	12APR01
BM518M4	Furnish SR Notification Drft Master CD for Dupl.	M4	0	03APR01	
BM501M4	SR Notification Draft CD-ROMs Available	M4	0		13APR01*
BM51016	Prepare SR Recommendation CD ROM Master Copy		2	30JUL01	31JUL01



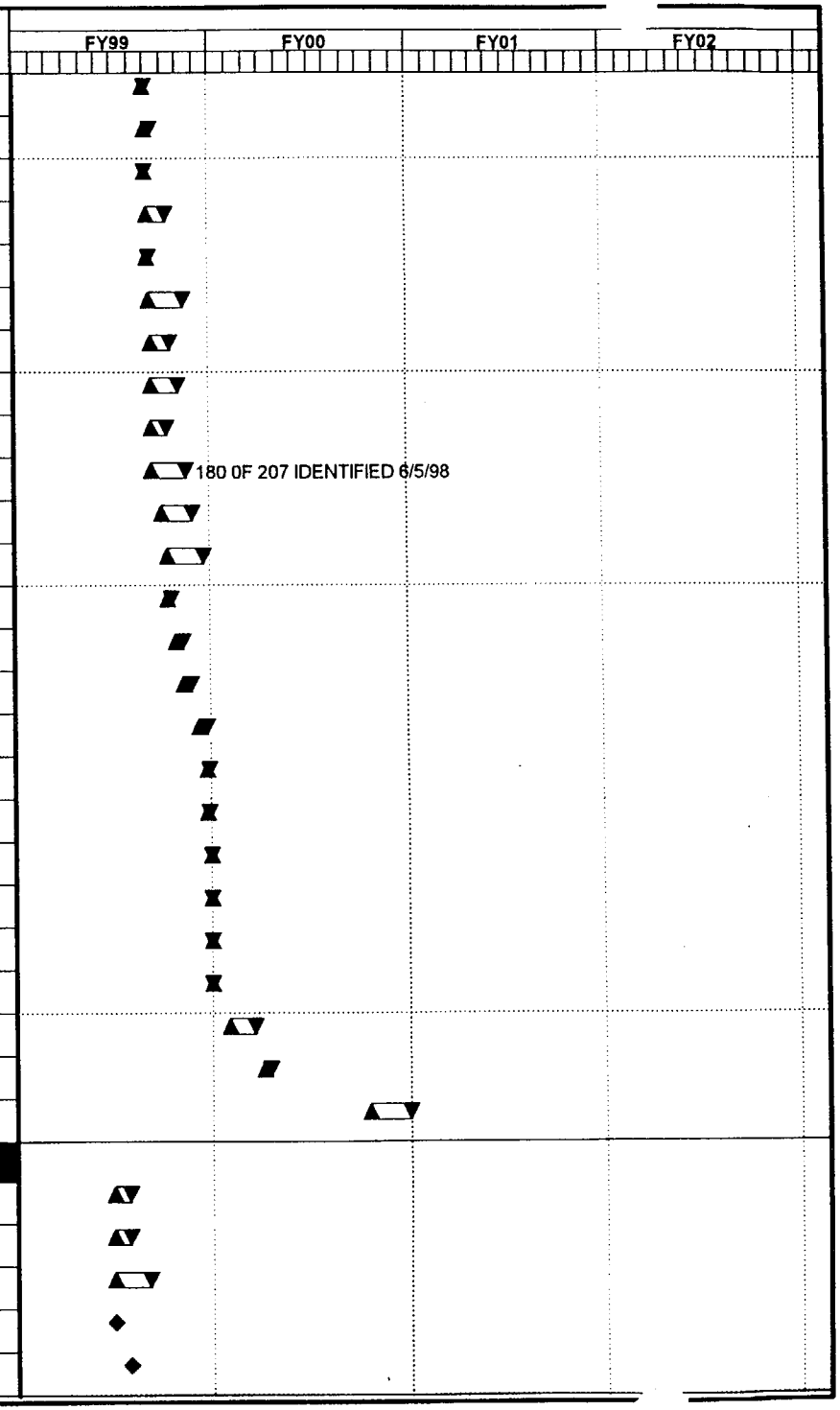
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BM51018	Vendor Produce SR Recommendation CD-ROM Version		18	01AUG01	24AUG01
BM517M4	Furnish SR Recommendation Master CD for Dupl.	M4	0	01AUG01	
BM51XM4	SR Recommendation CD-ROMs Available	M4	0		24AUG01
SRPI					
150 Support Operations					
BMRDP005	Develop SR Draft Distribution/PI plan		45	01MAR00*	02MAY00
BMRDP1M4	Complete Preliminary Draft Distribution/PI Plan	M4	0		02MAY00
BMRDP015	CDP Format Prelim Draft Distribution/PI Plan		4	17MAY00	22MAY00
BMRDP020	QA/QC Check Prelim Draft SR Distribution/PI Plan		2	23MAY00	24MAY00
BMRDP025	Incorp. Author Review Comments-Distr./PI Plan		2	25MAY00	26MAY00
BMRDP2M4	Deliver SR Team Review Distribution/PI Plan Draf	M4	0		26MAY00
BMRDP035	Incorp. Internal Review Comments-Distr./PI Plan		5	13JUN00	19JUN00
BMRDP040	CDP Format Distribution/PI Plan M&O Review Draft		4	20JUN00	23JUN00
[illegible]P045	QA/QC Check Distribution/ PI Plan		2	26JUN00	27JUN00
BMRDP050	Incorporate M&O Review Comments-Distr./PI Plan		2	28JUN00	29JUN00
BMRDP065	M&O Incorporate YMSCO Review Comments		4	31JUL00	03AUG00
BMRDP070	CDP Format DOE Rvw Draft Distr/PI Plan		4	04AUG00	09AUG00
BMRDP080	Incorporate Comments from SR Team		2	14AUG00	15AUG00
BMRDP085	M&O Repro Copy & Distribute Didtr./PI Plan		2	16AUG00	17AUG00
BMRDP100	M&O Incorporate Comments Distr/PI Plan		4	08SEP00	13SEP00
BMRDP105	CDP Edit, Type & Format Distr/PI Plan		4	14SEP00	19SEP00
BMRDP115	Incorporate Comments & Finalize Distr/PI Plan		2	22SEP00	25SEP00
300 Regulatory & Licensing					
SLRDP010	Authors review Draft SR Distribution/PI Plan		10	03MAY00	16MAY00
SLRDP030	SR Team Review SR Distribution/PI Plan		10	30MAY00	12JUN00
SLRDP3M3	M&O Deliver Draft SR Distribution/PI Plan	M3	0		29JUN00
SLRDP055	YMSCO Review Draft Distribution/PI Plan		10	30JUN00	14JUL00
SLRDP4M4	YMSCO Complete Review of Draft Distr/PI Plan	M4	0		14JUL00
SLRDP060	M&O/YMSCO Comment Resolution- Distr/PI Plan		10	17JUL00	28JUL00
SLRDP075	Distr/PI [illegible]A/QC by Author/PM/SR Team		2	10AUG00	11AUG00
SLRDP5M3	M&O Deliver Draft Distr/PI Plan for Acceptance	M3	0		15AUG00



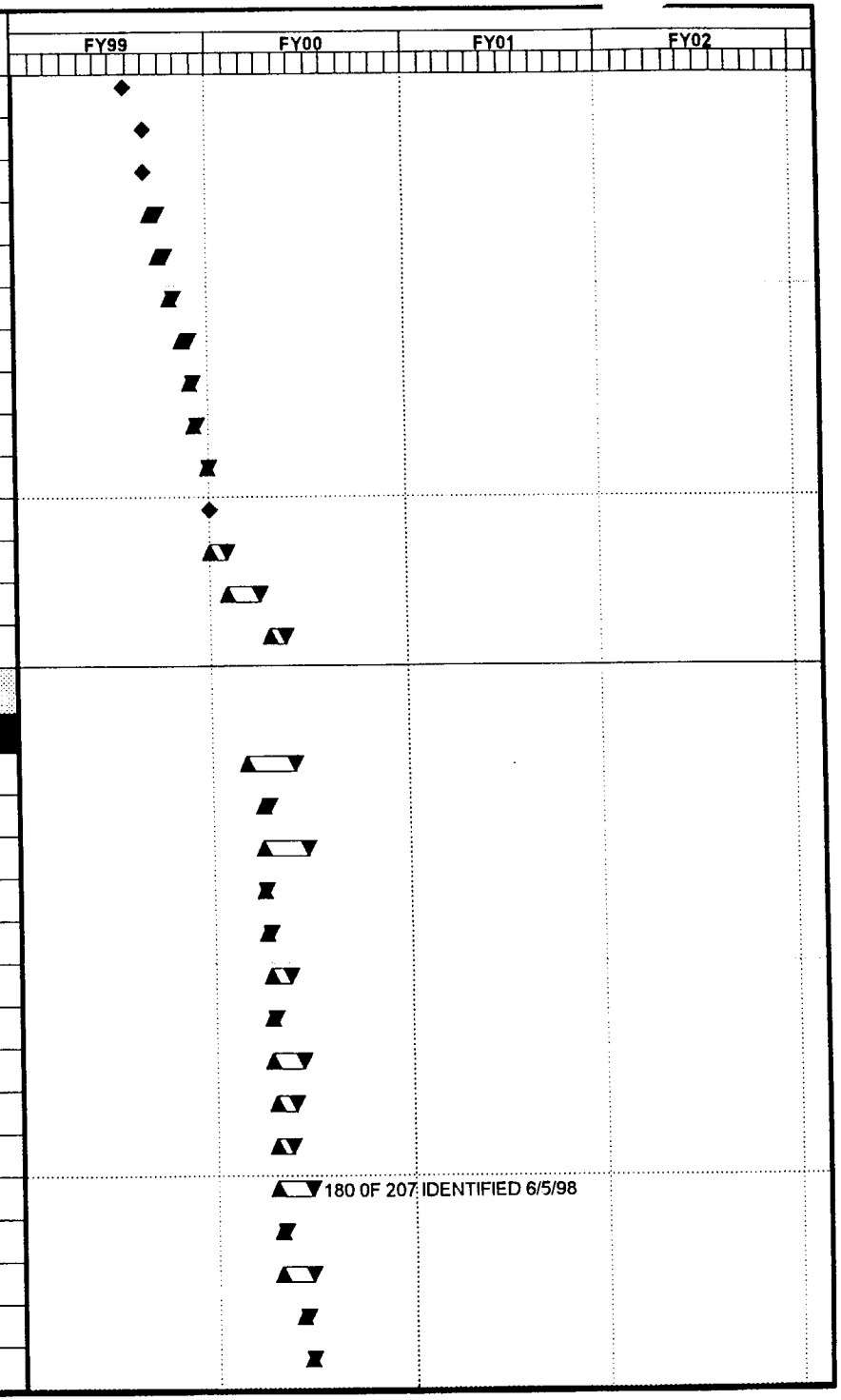
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLRDP090	YMSCO/OCRWM/DOE Tech/Mgmt Rvw-Distr/PI Plan		10	18AUG00	31AUG00
SLRDP095	Distr/PI Plan Final Comment Resolution		4	01SEP00	07SEP00
SLRDP110	QA by Author/PM/SR Team		2	20SEP00	21SEP00
M2DP	YMSCO Approve SR Distribution & PI Plan	P2	0		25SEP00
SZ PMR					
140 Natural Environment Program Operations					
SLS452M4	Rec SZ PMR Rev01/SR Consideration Hearing Draft	M4	0		09JUN00
SLS454M4	Rec SZ PMR Rev 03 for SR Notification Draft	M4	0		31JAN01
SLS456M4	Rec SZ PMR Rev 05 for License Application	M4	0		28SEP01
TEC PMR Tectonics PMR					
150 Support Operations					
SL282M4	Rec Tectonics PMR Rev00/SR Consid. Hearing Draft	M4	0		28APR00
SL286M4	Rec Tectonics PMR Rev 03 f/ SR Notification Drft	M4	0		31JAN01
SL284M4	Rec Tectonics PMR Rev 05 for License Application	M4	0		28SEP01
TSPA					
130 Performance Assessment Operations					
M2JG	TSPA-SR Rev 00	M2	0		30SEP98
SL934M3	Submit TSPA for SR Update	M3	0		30SEP98
SL934M4	Provide TSPA input for SR Update	M4	0		30SEP98
300 Regulatory & Licensing					
M1BF	OCRWM Compl.DOE Review & Concur.-State Notif. SR	M1	0		02APR01
UZ PMR					
140 Natural Environment Program Operations					
SLU362M4	Rec UZ PMR Rev01/SR Consideration Hearing Draft	M4	0		28APR00
SLU364M4	Rec UZ PMR Rev 03 for SR Notification Draft	M4	0		31JAN01
SLU366M4	Rec UZ PMR Rev 05 for License Application	M4	0		28SEP01
V1S1					
150 Support Operations					
BMR10011	CDP Writing Consultants Support V1S1 Development		118	01APR99	16SEP99
BMR10160	Prepare SR V1S1 Graphics for Review Draft		73	29APR99	11AUG99
BMR10130	CIM Review SR V1S1 Ref List for Doc Availability		8	01JUN99	10JUN99



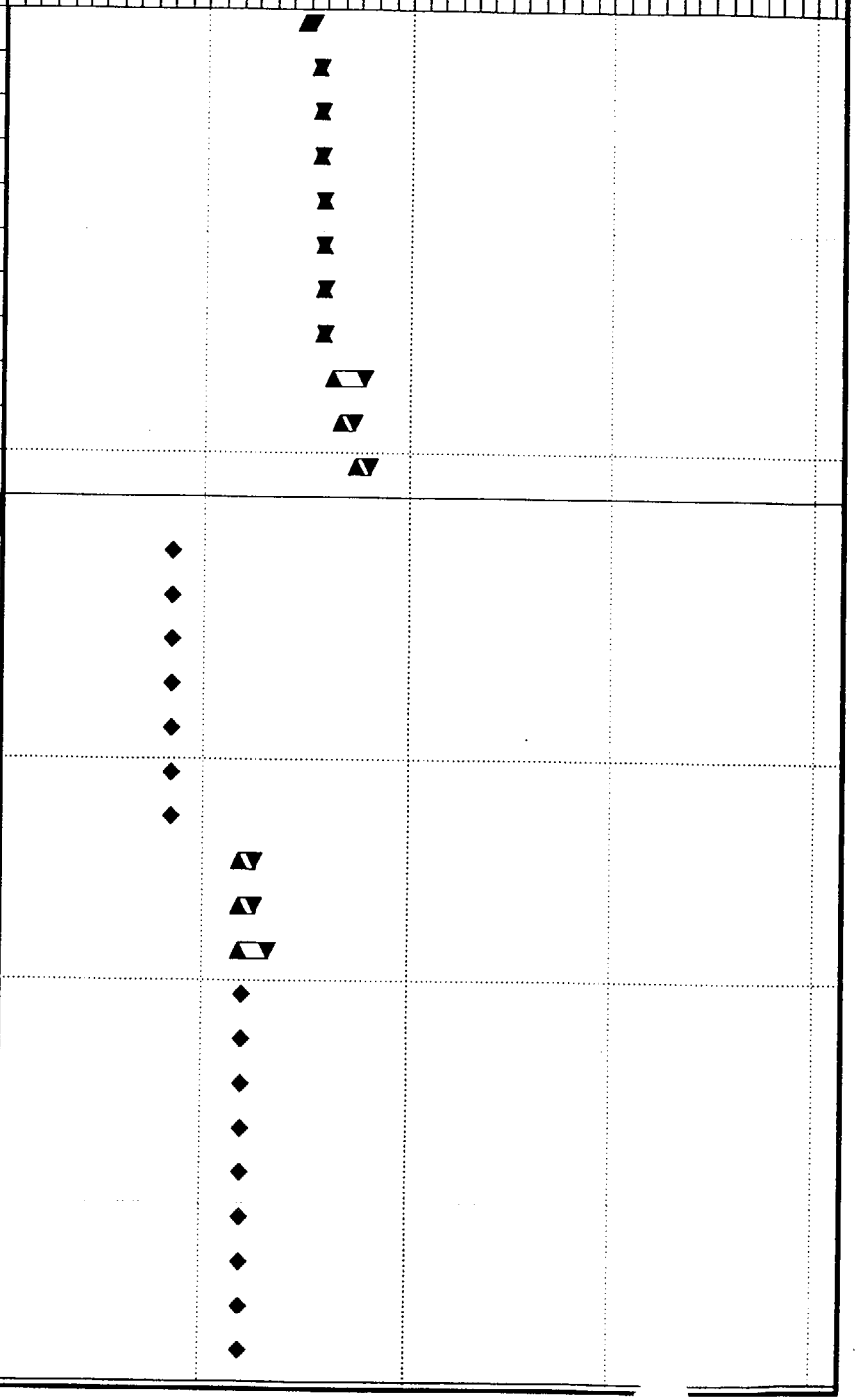
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMR10148	CIM Rvw V1S1 Ref/Fwd Internal Ref List to DC		2	01JUN99	02JUN99
BMR10010	CDP Edit, Format SR Prel Draft V1S1		8	03JUN99	14JUN99
BMR10105	DC Research SR V1S1 Ref. List for 30.12 Reqmts.		2	03JUN99	04JUN99
BMR10110	RPC Retrieve SR V1S1 Refs. for 30.12 Rvw Pkgs		25	07JUN99	12JUL99
BMR10140	RPC Rev SR V1S1 Ref Doc Format Electr./Hard Copy		5	07JUN99	11JUN99
BMR10135	CIM Procure SR V1S1 Ref Documents (As Needed)		44	11JUN99	12AUG99
BMR10115	DC Prepare SR V1S1 Refs 30.12 Review Packages		25	14JUN99	19JUL99
BMR10120	YMSCO Conduct SR V1S1 Ref 30.12 Review as needed		35	14JUN99	02AUG99
BMR10145	RPC Scan SR V1S1 Ref Doc Hard Copies (As Needed)		20	14JUN99	12JUL99
BMR10150	CIM Locate SR V1S1 Cited References		46	14JUN99	17AUG99
BMR10125	CIM Furnish SR V1S1 Ref Doc to WPM		40	01JUL99	26AUG99
BMR10146	RPC Create Ref Hard Copy f/Satellite Library		47	13JUL99	16SEP99
BMR10040	Preliminary QC Check of SR V1S1		5	14JUL99	20JUL99
BMR10050	CDP Edit, Reformat V1S1		9	28JUL99	09AUG99
BMR10051	Preliminary Technical Check SR V1S1/AP-3.11Q		10	10AUG99	23AUG99
BMR10070	CDP Final Edit SR V1S1 Approval Draft		10	08SEP99	21SEP99
BMR10075	SR V1S1 Pre-Submission QC Check		3	22SEP99	24SEP99
BMR10076	Technical Re-Check SR V1S1/AP-3.11Q		3	22SEP99	24SEP99
BMR10084	CDP Press Check V1S1 Submission Package		1	29SEP99	29SEP99
BMR10085	Repro & Prep SR V1S1 Submission Package		1	29SEP99	29SEP99
BMR10086	CDP Book Check SR V1S1 Submission Package		1	30SEP99	30SEP99
BMR10087	DC Book Check SR V1S1 Submission Package		1	30SEP99	30SEP99
BMR10165	Update/Finalize V1S1 Graphics		30	01NOV99	15DEC99
BMSR7125	CDP Finalize SR V1S1 Acceptance Draft		10	03JAN00	14JAN00
BMR10175	WPM Incorporate SR V1S1 Ref Docs in WBIS		54	17JUL00	29SEP00
300 Regulatory & Licensing					
SLR10003	Review & Assemble V1S1 Potential Refs.		20	01APR99	28APR99
SLR10004	Identify V1S1 Figures & Tables		20	01APR99	28APR99
SLR10005	Write SR V1S1 Preliminary Draft		44	01APR99	02JUN99
SLSR54M4	Begin Site Recommendation Vol 1 Preparation	M4	0	01APR99	
SL1001M4	Author Provide V1S1 Prelim Ref List to CIM	M4	0		28APR99



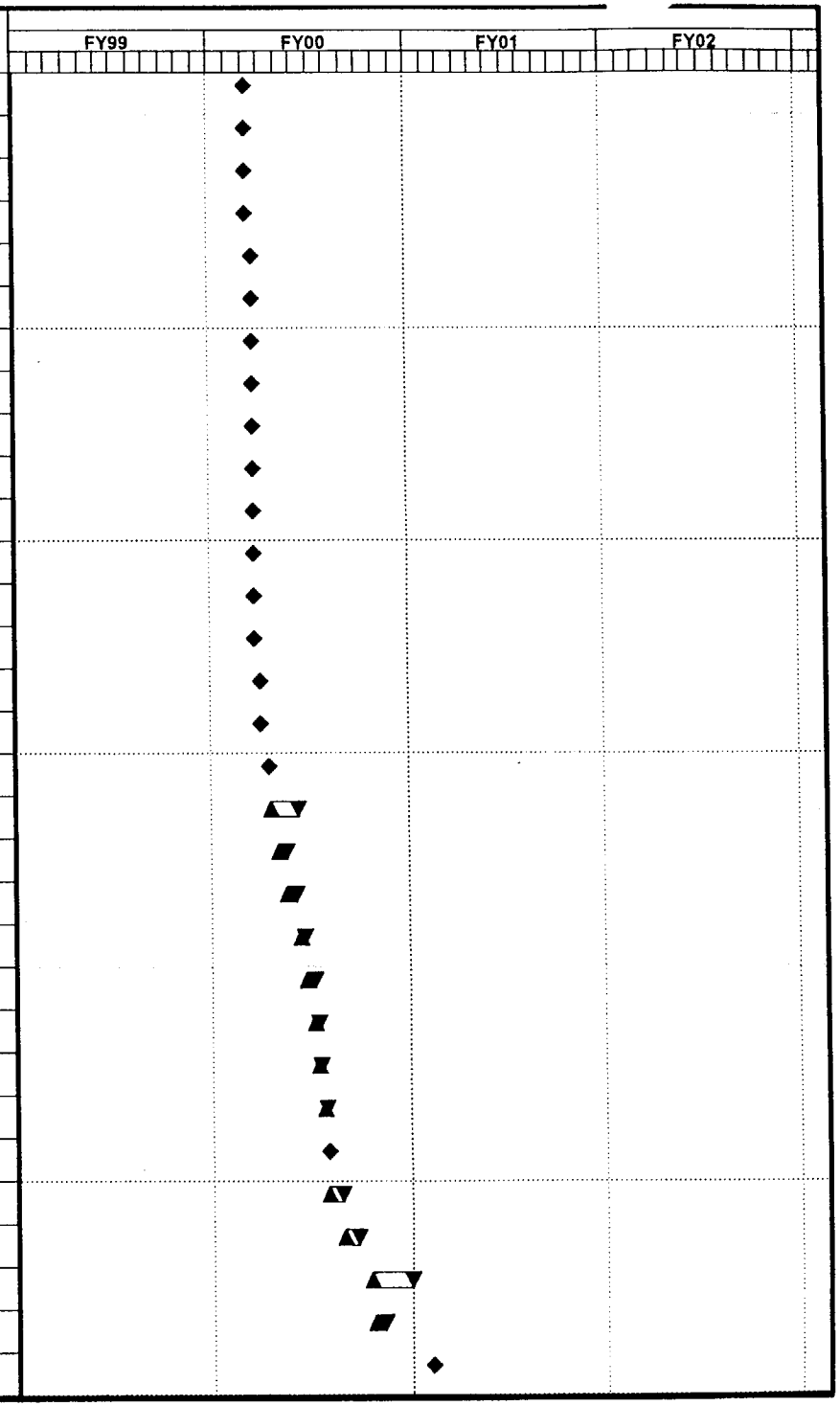
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SL1002M4	Author Transmit V1S1 Graphics Requirements	M4	0		28APR99
SL1003M4	Author Provide SR V1S1 Ref List Update to CIM	M4	0		02JUN99
SL1004M4	Author Provide SR V1S1 Graphics Req. Update	M4	0		02JUN99
SLR10015	M&O SR Team Review V1S1 Prel. Draft		10	15JUN99	28JUN99
SLR10020	Incorp. V1S1 SR Team Comments		10	29JUN99	13JUL99
SLR10045	Incorporate M&O SR V1S1 QC Check Comments		5	21JUL99	27JUL99
SLR10055	M&O/YMSCO SR V1S1 Preliminary Review		10	10AUG99	23AUG99
SLR10060	Resolve M&O/YMSCO SR V1S1 Preliminary		5	24AUG99	30AUG99
SLR10065	Final Update for SR V1S1 Approval Draft		5	31AUG99	07SEP99
SLR10080	SR Team Finalize V1S1 Approval Draft		2	27SEP99	28SEP99
SLSR7FM3	Submit Draft SR V1S1 to DOE	M3	0		30SEP99
SLSR7110	DOE Review Draft SR V1S1 (Vol 1)		20	01OCT99	29OCT99
SLSR7120	Revise & Resolve Comments on Draft SR V1S1		40	01NOV99	30DEC99
SLSR7130	DOE Acceptance Review of Draft SR V1S1		21	17JAN00	14FEB00
V1S2					
150 Support Operations					
BMR11011	CDP Writing Consultants Support V1S2 Development		63	01DEC99	01MAR00
BMR13125	CIM Review V1S2 Ref List for Doc Availability		8	30DEC99	11JAN00
BMR13135	Prepare V1S2 Graphics for Review Draft		56	30DEC99	20MAR00
BMR13161	CIM Review V1S2 Ref/Fwd Internal Ref List to DC		2	30DEC99	03JAN00
BMR13105	DC Research V1S2 Ref. List for 30.12 Reqmts.		5	04JAN00	10JAN00
BMR13110	RPC Retrieve V1S2 Refs. for 30.12 Rvw Pkgs		25	11JAN00	14FEB00
BMR13145	RPC Rev V1S2 Ref Doc Format Electr./Hard Copy		5	11JAN00	17JAN00
BMR13130	CIM Procure V1S2 Ref Documents (As Needed)		39	12JAN00	07MAR00
BMR13115	DC Prepare V1S2 Refs 30.12 Review Packages		25	18JAN00	22FEB00
BMR13150	RPC Scan V1S2 Ref Doc Hard Copies (As Needed)		20	18JAN00	14FEB00
BMR13155	CIM Locate V1S2 Cited References		44	18JAN00	20MAR00
BMR11010	CDP Edit, Format Prel Draft V1S2		7	25JAN00	02FEB00
BMR13160	CIM Furnish V1S2 Ref Doc for WPM		40	25JAN00	21MAR00
BMR11040	Preliminary QC Check of SR V1S2		5	03MAR00	09MAR00
BMR11050	CDP Edit, Reformat V1S2		2	17MAR00	20MAR00



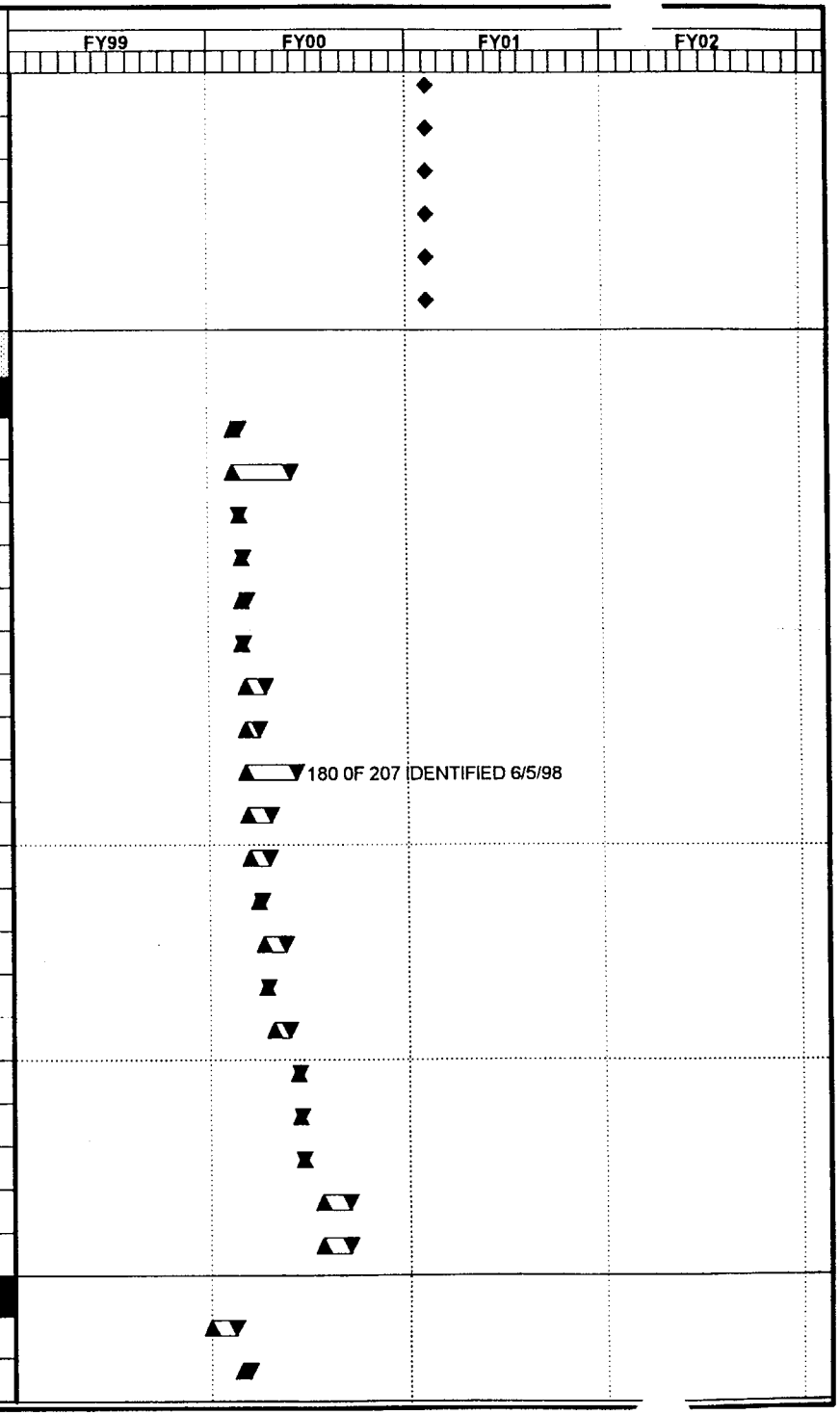
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMR11041	Preliminary Technical Check SR V1S2 per AP-3.11Q		10	21MAR00	03APR00
BMR11070	CDP Final Edit V1S2 Approval Draft		2	18APR00	19APR00
BMR11075	V1S2 Pre-Submission QC Check		3	20APR00	24APR00
BMR11076	Technical Re-Check SR V1S2/AP-3.11Q		3	20APR00	24APR00
BMR11071	CDP Press Check V1S2 Submission Package		1	27APR00	27APR00
BMR11085	Repro & Prep V1S2 Submission Package		1	27APR00	27APR00
BMR11072	CDP Book Check SR V1S2 Submission Package		1	28APR00	28APR00
BMR13116	DC Book Check SR V1S2 Submission Package		1	28APR00	28APR00
BMR13151	RPC Create Ref Hard Copy f/Satellite Library		40	15MAY00	11JUL00
BMR13140	Update/Finalize V1S2 Graphics		18	30MAY00	22JUN00
BMR7025A	CDP Finalize SR V1S2 Acceptance Draft		19	26JUN00	21JUL00
300 Regulatory & Licensing					
SLSS06M4	Rec SS Electrical Distr. Sys DBE/Class Analysis	M4	0		03AUG99
SLSS15M4	Rec Muck Handling System Class Analysis	M4	0		03AUG99
SLSS16M4	Rec Subsurface Development Class Analysis	M4	0		03AUG99
SLSS24M4	Rec Subsurface Emplacement Class Analysis	M4	0		03AUG99
SLSS25M4	Rec Subsurface Excavation System DBE Analy.	M4	0		03AUG99
SLSU42M4	Rec Site Communications System Class Analysis	M4	0		03AUG99
SLSU52M4	*Rec Central C&C Ops. System DBE Analysis	M4	0		03AUG99
SLR11003	Review & Assemble V1S2 Potential Refs.		20	01DEC99	29DEC99
SLR11004	Identify V1S2 Figures & Tables		20	01DEC99	29DEC99
SLR11005	Write V1S2 Preliminary Draft		37	01DEC99*	24JAN00
SLPA01M4	Rec PC Waste Ver/Val. System SDD Sec 1	M4	0		09DEC99
SLSS08M4	Rec Subsurface Compressed Air System SDD Sec 1	M4	0		09DEC99
SLSS09M4	Rec SS Water Distribution System SDD Sec 1	M4	0		09DEC99
SLSS18M4	Rec Backfill Emplacement System SDD Sec 1	M4	0		09DEC99
SLSS20M4	Rec Subsurface Water SDD Sec 1	M4	0		09DEC99
SLSS26M4	Rec SS Fire Protection System SDD Sec 1	M4	0		09DEC99
SLSU01M4	Rec MGR Site Layout SDD Sec 1	M4	0		09DEC99
SLSU02M4	*Rec Waste Handling Building System SDD Sec 1	M4	0		09DEC99
SLSU29M4	Rec Site Rad Monitoring System SDD Sec 1	M4	0		09DEC99



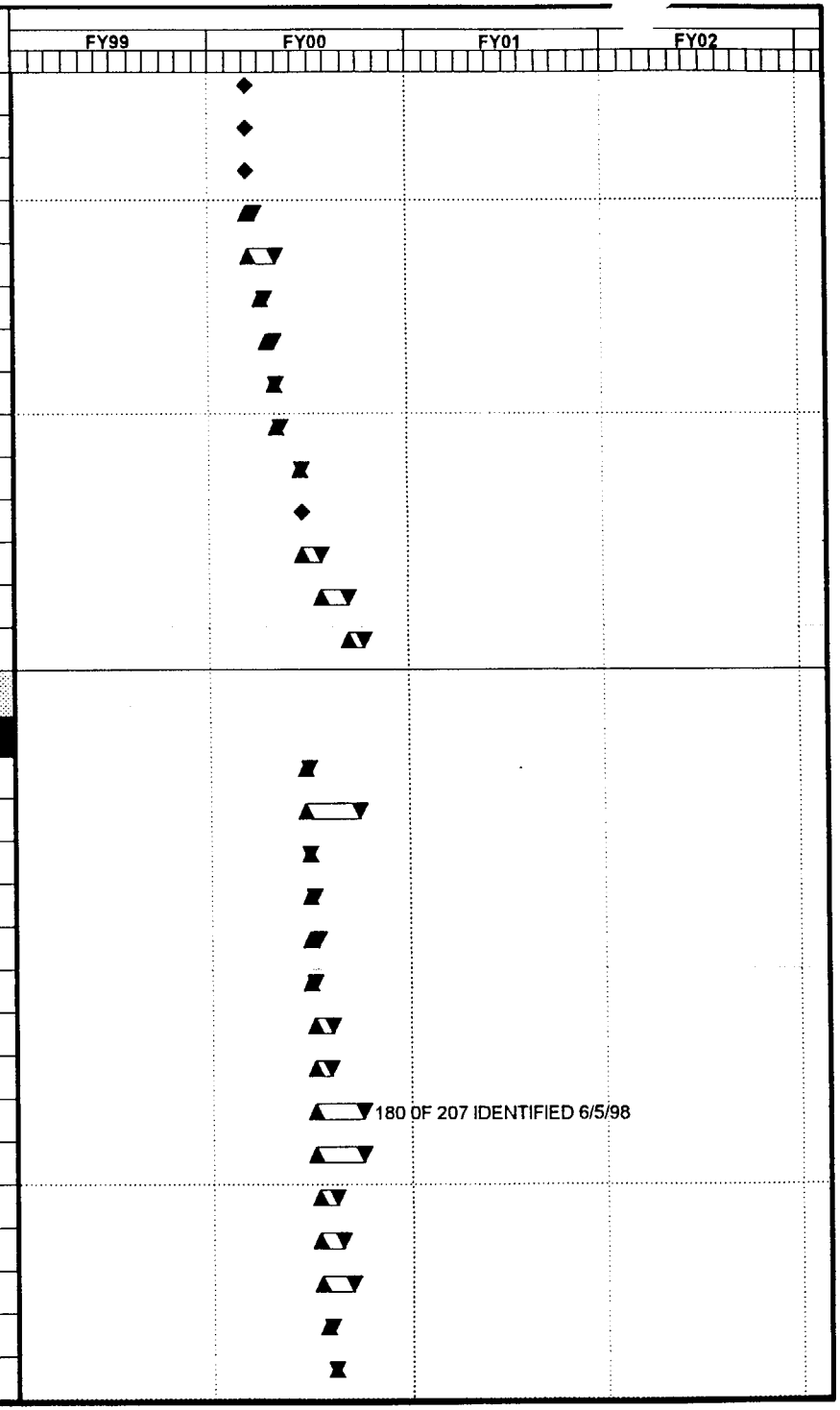
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLSU40M4	Rec Emergency Response System SDD Sec 1	M4	0		09DEC99
SLSU48M4	Rec Safeguards & Security System SDD Sec 1	M4	0		09DEC99
SLSU55M4	Rec Performance Confirmation Data SDD Sec 1	M4	0		09DEC99
SLSU57M4	Rec Pool Water Treatment & Cooling Sys SDD Sec 1	M4	0		09DEC99
SLSS01M4	Receive Subsurface Facility System SDD Sec 2	M4	0		21DEC99
SLSS02M4	Receive Ex-Container Systems SDD Sec 2	M4	0		21DEC99
SLSS03M4	Receive Ground Control System SDD Sec 2	M4	0		21DEC99
SLSS05M4	Receive SS Ventilation System SDD Sec 2	M4	0		21DEC99
SLSS10M4	Receive SS Safety & Monitoring System SDD Sec 2	M4	0		21DEC99
SLSS12M4	Rec SS Ops Monitoring & Control System SDD Sec 2	M4	0		21DEC99
SLSS14M4	Rec. PC Emplacement Drift Monitor Sys. SDD Sec 2	M4	0		21DEC99
SLSS17M4	Rec Waste Emplacement System SDD Sec 2	M4	0		21DEC99
SLSS19M4	Rec SS Closure & Seal System SDD Sec 2	M4	0		21DEC99
SLSS21M4	Rec Waste Retrieval System SDD Sec 2	M4	0		21DEC99
SL1005M4	Author Provide V1S2 Prelim Ref List to CIM	M4	0		29DEC99
SL1006M4	Author Transmit V1S2 Graphics Requirements	M4	0		29DEC99
SLSU44M4	Rec Site Electrical Power System SDD Sec 2	M4	0		14JAN00*
SLR13120	YMSCO Conduct V1S2 Ref 30.12 Review as needed		35	18JAN00	07MAR00
SLR11015	M&O SR Team Review V1S2 Prel. Draft		10	03FEB00	16FEB00
SLR11020	Incorp. V1S2 SR Team Comments		10	17FEB00	02MAR00
SLR11045	Incorporate M&O V1S2 QC Check Comments		5	10MAR00	16MAR00
SLR11055	M&O/YMSCO V1S2 Preliminary Review		10	21MAR00	03APR00
SLR11060	Resolve M&O/YMSCO V1S2 Preliminary Comments		5	04APR00	10APR00
SLR11065	Final Update for V1S2 Approval Draft		5	11APR00	17APR00
SLR11080	SR Team Finalize V1S2 Approval Draft		2	25APR00	26APR00
SLSR7DM3	Submit Draft SR V1S2 to DOE	M3	0		28APR00
SLSR7020A	DOE Review Draft SR V1S2		20	01MAY00	26MAY00
SLSR7025A	Resolve Comments/Revise Draft SR V1S2		19	30MAY00	23JUN00
SLR13165	WPM Incorporate V1S2 Ref Docs in WBIS		54	17JUL00	29SEP00
SLSR7140	DOE Acceptance Review of Draft SR V1S2		14	24JUL00	10AUG00
SLSU10M4	Rec Assembly Transfer System SDD Sec 2	M4	0		07NOV00*



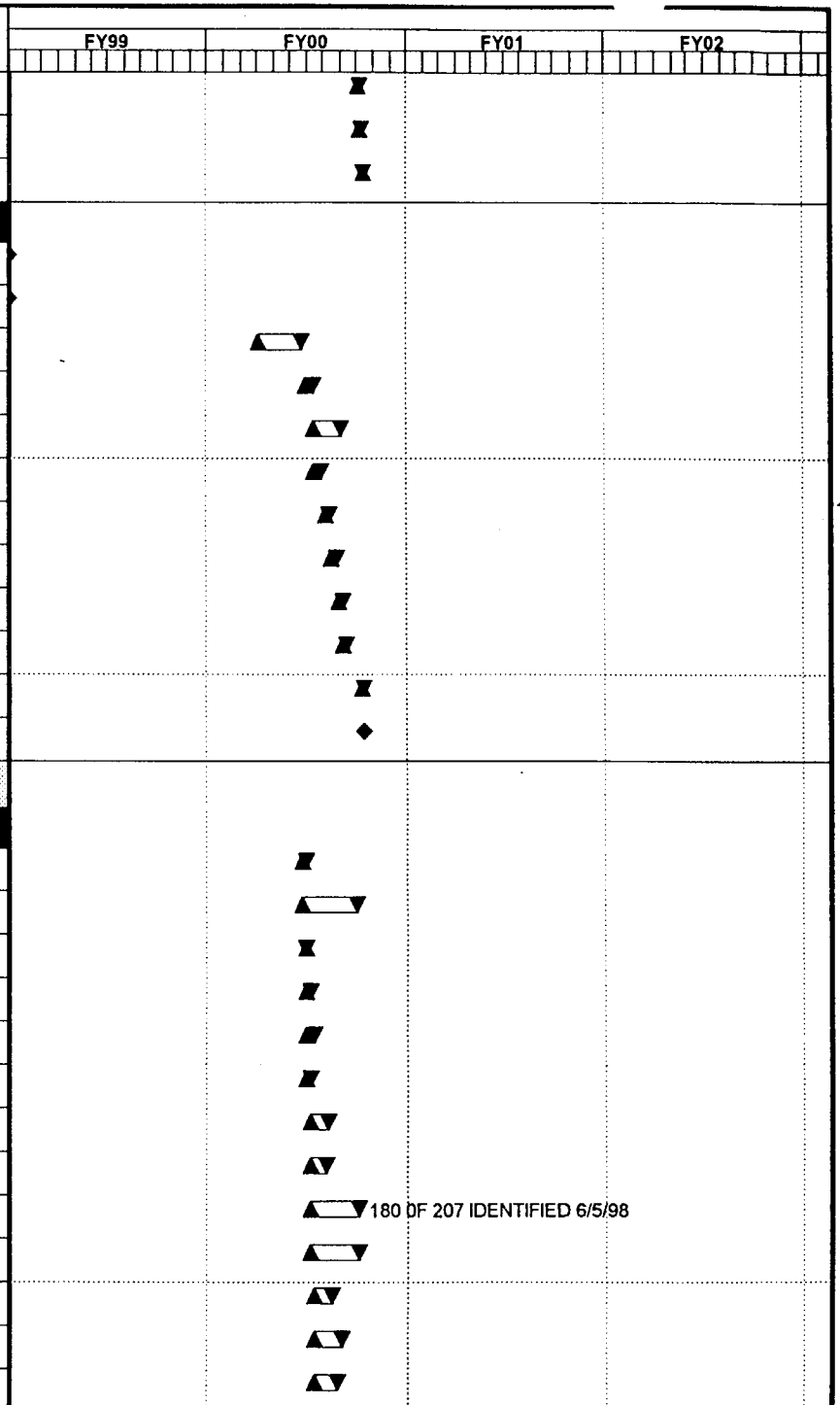
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLSU11M4	Rec Canister Transfer System SDD Sec 2	M4	0		07NOV00*
SLSU12M4	Rec Waste Package Remediation System SDD Sec 2	M4	0		07NOV00*
SLSU13M4	Disposal Container Handling System SDD Sec 2	M4	0		07NOV00*
SLSU18M4	Rec Waste Handling Bldg Electr. Sys. SDD Sec 2	M4	0		07NOV00*
SLSU22M4	Waste Handling Bldg Ventilation Sys SDD Sec 2	M4	0		07NOV00*
SLSUCGM4	Rec Site Compressed Gas System SDD Sec 2	M4	0		07NOV00*
V1S3					
150 Support Operations					
BMR12010	CDP Edit, Format Prel Draft V1S3		7	15NOV99	23NOV99
BMR14135	Prepare V1S3 Graphics for Review Draft		72	15NOV99	29FEB00
BMR14100	CDP Extract V1S3 Ref List for RPC/TIC/WBIS		1	24NOV99	24NOV99
BMR14105	DC Research V1S3 Ref. List for 30.12 Reqmts.		5	29NOV99	03DEC99
BMR14125	CIM Review V1S3 Ref List for Doc Availability		8	29NOV99	08DEC99
BMR14145	RPC Rev V1S3 Ref Doc Format Electr./Hard Copy		5	29NOV99	03DEC99
BMR14110	Retrieve V1S3 Refs. for 30.12 Rvw Pkgs		25	06DEC99	11JAN00
BMR14150	Scan V1S3 Ref Doc Hard Copies (As Needed)		17	06DEC99	29DEC99
BMR14155	CIM Locate V1S3 Cited References		64	06DEC99	07MAR00
BMR14130	CIM Procure V1S3 Ref Documents (As Needed)		30	09DEC99	21JAN00
BMR14115	DC Prepare V1S3 Refs 30.12 Review Packages		25	13DEC99	18JAN00
BMR12040	Preliminary QC Check of SR V1S3		5	27DEC99	03JAN00
BMR14160	CIM Furnish V1S3 Ref Doc for WBIS		27	07JAN00	14FEB00
BMR12050	CDP Edit, Reformat V1S3		2	11JAN00	12JAN00
BMR14165	Incorporate V1S3 Ref Docs in WBIS		19	26JAN00	22FEB00
BMR12070	CDP Final Edit V1S3 Approval Draft		2	08MAR00	09MAR00
BMR12075	V1S3 Pre-Submission QC Check		3	10MAR00	14MAR00
BMR12085	Repro & Prep V1S3 Submission Package		1	17MAR00	17MAR00
BMR14140	Update/Finalize V1S3 Graphics		36	24APR00	13JUN00
BMSR7155	CDP Support SR V1S3 Acceptance Draft		36	24APR00	13JUN00
300 Regulatory & Licensing					
SLR12005	Write V1S3 Preliminary Draft		29	01OCT99*	12NOV99
SLR12015	M&O SR Team Review V1S3 Prel. Draft		10	24NOV99	09DEC99



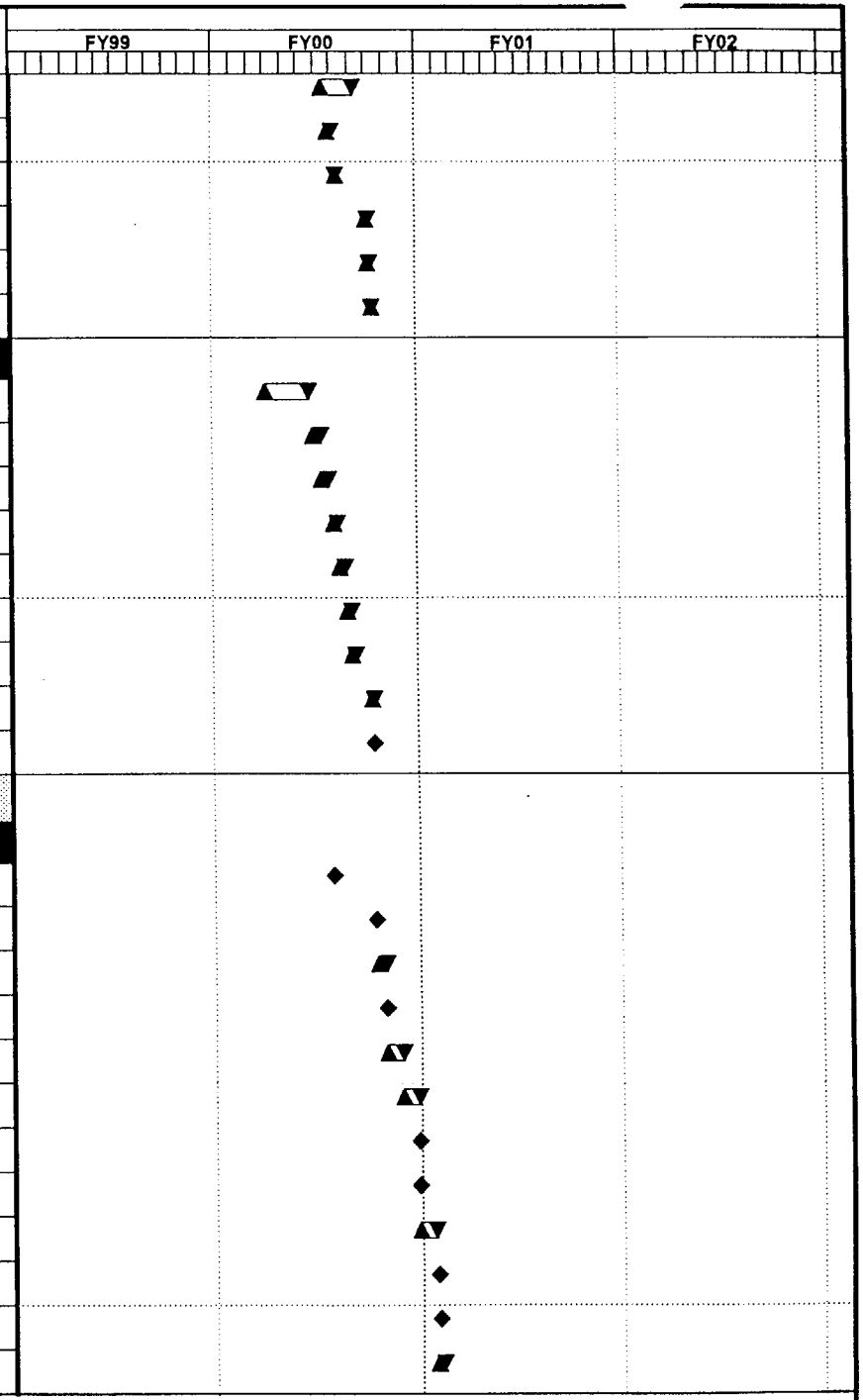
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLWP01M4	Rec Uncanistered SNF Disp. Container SDD Sec 1	M4	0		09DEC99
SLWP03M4	Receive DHLW Disposal Container SDD Sec 1	M4	0		09DEC99
SLWP09M4	Receive Navy Fuel Disposal Container SDD Sec 1	M4	0		09DEC99
SLR12020	Incorp. V1S3 SR Team Comments		10	10DEC99	23DEC99
SLR14120	YMSCO Conduct V1S3 Ref 30.12 Review as needed		34	13DEC99	31JAN00
SLR12045	Incorporate M&O V1S3 QC Check Comments		5	04JAN00	10JAN00
SLR12055	M&O/YMSCO V1S3 Preliminary Review		10	13JAN00	26JAN00
SLR12060	Resolve M&O/YMSCO V1S3 Preliminary Comments		5	27JAN00	02FEB00
SLR12065	Final Update for V1S3 Approval Draft		5	03FEB00	09FEB00
SLR12080	SR Team Finalize V1S3 Approval Draft		2	15MAR00	16MAR00
SLSR7CM3	Submit Draft SR V1S3 to DOE	M3	0		17MAR00
SLSR7020	DOE Review Draft SR V1S3		25	20MAR00	21APR00
SLSR7150	Resolve Comments/Revise Draft SR V1S3		36	24APR00	13JUN00
SLSR7160	DOE Acceptance Review SR Draft V1S3		19	14JUN00	11JUL00
V1S4.1					
150 Support Operations					
BMR13010	CDP Edit, Format Prel Draft V1S4.1		7	21MAR00	29MAR00
BMR15135	Prepare V1S4.1 Graphics for Review Draft		73	21MAR00	30JUN00
BMR15100	CDP Extract V1S4.1 Ref List for RPC/TIC/WBIS		1	30MAR00	30MAR00
BMR15105	DC Research V1S4.1 Ref. List for 30.12 Reqmt.		2	31MAR00	03APR00
BMR15125	CIM Rvw V1S4.1 Ref List for Doc Availability		8	31MAR00	11APR00
BMR15145	RPC Rev V1S4.1 Ref Doc Format Electr/Hard Cop		5	31MAR00	06APR00
BMR15110	Retrieve V1S4.1 Refs. for 30.12 Rvw Pkgs		25	04APR00	08MAY00
BMR15150	Scan V1S4.1 Ref Doc Hard Copies (As Needed)		20	07APR00	04MAY00
BMR15155	CIM Locate V1S4.1 Cited References		61	07APR00	03JUL00
BMR15165	Incorporate V1S4.1 Ref Docs in WBIS		61	07APR00	03JUL00
BMR15115	DC Prepare V1S4.1 Refs 30.12 Review Packages		25	11APR00	15MAY00
BMR15130	CIM Procure V1S4.1 Ref Documents (As Needed)		30	12APR00	23MAY00
BMR15160	CIM Furnish V1S4.1 Ref Doc for WBIS		40	18APR00	13JUN00
BMR13055	Preliminary QC Check of SR V1S4.1		5	27APR00	03MAY00
BMR13050	CDP Edit, Reformat V1S4.1		2	11MAY00	12MAY00



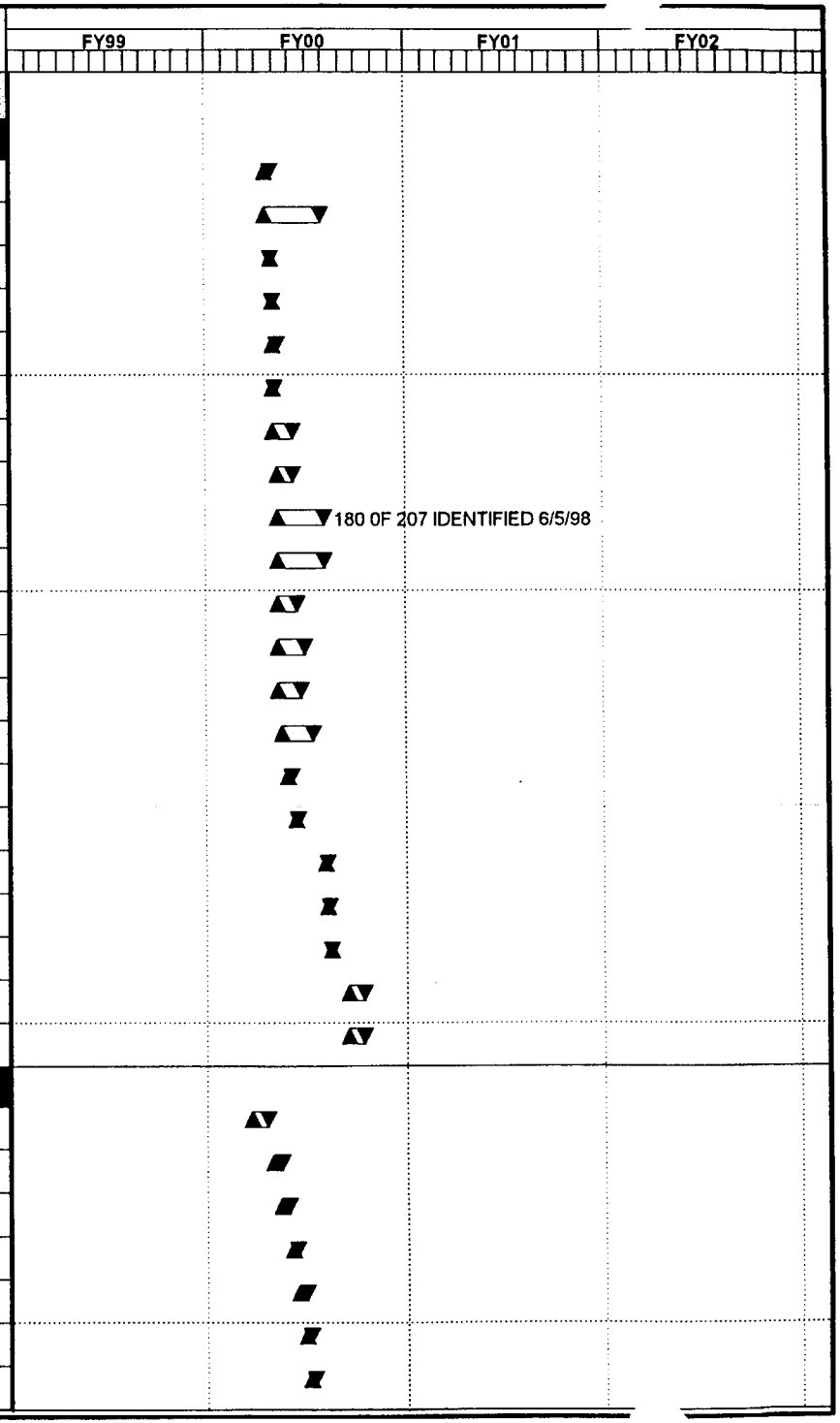
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMR13070	CDP Final Edit V1S4.1 Approval Draft		2	05JUL00	06JUL00
BMR13075	V1S4.1 Pre-Submission QC Check		3	07JUL00	11JUL00
BMR13085	Repro & Prep V1S4.1 Submission Package		1	14JUL00	14JUL00
300 Regulatory & Licensing					
SLSR7AM4	Receive NOA for Draft EIS	M4	0		30SEP98
SLSR7DM4	Receive YMSCO Approved FEIS	M4	0		30SEP98
SLR13005	Write V1S4.1 Preliminary Draft		55	03JAN00*	20MAR00
SLR13015	M&O SR Team Review V1S4.1 Prel. Draft		10	30MAR00	12APR00
SLR15120	YMSCO Conduct V1S4.1 Ref 30.12 Rvw as needed		35	11APR00	30MAY00
SLR13020	Incorp. V1S4.1 SR Team Comments		10	13APR00	26APR00
SLR13045	Incorporate M& O V1S4.1 QC Check Comments		5	04MAY00	10MAY00
SLR13055	M&O/YMSCO V1S4.1 Preliminary Review		10	15MAY00	26MAY00
SLR13060	Resolve M&O/YMSCO V1S4.1 Preliminary Comments		5	30MAY00	05JUN00
SLR13065	Final Update for V1S4.1 Approval Draft		5	06JUN00	12JUN00
SLR13080	SR Team Finalize V1S4.1 Approval Draft		2	12JUL00	13JUL00
SLBR13M4	Complete SR V1S4.1 f/DOE Review	M4	0		14JUL00
V1S4.2					
150 Support Operations					
BMR15175	CDP Edit, Format Prel Draft V1S4.2		7	21MAR00	29MAR00
BMR15295	Prepare V1S4.2 Graphics for Review Draft		73	21MAR00	30JUN00
BMR15255	CDP Extract V1S4.2 Ref List for RPC/TIC/WBIS		1	30MAR00	30MAR00
BMR15260	DC Research V1S4.2 Ref. List for 30.12 Reqmts		2	31MAR00	03APR00
BMR15285	CIM Rvw V1S4.2 Ref List for Doc Availability		8	31MAR00	11APR00
BMR15300	RPC Rev V1S4.2 Ref Doc Format Electr/Hard Cop		5	31MAR00	06APR00
BMR15265	Retrieve V1S4.2 Refs. for 30.12 Rvw Pkgs		25	04APR00	08MAY00
BMR15305	Scan V1S4.2 Ref Doc Hard Copies (As Needed)		20	07APR00	04MAY00
BMR15310	CIM Locate V1S4.2 Cited References		61	07APR00	03JUL00
BMR15320	Incorporate V1S4.2 Ref Docs in WBIS		61	07APR00	03JUL00
BMR15270	DC Prepare V1S4.2 Refs 30.12 Review Packages		25	11APR00	15MAY00
BMR15275	YMSCO Conduct V1S4.2 Ref 30.12 Rvw as needed		35	11APR00	30MAY00
BMR15290	CIM Procure V1S4.2 Ref Documents (As Needed)		30	12APR00	23MAY00



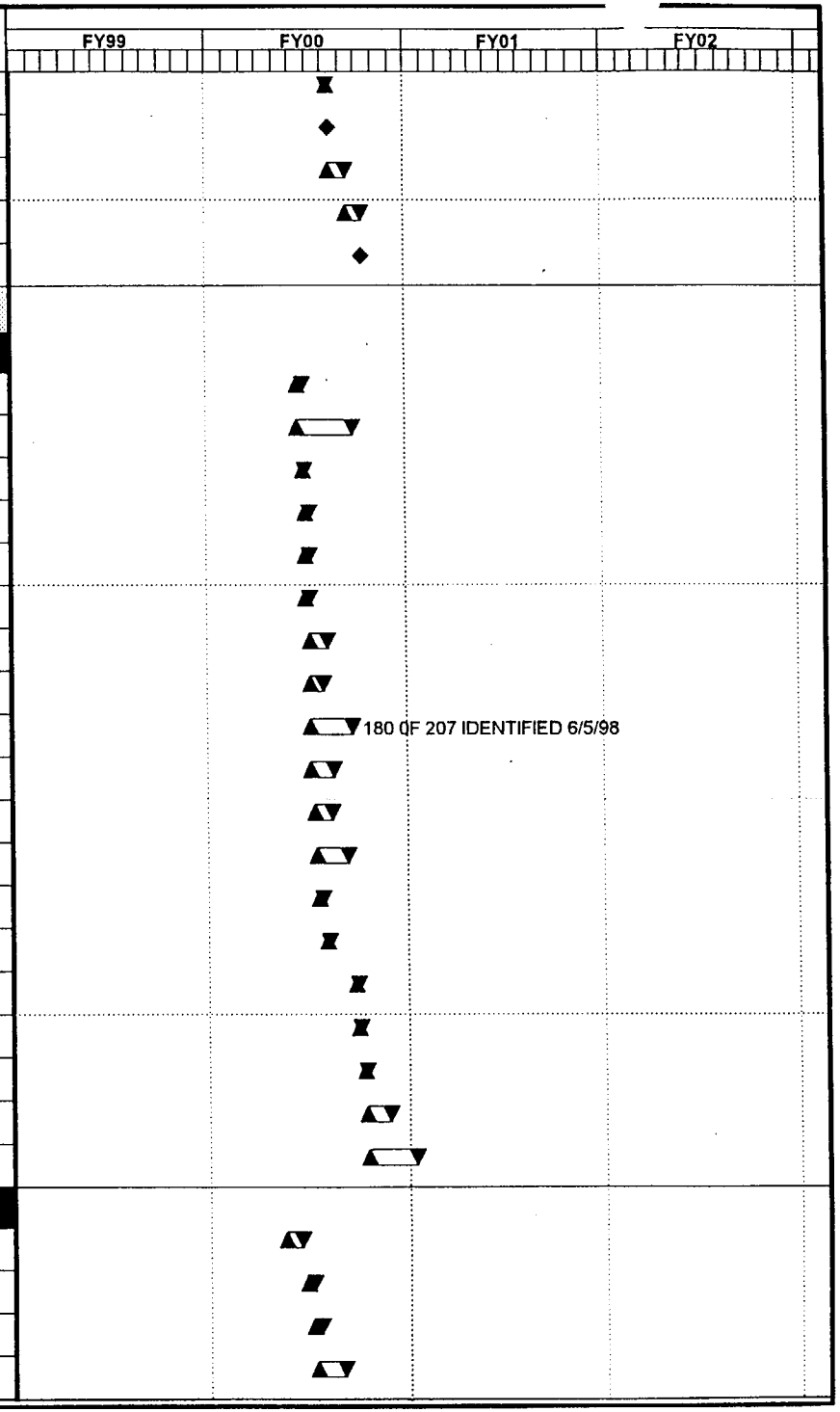
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMR15315	CIM Furnish V1S4.2 Ref Doc for WBIS		40	18APR00	13JUN00
BMR15205	Preliminary QC Check of SR V1S4.2		5	27APR00	03MAY00
BMR15215	CDP Edit, Reformat V1S4.2		2	11MAY00	12MAY00
BMR15235	CDP Final Edit V1S4.2 Approval Draft		2	05JUL00	06JUL00
BMR15240	V1S4.2 Pre-Submission QC Check		3	07JUL00	11JUL00
BMR15250	Repro & Prep V1S4.2 Submission Package		1	14JUL00	14JUL00
300 Regulatory & Licensing					
SLR15170	Write V1S4.2 Preliminary Draft		55	03JAN00*	20MAR00
SLR15180	M&O SR Team Review V1S4.2 Prel. Draft		10	30MAR00	12APR00
SLR15185	Incorp. V1S4.2 SR Team Comments		10	13APR00	26APR00
SLR15210	Incorporate M& V1S4.2 QC Check Comments		5	04MAY00	10MAY00
SLR15220	M&O/YMSCO V1S4.2 Preliminary Review		10	15MAY00	26MAY00
SLR15225	Resolve M&O/YMSCO V1S4.2 Preliminary Comments		5	30MAY00	05JUN00
SLR15230	Final Update for V1S4.2 Approval Draft		5	06JUN00	12JUN00
SLR15245	SR Team Finalize V1S4.2 Approval Draft		2	12JUL00	13JUL00
SLSR7XM4	Complete SR V1S4.2 f/DOE Review	M4	0		14JUL00
V1SCHD					
300 Regulatory & Licensing					
SLSR7BM4	Receive Draft TSPA for SR Draft	M4	0		28APR00
SLSR7EM3	Submit SR Consideration Hearings Draft to DOE	M3	0		14JUL00*
SLSR7020B	DOE Acceptance Review Draft SR Vol 1		11	17JUL00	31JUL00
M2NL	YMSCO Submits Consideration Hearing Draft SR	M2	0		31JUL00
SLSR7170	Resolve Comments/Revise Draft SR Vol 1		20	01AUG00	28AUG00
SLSR7180	DOE Acceptance Review of Draft SR Vol 1		19	29AUG00	25SEP00
SLM2JTM3	Complete DOE Concurrence Review Draft SR Vol 1	M3	0		25SEP00
SLSR7AM3	Complete OCRWM Concurrence Draft SR Vol 1	M3	0		25SEP00
SLSR7040	DOE Concurrence Review of SR Product Vol 1 & 2		20	26SEP00	24OCT00
M1NX	OCRWM Cmpl.DOE Rev.& Concur.Consid.Hear.Draft SR	M1	0		30OCT00
SLSR7FM4	Receive TSPA - SR Draft Input	M4	0		31OCT00
SLTR245B	DOE X-1 Concur on SR Consideration Hearing Draft		8	31OCT00	09NOV00



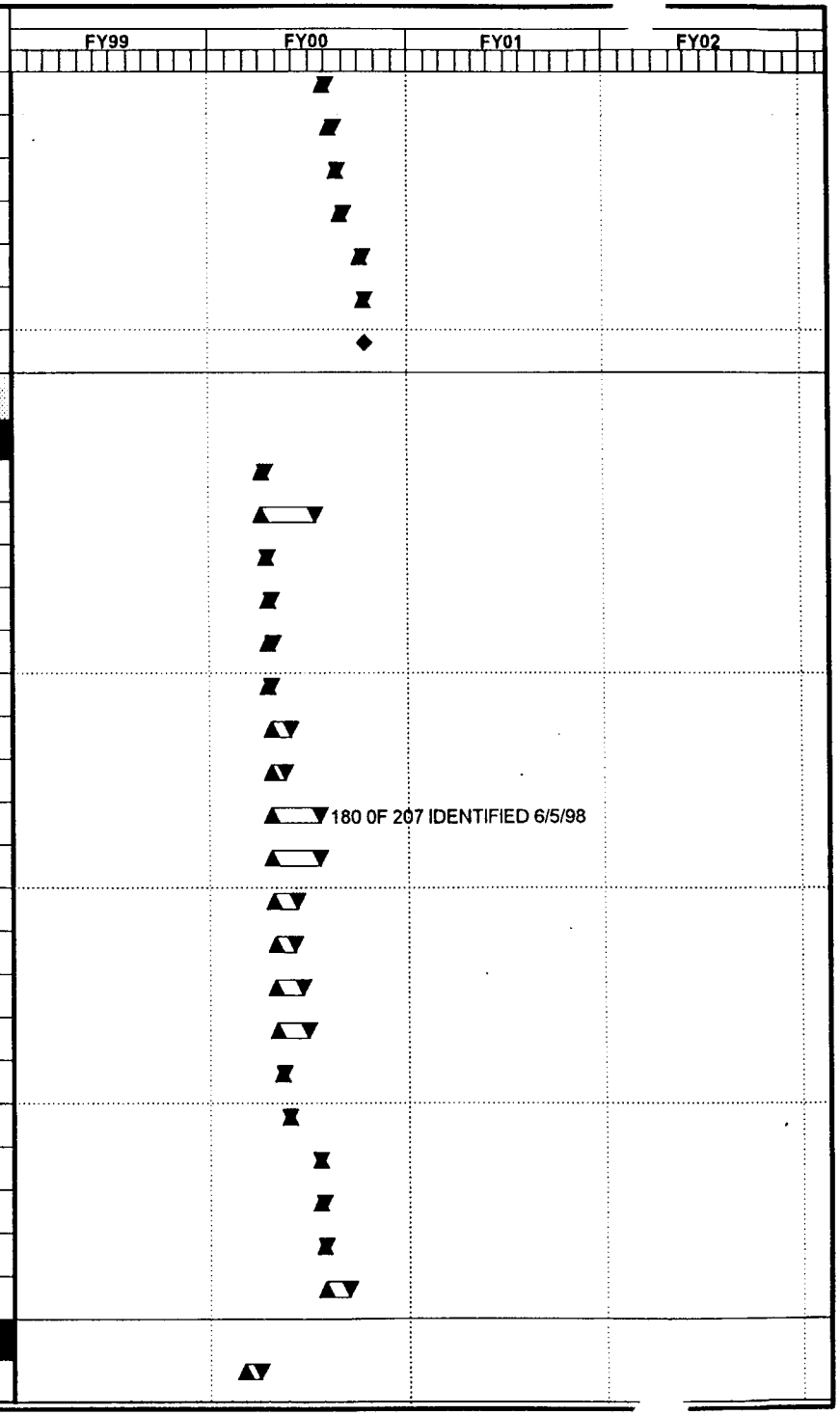
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
V2S1					
150 Support Operations					
BMR21010	CDP Edit, Format Prel Draft V2S1		7	19JAN00	27JAN00
BMR21135	Prepare V2S1 Graphics for Review Draft		72	19JAN00	28APR00
BMR21100	CDP Extract V2S1 Ref List for RPC/TIC/WBIS		1	28JAN00	28JAN00
BMR21105	DC Research V2S1 Ref. List for 30.12 Reqmts.		2	31JAN00	01FEB00
BMR21125	CIM Review V2S1 Ref List for Doc Availability		8	31JAN00	09FEB00
BMR21145	RPC Rev V2S1 Ref Doc Format Electr./Hard Copy		5	31JAN00	04FEB00
BMR21110	Retrieve V2S1 Refs. for 30.12 Rvw Pkgs		25	02FEB00	08MAR00
BMR21150	Scan V2S1 Ref Doc Hard Copies (As Needed)		20	07FEB00	06MAR00
BMR21155	CIM Locate V2S1 Cited References		62	07FEB00	03MAY00
BMR21165	Incorporate V2S1 Ref Docs in WBIS		62	07FEB00	03MAY00
BMR21115	DC Prepare V2S1 Refs 30.12 Review Packages		25	09FEB00	15MAR00
BMR21120	YMSCO Conduct V2S1 Ref 30.12 Review as needed		35	09FEB00	29MAR00
BMR21130	CIM Procure V2S1 Ref Documents (As Needed)		30	10FEB00	23MAR00
BMR21160	CIM Furnish V2S1 Ref Doc for WBIS		40	16FEB00	12APR00
BMR21040	Preliminary QC Check of SR V2S1		5	28FEB00	03MAR00
BMR21050	CDP Edit, Reformat V2S1		2	13MAR00	14MAR00
BMR21070	CDP Final Edit V2S1 Approval Draft		2	04MAY00	05MAY00
BMR21075	V2S1 Pre-Submission QC Check		3	08MAY00	10MAY00
BMR21085	Repro & Prep V2S1 Submission Package		1	15MAY00	15MAY00
BMR21140	Update/Finalize V2S1 Graphics		18	16JUN00	12JUL00
BMSR6825	CDP Support SR V2S1 Acceptance Draft		18	16JUN00	12JUL00
300 Regulatory & Licensing					
SLR21005	Write V2S1 Preliminary Draft		20	20DEC99*	18JAN00
SLR21015	M&O SR Team Review V2S1 Prel. Draft		10	28JAN00	10FEB00
SLR21020	Incorp. V2S1 SR Team Comments		10	11FEB00	25FEB00
SLR21045	Incorporate M&O V2S1 QC Check Comments		5	06MAR00	10MAR00
SLR21055	M&O/YMSCO V2S1Preliminary Review		10	15MAR00	28MAR00
SLR21060	Resolve M&O/YMSCO V2S1 Preliminary Comments		5	29MAR00	04APR00
SLR21065	Final Update for V2S1 Approval Draft		5	05APR00	11APR00



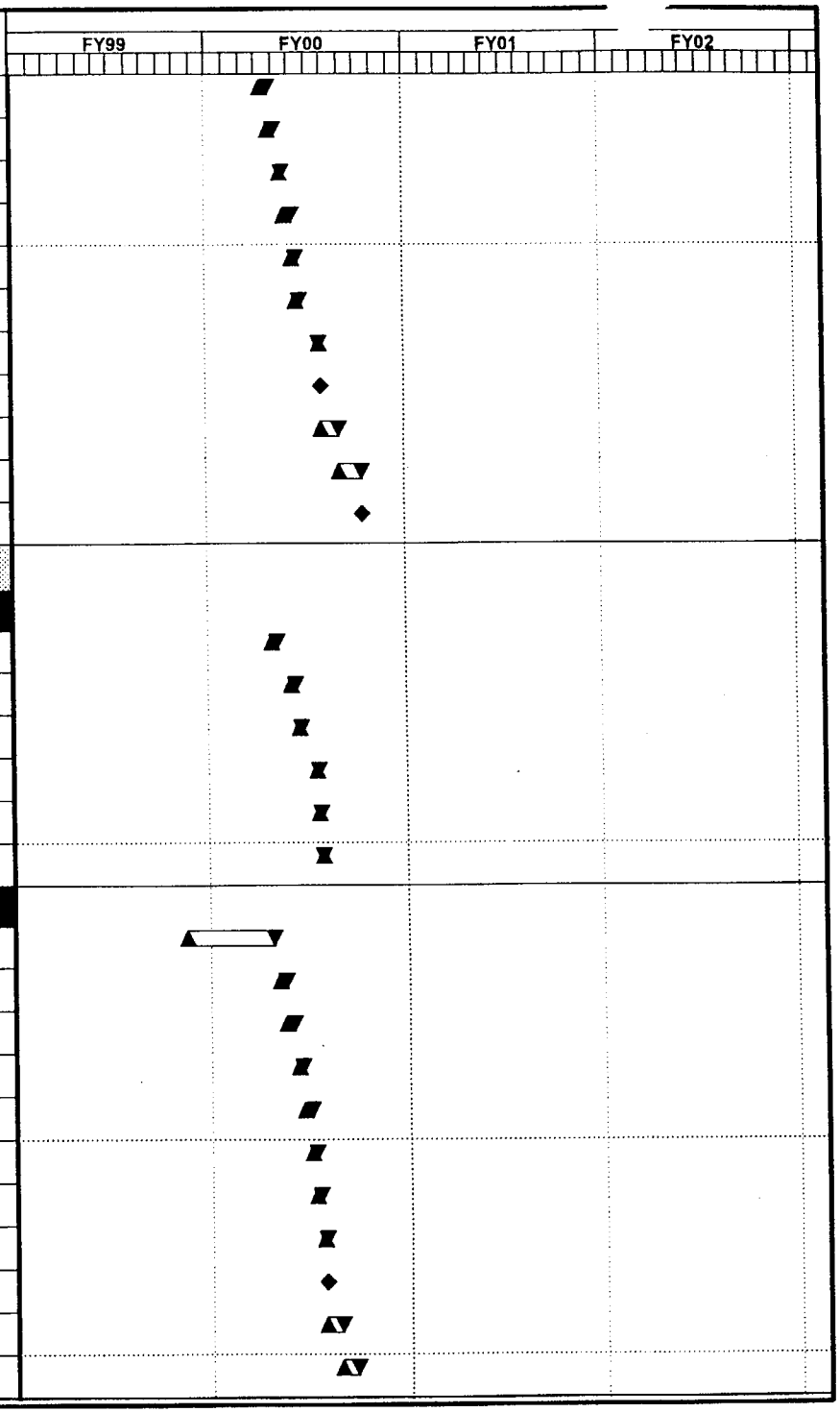
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR21080	SR Team Finalize V2S1 Approval Draft		2	11MAY00	12MAY00
SLSR68M3	Submit V2S1 Prelim Draft f/ DOE Rvw	M3	0		15MAY00
SLSR6810	DOE Rvw V2S1 Introduction		22	16MAY00	15JUN00
SLSR6820	Finalize V2S1 Introduction		20	16JUN00	14JUL00
SLSR68M4	Complete Final V2S1 Introduction	M4	0		14JUL00
V2S2					
150 Support Operations					
BMSR2210	CDP Edit, Format Prel Draft V2S2		7	16MAR00	24MAR00
BMSR2215	Prepare V2S2 Graphics - Review Draft		72	16MAR00	26JUN00
BMSR2225	CDP Extract V2S2Ref List for RPC/TIC/WBIS		1	27MAR00	27MAR00
BMSR2230	DC Research V2S2 Ref. List for 30.12 Reqmts.		5	28MAR00	03APR00
BMSR2235	CIM Review V2S2 Ref List for Doc Availability		8	28MAR00	06APR00
BMSR2240	RPC Rev V2S2 Ref Doc Format Electr./Hard Copy		5	28MAR00	03APR00
BMSR2245	Retrieve V2S2 Refs. for 30.12 Rvw Pkgs		25	04APR00	08MAY00
BMSR2250	Scan V2S2 Ref Doc Hard Copies (As Needed)		20	04APR00	01MAY00
BMSR2255	CIM Locate V2S2 Cited References		58	04APR00	23JUN00
BMSR2270	CIM Procure V2S2 Ref Documents (As Needed)		30	07APR00	18MAY00
BMSR2275	DC Prepare V2S2 Refs 30.12 Review Packages		25	11APR00	15MAY00
BMSR2285	CIM Furnish V2S2 Ref Doc for WBIS		40	18APR00	13JUN00
BMSR2305	Preliminary QC Check of SR V2S2		5	20APR00	26APR00
BMSR2315	CDP Edit, Reformat V2S2		2	04MAY00	05MAY00
BMSR2335	CDP Final Edit V2S2 Approval Draft		2	27JUN00	28JUN00
BMSR2340	V2S2 Pre-Submission QC Check		3	29JUN00	03JUL00
BMSR2355	Repro & Prep V2S2 Submission Package		1	12JUL00	12JUL00
BMSR2370	Update/Finalize V2S2 Graphics		31	13JUL00	24AUG00
BMSR2260	Incorporate V2S2 Ref Docs in WBIS		63	17JUL00	13OCT00
300 Regulatory & Licensing					
SLSR2205	Write V2S2 Preliminary Draft		20	16FEB00*	15MAR00
SLSR2220	M&O SR Team Review V2S2Prel. Draft		9	27MAR00	06APR00
SLSR2265	Incorp. V2S2 SR Team Comments		9	07APR00	19APR00
SLSR2280	YMSCO Conduct V2S2Ref 30.12 Review as needed		35	11APR00	30MAY00



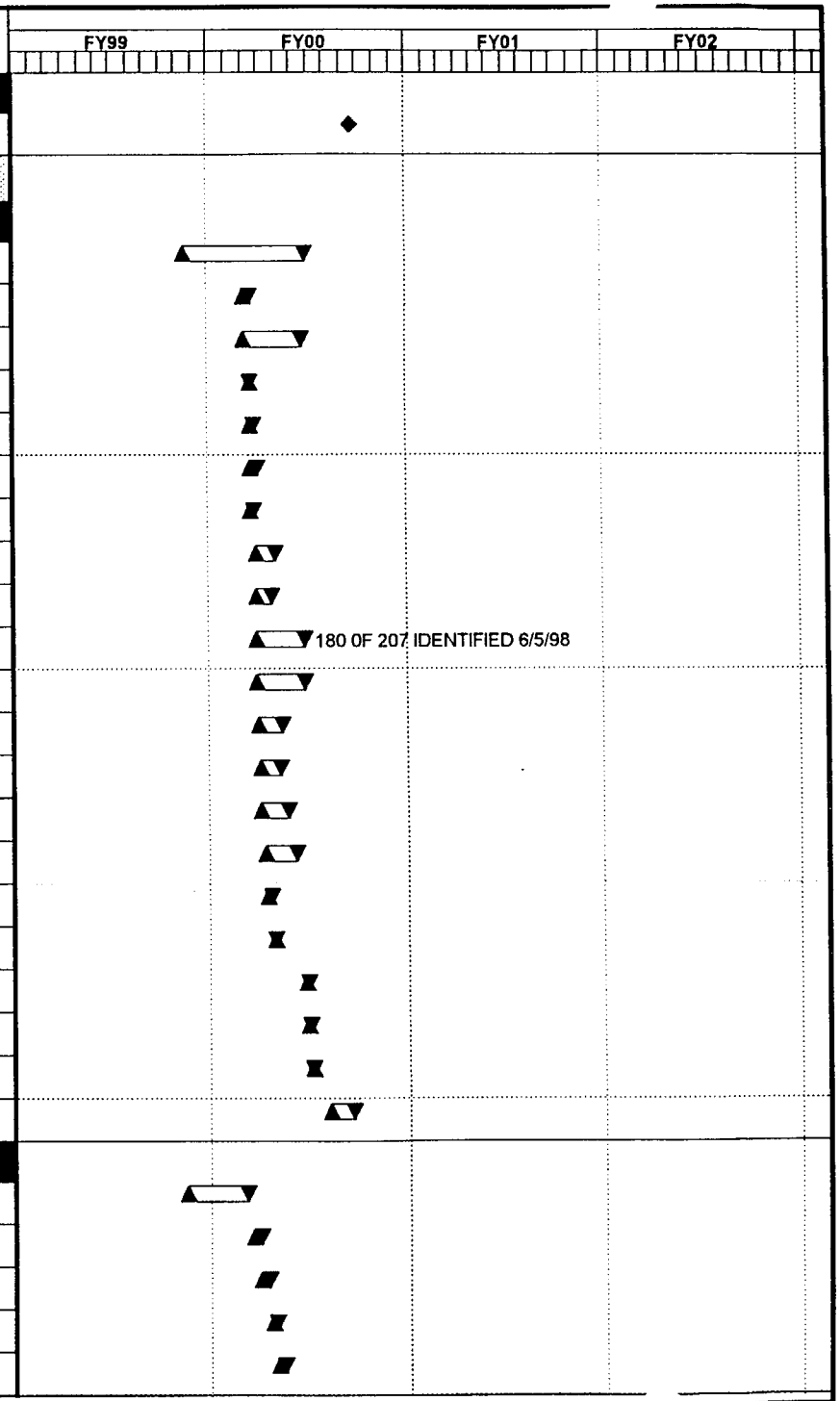
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLSR2310	Incorporate M&O V2S2 QC Check Comments		5	27APR00	03MAY00
SLSR2320	M&O/YMSCO V2S2 Preliminary Review		10	08MAY00	19MAY00
SLSR2325	Resolve M&O/YMSCO V2S2 Preliminary Comments		5	22MAY00	26MAY00
SLSR2330	Final Update for V2S2 Approval Draft		5	30MAY00	05JUN00
SLSR2345	SR Team Finalize V2S2 Approval Draft		5	05JUL00	11JUL00
SLSR2350	Complete V2S2 Prelim. Draft for DOE Review		1	12JUL00	12JUL00
SLSR6CM4	Complete V2S2 Post-CI. Eval Draft f/ DOE Review	M4	0		12JUL00
V2S3.1					
150 Support Operations					
BMR22010	CDP Edit, Format Prel Draft V2S3.1		7	03JAN00	11JAN00
BMR22135	Prepare SV2S3. ,nics for Review Draft		72	03JAN00	12APR00
BMR22100	CDP Extract V2S3.1 Ref List for RPC/TIC/WBIS		1	12JAN00	12JAN00
BMR22105	DC Research V2S3.1 Ref. List for 30.12 Reqmts.		5	13JAN00	19JAN00
BMR22125	CIM Review V2S3.1 Ref List for Doc Availability		8	13JAN00	24JAN00
BMR22145	RPC Rev V2S3.1Ref Doc Format Electr./Hard Copy		5	13JAN00	19JAN00
BMR22110	Retrieve V2S3.1 Refs. for 30.12 Rvw Pkgs		25	20JAN00	24FEB00
BMR22150	Scan V2 Ref Doc Hard Copies (As Needed)		20	20JAN00	16FEB00
BMR22155	CIM Locate V2S3.1 Cited References		63	20JAN00	18APR00
BMR22165	Incorporate V2S3.1 Ref Docs in WBIS		63	20JAN00	18APR00
BMR22130	CIM Procure V2S3.1 Ref Documents (As Needed)		30	25JAN00	07MAR00
BMR22115	DC Prepare V2S3.1 Refs 30.12 Review Packages		25	27JAN00	02MAR00
BMR22120	YMSCO Conduct V2S3.1 Ref 30.12 Review as needed		35	27JAN00	16MAR00
BMR22160	CIM Furnish V2S3.1 Ref Doc for WBIS		40	03FEB00	30MAR00
BMR22040	Preliminary QC Check of SR V2S3.1		5	07FEB00	11FEB00
BMR22050	CDP Edit, Reformat V2S3.1		2	22FEB00	23FEB00
BMR22070	CDP Final Edit V2S3.1 Approval Draft		2	19APR00	20APR00
BMR22075	V2S3.1 Pre-Submission QC Check		3	21APR00	25APR00
BMR22085	Repro & Prep V2S3.1 Submission Package		1	28APR00	28APR00
BMR22140	Update/ 2S3.1 Graphics		31	01MAY00	13JUN00
300 Regulatory & Licensing					
SLR22005	Write V2S3.1 Preliminary Draft		21	01DEC99*	30DEC99



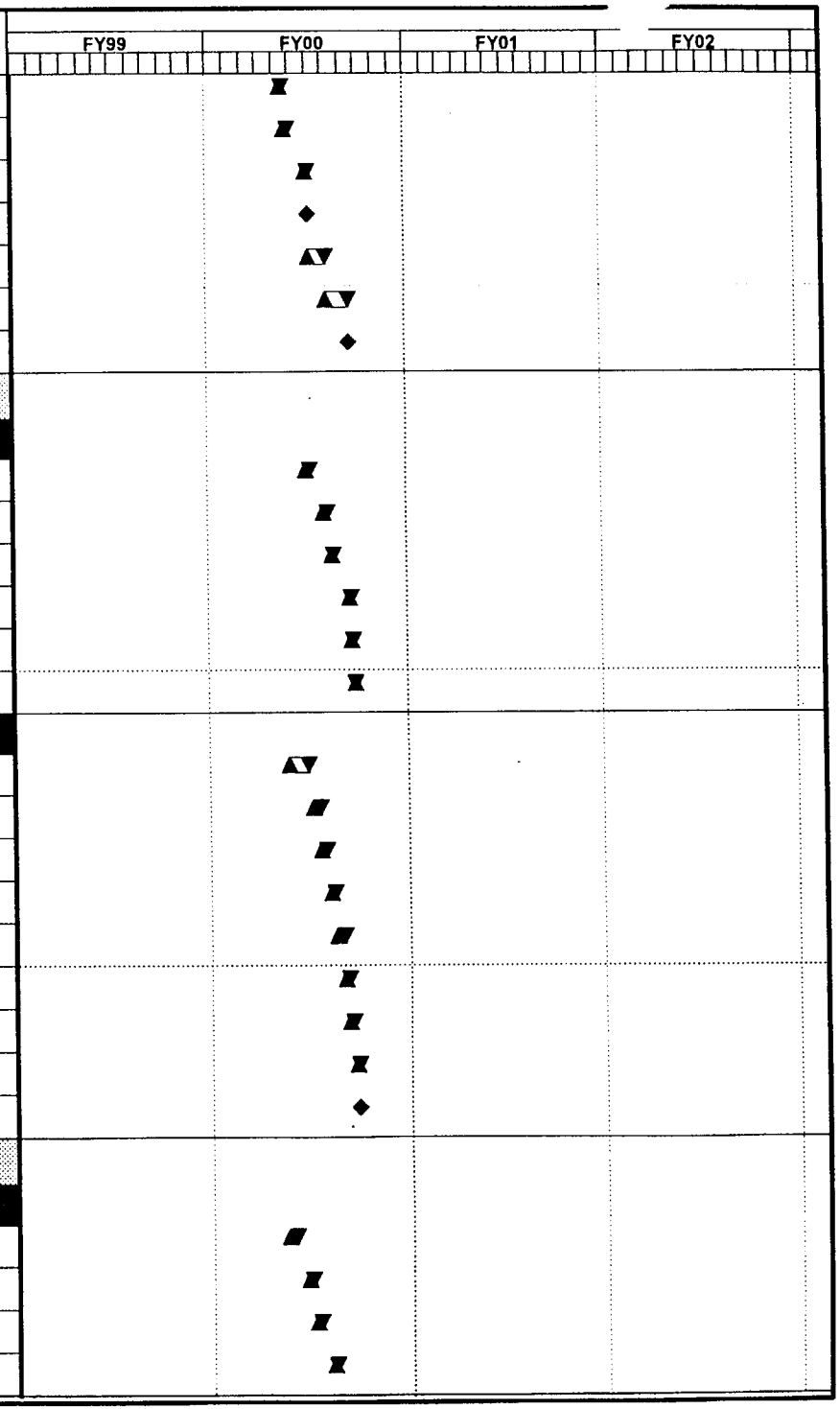
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR22015	M&O SR Team Review V2S3.1Prel. Draft		9	12JAN00	24JAN00
SLR22020	Incorp. V2S3.1 SR Team Comments		9	25JAN00	04FEB00
SLR22045	Incorporate M&O V2S3.1 QC Check Comments		5	14FEB00	18FEB00
SLR22055	M&O/YMSCO V2S3.1 Preliminary Review		10	24FEB00	08MAR00
SLR22060	Resolve M&O/YMSCO V2S3.1 Preliminary Comments		5	09MAR00	15MAR00
SLR22065	Final Update for V2S3.1 Approval Draft		5	16MAR00	22MAR00
SLR22080	SR Team Finalize V2S3.1 Approval Draft		2	26APR00	27APR00
SLSR6AM3	Submit V2S3.1 Prelim. Draft f/ DOE Review	M3	0		28APR00
SLSR6025	DOE Review V2S3.1 Precl. Evaluation		22	01MAY00	31MAY00
SLSR6030	Finalize V2S3.1 Preclosure Evaluation		31	01JUN00	14JUL00
SLSR6BM4	Complete Final V2S3.1 Preclosure Evaluation	M4	0		14JUL00
V2S3.2					
150 Support Operations					
BMR22175	CDP Edit, Format Prel Draft V2S3.2		7	26JAN00	03FEB00
BMR22205	Preliminary QC Check of SR V2S3.2		5	02MAR00	08MAR00
BMR22215	CDP Edit, Reformat V2S3.2		2	16MAR00	17MAR00
BMR22235	CDP Final Edit V2S3.2 Approval Draft		2	17APR00	18APR00
BMR22240	V2S3.2 Pre-Submission QC Check		3	19APR00	21APR00
BMR22250	Repro & Prep V2S3.2 Submission Package		1	26APR00	26APR00
300 Regulatory & Licensing					
SLR22170	Write V2S3.2 Preliminary Draft		110	16AUG99*	25JAN00
SLR22180	M&O SR Team Review V2S3.2 Prel. Draft		9	04FEB00	16FEB00
SLR22185	Incorp. V2S3.2 SR Team Comments		9	17FEB00	01MAR00
SLR22210	Incorporate M&O V2S3.2 QC Check Comments		5	09MAR00	15MAR00
SLR22220	M&O/YMSCO V2S3.2 Preliminary Review		10	20MAR00	31MAR00
SLR22225	Resolve M&O/YMSCO V2S3.2 Prelimi Comments		5	03APR00	07APR00
SLR22230	Final Update for V2S3.2 Approval Draft		5	10APR00	14APR00
SLR22245	SR Team Finalize V2S3.2 Approval Draft		2	24APR00	25APR00
SLR222M3	Submit Precl. Eval Prelim. Drft V2S3.2 DOE Rvw	M3	0		26APR00
SLR22260	DOE Review Draft SR V1S2		20	27APR00	24MAY00
SLR22265	Resolve Comments/Revise Draft SR V1S2		20	25MAY00	22JUN00



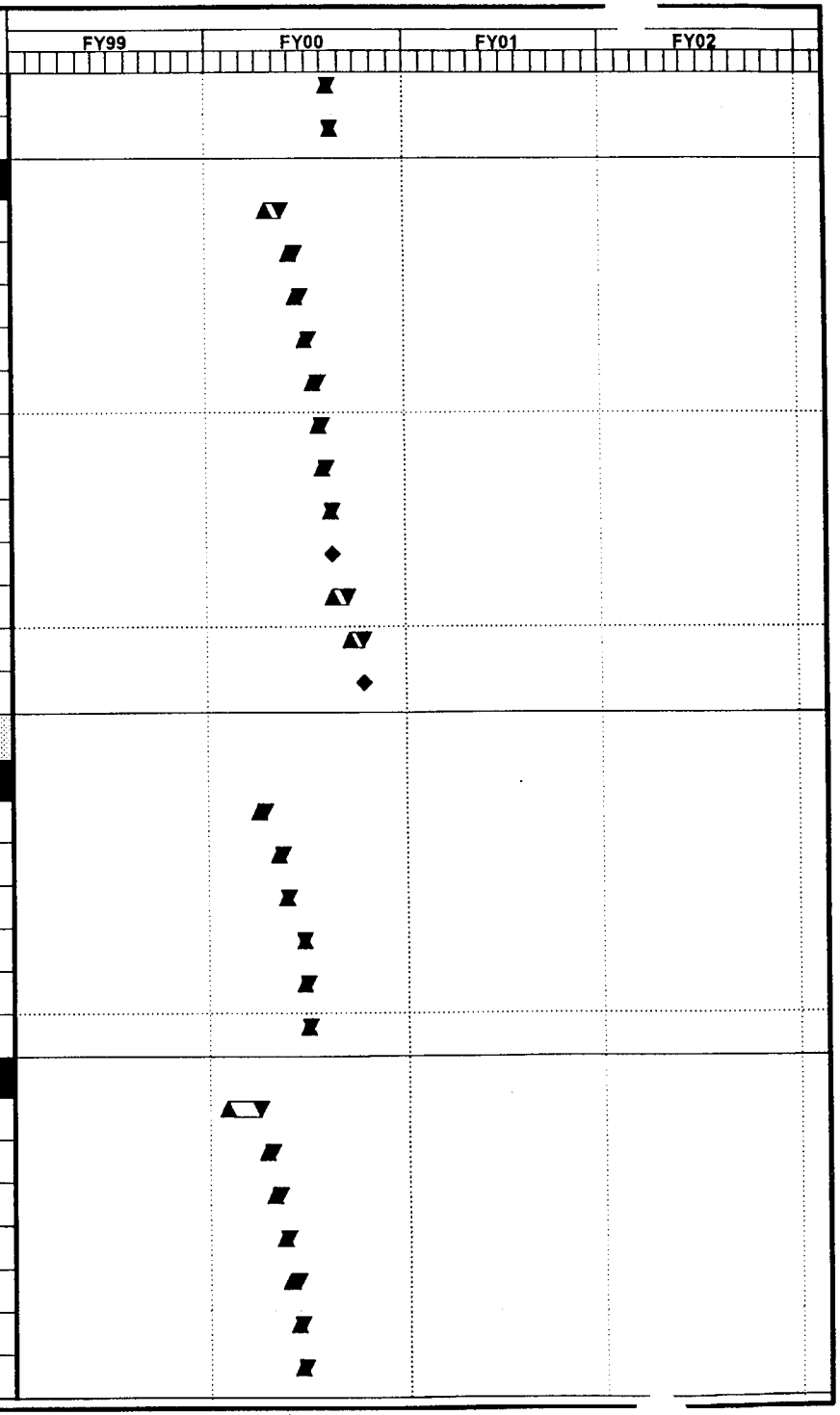
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR22M4	Complete SR V1S2 f/DOE Review	M4	0		22JUN00
V2S3.3					
150 Support Operations					
BMR23255	CDP Support SR V2S3.3 Acceptance Draft		155	16AUG99	29MAR00
BMR23175	CDP Edit, Format Prel Draft SR V2S3.3		7	07DEC99	15DEC99
BMR23315	Prepare SR V2S3.3 Graphics for Review Draft		72	07DEC99	20MAR00
BMR23280	CDP Extrct SR V2S3.3 Ref List for RPC/TIC/WBIS		1	16DEC99	16DEC99
BMR23285	DC Research SR V2S3.3 Ref. List - 30.12 Rqmts.		5	17DEC99	23DEC99
BMR23305	CIM Review SR V2S3.3 Ref List for Doc Avail		8	17DEC99	29DEC99
BMR23325	RPC Rev SR V2S3.3 Ref Doc Form Elect/Hard Copy		5	17DEC99	23DEC99
BMR23290	Retrieve SR V2S3.3 Refs. for 30.12 Rvw Pkgs		25	27DEC99	31JAN00
BMR23330	Scan SR V2S3.3 Ref Doc Hard Copies (As Rqd)		20	27DEC99	24JAN00
BMR23335	CIM Locate SR V2S3.3 Cited References		63	27DEC99	24MAR00
BMR23345	Incorporate SR V2S3.3 Ref Docs in WBIS		63	27DEC99	24MAR00
BMR23310	CIM Procure SR V2S3.3 Ref Documents (As Rqd)		30	30DEC99	10FEB00
BMR23295	DC Prepare SR V2S3.3 Refs 30.12 Review Pkgs		25	04JAN00	07FEB00
BMR23300	YMSCO Conduct SR V2S3.3 Ref 30.12 Revw as rqd		35	04JAN00	22FEB00
BMR23340	CIM Furnish SR V2S3.3 Ref Doc for WBIS		40	11JAN00	07MAR00
BMR23205	Preliminary QC Check of SR SR V2S3.3		5	13JAN00	19JAN00
BMR23215	CDP Edit, Reformat SR V2S3.3		2	27JAN00	28JAN00
BMR23235	CDP Final Edit SR V2S3.3 Approval Draft		2	27MAR00	28MAR00
BMR23240	SR V2S3.3 Pre-Submission QC Check		3	29MAR00	31MAR00
BMR23250	Repro & Prep SR V2S3.3 Submission Package		1	05APR00	05APR00
BMR23320	Update/Finalize SR V2S3.3 Graphics		31	08MAY00	20JUN00
300 Regulatory & Licensing					
SLR23170	Write SR V2S3.3 Preliminary Draft		76	16AUG99*	06DEC99
SLR23180	M&O SR Team Review SR V2S3.3 Prel. Draft		9	16DEC99	29DEC99
SLR23185	Incorp. SR V2S3.3 SR Team Comments		9	30DEC99	12JAN00
SLR23210	Incorporate M&O SR V2S3.3 QC Check Comments		5	20JAN00	26JAN00
SLR23220	M&O/YMSCO SR V2S3.3 Preliminary Review		10	31JAN00	11FEB00



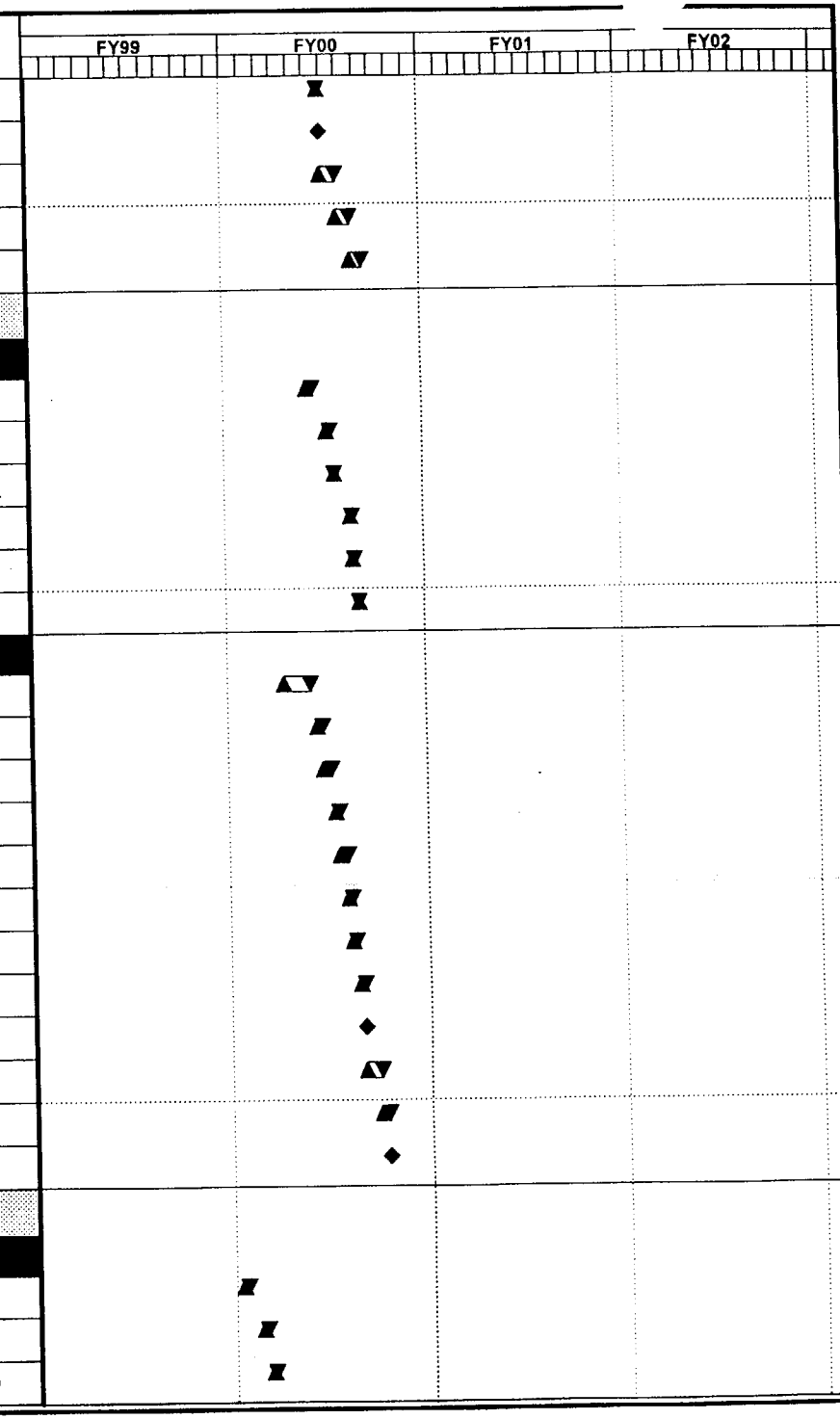
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR23225	Resolve M&O/YMSCO SR V2S3.3 Prelim Comments		5	14FEB00	18FEB00
SLR23230	Final Update for SR V2S3.3 Approval Draft		5	22FEB00	28FEB00
SLR23245	SR Team Finalize SR V2S3.3 Approval Draft		2	03APR00	04APR00
SLR232M3	Submit V2S3.3 Prelim Draft SR for DOE Rvw	M3	0		05APR00
SLR23265	DOE Rvw V2S3.3 Precl Evaluation/Finalization		22	06APR00	05MAY00
SLR23270	Finalize V2S3.3 Preclosure Evaluation		31	08MAY00*	20JUN00
SLR23275	Complete Final V2S3.3 Preclosure Evaluation	M4	0		20JUN00
V2S4.1.1					
150 Support Operations					
BMR24730	CDP Edit, Format Prel Draft V2S4.1.1		7	28MAR00	05APR00
BMR24760	Preliminary QC Check of SR V2S4.1.1		5	02MAY00	08MAY00
BMR24770	CDP Edit, Reformat V2S4.1.1		2	16MAY00	17MAY00
BMR24790	CDP Final Edit V2S4.1.1 Approval Draft		2	16JUN00	19JUN00
BMR24795	V2S4.1.1 Pre-Submission QC Check		3	20JUN00	22JUN00
BMR24805	Repro & Prep V2S4.1.1 Submission Package		1	27JUN00	27JUN00
300 Regulatory & Licensing					
SLR24725	Write V2S4.1.1 Preliminary Draft		25	22FEB00*	27MAR00
SLR24735	M&O SR Team Review V2S4.1.1 Prel. Draft		9	06APR00	18APR00
SLR24740	Incorp. V2S4.1.1 SR Team Comments		9	19APR00	01MAY00
SLR24765	Incorporate M& V2S4.1.1 QC Check Comments		5	09MAY00	15MAY00
SLR24775	M&O/YMSCO V2S4.1.1 Preliminary Review		10	18MAY00	01JUN00
SLR24780	Resolve M&O/YMSCO V2S4.1.1 Prel. Comments		5	02JUN00	08JUN00
SLR24785	Final Update for V2S4.1.1 Approval Draft		5	09JUN00	15JUN00
SLR24800	SR Team Finalize V2S4.1.1 Approval Draft		2	23JUN00	26JUN00
SLR248M4	Complete V2S4.1.1 Prelim. Draft f/ DOE Review	M4	0		27JUN00
V2S4.1.2					
150 Support Operations					
BMR24820	CDP Edit, Format Prel Draft V2S4.1.2		7	17FEB00	28FEB00
BMR24850	Preliminary QC Check of SR V2S4.1.2		5	24MAR00	30MAR00
BMR24860	CDP Edit, Reformat V2S4.1.2		2	07APR00	10APR00
BMR24880	CDP Final Edit V2S4.1.2 Approval Draft		2	09MAY00	10MAY00



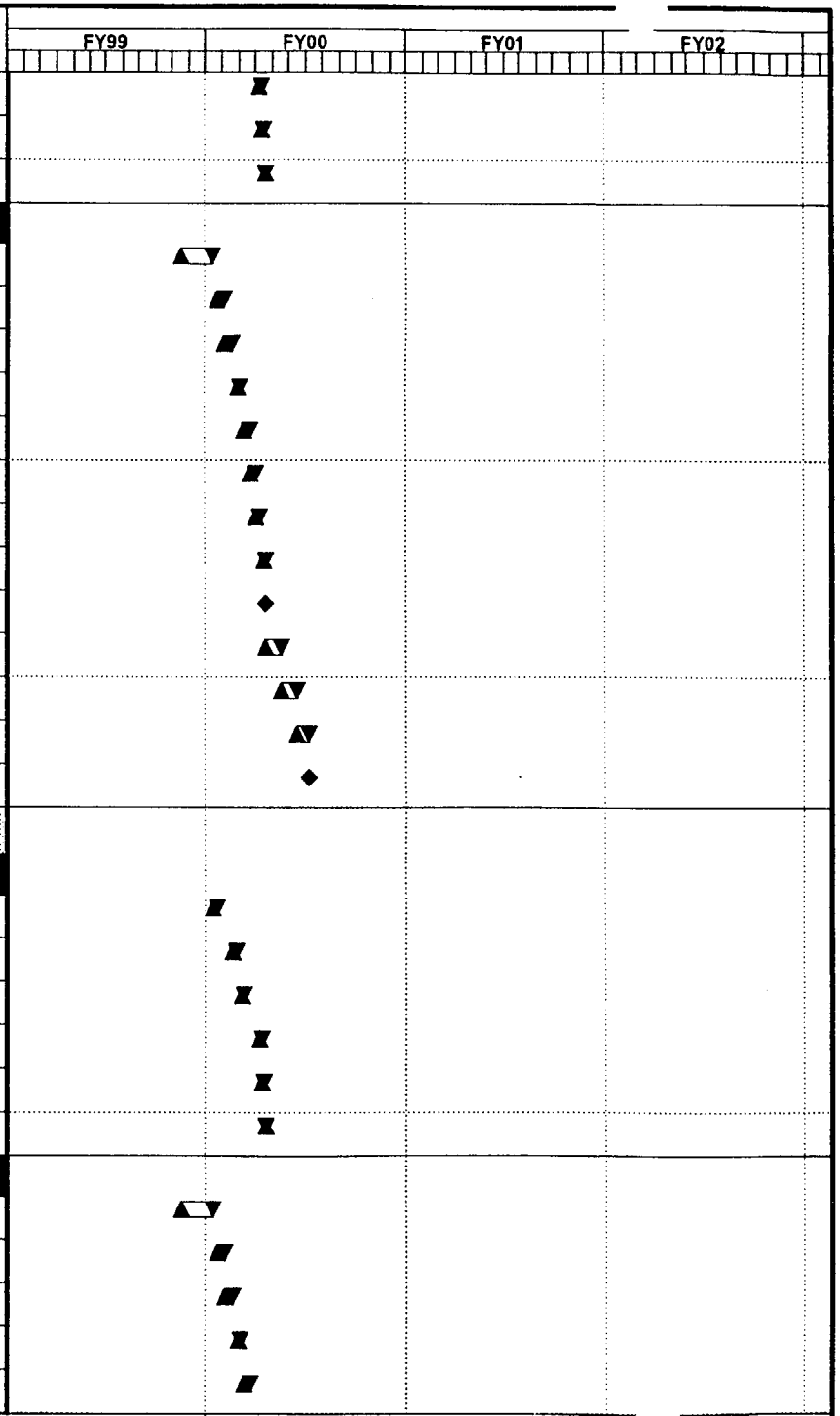
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMR24885	V2S4.1.2 Pre-Submission QC Check		3	11MAY00	15MAY00
BMR24895	Repro & Prep V2S4.1.2 Submission Package		1	18MAY00	18MAY00
300 Regulatory & Licensing					
SLR24815	Write V2S4.1.2 Preliminary Draft		23	17JAN00*	16FEB00
SLR24825	M&O SR Team Review V2S4.1.2Prel. Draft		9	29FEB00	10MAR00
SLR24830	Incorp. V2S4.1.2 SR Team Comments		9	13MAR00	23MAR00
SLR24855	Incorporate M& Sec V2S4.1.2 QC Check Comments		5	31MAR00	06APR00
SLR24865	M&O/YMSCO V2S4.1.2 Preliminary Review		10	11APR00	24APR00
SLR24870	Resolve M&O/YMSCO V2S4.1.2 Prel. Comments		5	25APR00	01MAY00
SLR24875	Final Update for V2S4.1.2 Approval Draft		5	02MAY00	08MAY00
SLR24890	SR Team Finalize V2S4.1.2 Approval Draft		2	16MAY00	17MAY00
SLR249M3	Submit V2S4.1.2 Prelim. Draft f/ DOE Review	M3	0		18MAY00
SLR24901	DOE Review Draft SR V1S4.1.2		20	19MAY00	16JUN00
SLR24902	Finalize Draft SR V1S4.1.2		19	19JUN00	14JUL00
SLR249M4	Complete Final Draft SR V1S4.1.2 f/DOE Rvw	M4	0		14JUL00
V2S4.1.3					
150 Support Operations					
BMR24910	CDP Edit, Format Prel Draft V2S4.1.3		7	30DEC99	10JAN00
BMR24940	Preliminary QC Check of SR V2S4.1.3		5	04FEB00	10FEB00
BMR24950	CDP Edit, Reformat V2S4.1.3		2	18FEB00	22FEB00
BMR24970	CDP Final Edit V2S4.1.3 Approval Draft		2	22MAR00	23MAR00
BMR24975	V2S4.1.3 Pre-Submission QC Check		3	24MAR00	28MAR00
BMR24985	Repro & Prep V2S4.1.3 Submission Package		1	31MAR00	31MAR00
300 Regulatory & Licensing					
SLR24905	Write V2S4.1.3 Preliminary Draft		39	01NOV99*	29DEC99
SLR24915	M&O SR Team Review V2S4.1.3 Prel. Draft		9	11JAN00	21JAN00
SLR24920	Incorp. V2S4.1.3 SR Team Comments		9	24JAN00	03FEB00
SLR24945	Incorporate M&O V2S4.1.3 QC Check Comments		5	11FEB00	17FEB00
SLR24955	M&O/YMSCO V2S4.1.3 Preliminary Review		10	23FEB00	07MAR00
SLR24960	Resolve M&O/YMSCO V2S4.1.3Prel. Comments		5	08MAR00	14MAR00
SLR24965	Final Update for V2S4.1.3 Approval Draft		5	15MAR00	21MAR00



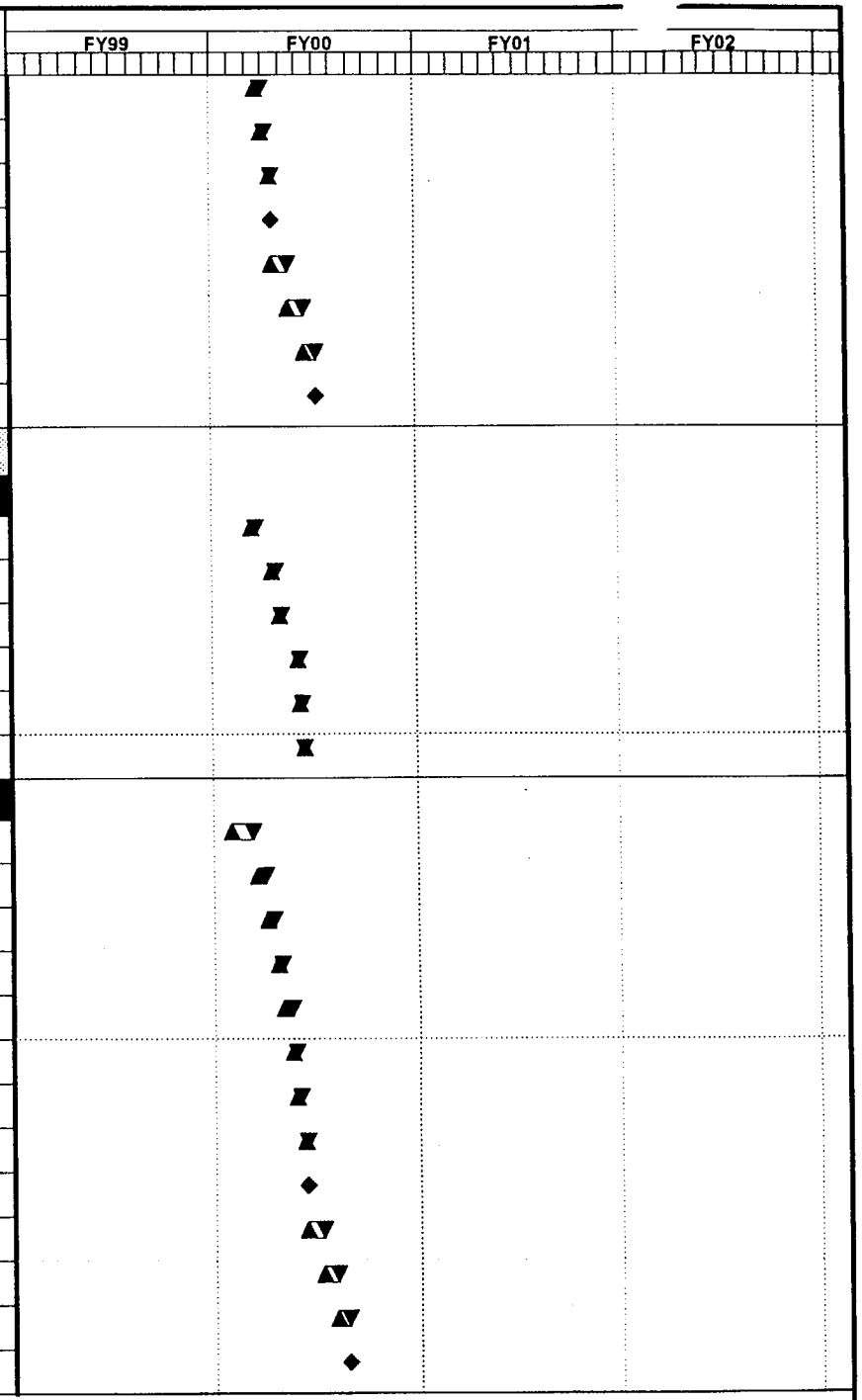
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR24980	SR Team Finalize V2S4.1.3 Approval Draft		2	29MAR00	30MAR00
SLR250M3	Submit V2S4.1.3 Prelim. Draft f/ DOE Review	M3	0		31MAR00
SLR24991	DOE Review Draft SR V2S4.1.3		20	03APR00	28APR00
SLR24992	Resolve Comments/Revise Draft SR V2S4.1.3		19	01MAY00	25MAY00
SLR24993	DOE Acceptance Review of Draft SR V2S4.1.3		14	26MAY00	15JUN00
V2S4.1.4					
150 Support Operations					
BMR25000	CDP Edit, Format Prel Draft V2S4.1.4		7	01MAR00	09MAR00
BMR25030	Preliminary QC Check of SR V2S4.1.4		5	05APR00	11APR00
BMR25040	CDP Edit, Reformat V2S4.1.4		2	19APR00	20APR00
BMR25060	CDP Final Edit Sec V2S4.1.4 Approval Draft		2	19MAY00	22MAY00
BMR25065	Sec V2S4.1.4 Pre-Submission QC Check		3	23MAY00	25MAY00
BMR25075	Repro & Prep V2S4.1.4 Submission Package		1	31MAY00	31MAY00
300 Regulatory & Licensing					
SLR24995	Write V2S4.1.4 Preliminary Draft		36	10JAN00*	29FEB00
SLR25005	M&O SR Team Review V2S4.1.4 Prel. Draft		9	10MAR00	22MAR00
SLR25010	Incorp.V2S4.1.4 SR Team Comments		9	23MAR00	04APR00
SLR25035	Incorporate M&O V2S4.1.4 QC Check Comments		5	12APR00	18APR00
SLR25045	M&O/YMSCO V2S4.1.4 Preliminary Review		10	21APR00	04MAY00
SLR25050	Resolve M&O/YMSCO V2S4.1.4 Prel. Comments		5	05MAY00	11MAY00
SLR25055	Final Update for V2S4.1.4 Approval Draft		5	12MAY00	18MAY00
SLR25070	SR Team Finalize V2S4.1.4 Approval Draft		2	26MAY00	30MAY00
SLR25XM3	Submit V2S4.1.4 Prelim. Draft f/ DOE Review	M3	0		31MAY00
SLR25081	DOE Review Draft SR V2S4.1.4		20	01JUN00	28JUN00
SLR25082	Resolve Comments/Revise Draft SR V2S4.1.4		11	29JUN00	14JUL00
SLR25XM4	Complete Final SR V2S4.1.4 f/DOE Rvw	M4	0		14JUL00
V2S4.1.5					
150 Support Operations					
BMR25090	CDP Edit, Format Prel Draft V2S4.1.5		7	13OCT99	21OCT99
BMR25120	Preliminary QC Check of SR V2S4.1.5		5	18NOV99	24NOV99
BMR25130	CDP Edit, Reformat V2S4.1.5		2	06DEC99	07DEC99



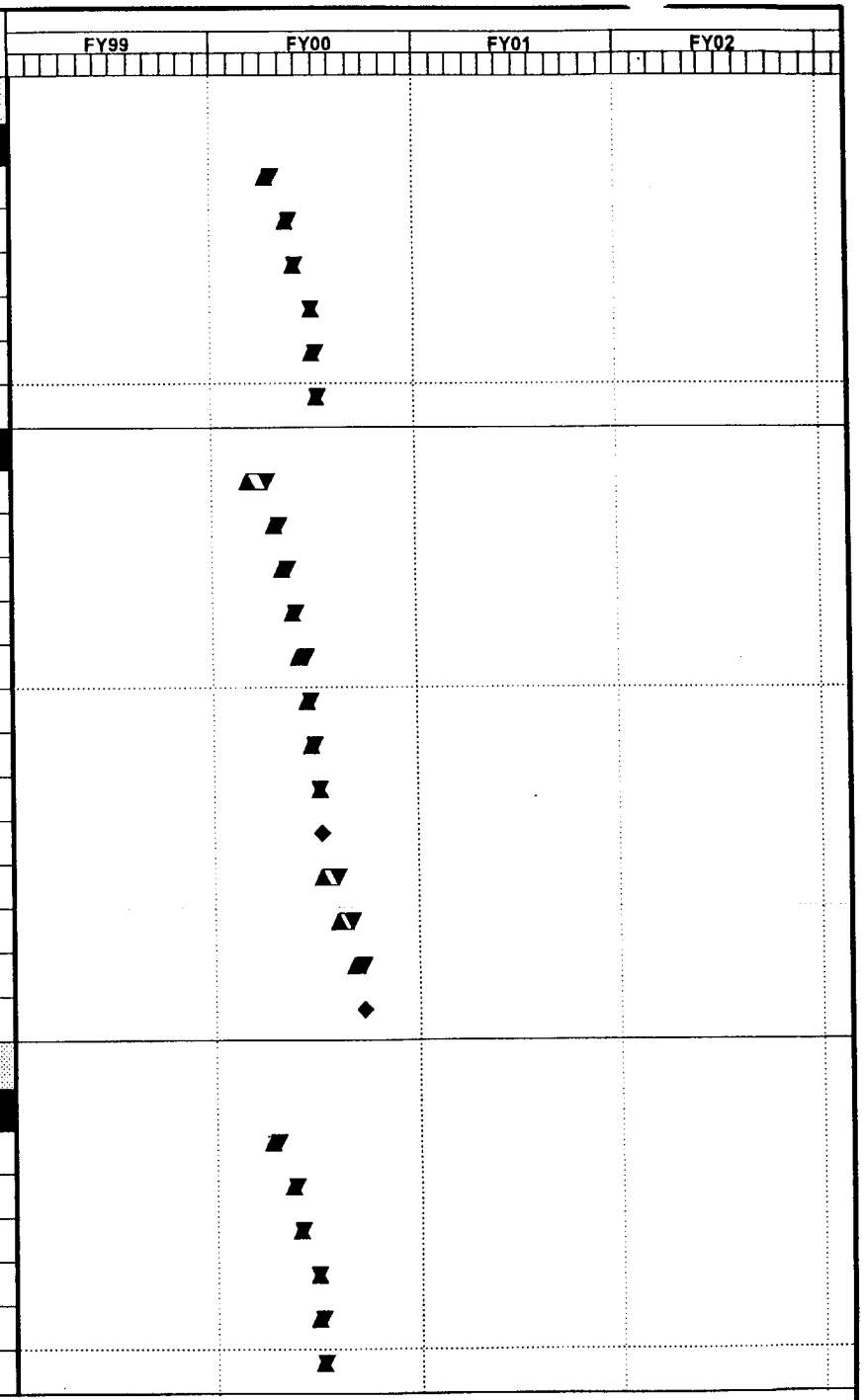
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMR25150	CDP Final Edit V2S4.1.5 Approval Draft		2	07JAN00	10JAN00
BMR25155	V2S4.1.5 Pre-Submission QC Check		3	11JAN00	13JAN00
BMR25165	Repro & Prep V2S4.1.5 Submission Package		1	18JAN00	18JAN00
300 Regulatory & Licensing					
SLR25085	Write V2S4.1.5 Preliminary Draft		40	16AUG99*	12OCT99
SLR25095	M&O SR Team Review V2S4.1.5 Prel. Draft		9	22OCT99	03NOV99
SLR25100	Incorp. V2S4.1.5 SR Team Comments		9	04NOV99	17NOV99
SLR25125	Incorporate M& V2S4.1.5 QC Check Comments		5	29NOV99	03DEC99
SLR25135	M&O/YMSCO V2S4.1.5 Preliminary Review		10	08DEC99	21DEC99
SLR25140	Resolve M&O/YMSCO V2S4.1.5 Prel. Comments		5	22DEC99	29DEC99
SLR25145	Final Update for V2S4.1.5 Approval Draft		5	30DEC99	06JAN00
SLR25160	SR Team Finalize V2S4.1.5 Approval Draft		2	14JAN00	17JAN00
SLR251M3	Submit V2S4.1.5 Prelim. Draft f/ DOE Review	M3	0		18JAN00
SLR25171	DOE Review Draft SR V2S4.1.5		20	19JAN00	15FEB00
SLR25172	Resolve Comments/Revise Draft SR V2S4.1.5		19	16FEB00	14MAR00
SLR25173	DOE Acceptance Review of Draft SR V2S4.1.5		14	15MAR00	03APR00
SLR251M4	Complete Final SR V2S4.1.5 f/DOE Rvw	M4	0		03APR00
V2S4.1.6					
150 Support Operations					
BMR25180	CDP Edit, Format Prel Draft V2S4.1.6		7	13OCT99	21OCT99
BMR25210	Preliminary QC Check of SR V2S4.1.6		5	18NOV99	24NOV99
BMR25220	CDP Edit, Reformat V2S4.1.6		2	06DEC99	07DEC99
BMR25240	CDP Final Edit V2S4.1.6 Approval Draft		2	07JAN00	10JAN00
BMR25245	Sec V2S4.1.6 Pre-Submission QC Check		3	11JAN00	13JAN00
BMR25255	Repro & Prep V2S4.1.6 Submission Package		1	18JAN00	18JAN00
300 Regulatory & Licensing					
SLR25175	Write V2S4.1.6 Preliminary Draft		40	16AUG99*	12OCT99
SLR25185	M&O SR Team Review V2S4.1.6 Prel. Draft		9	22OCT99	03NOV99
SLR25190	Incorp. V2S4.1.6 SR Team Comments		9	04NOV99	17NOV99
SLR25215	Incorporate M&O V2S4.1.6 QC Check Comments		5	29NOV99	03DEC99
SLR25225	M&O/YMSCO V2S4.1.6 Preliminary Review		10	08DEC99	21DEC99



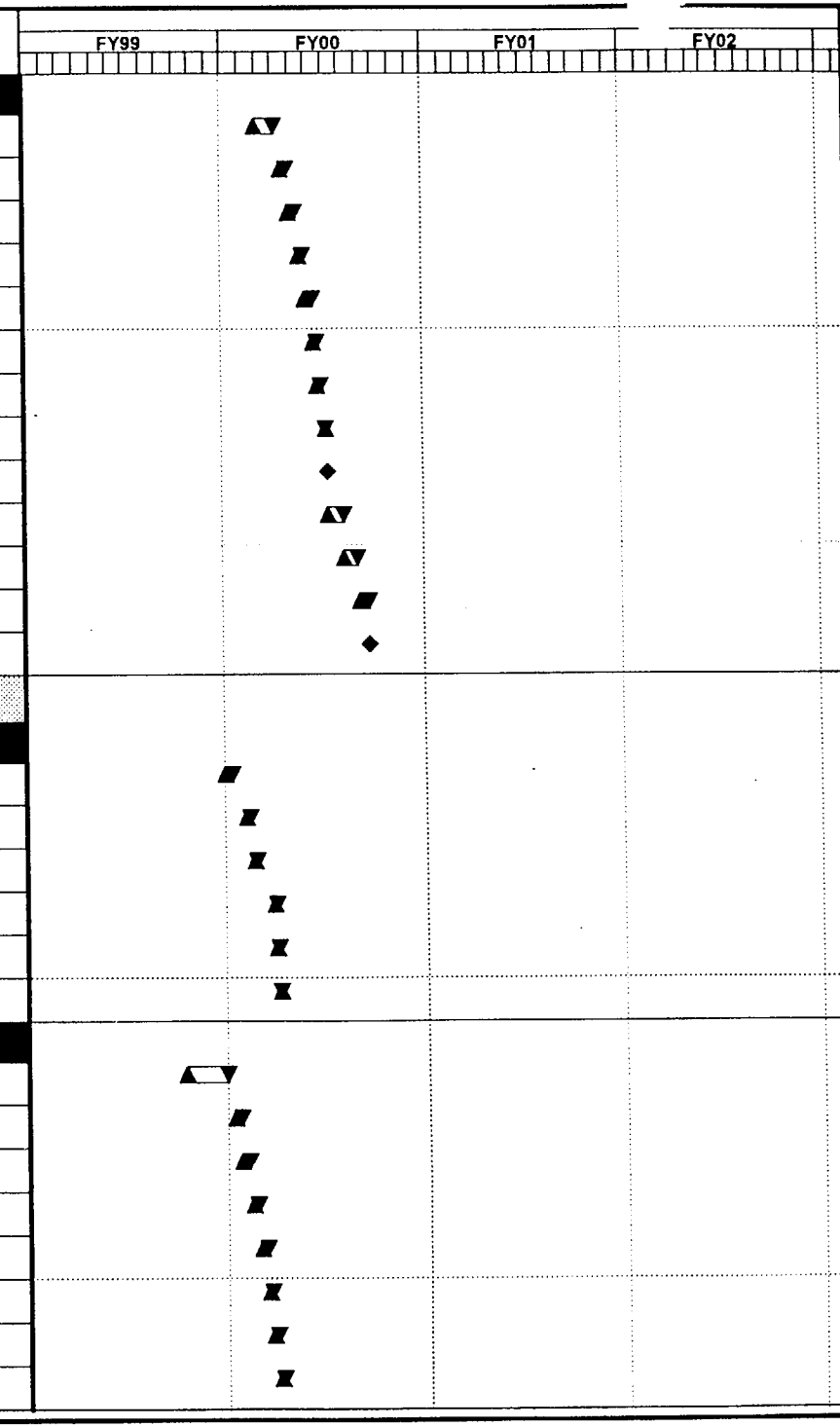
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR25230	Resolve M&O/YMSCO V2S4.1.6 Prel. Comments		5	22DEC99	29DEC99
SLR25235	Final Update for Sec V2S4.1.6 Approval Draft		5	30DEC99	06JAN00
SLR25250	SR Team Finalize V2S4.1.6 Approval Draft		2	14JAN00	17JAN00
SLR252M3	Submit V2S4.1.6 Prelim. Draft f/ DOE Review	M3	0		18JAN00
SLR25261	DOE Review Draft SR V2S4.1.6		20	19JAN00	15FEB00
SLR25262	Resolve Comments/Revise Draft SR V2S4.1.6		19	16FEB00	14MAR00
SLR25263	DOE Acceptance Review of Draft SR V2S4.1.6		14	15MAR00	03APR00
SLR252M4	Complete Final SR V2S4.1.6 f/DOE Rvw	M4	0		03APR00
V2S4.1.7					
150 Support Operations					
BMR25270	CDP Edit, Format Prel Draft V2S4.1.7		7	08DEC99	16DEC99
BMR25300	Preliminary QC Check of SR V2S4.1.7		5	14JAN00	20JAN00
BMR25310	CDP Edit, Reformat V2S4.1.7		2	28JAN00	31JAN00
BMR25330	CDP Final Edit V2S4.1.7 Approval Draft		2	01MAR00	02MAR00
BMR25335	V2S4.1.7 Pre-Submission QC Check		3	03MAR00	07MAR00
BMR25345	Repro & Prep V2S4.1.7 Submission Package		1	10MAR00	10MAR00
300 Regulatory & Licensing					
SLR25265	Write V2S4.1.7 Preliminary Draft		24	01NOV99*	07DEC99
SLR25275	M&O SR Team Review V2S4.1.7 Prel. Draft		9	17DEC99	30DEC99
SLR25280	Incorp. V2S4.1.7 SR Team Comments		9	03JAN00	13JAN00
SLR25305	Incorporate M&O V2S4.1.7 QC Check Comments		5	21JAN00	27JAN00
SLR25315	M&O/YMSCO V2S4.1.7 Preliminary Review		10	01FEB00	14FEB00
SLR25320	Resolve M&O/YMSCO V2S4.1.7 Prel. Comments		5	15FEB00	22FEB00
SLR25325	Final Update for V2S4.1.7 Approval Draft		5	23FEB00	29FEB00
SLR25340	SR Team Finalize V2S4.1.7 Approval Draft		2	08MAR00	09MAR00
SLR253M3	Submit V2S4.1.7 Prelim. Draft f/ DOE Review	M3	0		10MAR00
SLR25351	DOE Review Draft SR V2S4.1.7		20	13MAR00	07APR00
SLR25352	Resolve Comments/Revise Draft SR V2S4.1.7		19	10APR00	04MAY00
SLR25353	DOE Acceptance Review of Draft SR V2S4.1.7		14	05MAY00	24MAY00
SLR253M4	Complete Final SR V2S4.1.7 f/DOE Rvw	M4	0		24MAY00



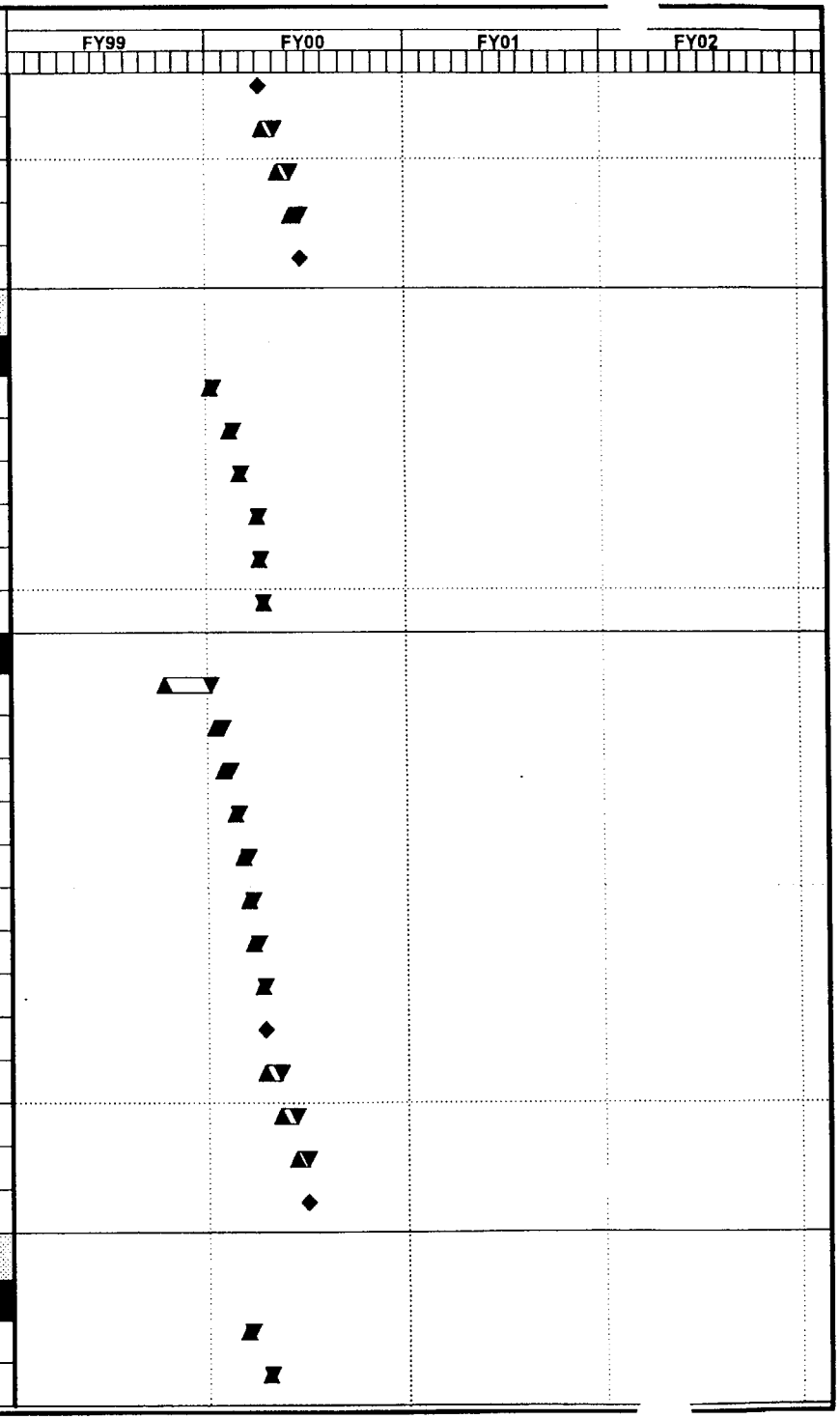
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
V2S4.1.8					
150 Support Operations					
BMR25360	CDP Edit, Format Prel Draft V2S4.1.8		7	07JAN00	17JAN00
BMR25390	Preliminary QC Check of SR V2S4.1.8		5	11FEB00	17FEB00
BMR25400	CDP Edit, Reformat V2S4.1.8		2	28FEB00	29FEB00
BMR25420	CDP Final Edit V2S4.1.8 Approval Draft		2	29MAR00	30MAR00
BMR25425	V2S4.1.8 Pre-Submission QC Check		3	31MAR00	04APR00
BMR25435	Repro & Prep V2S4.1.8 Submission Package		1	07APR00	07APR00
300 Regulatory & Licensing					
SLR25355	Write V2S4.1.8 Preliminary Draft		25	01DEC99*	06JAN00
SLR25365	M&O SR Team Review V2S4.1.8 Prel. Draft		9	18JAN00	28JAN00
SLR25370	Incorp. V2S4.1.8 SR Team Comments		9	31JAN00	10FEB00
SLR25395	Incorporate M&O V2S4.1.8 QC Check Comments		5	18FEB00	25FEB00
SLR25405	M&O/YMSCO V2S4.1.8 Preliminary Review		10	01MAR00	14MAR00
SLR25410	Resolve M&O/YMSCO V2S4.1.8 Prel. Comments		5	15MAR00	21MAR00
SLR25415	Final Update for V2S4.1.8 Approval Draft		5	22MAR00	28MAR00
SLR25430	SR V2S4.1.8 Approval Draft		2	05APR00	06APR00
SLR254M3	Submit V2S4.1.8 Prelim. Draft f/ DOE Review	M3	0		07APR00
SLR25441	DOE Review Draft SR V2S4.1.8		20	10APR00	05MAY00
SLR25442	Resolve Comments/Revise Draft SR V2S4.1.8		19	08MAY00	02JUN00
SLR25443	DOE Acceptance Review of Draft SR V2S4.1.8		14	05JUN00	22JUN00
SLR254M4	Complete Final SR V2S4.1.8 f/DOE Rvw	M4	0		22JUN00
V2S4.1.9					
150 Support Operations					
BMR25450	CDP Edit, Format Prel Draft V2S4.1.9		7	07JAN00	17JAN00
BMR25480	Preliminary QC Check of SR V2S4.1.9		5	11FEB00	17FEB00
BMR25490	CDP Edit, Reformat V2S4.1.9		2	28FEB00	29FEB00
BMR25510	CDP Final Edit V2S4.1.9 Approval Draft		2	29MAR00	30MAR00
BMR25515	V2S4.1.9 Pre-Submission QC Check		3	31MAR00	04APR00
BMR25525	Repro & Prep V2S4.1.9 Submission Package		1	07APR00	07APR00



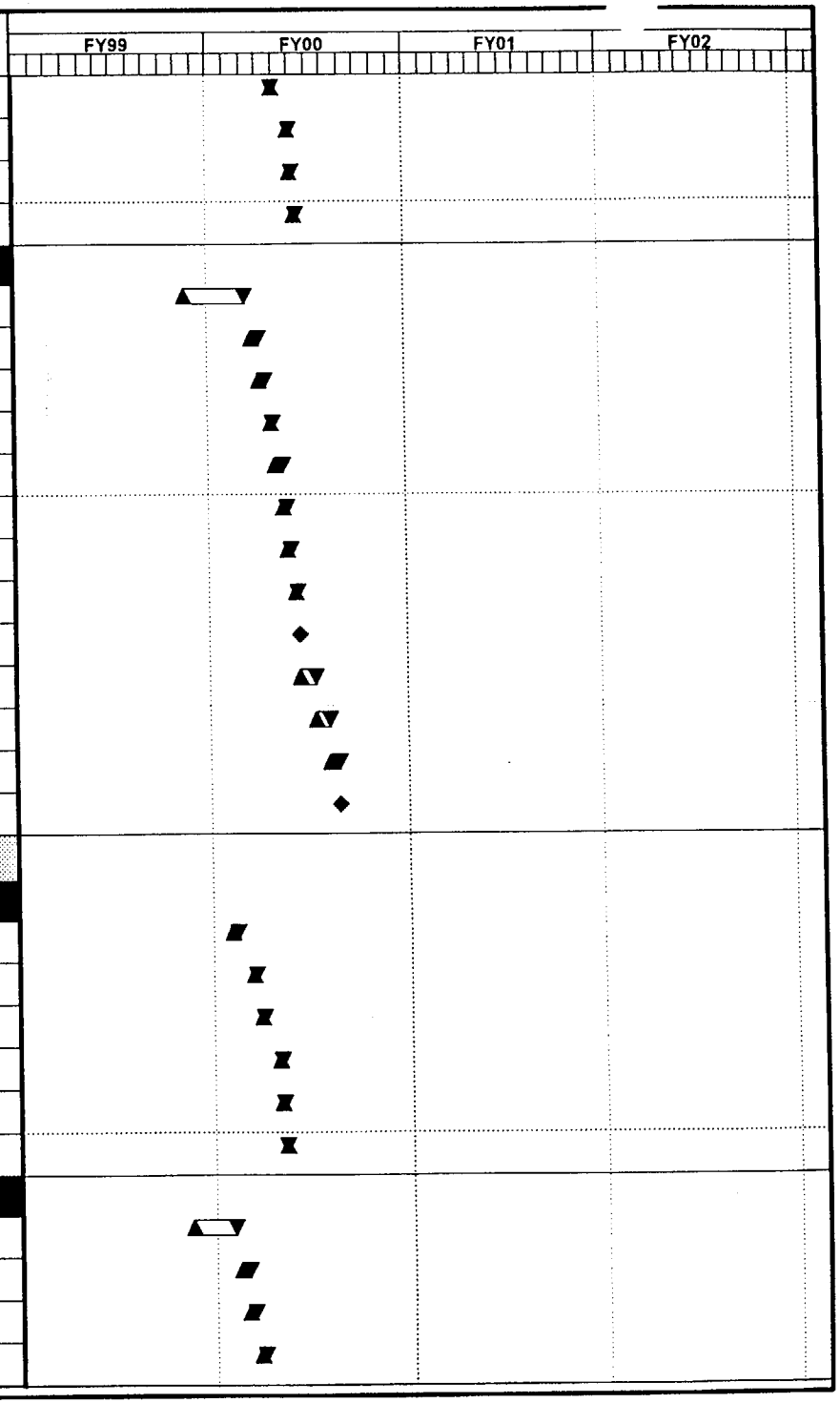
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
300 Regulatory & Licensing					
SLR25445	Write V2S4.1.9 Preliminary Draft		25	01DEC99*	06JAN00
SLR25455	M&O SR Team Review V2S4.1.9 Prel. Draft		9	18JAN00	28JAN00
SLR25460	Incorp. V2S4.1.9 SR Team Comments		9	31JAN00	10FEB00
SLR25485	Incorporate M& V2S4.1.9 QC Check Comments		5	18FEB00	25FEB00
SLR25495	M&O/YMSCO V2S4.1.9 Preliminary Review		10	01MAR00	14MAR00
SLR25500	Resolve M&O/YMSCO V2S4.1.9 Prel. Comments		5	15MAR00	21MAR00
SLR25505	Final Update for Sec V2S4.1.9 Approval Draft		5	22MAR00	28MAR00
SLR25520	SR Team Finalize V2S4.1.9 Approval Draft		2	05APR00	06APR00
SLR255M3	Submit V2S4.1.9 Prelim. Draft f/ DOE Review	M3	0		07APR00
SLR25531	DOE Review Draft SR V2S4.19		20	10APR00	05MAY00
SLR25532	Resolve Comments/Revise Draft SR V2S4.1.9		19	08MAY00	02JUN00
SLR25533	DOE Acceptance Review of Draft SR V2S4.1.9		14	05JUN00	22JUN00
SLR255M4	Complete Final SR V2S4.1.9 f/DOE Rvw	M4	0		22JUN00
V2S4.2.01					
150 Support Operations					
BMR23355	CDP Edit, Format Prel Draft V2S.4.2.1		7	01OCT99	12OCT99
BMR23385	Preliminary QC Check of SR V2S.4.2.1		5	08NOV99	15NOV99
BMR23395	CDP Edit, Reformat V2S.4.2.1		2	23NOV99	24NOV99
BMR23415	CDP Final Edit V2S.4.2.1 Approval Draft		2	28DEC99	29DEC99
BMR23420	V2S.4.2.1 Pre-Submission QC Check		3	30DEC99	04JAN00
BMR23430	Repro & Prep V2S.4.2.1 Submission Package		1	07JAN00	07JAN00
300 Regulatory & Licensing					
SLR23350	Write V2S.4.2.1 Preliminary Draft		55	15JUL99*	30SEP99
SLR23360	M&O SR Team Review V2S.4.2.1 Prel. Draft		9	13OCT99	25OCT99
SLR23365	Incorp. V2S.4.2.1 SR Team Comments		9	26OCT99	05NOV99
SLR23390	Incorporate M&O V2S.4.2.1 QC Check Comments		5	16NOV99	22NOV99
SLR23400	M&O/YMSCO V2S.4.2.1 Preliminary Review		10	29NOV99	10DEC99
SLR23405	Resolve M&O/YMSCO V2S.4.2.1 Prelim Comments		5	13DEC99	17DEC99
SLR23410	Final Update for V2S.4.2.1 Approval Draft		5	20DEC99	27DEC99
SLR23425	SR Team Finalize V2S.4.2.1 Approval Draft		2	05JAN00	06JAN00



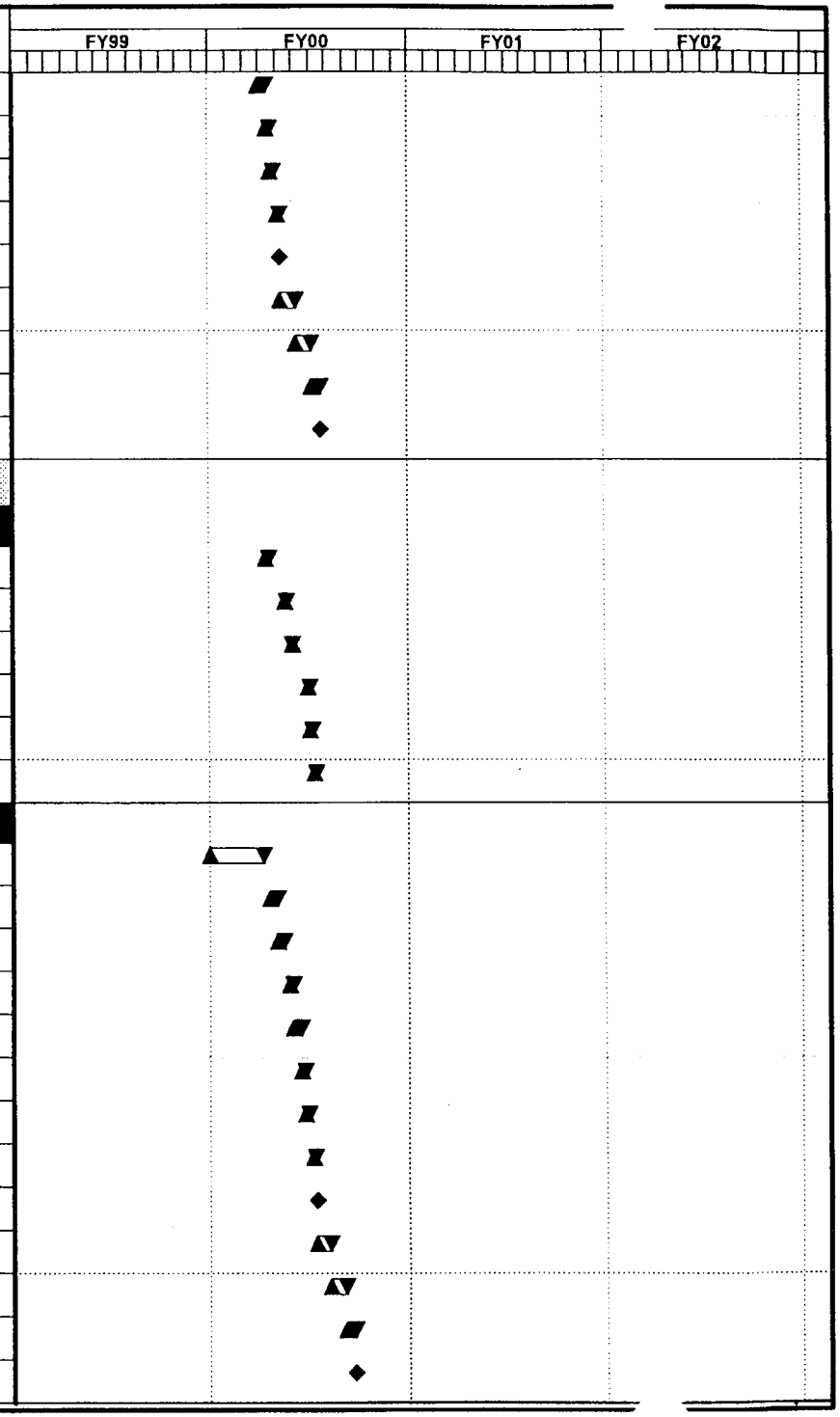
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR234M3	Submt V2S.4.2.1 Precl Eval Prelim. Draft DOE Rvw	M3	0		07JAN00
SLR23436	DOE Review Draft SR V2S4.2.1		20	10JAN00	04FEB00
SLR23437	Resolve Comments/Revise Draft SR V2S4.2.1		19	07FEB00	03MAR00
SLR23438	DOE Acceptance Review of Draft SR V2S4.2.1		14	06MAR00	23MAR00
SLR234M4	Complete Final SR V2S4.2.1 f/DOE Rvw	M4	0		23MAR00
V2S4.2.02					
150 Support Operations					
BMR23445	CDP Edit, Format Prel Draft V2S4.2.2		7	05OCT99	14OCT99
BMR23475	Preliminary QC Check of SR V2S4.2.2		5	10NOV99	17NOV99
BMR23485	CDP Edit, Reformat V2S4.2.2		2	29NOV99	30NOV99
BMR23505	CDP Final Edit V2S4.2.2 Approval Draft		2	30DEC99	03JAN00
BMR23510	V2S4.2.2 Pre-Submission QC Check		3	04JAN00	06JAN00
BMR23520	Repro & Prep V2S4.2.2 Submission Package		1	11JAN00	11JAN00
300 Regulatory & Licensing					
SLR23440	Write V2S4.2.2 Preliminary Draft		60	12JUL99*	04OCT99
SLR23450	M&O SR Team Review V2S4.2.2 Prel. Draft		9	15OCT99	27OCT99
SLR23455	Incorp. V2S4.2.2 SR Team Comments		9	28OCT99	09NOV99
SLR23480	Incorporate M&O V2S4.2.2 QC Check Comments		5	18NOV99	24NOV99
SLR23490	M&O/YMSCO V2S4.2.2 Preliminary Review		10	01DEC99	14DEC99
SLR23495	Resolve M&O/YMSCO V2S4.2.2 Prelim Comments		5	15DEC99	21DEC99
SLR23500	Final Update for V2S4.2.2 Approval Draft		5	22DEC99	29DEC99
SLR23515	SR Team Finalize V2S4.2.2 Approval Draft		2	07JAN00	10JAN00
SLR235M3	Submit V2S4.2.2 Prelim. Draft f/ DOE Review	M3	0		11JAN00
SLR23526	DOE Review Draft SR V2S4.2.2		20	12JAN00	08FEB00
SLR23527	Resolve Comments/Revise Draft SR V2S4.2.2		19	09FEB00	07MAR00
SLR23528	DOE Acceptance Review of Draft SR V2S4.2.2		14	08MAR00	27MAR00
SLR235M4	Complete Final SR V2S4.2.2 f/DOE Rvw	M4	0		27MAR00
V2S4.2.03					
150 Support Operations					
BMR23535	CDP Edit, Format Prel Draft V2S4.2.3		7	09DEC99	17DEC99
BMR23565	Preliminary QC Check of SR V2S4.2.3		5	17JAN00	21JAN00



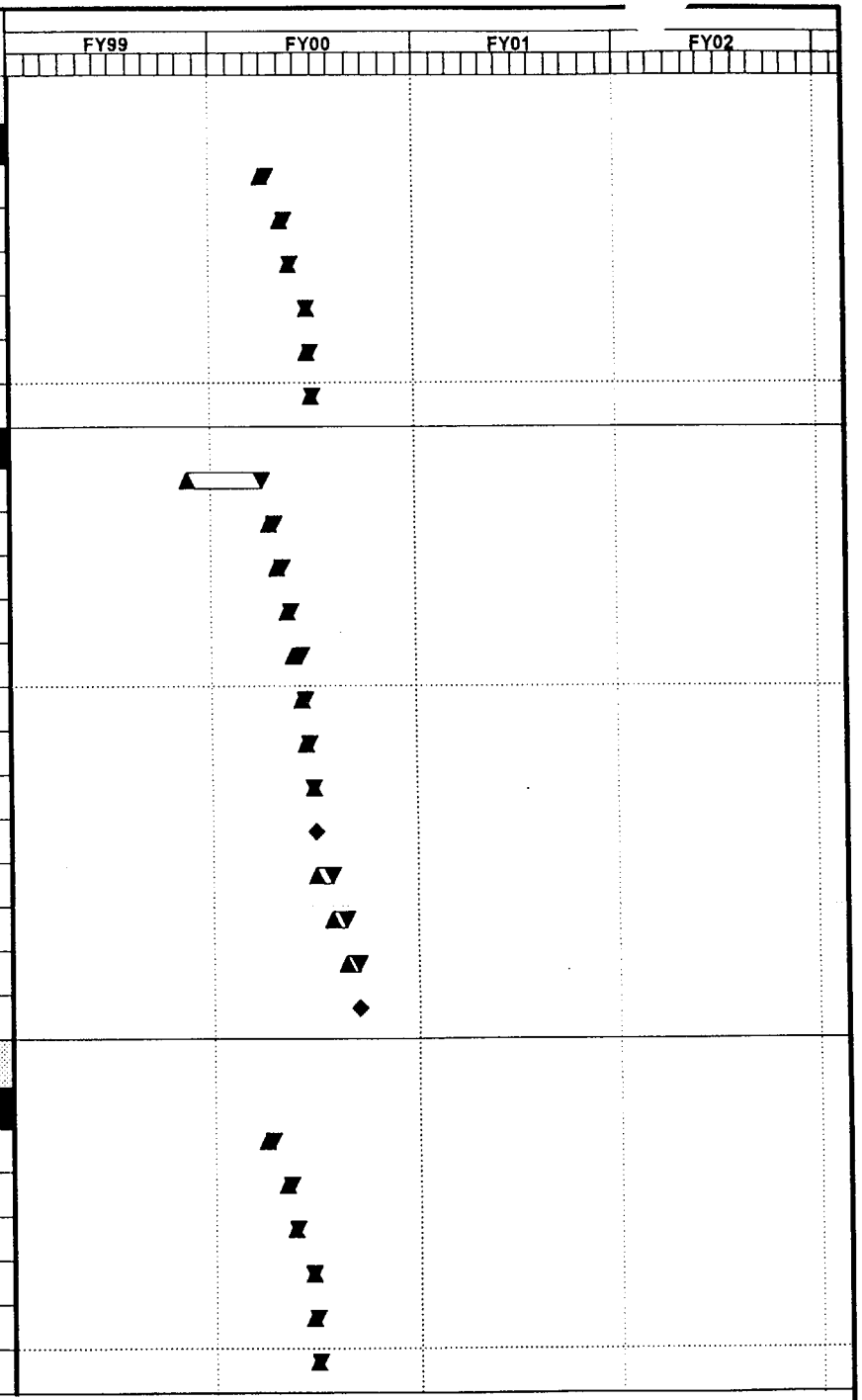
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMR23575	CDP Edit, Reformat V2S4.2.3		2	31JAN00	01FEB00
BMR23595	CDP Final Edit V2S4.2.3 Approval Draft		2	02MAR00	03MAR00
BMR23600	V2S4.2.3 Pre-Submission QC Check		3	06MAR00	08MAR00
BMR23610	Repro & Prep V2S4.2.3 Submission Package		1	13MAR00	13MAR00
300 Regulatory & Licensing					
SLR23530	Write V2S4.2.3 Preliminary Draft		78	16AUG99*	08DEC99
SLR23540	M&O SR Team Review V2S4.2.3 Prel. Draft		9	20DEC99	03JAN00
SLR23545	Incorp. V2S4.2.3 SR Team Comments		9	04JAN00	14JAN00
SLR23570	Incorporate M& V2S4.2.3 QC Check Comments		5	24JAN00	28JAN00
SLR23580	M&O/YMSCO V2S4.2.3 Preliminary Review		10	02FEB00	15FEB00
SLR23585	Resolve M&O/YMSCO V2S4.2.3 Prelim Comments		5	16FEB00	23FEB00
SLR23590	Final Update for V2S4.2.3 Approval Draft		5	24FEB00	01MAR00
SLR23605	SR Team Finalize V2S4.2.3 Approval Draft		2	09MAR00	10MAR00
SLR236M3	Submit V2S4.2.3 Prelim. Draft f/ DOE Review	M3	0		13MAR00
SLR23616	DOE Review Draft SR V2S4.2.3		20	14MAR00	10APR00
SLR23617	Resolve Comments/Revise Draft SR V2S4.2.3		19	11APR00	05MAY00
SLR23618	DOE Acceptance Review of Draft SR V2S4.2.3		14	08MAY00	25MAY00
SLR236M4	Complete Final SR V2S4.2.3 f/DOE Rvw	M4	0		25MAY00
V2S4.2.04					
150 Support Operations					
BMR24010	CDP Edit, Format Prel Draft V2S4.2.4		7	03NOV99	12NOV99
BMR24040	Preliminary QC Check of SR V2S4.2.4		5	13DEC99	17DEC99
BMR24050	CDP Edit, Reformat V2S4.2.4		2	28DEC99	29DEC99
BMR24070	CDP Final Edit V2S4.2.4 Approval Draft		2	28JAN00	31JAN00
BMR24075	V2S4.2.4 Pre-Submission QC Check		3	01FEB00	03FEB00
BMR24085	Repro & Prep V2S4.2.4 Submission Package		1	08FEB00	08FEB00
300 Regulatory & Licensing					
SLR24005	Write V2S4.2.4 Preliminary Draft		55	16AUG99*	02NOV99
SLR24015	M&O SR Team Review V2S4.2.4 Prel. Draft		9	15NOV99	29NOV99
SLR24020	Incorp.V2S4.2.4 SR Team Comments		9	30NOV99	10DEC99
SLR24045	Incorporate M& V2S4.2.4 QC Check Comments		5	20DEC99	27DEC99



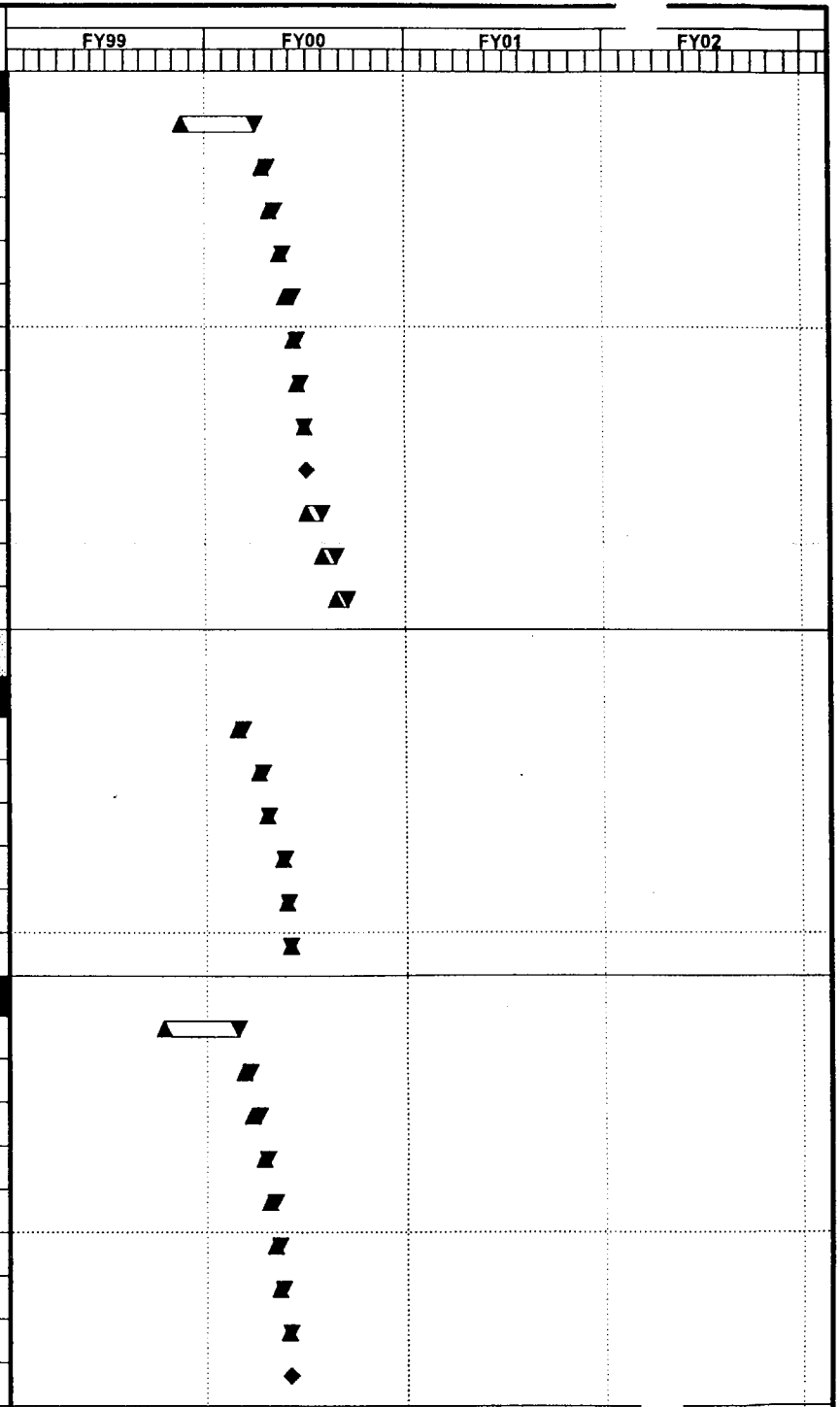
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR24055	M&O/YMSCO V2S4.2.4 Preliminary Review		10	30DEC99	13JAN00
SLR24060	Resolve M&O/YMSCO V2S4.2.4 Prelim Comments		5	14JAN00	20JAN00
SLR24065	Final Update for V2S4.2.4 Approval Draft		5	21JAN00	27JAN00
SLR24080	SR Team Finalize V2S4.2.4 Approval Draft		2	04[illegible]00	07FEB00
SLR240M3	Submit V2S4.2.4 Prelim. Draft f/ DOE Review	M3	0		08FEB00
SLR24091	DOE Review Draft SR V2S4.2.4		20	09FEB00	08MAR00
SLR24092	Resolve Comments/Revise Draft SR V2S4.2.4		19	09MAR00	04APR00
SLR24093	DOE Acceptance Review of Draft SR V2S4.2.4		14	05APR00	24APR00
SLR240M4	Complete Final SR V2S4.2.4 f/DOE Rvw	M4	0		24APR00
V2S4.2.05					
150 Support Operations					
BMR24100	CDP Edit, Format Prel Draft V2S4.2.5		7	10JAN00	18JAN00
BMR24130	Preliminary QC Check of SR V2S4.2.5		5	14FEB00	18FEB00
BMR24140	CDP Edit, Reformat V2S4.2.5		2	29FEB00	01MAR00
BMR24160	CDP Final Edit V2S4.2.5 Approval Draft		2	30MAR00	31MAR00
BMR24165	V2S4.2.5 Pre-Submission QC Check		3	03APR00	05APR00
BMR24175	Repro & Prep V2S4.2.5 Submission Package		1	10APR00	10APR00
300 Regulatory & Licensing					
SLR24095	Write V2S4.2.5 Preliminary Draft		65	01OCT99*	07JAN00
SLR24105	M&O SR Team Review V2S4.2.5 Prel. Draft		9	19JAN00	31JAN00
SLR24110	Incorp. V2S4.2.5 SR Team Comments		9	01FEB00	11FEB00
SLR24135	Incorporate M& V2S4.2.5 QC Check Comments		5	22FEB00	28FEB00
SLR24145	M&O/YMSCO V2S4.2.5 Preliminary Review		10	02MAR00	15MAR00
SLR24150	Resolve M&O/YMSCO V2S4.2.5 Prelimi Comments		5	16MAR00	22MAR00
SLR24155	Final Update for V2S4.2.5 Approval Draft		5	23MAR00	29MAR00
SLR24170	SR Team Finalize V2S4.2.5 Approval Draft		2	06APR00	07APR00
SLR241M3	Submit V2S4.2.5 Prelim. Draft f/ DOE Review	M3	0		10APR00
SLR24181	DOE Review Draft SR V2S4.2.5		20	11APR00	08MAY00
SLR24182	Resolve Comments/Revise Draft SR V2S4.2.5		19	09MAY00	05JUN00
SLR24183	DOE Acceptance Review of Draft SR V2S4.2.5		13	06JUN00	22JUN00
SLR241M4	Complete Final SR V2S4.2.5 f/DOE Rvw	M4	0		22JUN00



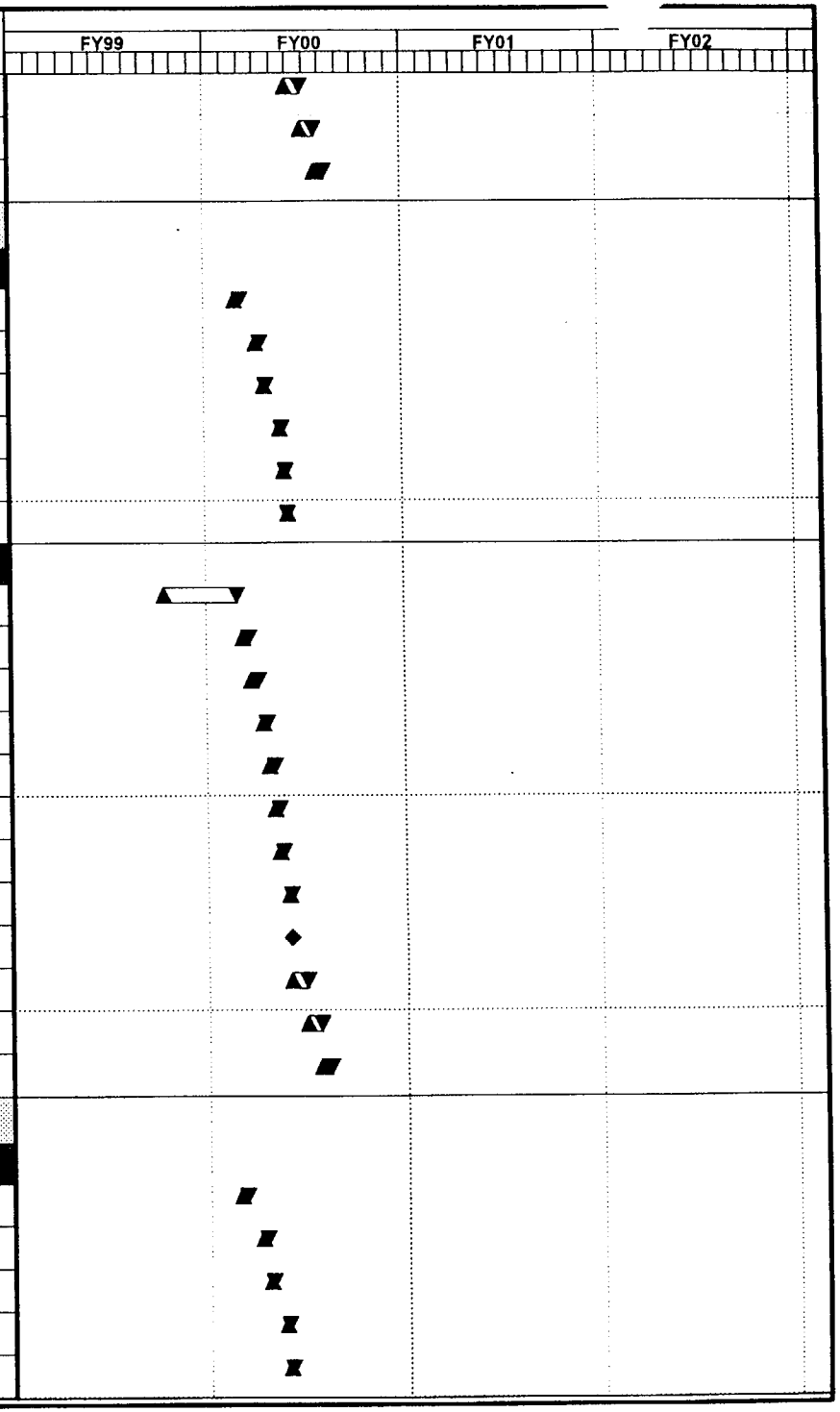
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
V2S4.2.06					
150 Support Operations					
BMR24190	CDP Edit, Format Prel Draft V2S4.2.6		7	30DEC99	10JAN00
BMR24220	Preliminary QC Check of SR V2S4.2.6		5	04FEB00	10FEB00
BMR24230	CDP Edit, Reformat V2S4.2.6		2	18FEB00	22FEB00
BMR24250	CDP Final Edit V2S4.2.6 Approval Draft		2	22MAR00	23MAR00
BMR24255	V2S4.2.6 Pre-Submission QC Check		3	24MAR00	28MAR00
BMR24265	Repro & Prep V2S4.2.6 Submission Package		1	31MAR00	31MAR00
300 Regulatory & Licensing					
SLR24185	Write V2S4.2.6 Preliminary Draft		92	16AUG99*	29DEC99
SLR24195	M&O SR Team Review V2S4.2.6 Prel. Draft		9	11JAN00	21JAN00
SLR24200	Incorp. V2S4.2.6 SR Team Comments		9	24JAN00	03FEB00
SLR24225	Incorporate M& V2S4.2.6 QC Check Comments		5	11FEB00	17FEB00
SLR24235	M&O/YMSCO V2S4.2.6 Preliminary Review		10	23FEB00	07MAR00
SLR24240	Resolve M&O/YMSCO V2S4.2.6 PrelimComments		5	08MAR00	14MAR00
SLR24245	Final Update for V2S4.2.6 Approval Draft		5	15MAR00	21MAR00
SLR24260	SR Team Finalize V2S4.2.6 Approval Draft		2	29MAR00	30MAR00
SLR242M3	Submit V2S4.2.6 Prelim. Draft f/ DOE Review	M3	0		31MAR00
SLR24271	DOE Review Draft SR V2S4.2.6		20	03APR00	28APR00
SLR24272	Resolve Comments/Revise Draft SR V2S4.2.6		19	01MAY00	25MAY00
SLR24273	DOE Acceptance Review of Draft SR V2S4.2.6		14	26MAY00	15JUN00
SLR242M4	Complete Final SR V2S4.2.6 f/DOE Rvw	M4	0		15JUN00
V2S4.2.07					
150 Support Operations					
BMR24280	CDP Edit, Format Prel Draft V2S4.2.7		7	30DEC99	10JAN00
BMR24310	Preliminary QC Check of SR V2S4.2.7		5	04FEB00	10FEB00
BMR24320	CDP Edit, Reformat V2S4.2.7		2	18FEB00	22FEB00
BMR24340	CDP Final Edit V2S4.2.7 Approval Draft		2	22MAR00	23MAR00
BMR24345	V2S4.2.7 Pre-Submission QC Check		3	24MAR00	28MAR00
BMR24355	Repro & Prep V2S4.2.7 Submission Package		1	31MAR00	31MAR00



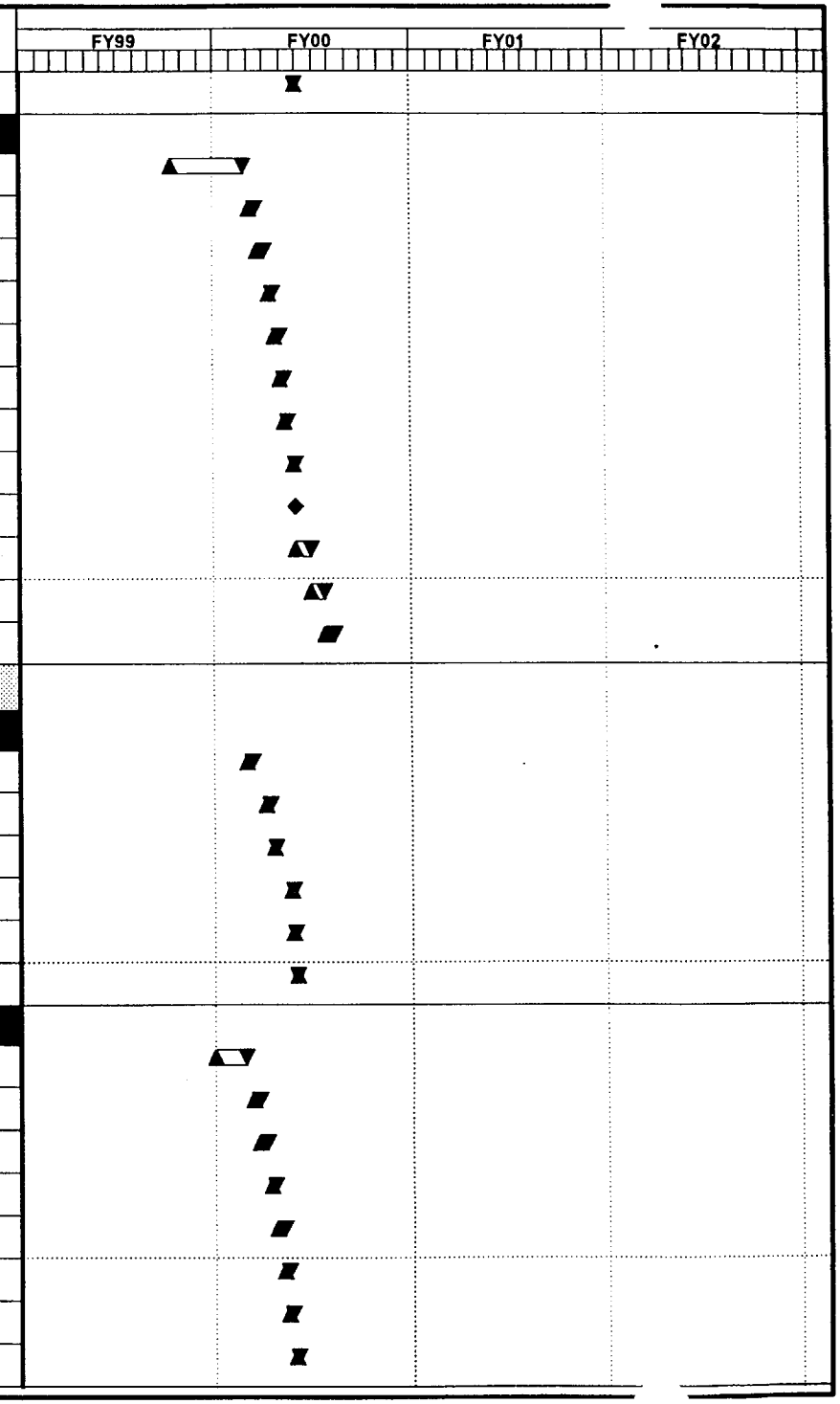
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
300 Regulatory & Licensing					
SLR24275	Write V2S4.2.7 Preliminary Draft		92	16AUG99*	29DEC99
SLR24285	M&O SR Team Review V2S4.2.7 Prel. Draft		9	11JAN00	21JAN00
SLR24290	Incorp. V2S4.2.7 SR Team Comments		9	24JAN00	03FEB00
SLR24315	Incorporate M& V2S4.2.7 QC Check Comments		5	11FEB00	17FEB00
SLR24325	M&O/YMSCO V2S4.2.7 Prelim Review		10	23FEB00	07MAR00
SLR24330	Resolve M&O/YMSCO V2S4.2.7 Prelim Comments		5	08MAR00	14MAR00
SLR24335	Final Update for V2S4.2.7 Approval Draft		5	15MAR00	21MAR00
SLR24350	SR Team Finalize V2S4.2.7 Approval Draft		2	29MAR00	30MAR00
SLR243M3	Submit V2S4.2.7 Prelim. Draft f/ DOE Review	M3	0		31MAR00
SLR24361	DOE Review Draft SR V2S4.2.7		20	03APR00	28APR00
SLR24362	Resolve Comments/Revise Draft SR V2S4.2.7		19	01MAY00	25MAY00
SLR24363	DOE Acceptance Review of Draft SR V2S4.2.7		14	26MAY00	15JUN00
V2S4.2.08					
150 Support Operations					
BMR24370	CDP Edit, Format Prel Draft V2S4.2.8		7	24NOV99	06DEC99
BMR24400	Preliminary QC Check of SR V2S4.2.8		5	04JAN00	10JAN00
BMR24410	CDP Edit, Reformat V2S4.2.8		2	18JAN00	19JAN00
BMR24430	CDP Final Edit V2S4.2.8 Approval Draft		2	17FEB00	18FEB00
BMR24435	V2S4.2.8 Pre-Submission QC Check		3	22FEB00	24FEB00
BMR24445	Repro & Prep V2S4.2.8 Submission Package		1	29FEB00	29FEB00
300 Regulatory & Licensing					
SLR24365	Write V2S4.2.8 Preliminary Draft		94	12JUL99*	23NOV99
SLR24375	M&O SR Team Review V2S4.2.8 Prel. Draft		9	07DEC99	17DEC99
SLR24380	Incorp. Sec V2S4.2.8 SR Team Comments		9	20DEC99	03JAN00
SLR24405	Incorporate M&O V2S4.2.8 QC Check Comments		5	11JAN00	17JAN00
SLR24415	M&O/YMSCO V2S4.2.8 Preliminary Review		10	20JAN00	02FEB00
SLR24420	Resolve M&O/YMSCO V2S4.2.8 Prelim Comments		5	03FEB00	09FEB00
SLR24425	Final Update for V2S4.2.8 Approval Draft		5	10FEB00	16FEB00
SLR24440	SR Team Finalize V2S4.2.8 Approval Draft		2	25FEB00	28FEB00
SLR244M3	Submit V2S4.2.8 Draft f/ DOE Review	M3	0		29FEB00



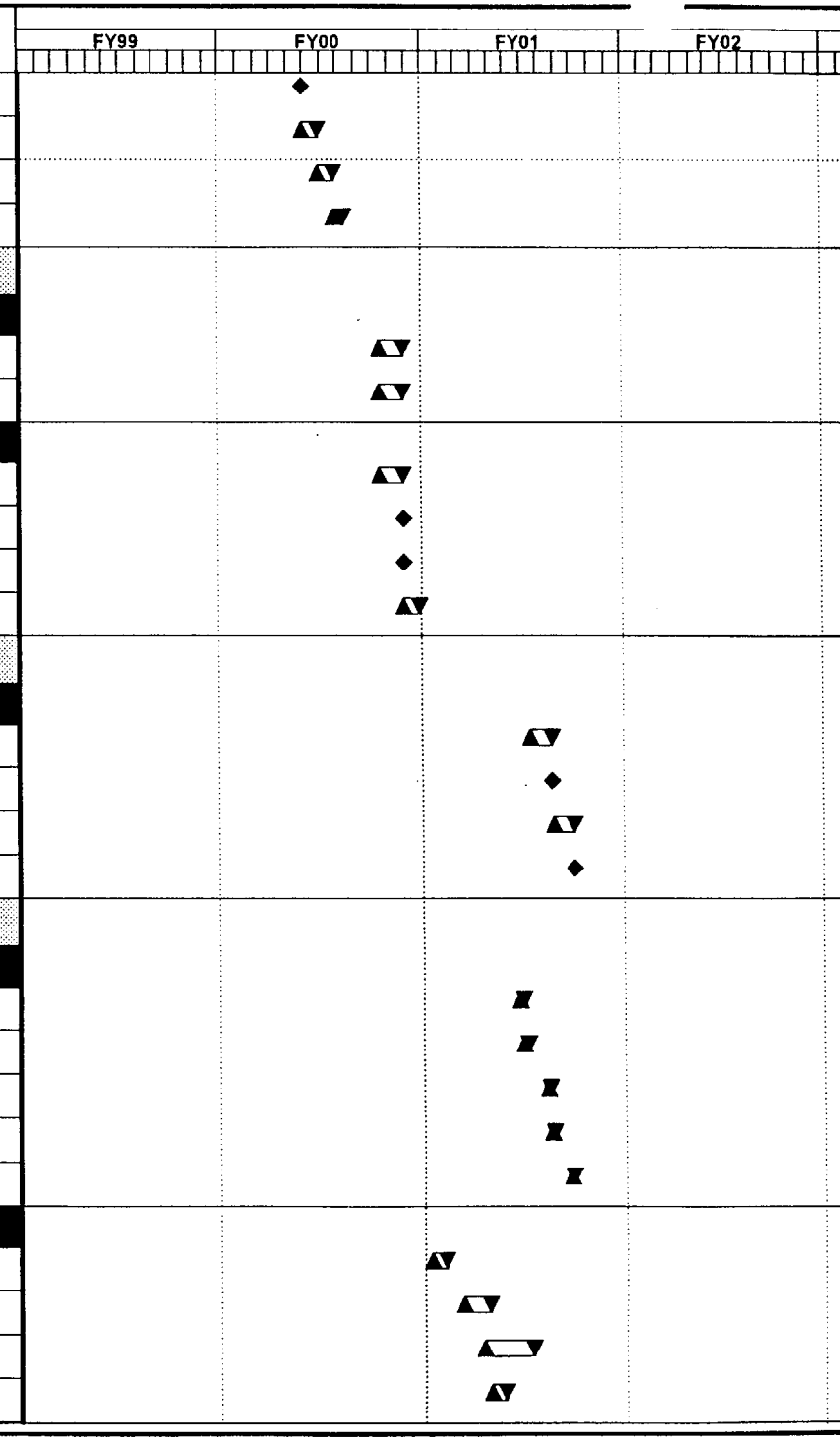
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR24451	DOE Review Draft SR V2S4.2.8		20	01MAR00	28MAR00
SLR24452	Resolve Comments/Revise Draft SR V2S4.2.8		19	29MAR00	24APR00
SLR24453	DOE Acceptance Review of Draft SR V2S4.2.8		14	25APR00	12MAY00
V2S4.2.09					
150 Support Operations					
BMR24460	CDP Edit, Format Prel Draft V2S4.2.9		7	24NOV99	06DEC99
BMR24490	Preliminary QC Check of SR V2S4.2.9		5	04JAN00	10JAN00
BMR24500	CDP Edit, Reformat V2S4.2.9		2	18JAN00	19JAN00
BMR24520	CDP Final Edit V2S4.2.9 Approval Draft		2	17FEB00	18FEB00
BMR24525	V2S4.2.9 Pre-Submission QC Check		3	22FEB00	24FEB00
BMR24535	Repro & Prep V2S4.2.9 Submission Package		1	29FEB00	29FEB00
300 Regulatory & Licensing					
SLR24455	Write V2S4.2.9 Preliminary Draft		94	12JUL99*	23NOV99
SLR24465	M&O SR Team Review V2S4.2.9 Prel. Draft		9	07DEC99	17DEC99
SLR24470	Incorp. V2S4.2.9 SR Team Comments		9	20DEC99	03JAN00
SLR24495	Incorporate M& V2S4.2.9 QC Check Comments		5	11JAN00	17JAN00
SLR24505	M&O/YMSCO V2S4.2.9 Preliminary Review		10	20JAN00	02FEB00
SLR24510	Resolve M&O/YMSCO V2S4.2.9 Prelim Comments		5	03FEB00	09FEB00
SLR24515	Final Update for V2S4.2.9 Approval Draft		5	10FEB00	16FEB00
SLR24530	SR Team Finalize V2S4.2.9 Approval Draft		2	25FEB00	28FEB00
SLR24XM3	Submit V2S4.2.9. Draft f/ DOE Review	M3	0		29FEB00
SLR24541	DOE Review Draft SR V2S4.2.9		20	01MAR00	28MAR00
SLR24542	Resolve Comments/Revise Draft SR V2S4.2.9		19	29MAR00	24APR00
SLR24543	DOE Acceptance Review of Draft SR V2S4.2.9		14	25APR00	12MAY00
V2S4.2.10					
150 Support Operations					
BMR24550	CDP Edit, Format Prel Draft V2S4.2.10		7	24NOV99	06DEC99
BMR24580	Preliminary QC Check of SR V2S4.2.10		5	04JAN00	10JAN00
BMR24590	CDP Edit, Reformat V2S4.2.10		2	18JAN00	19JAN00
BMR24610	CDP Final Edit V2S4.2.10 Approval Draft		2	17FEB00	18FEB00
BMR24615	V2S4.2.10 Pre-Submission QC Check		3	22FEB00	24FEB00



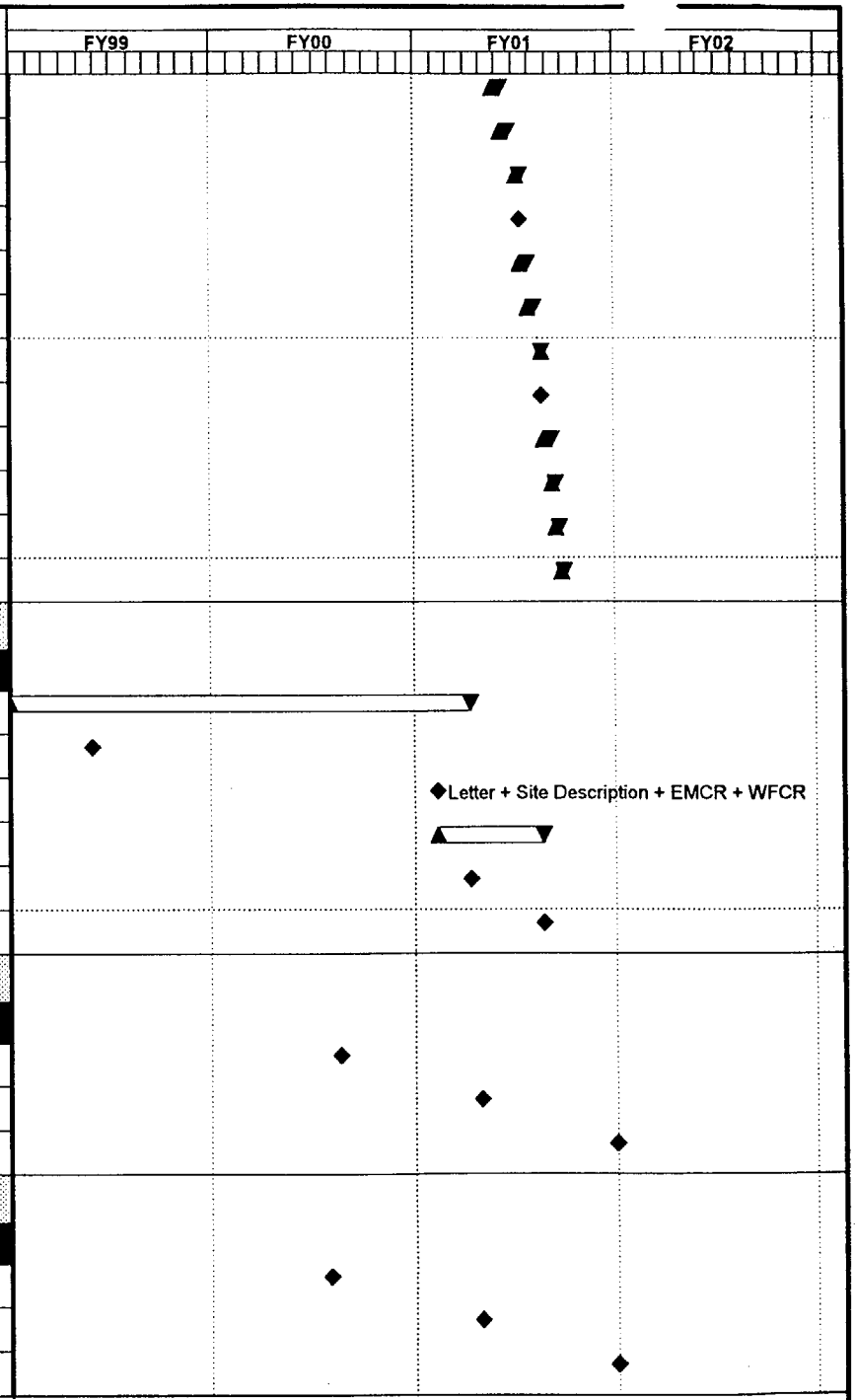
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
BMR24625	Repro & Prep V2S4.2.10 Submission Package		1	29FEB00	29FEB00
300 Regulatory & Licensing					
SLR24545	Write V2S4.2.10 Preliminary Draft		94	12JUL99*	23NOV99
SLR24555	M&O SR Team Review V2S4.2.10 Prel. Draft		9	07DEC99	17DEC99
SLR24560	Incorp. V2S4.2.10 SR Team Comments		9	20DEC99	03JAN00
SLR24585	Incorp M&O V2S4.2.10 QC Check Comments		5	11JAN00	17JAN00
SLR24595	M&O/YMSCO V2S4.2.10 Preliminary Review		10	20JAN00	02FEB00
SLR24600	Resolve M&O/YMSCO V2S4.2.10 Prelim Comments		5	03FEB00	09FEB00
SLR24605	Final Update for V2S4.2.10 Approval Draft		5	10FEB00	16FEB00
SLR24620	SR Team Finalize V2S4.2.10 Approval Draft		2	25FEB00	28FEB00
SLR246M3	Submit V2S4.2.10 Draft f/ DOE Review	M3	0		29FEB00
SLR24631	DOE Review Draft SR V2S4.2.10		20	01MAR00	28MAR00
SLR24632	Resolve Comments/Revise Draft SR V2S4.2.10		19	29MAR00	24APR00
SLR24633	DOE Acceptance Review of Draft SR V2S4.2.10		14	25APR00	12MAY00
V2S4.2.11					
150 Support Operations					
BMR24640	CDP Edit, Format Prel Draft V2S4.2.11		7	29NOV99	07DEC99
BMR24670	Preliminary QC Check of SR Sec 2.5.3.11		5	05JAN00	11JAN00
BMR24680	CDPEdit, Reformat V2S4.2.11		2	19JAN00	20JAN00
BMR24700	CDP Final Edit V2S4.2.11 Approval Draft		2	18FEB00	22FEB00
BMR24705	V2S4.2.11 Pre-Submission QC Check		3	23FEB00	25FEB00
BMR24715	Repro & Prep V2S4.2.11 Submission Package		1	01MAR00	01MAR00
300 Regulatory & Licensing					
SLR24635	Write V2S4.2.11 Preliminary Draft		37	01OCT99*	24NOV99
SLR24645	M&O SR Team Review V2S4.2.11 Prel. Draft		9	08DEC99	20DEC99
SLR24650	Incorp. V2S4.2.11 SR Team Comments		9	21DEC99	04JAN00
SLR24675	Incorporate M&O V2S4.2.11 QC Check Comments		5	12JAN00	18JAN00
SLR24685	M&O/YMSCO V2S4.2.11 Prelim Review		10	21JAN00	03FEB00
SLR24690	Resolve M&O/YMSCO V2S4.2.11 Prelim Comments		5	04FEB00	10FEB00
SLR24695	Final Update for V2S4.2.11 Approval Draft		5	11FEB00	17FEB00
SLR24710	SR Team Finalize V2S4.2.11 Approval Draft		2	28FEB00	29FEB00



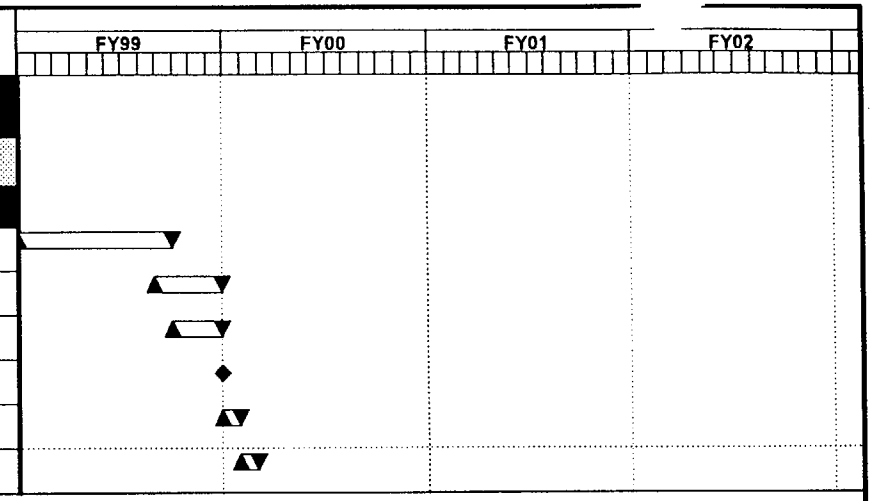
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLR247M3	Submit V2S4.2.11 Draft f/ DOE Review	M3	0		01MAR00
SLR24721	DOE Review Draft SR V2S4.2.11		20	02MAR00	29MAR00
SLR24722	Resolve Comments/Revise Draft SR V2S4.2.11		19	30MAR00	25APR00
SLR24723	DOE Acceptance Review of Draft SR V2S4.2.11		14	26APR00	15MAY00
V2SCHD					
150 Support Operations					
BMSR6030B	CDP Support SR Vol 2 Hearing Draft Finalization		32	17JUL00	29AUG00
BMSR6030C	Graphic Support SR Vol 2 Hearing Draft Finalizat		32	17JUL00	29AUG00
300 Regulatory & Licensing					
SLSR6030A	Finalize 10CFR960 Compl Eval f/Hearings		32	17JUL00	29AUG00
M2HQ	Initiate RW-1 Review of Compliance Evaluation	M2	0		29AUG00
SLSR6DM3	Complete Final 10CFR960 Evaluation (SR Vol 2)	M3	0		29AUG00
SLSR6045	DOE 10CFR960 Compl Eval Concurrence Review		20	30AUG00	27SEP00
V3					
300 Regulatory & Licensing					
SLTR225	State Views on Site Recommendation (Vol 3)		30	16APR01	25MAY01
MXJW	DOE Rec State of Nevada Comments on SR Decision	M2	0		25MAY01
SLTR245	Prepare Secretarial Response to State's Views		25	29MAY01	02JUL01
SLMXM4	Complete S-1 Response to State Comments	M4	0		02JUL01
V3.2					
150 Support Operations					
BMRCR075	CDP Format Hearings Comment Response Document		5	26MAR01	30MAR01
BMRCR080	QC Check of Hearings Comment Response Document		5	02APR01	06APR01
BMRCR100	CDP Format Hearings CSD Approval Draft		5	14MAY01	18MAY01
BMRCR105	QC Check Hearings CSD Approval Draft		3	21MAY01	23MAY01
BMRCR130	Final QC Check on Hearings CSD (SR Vol 3)		3	26JUN01	28JUN01
300 Regulatory & Licensing					
SLRCR050	Conduct Hearing CRD Preparation Training		19	16OCT00	09NOV00
SLRCR055	Collect/Track/Catalog Public Comments		33	11DEC00	26JAN01
SLTR204	Prepare Public Comment Summary Document (Vol 3)		64	15JAN01	13APR01
SLRCR060	Prepare Draft Responses to Public Comments		19	29JAN01	23FEB01



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLRCR065	M&O Review of Public Comment Draft Responses		10	26FEB01	09MAR01
SLRCR070	Incorporate M&O Comments		10	12MAR01	23MAR01
SLRCR085	Finalize Hearings CRD/Incorporate QC Comments		5	09APR01	13APR01
SLR245M3	Complete SR Comment Summary Document	M3	0		13APR01
SLRCR090	YMSCO/DOE Review Hearings Comment Summary Doc.		11	16APR01	30APR01
SLRCR095	Incorporate DOE Comments in Hearings CSD		9	01MAY01	11MAY01
SLRCR110	Finalize Hearings CSD for HQ Review		2	24MAY01	25MAY01
M2CR	Submit Hearings CSD for HQ Approval	P2	0		25MAY01
SLRCR115	OCRWM/DOE Review Hearings CSD		10	29MAY01	11JUN01
SLRCR120	Resolve DOE Comments on Hearings CSD		5	12JUN01	18JUN01
SLRCR125	Finalize Hearings CSD (SR Vol. 3)		5	19JUN01	25JUN01
SLRCR135	Resolve/Incorp. QC Check Comments-Hearings CSD		2	29JUN01	02JUL01
V4					
300 Regulatory & Licensing					
SLTR155	NRC Interactions on Sufficiency		677	01OCT98*	10JAN01
SDM4	Receive Site Description w/NRC Comments	M4	0		26FEB99*
M1GV	OCRWM Requests Sufficiency Comments from NRC	M1	0		13NOV00
SLTR155A	NRC Sufficiency Review Period		134	14NOV00	25MAY01
MXJB	NRC Issues IRSRs	M4	0		10JAN01
MXJA	DOE Receives Sufficiency Comments f/ NRC (SR-V4)	M2	0		25MAY01
WF PMR					
110 Waste Package Operations					
SLF722M4	Rec WF PMR Rev01/SR Consideration Hearing Draft	M4	0		19MAY00
SLF724M4	Rec WF PMR Rev 03 for SR Notification Draft	M4	0		31JAN01
SLF726M4	Rec WF PMR Rev 05 for License Application	M4	0		28SEP01
WP PMR					
110 Waste Package Operations					
SLW632M4	Rec WP PMR Rev01/SR Consideration Hearing Draft	M4	0		28APR00
SLW634M4	Rec WP PMR Rev 03 for SR Notification Draft	M4	0		31JAN01
SLW636M4	Rec WP PMR Rev 05 for License Application	M4	0		28SEP01



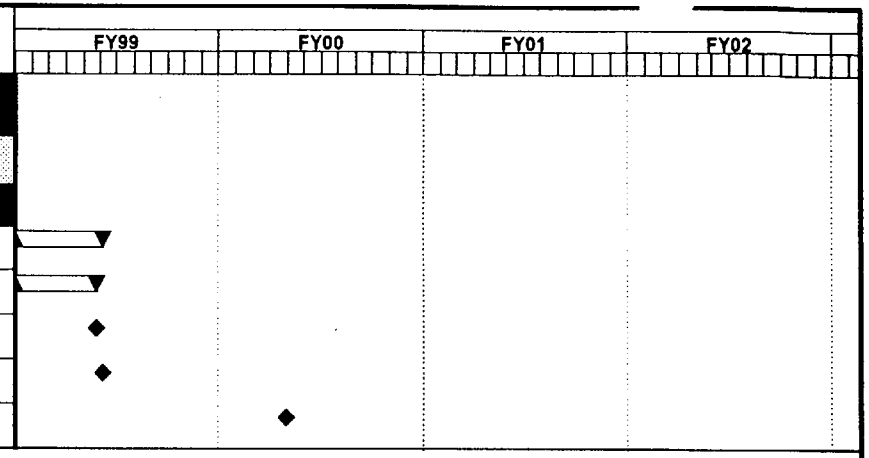
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
Z LADS/EDA2					
SA Summary Activities for SE					
160 Systems Engineering & Integration Office - LV					
SE1920	SR/LA Products List Draft Revision		182	01OCT98	30JUN99
SE1900	Revise Reference Design Description (RDD)		86	01JUN99*	30SEP99
SE1925	Complete SR/LA Products List incl. M&O Rev/App		64	01JUL99	30SEP99
SE1930M3	Submit SR/LA Products List to DOE for Approval	M3	0		30SEP99
SE1935	DOE Review of SR/LA Product List		20	01OCT99	29OCT99
SE1940	Incorporate DOE Comments to SR/LA Products List		19	01NOV99	30NOV99



K Working Draft License Application Outline

300 Regulatory & Licensing

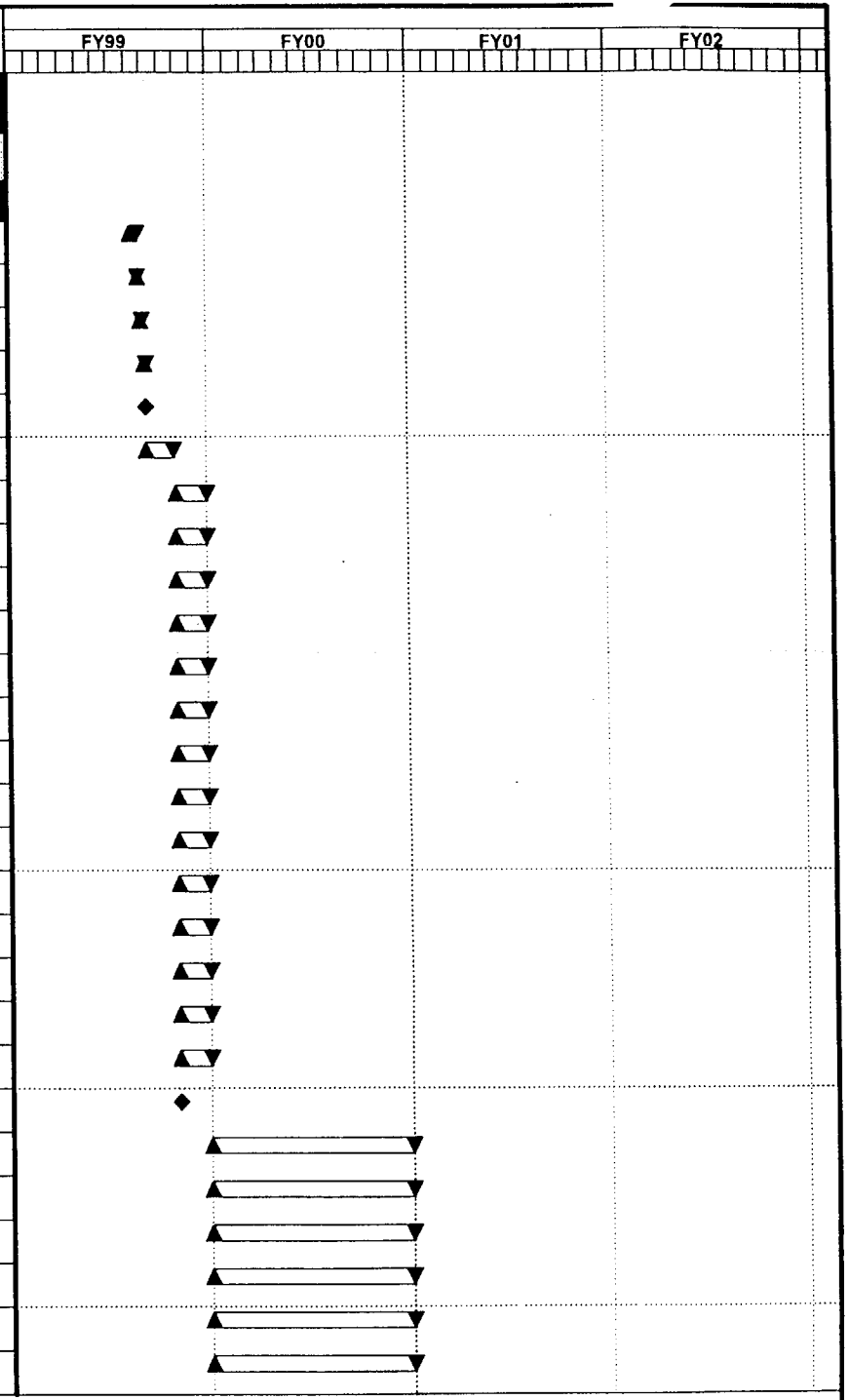
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLWD0070	Licensing Develop WDLA Ch.3 Draft		99	01OCT98	04MAR99
SLWD0100	Licensing Develop WDLA Ch. 8 Draft		92	01OCT98	23FEB99
SLWDR8M4	Receive Draft WDLA CH 8	M4	0		23FEB99
SLWDR3M4	Receive Draft WDLA CH 3	M4	0		04MAR99
M2NF	DOE Completes Review of WDLA	M2	0		28JAN00*



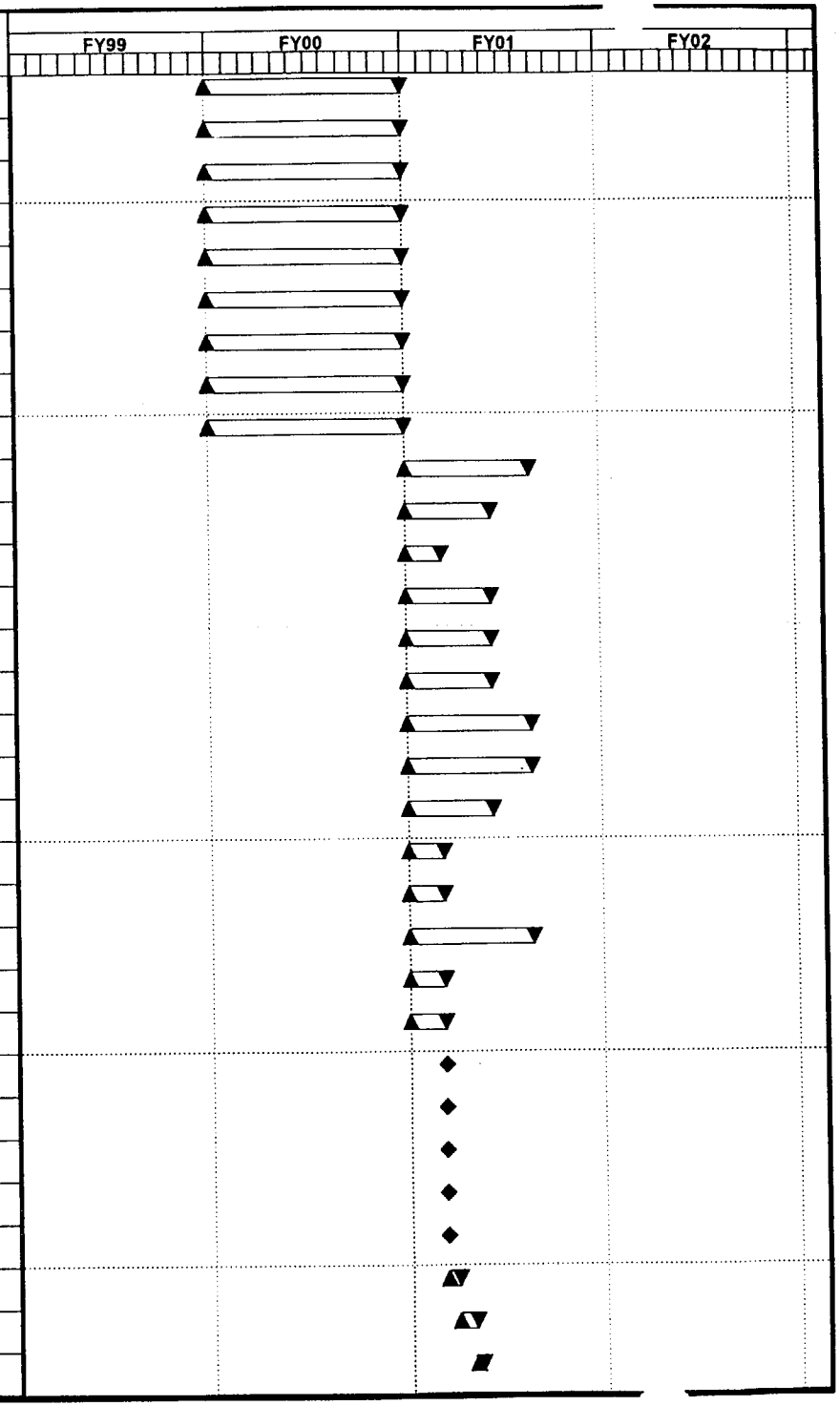
L LA Schedule

300 Regulatory & Licensing

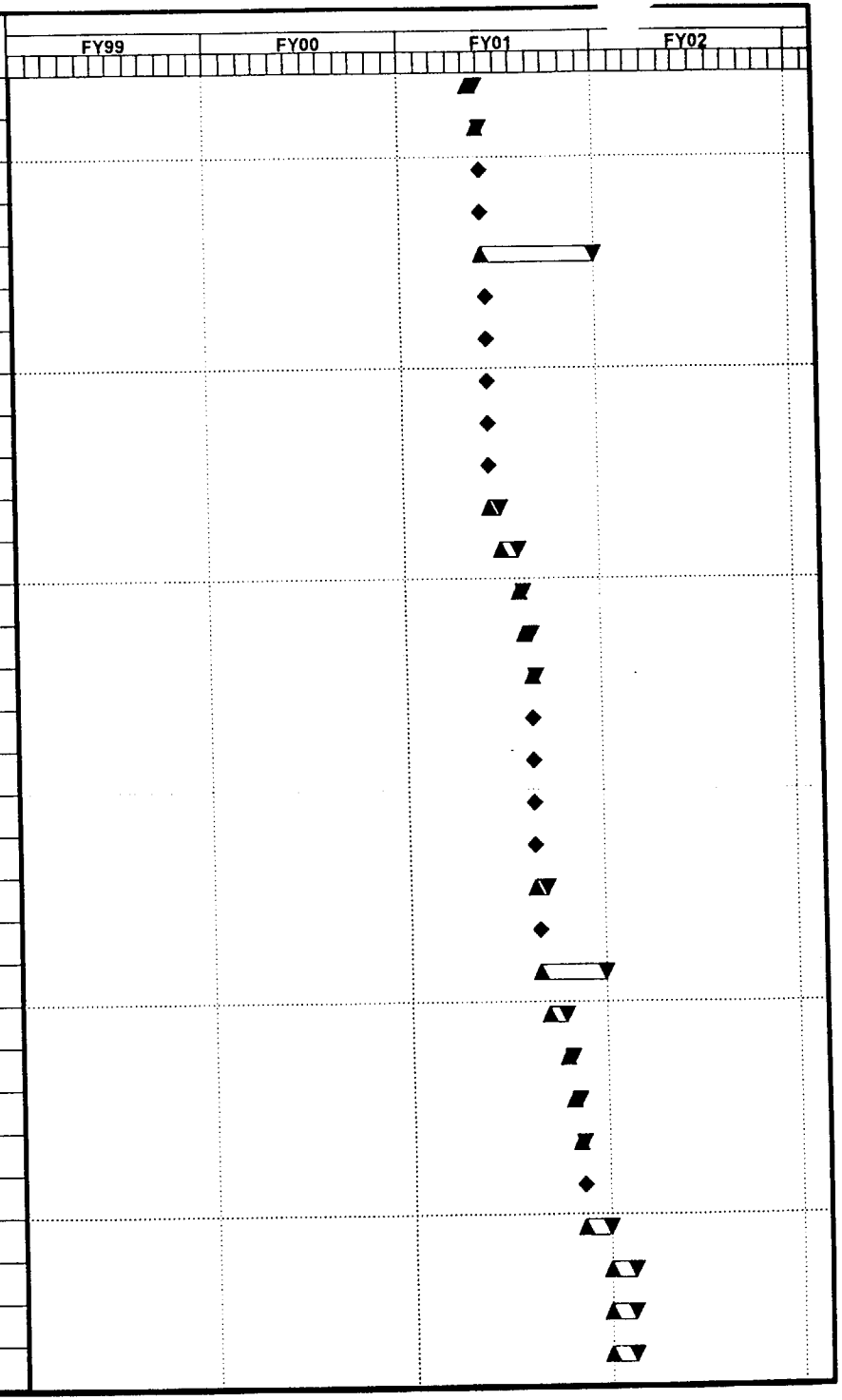
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLDI0005	Prepare Level of Design Detail Paper for LA		10	12MAY99*	25MAY99
SLDI0010	M&O Review Level of Design Detail Paper for LA		3	26MAY99	28MAY99
SLDI0015	Finalize Level of Design Detail Paper for LA		4	01JUN99	04JUN99
SLDI0020	QC Check/Prod./Level of Design Detail Paper f/LA		4	07JUN99	10JUN99
SLDI05M3	Submit Level of Design Detail Paper f/LA to DOE	M3	0		10JUN99
SLDI0025	DOE Rvw/Comm. Res.-Lvl of Dsgn Detail Paper f/LA		35	11JUN99	30JUL99
SLADLA01	Licensing Develop ADLA Ch.1 Draft - FY99		43	02AUG99	30SEP99
SLADLA02	Licensing Develop ADLA Ch.2 Draft - FY99		43	02AUG99	30SEP99
SLADLA03	Licensing Develop ADLA Ch.3 Draft - FY99		43	02AUG99	30SEP99
SLADLA04	Licensing Develop ADLA Ch. 4 Draft - FY99		43	02AUG99	30SEP99
SLADLA05	Licensing Develop ADLA Ch. 5 Draft - FY99		43	02AUG99	30SEP99
SLADLA06	Licensing Develop ADLA Ch. 6 Draft - FY99		43	02AUG99	30SEP99
SLADLA07	Licensing Develop ADLA Ch. 7 Draft - FY99		43	02AUG99	30SEP99
SLADLA08	Licensing Develop ADLA Ch. 8 Draft - FY99		43	02AUG99	30SEP99
SLADLA09	Licensing Develop ADLA Ch. 9 Draft - FY99		43	02AUG99	30SEP99
SLADLA10	Licensing Develop ADLA Ch. 10 Draft - FY99		43	02AUG99	30SEP99
SLADLA11	Licensing Develop ADLA Ch. 11 Draft - FY99		43	02AUG99	30SEP99
SLADLA12	Licensing Develop ADLA Ch. 12 Draft - FY99		43	02AUG99	30SEP99
SLADLA13	Licensing Develop ADLA Ch. 13 Draft - FY99		43	02AUG99	30SEP99
SLADLA14	Licensing Develop ADLA Ch. 14 Draft - FY99		43	02AUG99	30SEP99
SLADLAM4	Start Preparing Acceptance Draft Lic Application	M4	0	02AUG99*	
SLAD1007	LA Acceptance Draft Development		251	01OCT99	29SEP00
SLADLA01A	Licensing Develop ADLA Ch.1 Draft - FY00		251	01OCT99	29SEP00
SLADLA02A	Licensing Develop ADLA Ch.2 Draft - FY00		251	01OCT99	29SEP00
SLADLA03A	Licensing Develop ADLA Ch.3 Draft - FY00		251	01OCT99	29SEP00
SLADLA04A	Licensing Develop ADLA Ch. 4 Draft - FY00		251	01OCT99	29SEP00
SLADLA05A	Licensing Develop ADLA Ch. 5 Draft - FY00		251	01OCT99	29SEP00



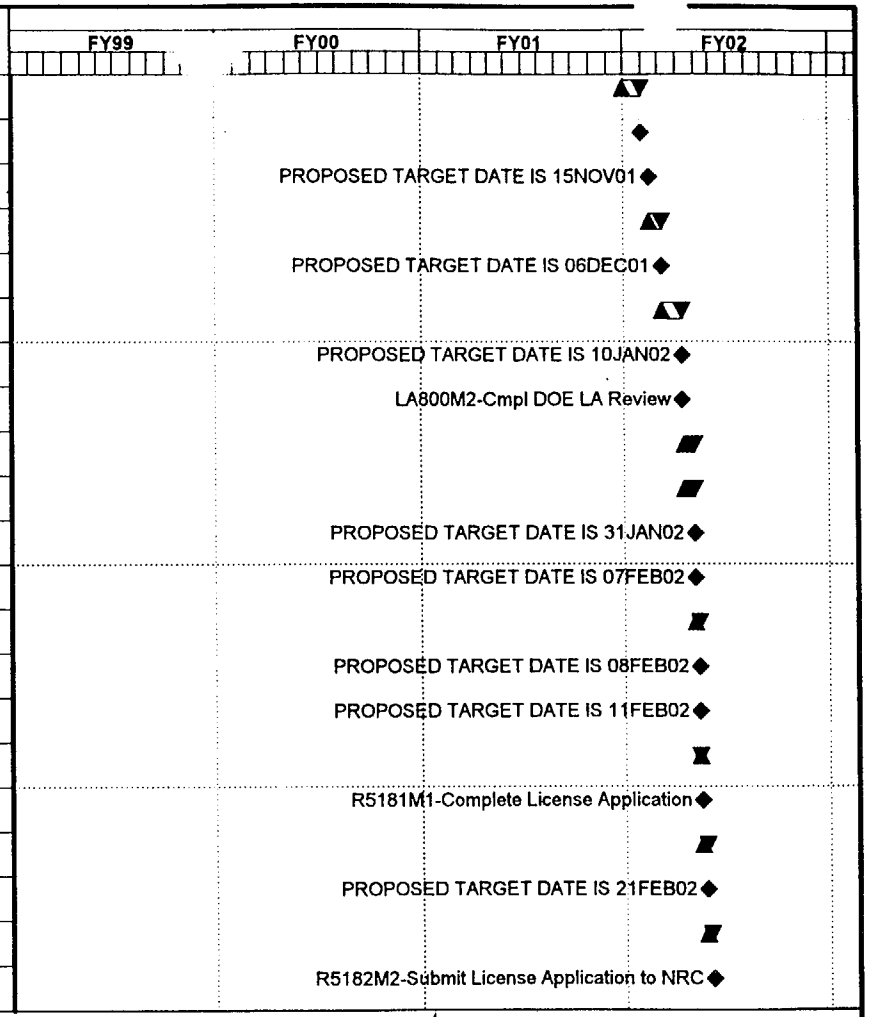
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLADLA06A	Licensing Develop ADLA Ch. 6 Draft - FY00		251	01OCT99	29SEP00
SLADLA07A	Licensing Develop ADLA Ch. 7 Draft - FY00		251	01OCT99	29SEP00
SLADLA08A	Licensing Develop ADLA Ch. 8 Draft - FY00		251	01OCT99	29SEP00
SLADLA09A	Licensing Develop ADLA Ch. 9 Draft - FY00		251	01OCT99	29SEP00
SLADLA10A	Licensing Develop ADLA Ch. 10 Draft - FY00		251	01OCT99	29SEP00
SLADLA11A	Licensing Develop ADLA Ch. 11 Draft - FY00		251	01OCT99	29SEP00
SLADLA12A	Licensing Develop ADLA Ch. 12 Draft - FY00		251	01OCT99	29SEP00
SLADLA13A	Licensing Develop ADLA Ch. 13 Draft - FY00		251	01OCT99	29SEP00
SLADLA14A	Licensing Develop ADLA Ch. 14 Draft - FY00		251	01OCT99	29SEP00
SLADLA01B	Licensing Develop ADLA Ch.1 Draft - FY01		163	02OCT00	25MAY01
SLADLA02B	Licensing Develop ADLA Ch.2 Draft - FY01		108	02OCT00	09MAR01
SLADLA03B	Licensing Develo ADLA Ch.3 Draft - FY01		46	02OCT00	08DEC00
SLADLA04B	Licensing Develop ADLA Ch. 4 Draft - FY01		108	02OCT00	09MAR01
SLADLA05B	Licensing Develop ADLA Ch. 5 Draft - FY01		108	02OCT00	09MAR01
SLADLA06B	Licensing Develop ADLA Ch. 6 Draft - FY01		108	02OCT00	09MAR01
SLADLA07B	Licensing Develop ADLA Ch. 7 Draft- FY01		163	02OCT00	25MAY01
SLADLA08B	Licensing Develop ADLA Ch. 8 Draft - FY01		163	02OCT00	25MAY01
SLADLA09B	Licensing Develop ADLA Ch. 9 Draft - FY01		108	02OCT00	09MAR01
SLADLA10B	Licensing Develop ADLA Ch. 10 Draft - FY01		46	02OCT00	08DEC00
SLADLA11B	Licensing Develop ADLA Ch. 11 Draft - FY01		46	02OCT00	08DEC00
SLADLA12B	Licensing Develop ADLA Ch. 12 Draft - FY01		163	02OCT00	25MAY01
SLADLA13B	Licensing Develop ADLA Ch. 13 Draft - FY01		46	02OCT00	08DEC00
SLADLA14B	Licensing Develop ADLA Ch. 14 Draft - FY01		46	02OCT00	08DEC00
SLADR3M4	Receive Draft ADLA CH 3	M4	0		08DEC00
SLADRAM4	Receive Draft ADLA CH 10	M4	0		08DEC00
SLADRBM4	Receive Draft ADLA CH 11	M4	0		08DEC00
SLADRDM4	Receive Draft ADLA CH 13	M4	0		08DEC00
SLADREM4	Receive Draft ADLA CH 14	M4	0		08DEC00
SLAD2000	Compile/Repro ADLA Site & Programmatic Chapters		22	09DEC00	30DEC00
SLAD2005	Final QAP 3.5 Review/Incorp Comments S&P Chapter		32	31DEC00	31JAN01
SLAD2010	Package & Publish ADLA S&P Chapters		9	01FEB01	09FEB01



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLAD2020	Final ADLA QC Check S&P Chap. (Internal to Lic.)		13	10FEB01	22FEB01
SLAD2025	Repro ADLA S&P Chap. f/ QAP 6.2 Review Submision		7	23FEB01	01MAR01
M2NE	YMSCO Initiates Rvw-Draft LA by OCRWM/DOE Office	M2	0		01MAR01*
SLAD03M3	M&O Submit ADLA S& P Chap. QAP-6.2 Draft to DOE	M3	0		01MAR01
SLAD1045	DOE Staff Rvw of ADLA S & P Chapters-FY01		148	02MAR01	28SEP01
SLADR2M4	Receive Draft ADLA CH 2	M4	0		09MAR01
SLADR4M4	Receive Draft ADLA CH 4	M4	0		09MAR01
SLADR5M4	Receive Draft ADLA CH 5	M4	0		09MAR01
SLADR6M4	Receive Draft ADLA CH 6	M4	0		09MAR01
SLADR9M4	Receive Draft ADLA CH 9	M4	0		09MAR01
SLAD3000	Compile/Repro ADLA Design/Engr. Chapters		22	10MAR01	31MAR01
SLAD3005	Final QAP 3.5 Review/Incorp Comments D&E Chapter		32	01APR01	02MAY01
SLAD3010	Package & Publish ADLA D&E Chapters		9	03MAY01	11MAY01
SLAD3020	Final ADLA QC Check D&E Chap. (Internal to Lic.)		13	12MAY01	24MAY01
SLAD3025	Repro ADLA D&E Chap. f/ QAP 6.2 Review Submision		6	25MAY01	30MAY01
SLADR1M4	Receive Draft ADLA CH 1	M4	0		25MAY01
SLADR7M4	Receive Draft ADLA CH 7	M4	0		25MAY01
SLADR8M4	Receive Draft ADLA CH 8	M4	0		25MAY01
SLADRCM4	Receive Draft ADLA CH 12	M4	0		25MAY01
SLAD4000	Compile/Repro ADLA Performance Chapters		22	26MAY01	16JUN01
SLAD04M3	M&O Submit ADLA D&E Chap. QAP-6.2 Draft to DOE	M3	0		31MAY01
SLAD2002	DOE Staff Rvw of ADLA Engr & Dsgn Chap.-FY01		84	01JUN01	28SEP01
SLAD4005	Final QAP 3.5 Review/Incorp Comments Per Chapter		32	17JUN01	18JUL01
SLAD4010	Package & Publish ADLA Perf. Chapters		9	19JUL01	27JUL01
SLAD4020	Final ADLA QC Check Per Chap. (Internal to Lic.)		11	28JUL01	07AUG01
SLAD4025	Repro ADLA Per Chap. f/ QAP 6.2 Review Submision		8	08AUG01	15AUG01
SLAD05M3	M&O Submit ADLA Perf. Chap. QAP-6.2 Draft to DOE	M3	0		15AUG01
SLAD3002	DOE Staff Rvw of ADLA Performance Chap.-FY01		31	16AUG01	28SEP01
SLAD150	DOE Staff Rvw of ADLA S & P Chapters-FY02		32	01OCT01	15NOV01
SLAD2003	DOE Staff Rvw of ADLA Engr. & Dsgn Chap.-FY02		32	01OCT01	15NOV01
SLAD3003	DOE Staff Rvw of ADLA Performance Chapters-FY02		32	01OCT01	15NOV01



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SLWP0005	Prepare Work Prioritization Plan		21	01OCT01*	30OCT01
SLWP00M4	Compl Work Prioritization Plan	M4	0		30OCT01*
M2NV	DOE Completes Staff Review of Draft LA	M2	0		15NOV01
SLAD1191	Prepare/Package ADLA OCRWM Concurrence Draft		13	16NOV01	06DEC01
M2ND	YMSCO Submits Draft LA for OCRWM Concurrence	M2	0		06DEC01
SLAD1192	OCRWM Project & Office Mgr ADLA Concurrence Rvw		23	07DEC01	10JAN02
M2NC	Compl OCRWM Proj./Office Mgrs' Concurrence of LA	M2	0		10JAN02
M1KX	OCRWM Submits Draft LA to DOE Offices for Concur	M1	0		11JAN02
SLAD1201	DOE Concurrence Review of ADLA		14	14JAN02	31JAN02
SLAD1202	Navy Concurrence Review of ADLA		14	14JAN02	31JAN02
M1NR	Complete DOE and Navy Concurrence of Draft LA	M1	0		31JAN02
M2NA	YMSCO Submits LA to RW-1 for Acceptance	M2	0		31JAN02
SLAD1205	Prepare ADLA RW-1 Acceptance Copy		5	01FEB02	07FEB02
M2NS	YMSCO Completes Documentary Record for LA	M2	0		07FEB02
M1NB	Complete RW-1 Acceptance of LA	M1	0		08FEB02
SLAD1210	RW-1 Review ADLA for Acceptance		1	08FEB02	08FEB02
M1BC	RW-1 Submits the LA to S-1	M1	0		12FEB02
SLAD1215	Secretarial Review/Acceptance of ADLA		5	13FEB02	20FEB02
M0AW	DOE Signs the LA	M0	0		20FEB02
SLAD1220	Repro License Application for Submision to NRC		6	21FEB02	28FEB02
M0AM	Secretary Submit License Application to NRC	M0	0		01MAR02*

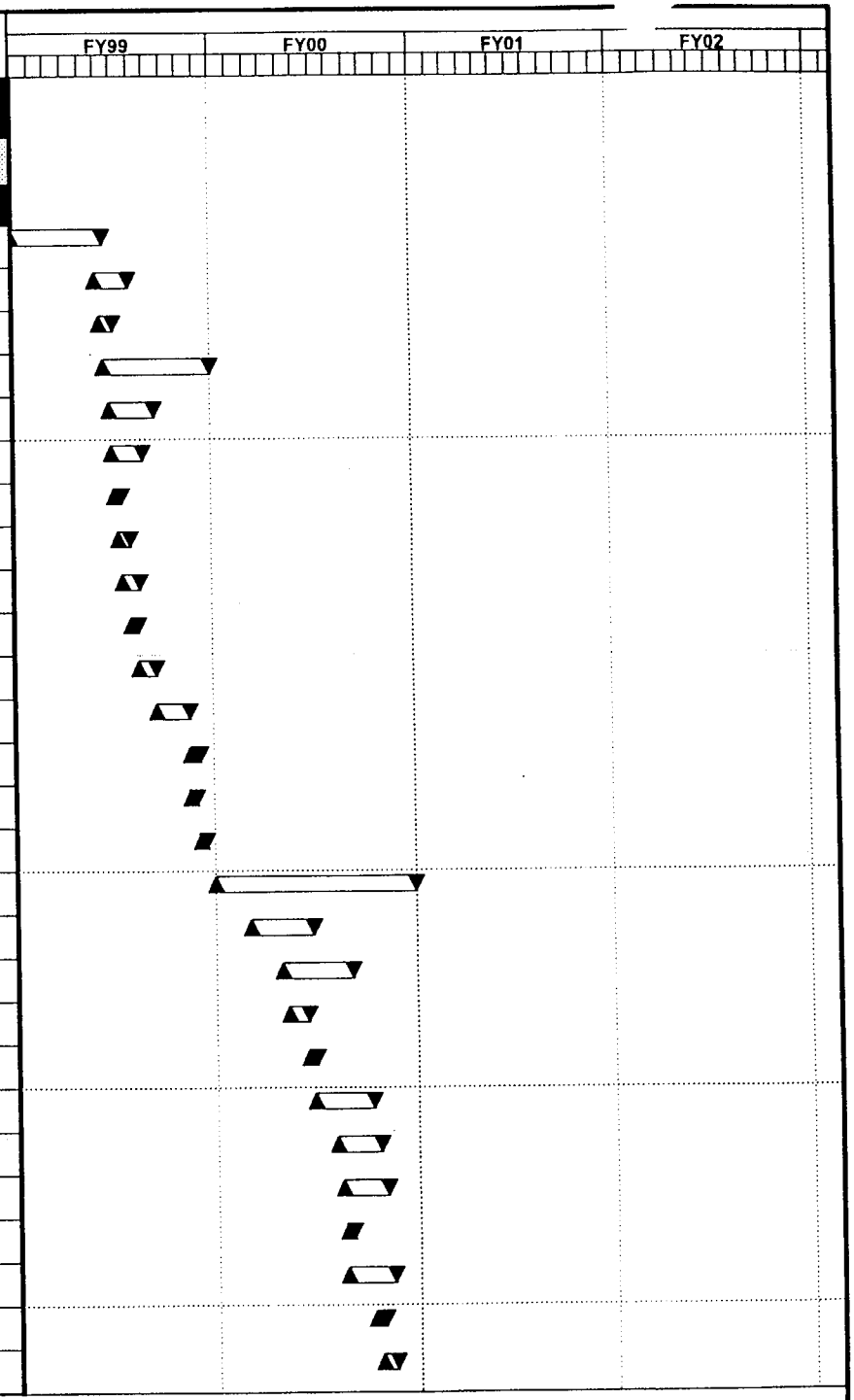


C ECRB

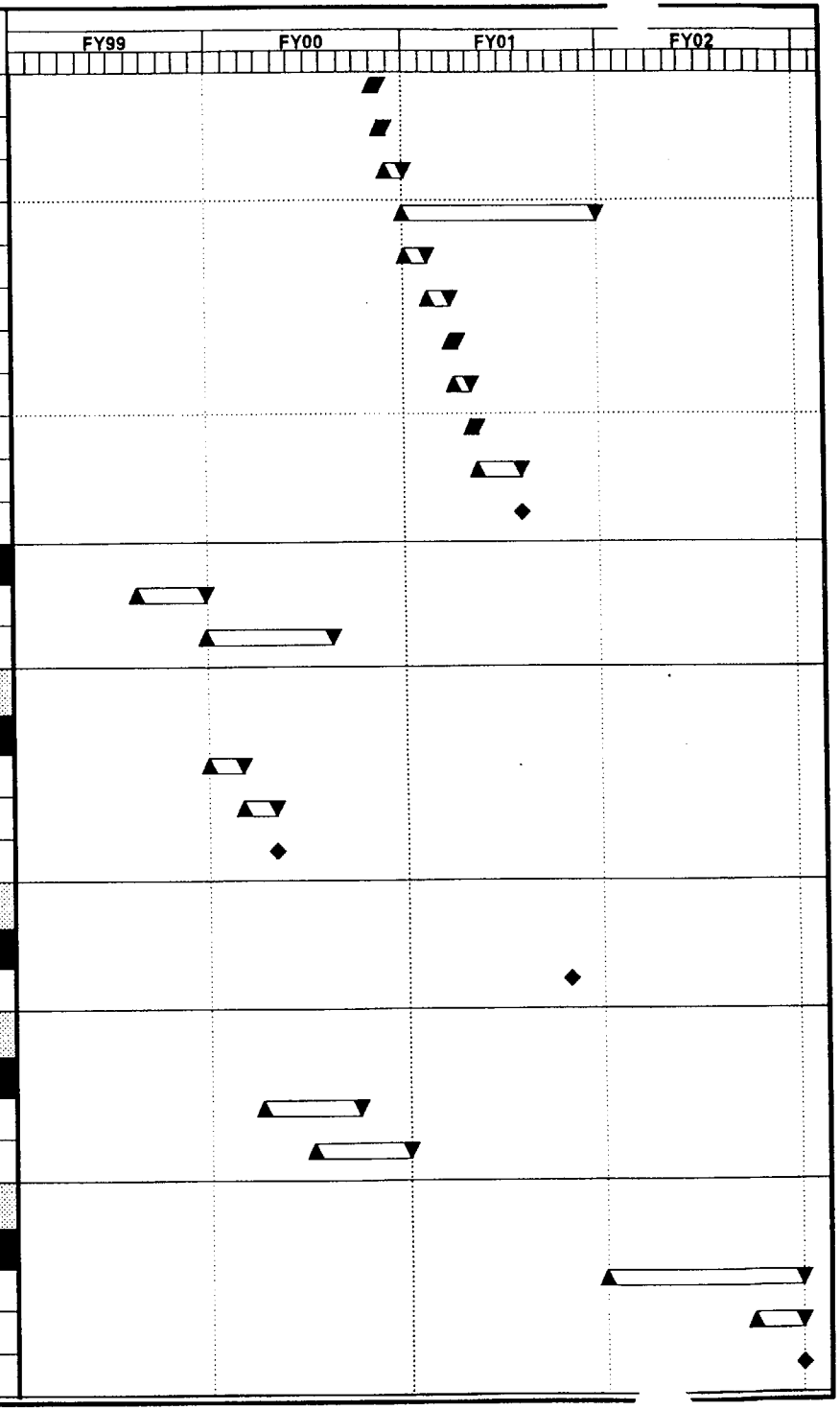
EC ECRB Design / Construction

170 Site Construction Operations

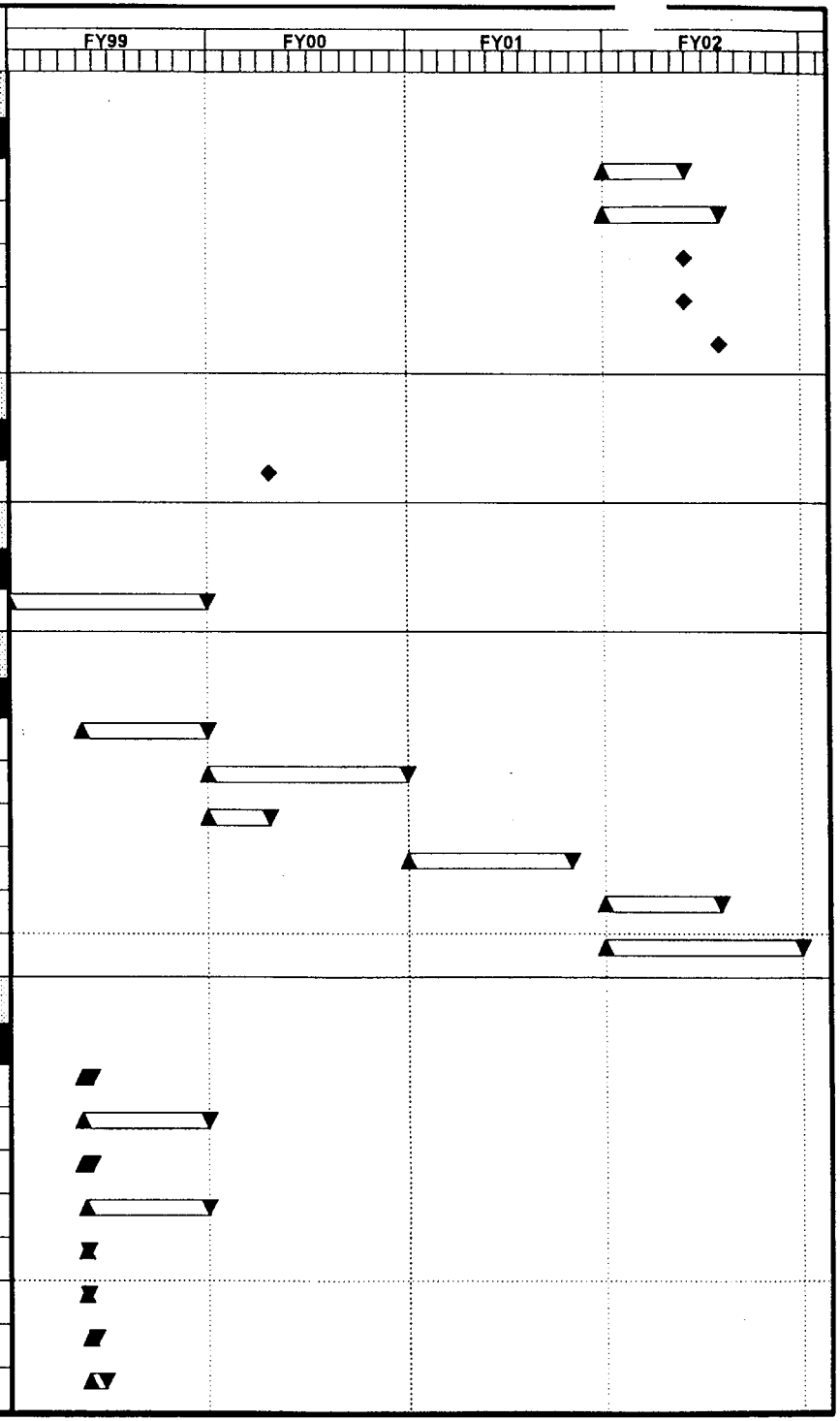
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SC50700	ECRB Title III FY99		107	01OCT98*	16MAR99
SC50133	Alcove 8 Design		45	01MAR99*	30APR99
SC51140	ECRB Field Engrng Design of Hydrologic Bulkheads		20	08MAR99*	02APR99
SC50701	ECRB Title III FY99 for ECRB Change Request		139	17MAR99	30SEP99
SC51130	ECRB Title II Design of Niche 5		57	29MAR99*	16JUN99
SC50315	Upgrade Roadheader		41	31MAR99*	26MAY99
SC51144	CCB Action/Design Release Bulkheads		10	05APR99	16APR99
SC51396	Upgrade Conveyors		16	12APR99*	03MAY99
SC51420	Install Hydrologic Test Bulkheads		24	19APR99	20MAY99
SC50130	CCB Action/Design Release - Alcove 8		10	03MAY99	14MAY99
SC50370	ECRB Crossover Alcove - Drill & Blast Excavation		22	17MAY99	16JUN99
SC50375	ECRB Crossover Alcove - Roadheader Excavation		43	17JUN99	17AUG99
SC50310	ECRB Niche 5 - Drill & Blast Excavation		12	18AUG99	02SEP99
SC51400	Bulkhead Cross-Over Alcove & Utilities		8	18AUG99	27AUG99
SC50310A	ECRB Niche 5 - Finish Drill & Blast Excavation		7	03SEP99	14SEP99
SC50731	ECRB Title III FY00		251	01OCT99	29SEP00
SC50900	ECRB Title II Design of Therm Alcove-Layout & GS		80	01DEC99	24MAR00
SC50905	ECRB Title II Design of Therm Alcove-Util/Equip		90	28JAN00	05JUN00
SC50314	ECRB Niche 5 - Roadheader		26	08FEB00	15MAR00
SC51410	ECRB Construct Niche 5 Bulkhead & Utilities		8	16MAR00	27MAR00
SC51600	ECRB Excavate Thermal Alcove (Drill & Blast)		75	27MAR00	11JUL00
SC50950	ECRB Title II Dsgn of Solit Cnyn Flt Drill Room		57	04MAY00*	25JUL00
SC50132	Design Crest Alcove #9		57	15MAY00*	03AUG00
SC51455	Remove Hydrologic Bulkheads		6	22MAY00	30MAY00
SC50970	ECRB Title II Design of Niche 6		58	23MAY00*	14AUG00
SC51604	Thermal Alcove Bulkhead & Utilities		12	12JUL00	27JUL00
SC51650	ECRB Excavate Solitaro Canyon Fault Drill Room		18	26JUL00	18AUG00



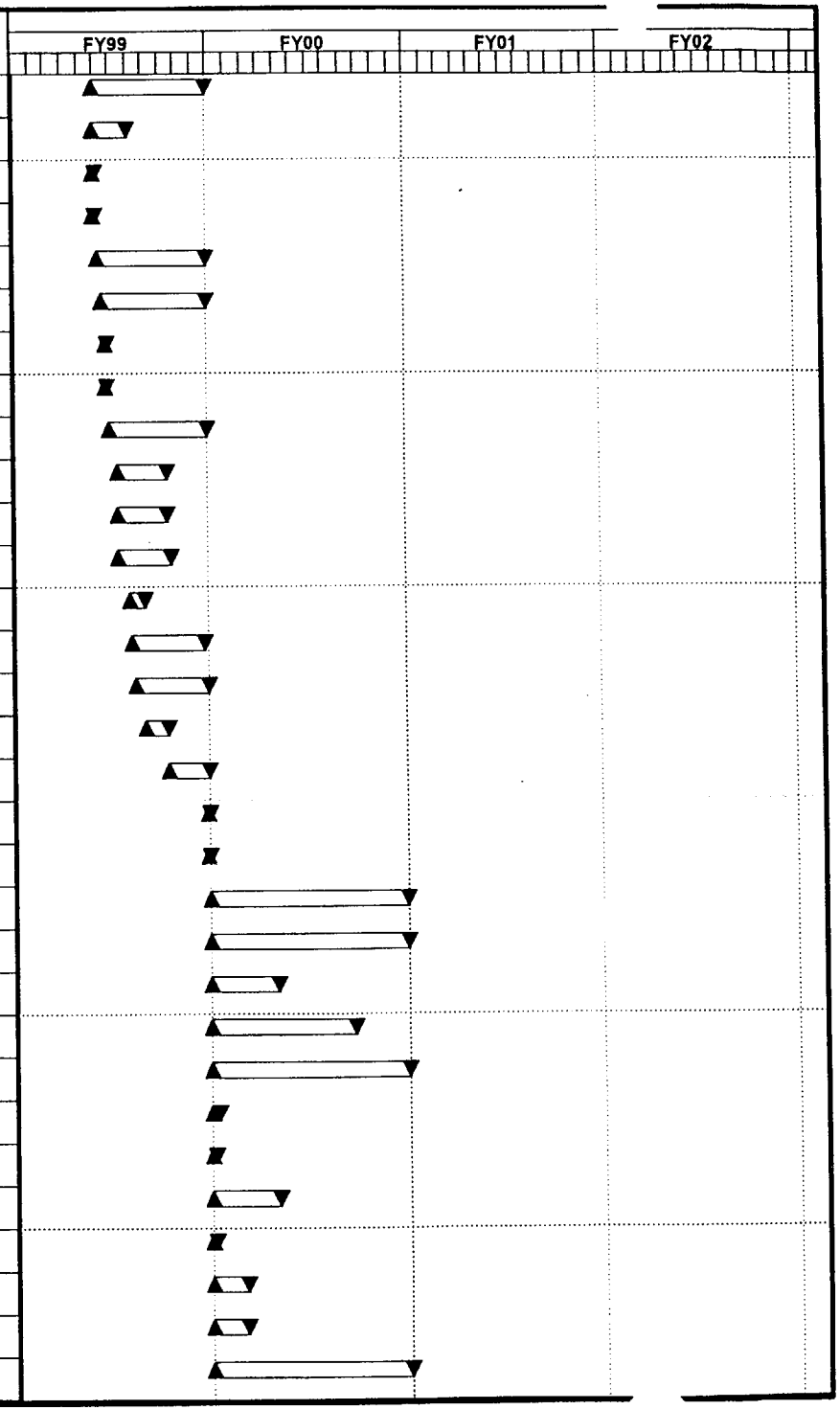
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SC50134	CCB Action/Design Release - Alcove 9		10	04AUG00	17AUG00
SC50340	ECRB Niche 6 - Drill & Blast Excavation		6	21AUG00	28AUG00
SC50340A	ECRB Niche 6 - Continue Drill & Blast Excavation		25	29AUG00	03OCT00
SC50760	ECRB Title III FY01		250	02OCT00	28SEP01
SC50380	ECRB Crest Alcove - Excavate Drill & Blast		29	04OCT00	15NOV00
SC50365	ECRB Crest Alcove - Roadheader		28	16NOV00	28DEC00
SC51475	ECRB Construct Crest Alcove Bulkhead & Utilities		8	29DEC00	10JAN01
SC50344	ECRB Niche 6 - Roadheader		23	04JAN01	05FEB01
SC51460	ECRB Construct Niche 6 Bulkhead & Utilities		8	06FEB01	15FEB01
SC51465	Accept ECRB Construction		60	16FEB01	11MAY01
SCM070M3	Complete ECRB Construction	M3	0		11MAY01
819 United States Geological Survey					
SC51440	ECRB Hydrologic Bulkhead Testing - FY99		87	21MAY99	23SEP99
SC51450	ECRB hydrologic Bulkhead Testing - FY00		164	24SEP99	19MAY00
0G32212JBA					
819 United States Geological Survey					
SPG57B13	Compl Tech Rvw, Checking, Comment Resolution		42	01OCT99*	02DEC99
SPG57C13	Compl QA & USGS Editorial Rvw & Comment Res		39	03DEC99	31JAN00
SPG57CM4	Rpt Short-Trace-Length for USGS Director's Apprv	M4	0		31JAN00
0G32212KB7					
819 United States Geological Survey					
SPG47HM4	TDB/RPC: Therm Tst Alc, Sol Cnyn Dr Rm, Niche 6	M4	0		31JUL01*
0G33124JBH					
819 United States Geological Survey					
SPH45V10	Dev, Contr, QA Equip		124	04JAN00*	28JUN00
SPH45V20	Dev & Run Predictive Numerical Models		126	04APR00*	29SEP00
0G33124LB5					
819 United States Geological Survey					
SPH992	Mon Mois X-Drift, X-Drift Alcoves, Niches		251	01OCT01*	30SEP02
SPH994	Prep DP X-Drift, Alcoves, Niches		64	01JUL02*	30SEP02
SPH994M4	TDB/RPC: X-Drift, Alcoves, Niches Data	M4	0		30SEP02



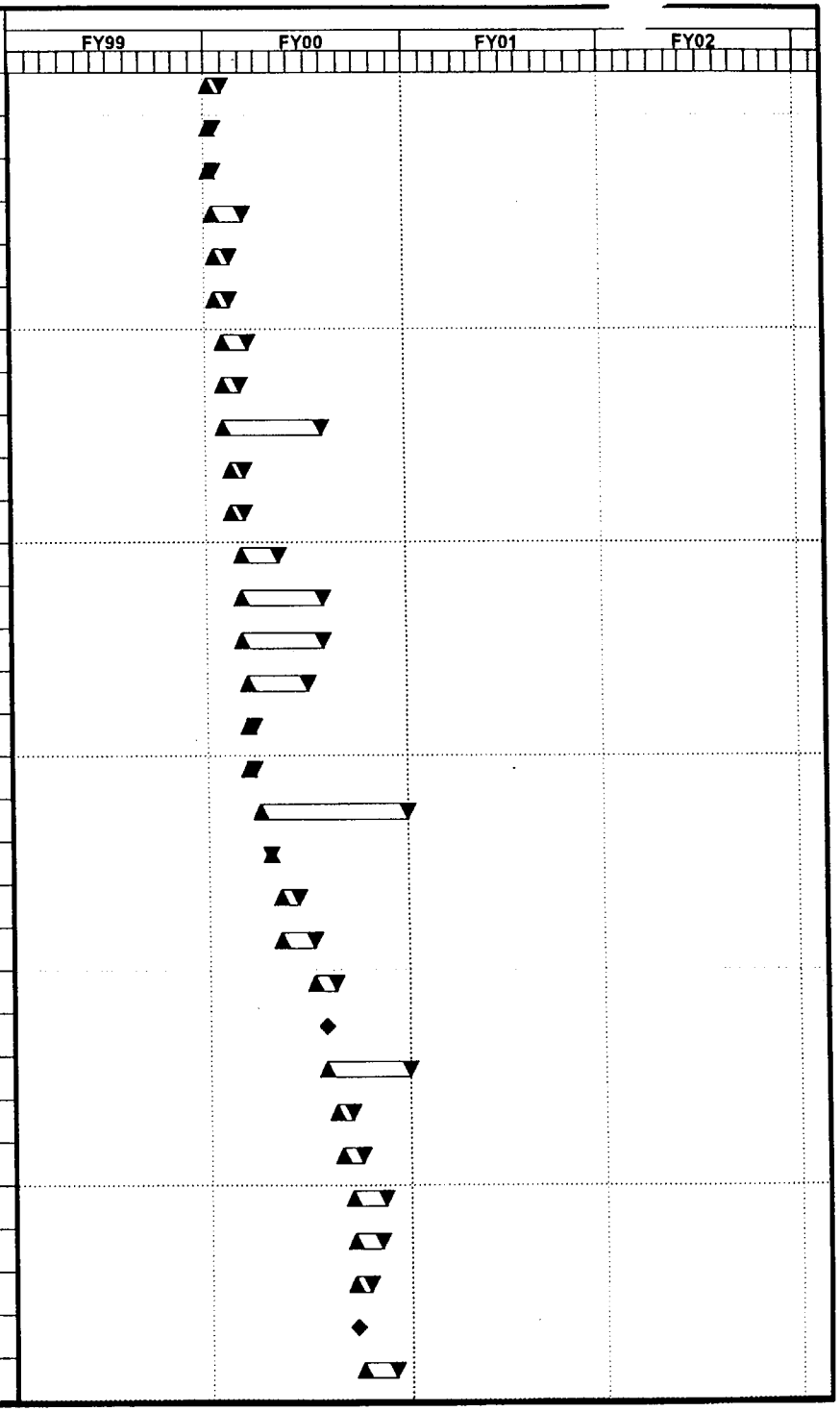
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
0G33124LBH					
819 United States Geological Survey					
SPH882	Compl DP Pneum Mon, Hydrochem, 3D Testing		102	01OCT01*	28FEB02
SPH884	Compl Anlys & Interp Field Data		145	01OCT01*	30APR02
SPH882M4	TDB/RPC: Pneumatic & Hydrochem Data	M4	0		28FEB02
SPH886M4	TDB/RPC: 3D Air-Inject/Trcr Tstg Data	M4	0		28FEB02
SPH884M4	Rpt: Rslt of Pneum Monit, Hydrochem, & 3D Tstg	M4	0		30APR02
0G33127KB4					
819 United States Geological Survey					
SPH6085M4	Rpt: Cl-36 Validation to DOE	M4	0		21JAN00
23					
160 Systems Engineering & Integration Office - LV					
SEA10C2	System Safety Analysis Support (ESF/ECRB)		246	01OCT98*	30SEP99
Y0001					
819 United States Geological Survey					
SPX6057	USGS Set-Asides		165	08FEB99*	30SEP99
SPX57A	USGS Set-Asides		251	01OCT99*	29SEP00
SPX6061	USGS Set-Asides		75	01OCT99*	21JAN00
SPX47F	USGS Set-Asides		208	02OCT00*	31JUL01
SPX882	USGS Set-Asides		145	01OCT01*	30APR02
SPX992	USGS Set-Asides		251	01OCT01*	30SEP02
140 Natural Environment Program Operations					
SPE3010	Plan Project, Schedule & Cost		14	08FEB99*	26FEB99
SPEX4000	AECL Set-Aside		165	08FEB99*	30SEP99
SPL4010	Plan Project Schedule & Cost		14	08FEB99*	26FEB99
SPA4000	Support for CL36 Validation Study		160	16FEB99*	30SEP99
SPE3020	Participate in Planning Meeting		3	17FEB99*	19FEB99
SPL4020	Participate in Planning Meeting		3	17FEB99*	19FEB99
SPE3025	Write & Approve Tech Proced for Radium Analyses		10	22FEB99	05MAR99
SPL4025	Write Tech Procedures for CL36		21	22FEB99	22MAR99



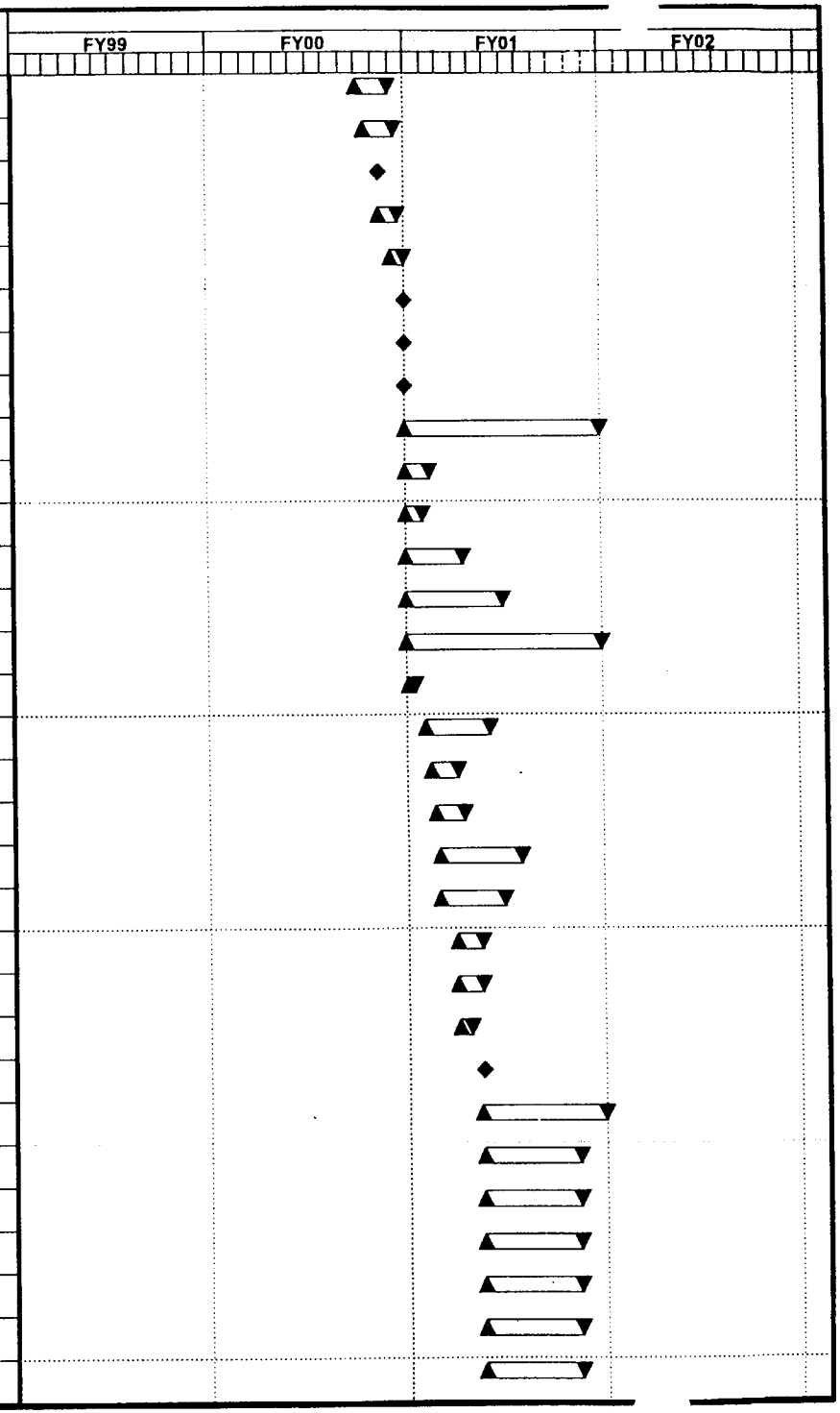
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPA4010	Analy Smpls frm Cl36 Bholes for P/wtr chl & Brom		151	01MAR99*	30SEP99
SPB7050	LBDB-Pre-Blast Equipment Prep & Installation		48	01MAR99*	05MAY99
SPE3015	Develop Sampling Plan, Finalize Schedule			01MAR99	05MAR99
SPL4015	Develop Sampling Plan, Finalize Schedule		5	01MAR99	05MAR99
SP397D40	SMF Spprt for CL36 & ECRB Alcove/Niche Drilling		146	08MAR99*	30SEP99
SP397B33	ECRB Construction Blast Monitoring (TCO)		139	17MAR99*	30SEP99
SPE3030	Examine & Collect Core Samples		3	23MAR99	25MAR99
SPL4030	Examine & Select Core Samples		3	23MAR99	25MAR99
SPS3500	Character Short-Trace-Length Frac in X-Drift Blk		128	01APR99*	30SEP99
SPE3035	Uranium/Thorium/Radium Isotope Analyses		63	16APR99*	15JUL99
SPE3040	Monitor/Interp U/Th/Ra Analyses		63	16APR99*	15JUL99
SPL4035	Cl36 Analyses (Pore Salts)		68	16APR99*	22JUL99
SPB7055	LBDB-Perform Pre-Blast air-K Testing		19	06MAY99	02JUN99
SPL4040	Tc-99 Analyses (Pore Salts)		95	10MAY99*	22SEP99
SP397B44	Convergence Monitoring ECRB Alcove 8		96	17MAY99	30SEP99
SPB7060	LBDB-Data Analysis for Pre-Blast Testing		31	03JUN99	16JUL99
SPA4015	Synthesize Data & Submit Data Packages		55	15JUL99	30SEP99
SPE4045	Synthesize Data		5	24SEP99*	30SEP99
SPL4045	Synthesize Data		5	24SEP99*	30SEP99
SP397B23	ECRB Test Management & Field Coordination		251	01OCT99*	29SEP00
SP397D41	Sample Management Support for Cross Drift		251	01OCT99	29SEP00
SPA4020	Prepare Report for Cl36 Analyses		81	01OCT99	31JAN00
SPB1186	LBMM-Prepare Report, Qualify & Submit Data		182	01OCT99*	22JUN00
SPB1191	LBMM-Maintain monitoring of UZ Moisture Network		251	01OCT99*	29SEP00
SPB8005	LBXA-Equipment, Prep & Install		7	01OCT99*	12OCT99
SPE4045A	Synthesize Data		5	01OCT99	07OCT99
SPEX4005	AECL Set-Asides		81	01OCT99*	31JAN00
SPL4045A	Synthesize Data		5	01OCT99	07OCT99
SPY1510	Prepare Test Plan and Design		39	01OCT99*	30NOV99
SPY1527	Prepare Test Plan and Design		39	01OCT99	30NOV99
SPY1548	Prepare Presentations		251	01OCT99	29SEP00



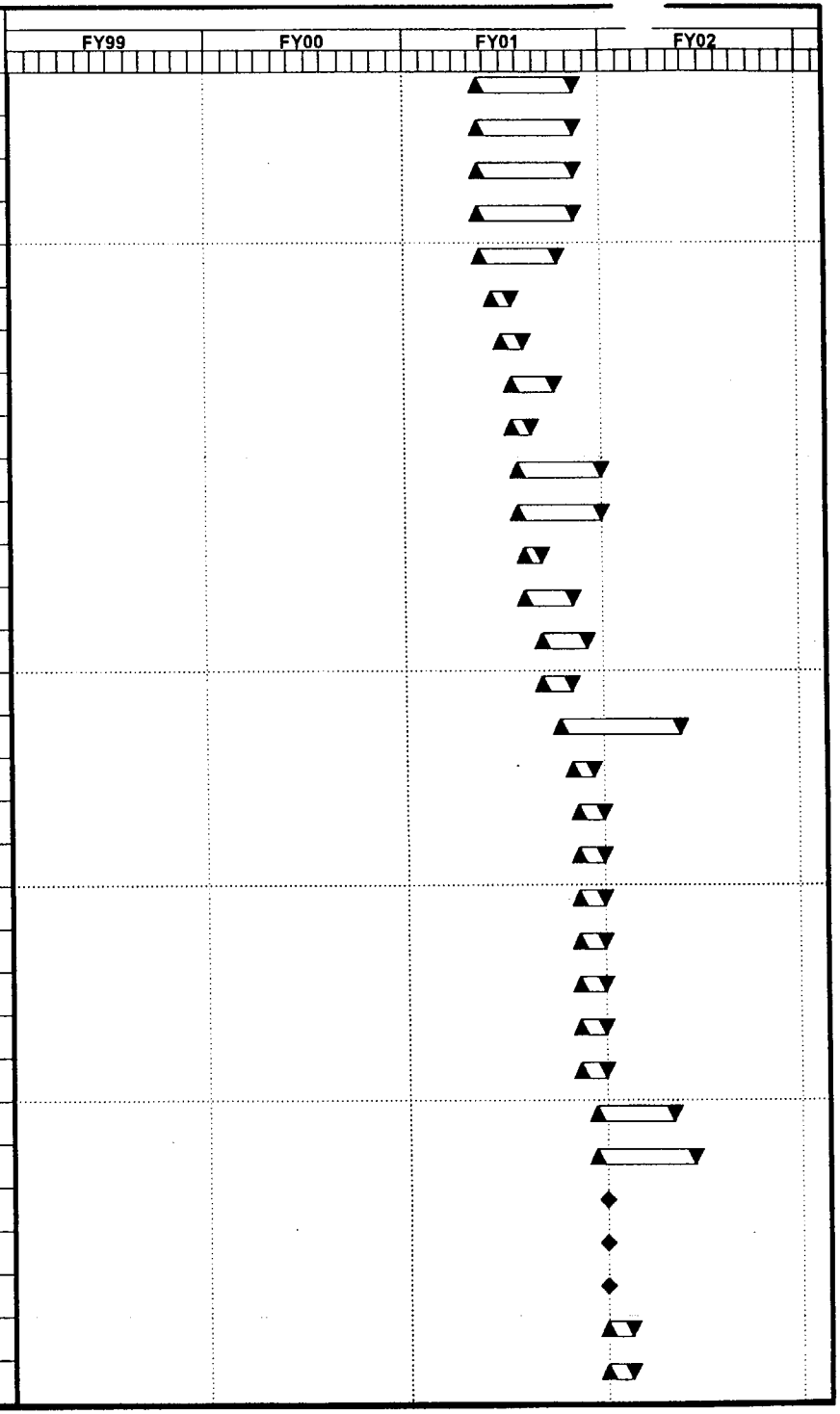
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPB7065	LBDB-Perform Post-Blast air-K Testing		18	05OCT99*	29OCT99
SPE4050	Plan Report		5	08OCT99	15OCT99
SPL4050	Plan Report		5	08OCT99	15OCT99
SPB8010	LBXA-Monitor Wetting Front Below Crossover Alcov		40	13OCT99	10DEC99
SPE4055	Prepare Review Draft		19	18OCT99	12NOV99
SPL4055	Prepare Review Draft		19	18OCT99	12NOV99
SPB1193	LBDB-Data Analysis for Post-Blast Testing		30	01NOV99	15DEC99
SPB8040	LBN5-Phase I Equipment Prep & Installation		19	01NOV99	30NOV99
SPY1540	Specify Instrumentation		124	01NOV99	28APR00
SPE4060	Technical Review		18	15NOV99	10DEC99
SPL4060	Technical Review		18	15NOV99	10DEC99
SPB8048	LBN5-Phase I Seepage Testing		47	01DEC99	07FEB00
SPY1520	Prepare CDTT Plan and Design Report		105	01DEC99	28APR00
SPY1525	Prepare CDTT Plan & Design Report		105	01DEC99*	28APR00
SPB8015	LBXA-Lab Analysis & Data Interp		77	13DEC99	31MAR00
SPE4065	Revise Report		9	13DEC99	23DEC99
SPL4065	Revise Report		9	13DEC99	23DEC99
SPY1550	Conduct Pre-Test Predictive Calculations		191	03JAN00*	29SEP00
SPL4070	Submit Report to DOE		1	21JAN00*	21JAN00
SPB8053	LBN5-Phase I Flow Charact During Excavation		22	08FEB00	09MAR00
SPB8058	LBN5-Phase I Lab Analysis & Data Interp		43	08FEB00	07APR00
SPB8076	LBN5- Phase II Equipment Prep & Installation		28	10APR00	17MAY00
SP1530M4	Submit CDTT Planning & Design Report	M5	0		28APR00
SPY1545	Procure Instrumentation		107	01MAY00	29SEP00
SPB8073	LBN5- Phase II air-K Testing		21	18MAY00	16JUN00
SP355G24	ECRB Niche # 5 Slot Cut - Subcontract		25	30MAY00	03JUL00
SPB9010	LBNch - Prepare Report L-4 Qualify & Submit Data		42	16JUN00*	15AUG00
SPB8077	LBN5- Phase II Data Anlaysis for air-K		36	19JUN00	08AUG00
SPB8078	LBN5- Phase II Seepage Testing		20	19JUN00	17JUL00
SP33T9M4	Rpt: Draft Moisture Monitoring & Plume Eval	M4	0		22JUN00
SPB8085	LBFMT5-FM Equipment prep & Installation		44	03JUL00*	01SEP00



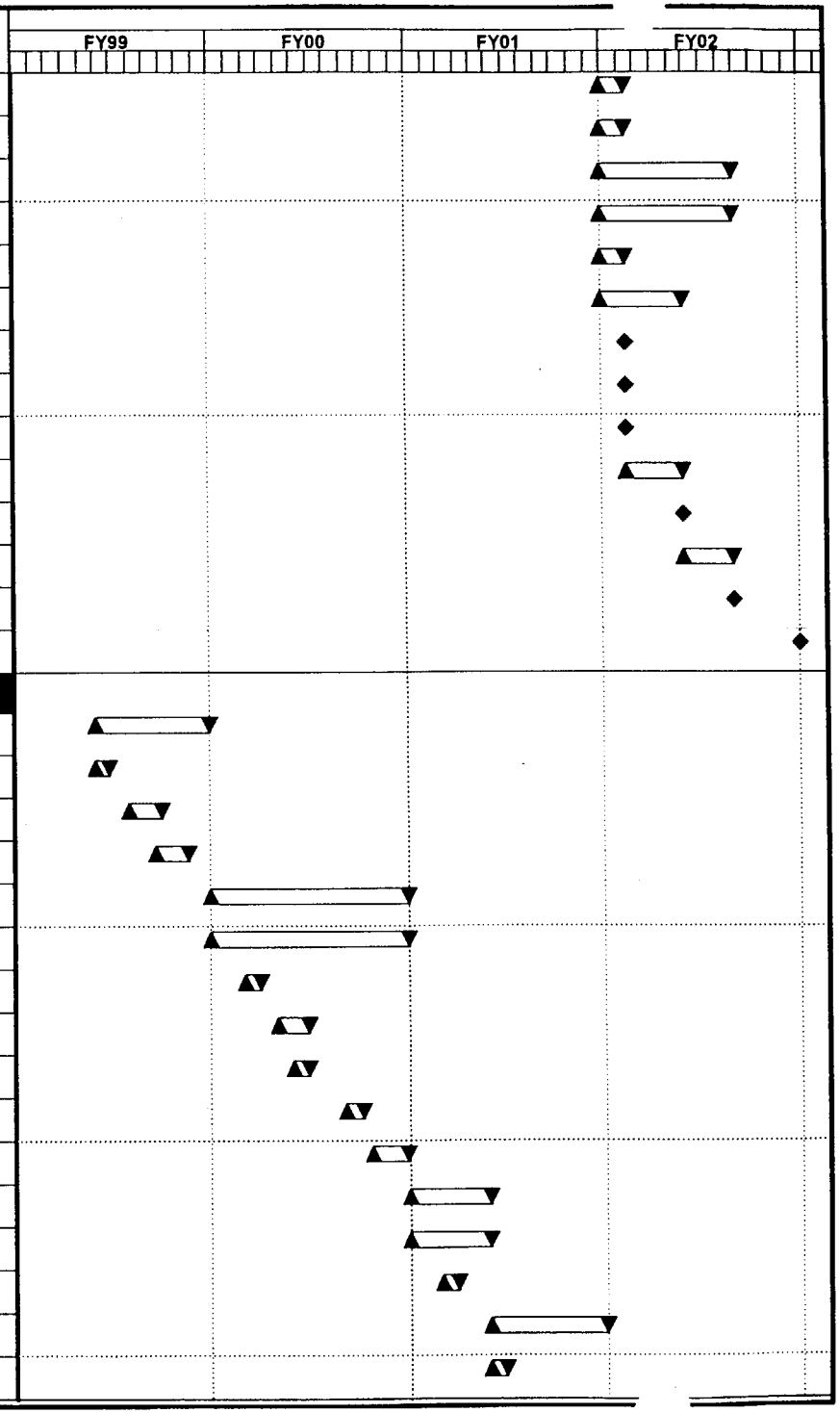
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPB8090	LBFMT5-FM Block Characterization		44	03JUL00*	01SEP00
SPB8080	LBN5- Phase II lab Analysis & Data Interp		39	18JUL00	11SEP00
SPC3X5M4	Dft Rpt: Dyn/Stat Tstg for FF Seepage & Pondage	M4	0		15AUG00
SP33K951	Checker/User Revs-Dyn/Static Tstng FF Seepg/Pond		25	16AUG00	20SEP00
SPB8095	LBFMT5- Preliminary Fracture Matrix Testing		19	05SEP00	29SEP00
SPB312M4	TDMS: Data Submittal to TDMS	M4	0		29SEP00*
SPB809M4	TDMS: Data Submittal to TDMS	M4	0		29SEP00*
SPC315M3	R[illegible] Dyn/Static Testing for FF Seepage & Pondage	M3	0		29SEP00
SP397B27	ECRB Test Management & Field Coordination		250	02OCT00	28SEP01
SPB2805	LBN6-Phase I Equipment, Prep & Install		30	02OCT00*	14NOV00
SPB8095A	LBFMT5- Cont Preliminary Fracture Matrix Testing		24	02OCT00	03NOV00
SPY1545A	Continue Procure Instrumentation		70	02OCT00	15JAN01
SPY7008	Conduct Pre-Test Predictive Calculations		123	02OCT00	30MAR01
SPY7022	Prepare Presentations		250	02OCT00	28SEP01
SPY7004	Inspect & Accept Boreholes		11	04OCT00	19OCT00
SPB1245	LBFMT5-Long Term Flow Test in Test Bed # 2(N5)		80	06NOV00*	05MAR01
SPB2810	LBN6-Phase I Seepage Testing		47	18NOV00	03JAN01
SPY7006	Install Instruments, Heaters, & DCS		35	22NOV00	15JAN01
SPB1145	LBFMT5-lab Analysis & Data Interpretation		105	01DEC00*	01MAY01
SPB2820	LBN6-Phase I Lab Analysis & Data Interp		83	01DEC00*	30MAR01
SPY7012	Prep CDTT for Startup & Incl Coll Pre-Test Data		33	02JAN01*	15FEB01
SPY7014	Prep CDTT for Startup & Incl Coll Pre-Test Data		33	02JAN01*	15FEB01
SPB2815	LBN6-Phase I Flow Characterization During Excav		16	04JAN01	25JAN01
SP1903M4	Ltr: Activate CDTT	M4	0		15FEB01
SPY7021	Provide Data Management Services		158	15FEB01*	28SEP01
SPY1640	Collect & Analyze Thermal Data		126	16FEB01	15AUG01
SPY1642B	Collect & Analyze Thermal Data		126	16FEB01	15AUG01
SPY1650	Collect & Anlayze Mechanical Data		126	16FEB01	15AUG01
SPY1652A	Collect & Analyze Hydrologic Data		126	16FEB01	15AUG01
SPY1654A	Collect & Analyze Hydrologic Data		126	16FEB01	15AUG01
SPY1656A	Conduct Hydrologic Active Tests		126	16FEB01	15AUG01



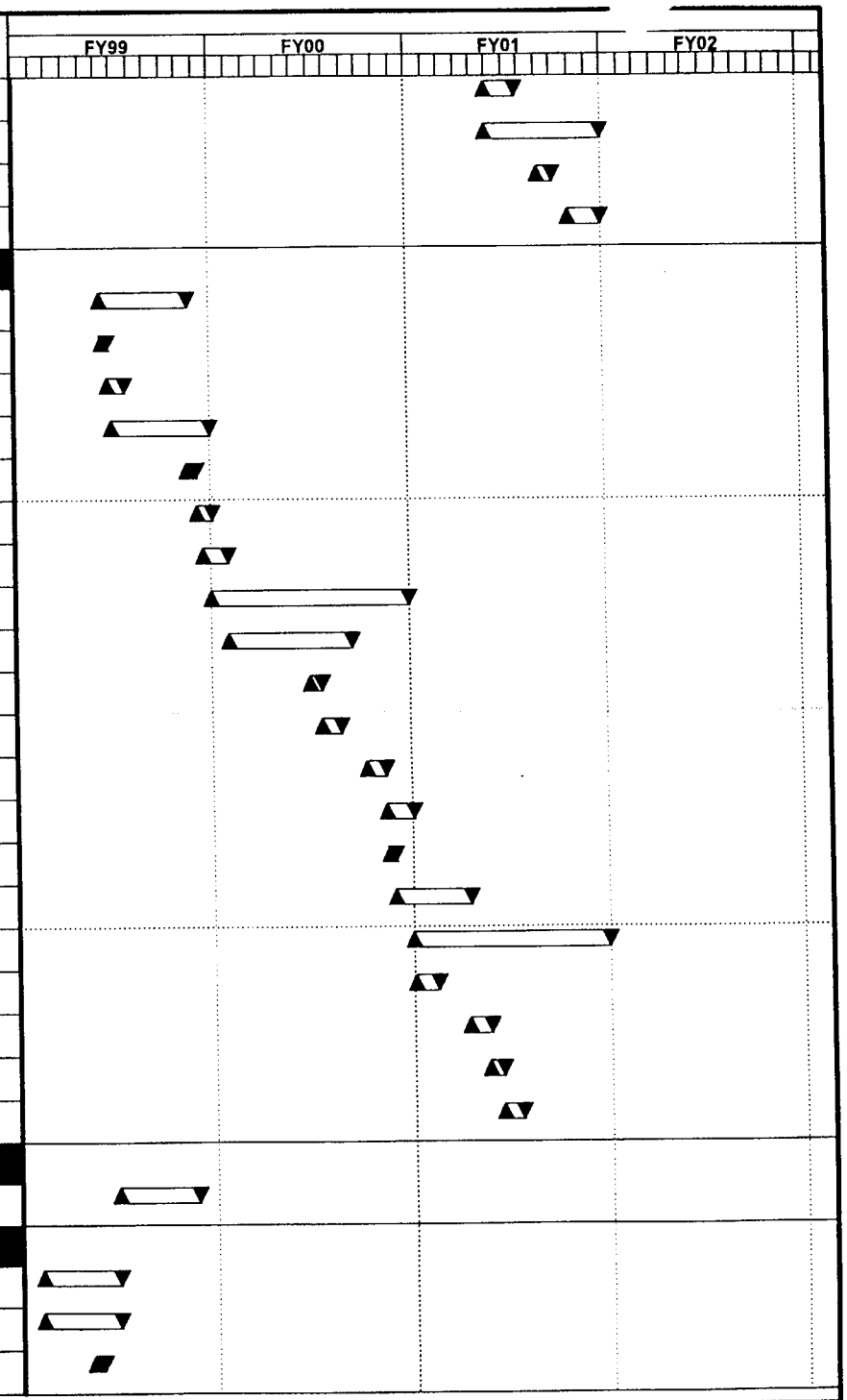
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPY1658A	Conduct Hydrologic Active Tests		126	16FEB01	15AUG01
SPY1660	Conduct Goodman Jack Measurements		126	16FEB01	15AUG01
SPY1662A	Collect & Analyze Chemical Data		126	16FEB01	15AUG01
SPY1664B	Collect & Analyze Chemical Data		126	16FEB01	15AUG01
SPY8050	Crest Alcove Monitoring & Testing		99	22FEB01	12JUL01
SPB2840	LBN6-Phase II Air-k Testing		24	15MAR01	17APR01
SPB2825	LBN6-Phase II Equipment, Prep & Install		29	02APR01	10MAY01
SPB2845	LBN6-Phase II Data Analysis for Air-k testing		56	18APR01	06JUL01
SP355H24	ECRB Niche # 6 Slot Cut - Subcontract		25	20APR01	24MAY01
SPY1810A	Conduct Comprehensive Analysis of Data		106	01MAY01*	28SEP01
SPY1843A	Refine & Update Model Predictions		106	01MAY01*	28SEP01
SPB2830	LBN6-Phase II Seepage Testing		21	11MAY01	11JUN01
SPB2860	LBFMT6-Equipment, Prep & Install		61	11MAY01	07AUG01
SPB2835	LBN6-Phase II Lab Analysis * Data Interp		58	12JUN01	31AUG01
SPB2865	LBFMT6-FM Block Characterization		38	12JUN01	03AUG01
SPY8050A	Continue Crest Alcove Monitoring & Testing		151	13JUL01	20FEB02
SPB2870	LBFMT6-Preliminary Fracture Matrix Testing		25	06AUG01	10SEP01
SPY1664A	Conduct Post-Test Therm/Hydr/Chem Data		31	16AUG01	28SEP01
SPY1760A	Conduct PostTestThermal/Mechanical Tests		31	16AUG01	28SEP01
SPY1780A	Conduct Post-Test Goodman Jack Measurements		31	16AUG01	28SEP01
SPY1783	Collect Post-Test Min-Pet Data		31	16AUG01	28SEP01
SPY1784	Conduct Post-test Hydrologic Active Tests		31	16AUG01	28SEP01
SPY1787	Collect Post-test Hydrologic Lab Data		31	16AUG01	28SEP01
SPY1787B	Collect Post-test Hydrologic Lab Data		31	16AUG01	28SEP01
SPB2880	LBFMT6-Long Term Fracture Matrix Testing		98	11SEP01	01FEB02
SPB2885	LBFMT6-Lab Analysis & Data Interp		124	11SEP01	12MAR02
SPB129M4	TDMS: Data Submittal to TDMS	M4	0		28SEP01*
SPY800M5	Receive Data to Feed CDTT TDIF	M5	0		28SEP01*
SPY806M5	Receive Data to Feed Draft CCDT Final Report	M5	0		28SEP01
SPY1690	Prep CDTT Therm-Mech Data Set (SNL)		32	01OCT01	15NOV01
SPY1692	Prep CDTT Therm-Hydro-Chem Data Set (LBNL)		32	01OCT01	15NOV01



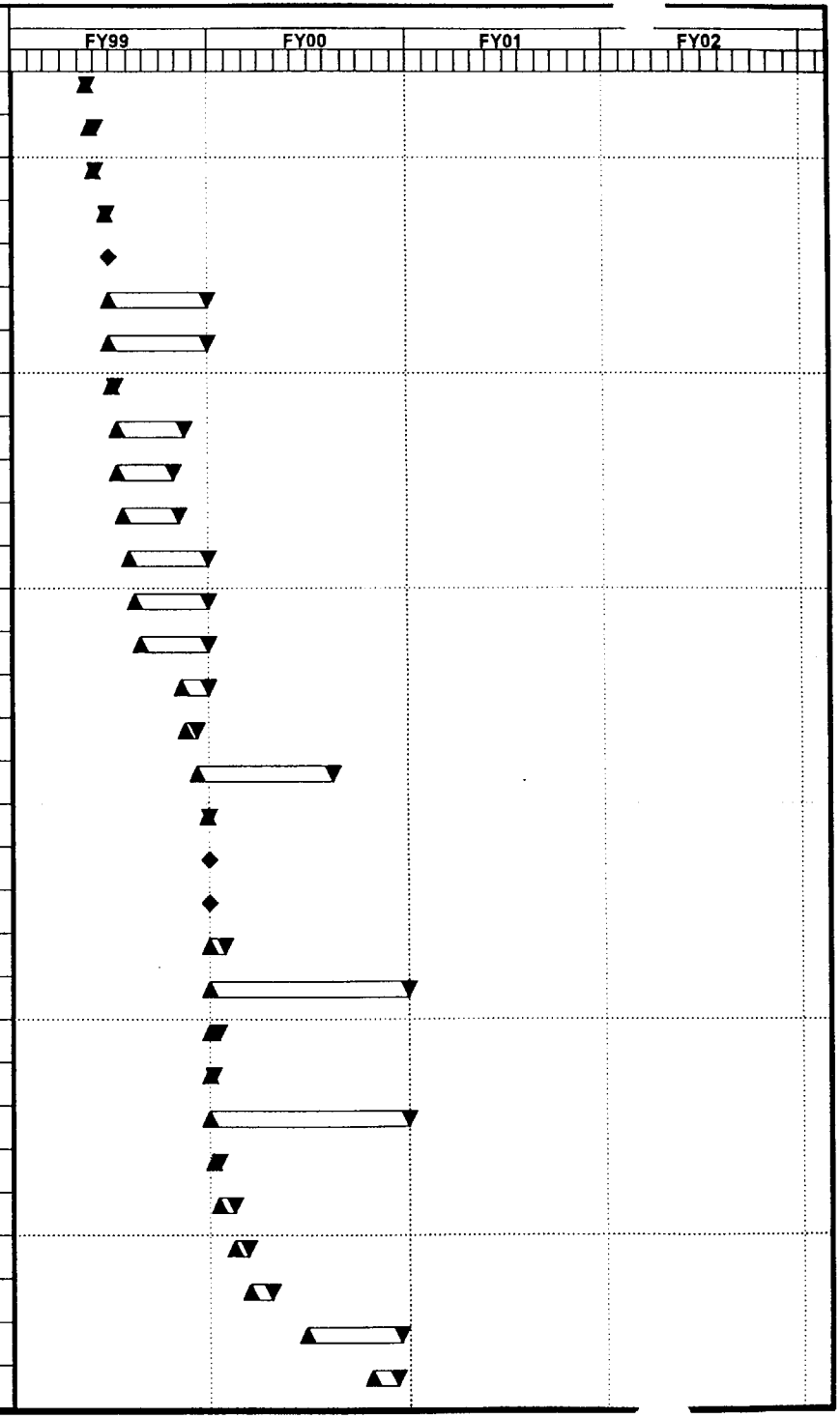
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPY1694	Prep CDTT Therm-Hydro-Chem Data Set (LLNL)		32	01OCT01	15NOV01
SPY1810B	Conduct Comprehensive Analysis of Data		32	01OCT01	15NOV01
SPY1830A	Prepare Presentations and Updates		167	01OCT01	31MAY02
SPY1840A	Provide Data Management Services		167	01OCT01	31MAY02
SPY1843B	Refine & Update Model Predictions		32	01OCT01	15NOV01
SPY1856	Prepare Draft CDTT Final Report		102	01OCT01	28FEB02
SP1700M4	TDIF: CDTT Therm-Mech Data Set (SNL)	M4	0		15NOV01
SP1702M4	TDIF: CDTT Therm-Hydro-Chem Data Set (LBNL)	M4	0		15NOV01
SP1704M4	TDIF:CDTT Therm-Hydro-Chem Data Set (LLNL)	M4	0		15NOV01
SPY1850	Prepare Draft CDTT Final Report		70	16NOV01	28FEB02
SP1860M4	Rpt: Draft CDTT Final Report	M4	0		28FEB02
SPY1844	Checker & User Reviews-CDTT Final Report		64	01MAR02	30MAY02
SP1880M3	Rpt: CDTT Final Report	M3	0		30MAY02
SPB288M4	TDMS: Data Submittal to TDMS	M4	0		30SEP02*
160 Systems Engineering & Integration Office - LV					
SEB10C1	TFM and Site Visit Support		151	01MAR99*	30SEP99
SEC10C2	Category II DIE Rev. (FY 99 Rev.)		20	01MAR99*	26MAR99
SEC10C5	Categ III DIE Rev-ECRB Cross Drift		42	03MAY99*	30JUN99
SEC10C6	Categ III DIE Rev-ESF Subsurface Test		43	21JUN99*	19AUG99
SEB10E1	TFM and Site Visit Support		251	01OCT99	29SEP00
SEB10E7	Systems Safety Analysis Support (ESF/ECRB)		251	01OCT99*	29SEP00
SEB10E2	Category II DIE Rev. (First FY 00 Rev.)		20	01DEC99*	29DEC99
SEB10E5	Categ III DIE Rev-ECRB Cross Drift		39	01FEB00*	27MAR00
SEB10E3	Category II DIE Rev. (Second FY 00 Rev.)		21	02MAR00	30MAR00
SEB10E4	Category II DIE Rev. (Third FY 00 Rev.)		20	07JUN00	05JUL00
SEB10E6	Categ III DIE Rev-ESF Subsurface Test		43	27JUL00	26SEP00
SEB10H1	TFM and Site Visit Support		101	02OCT00	28FEB01
SEB10H7	Systems Safety Analysis Support (ESF/ECRB)		101	02OCT00	28FEB01
SEB10H2	Category II DIE Rev. (First FY 01 Rev.)		20	01DEC00*	29DEC00
SEB10F1	TFM and Site Visit Support		149	01MAR01	28SEP01
SEB10F3	Category II DIE Rev. (Second FY 01 Rev.)		21	01MAR01	29MAR01



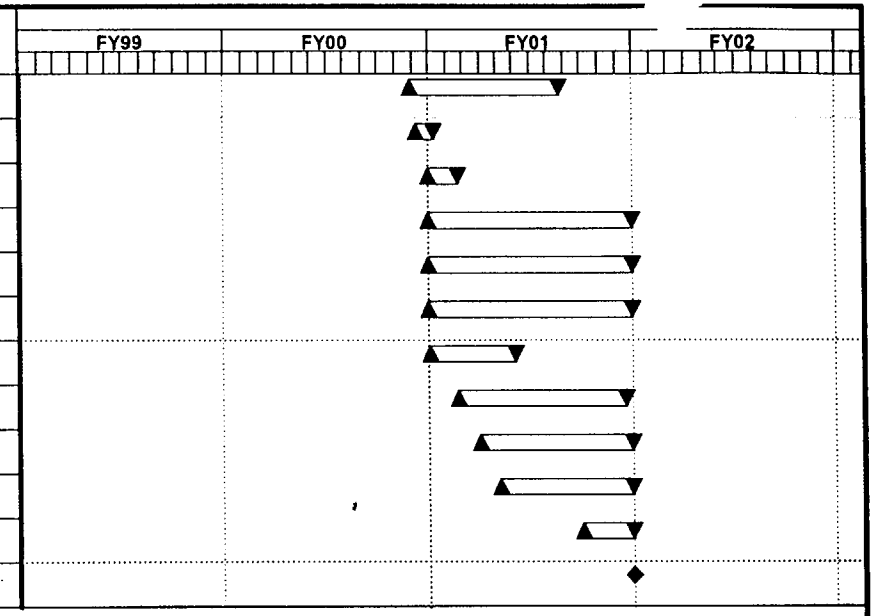
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SEB10F5	Categ III DIE Rev-ECRB Cross Drift		39	01MAR01	24APR01
SEB10F7	Systems Safety Analysis Support (ESF/ECRB)		149	01MAR01	28SEP01
SEB10F4	Category II DIE Rev. (Third FY 01 Rev.)		20	06JUN01	03JUL01
SEB10F6	Categ III DIE Rev-ESF Subsurface Test		42	01AUG01	28SEP01
170 Site Construction Operations					
SC14115	Drilling-CL36 Validation Boreholes		114	11MAR99*	19AUG99
SC13085	Drilling-Construct Monitoring (Niche 5 & Alc 8)		8	15MAR99*	24MAR99
SC13120	Drilling-Blast Effects Testing Niche 5		22	25MAR99*	23APR99
SP355K12	ECRB Construction Test Support-FY99		128	01APR99*	30SEP99
SC13080	Drilling-Cross Over Alcove (1 Shift)		12	18AUG99	02SEP99
SC13080A	Continue Drilling-Cross Over Alcove (1 Shift)		20	03SEP99	01OCT99
SC13010	Drilling-Pre-Excav Niche Tstg Niche #5 (1 Shift)		32	15SEP99	29OCT99
SP355K13	ECRB Construction Test Support-FY00		251	01OCT99	29SEP00
SC14205	Drilling-Rock Mechanics in ECRB-FY00		158	01NOV99	16JUN00
SC13020	Drilling-Post Excav Niche Tst Niche #5 (1Shift)		18	28MAR00	20APR00
SC13000	Drilling - Fracture Matrix Niche #5 (1 Shift)		26	21APR00	26MAY00
SC13070	Drilling-Cross Drift Thermal Alcove		24	12JUL00	14AUG00
SC13070A	Continue Drilling-Cross Drift Thermal Alcove		35	15AUG00	03OCT00
SC14255	Drilling-Solitaro Canyon Fault		6	21AUG00	28AUG00
SC14251	Continue Drilling-Solitaro Canyon Fault		94	29AUG00	16JAN01
SP355K16	ECRB Construction Test Support-FY01		250	02OCT00	28SEP01
SC13040	Drilling-Pre-Excav Niche Tstg Niche #6 (1 Shift)		31	04OCT00	17NOV00
SC13090	Drilling-Crest Alcove (1 Shift)		29	11JAN01	21FEB01
SC13050	Drilling-Post Excav Niche Tst Niche #6 (1 Shift)		18	16FEB01	14MAR01
SC13030	Drilling-Fracture Matrix Niche #6 (1 Shift)		26	15MAR01	19APR01
180 Safety and Health					
SS1030	Additional Funding for ECRB effort		102	01APR99*	24AUG99
819 United States Geological Survey					
SPG42A11	Conduct Mapping From Station 0+00 to 28+00		97	09NOV98*	31MAR99
SPX002	USGS Set-Asides		97	09NOV98*	31MAR99
SPH6010	Plan Cl36 Validation Project, Schedule & Cost		14	08FEB99*	26FEB99



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPH6020	Participate in Planning Meeting		3	17FEB99*	19FEB99
SPH6025	Approve NWQL for Tritium Analyses		10	22FEB99	05MAR99
SPH6015	Develop Sampling plan, Finalize Schedule		5	01MAR99*	05MAR99
SPH6030	Examine & Select Core Samples		3	23MAR99	25MAR99
SPG42GM3	Geology of ECRB X-Drift	M3	0		31MAR99
SPG850	Conduct Detailed Mapping & Charact Sel Areas		128	01APR99*	30SEP99
SPG860	Character Short-Trace-Length Frac in X-Drift Blk		128	01APR99*	30SEP99
SPH6035	O[illegible]A to Pinawa		5	05APR99*	09APR99
SPH6040	Extract Water for TRitium Analyses		85	16APR99*	16AUG99
SPH6050	Strontium Isotope Analyses (WR & Pore Salts)		70	16APR99*	26JUL99
SPH6055	Interpret Videologs		73	26APR99*	06AUG99
SPH6045	Conduct Tritium Analyses		100	07MAY99*	28SEP99
SPG47B12	Begin Geologic Mapping of X-Over Alcove		96	17MAY99	30SEP99
SPX255	USGS Set-Asides		87	28MAY99*	30SEP99
SPH6060	Constr 3-D Fract Model for Sundance Anomaly		38	09AUG99	30SEP99
SPG47C12	Begin Geologic Mapping of of Niche 5		14	18AUG99	07SEP99
SPG47C13	Complete Geologic Mapping of Niche 5		172	08SEP99	15MAY00
SPH6065	Synthesize Data		5	24SEP99*	30SEP99
SPG87M4	TDB/RPC: Structural Data & Observations	M4	0		30SEP99
SPG88M4	RVW DRFT: Rpt on Short-Trace-Length Frac	M4	0		30SEP99
SPG47B13	Complete Geologic Mapping of X-Over Alcove		18	01OCT99	27OCT99
SPH42V10	Mon Moist in Crest Alcove & Cross Drift Niches		251	01OCT99*	29SEP00
SPH6061	Complete 3D Fract Model - Sundance Anomaly		10	01OCT99	15OCT99
SPH6066	Complete Synthesize Data		5	01OCT99	07OCT99
SPX305	USGS Set-Asides		251	01OCT99*	29SEP00
SPH6070	Plan Report		5	08OCT99	15OCT99
SPH6075	Prepare Review Draft		19	18OCT99	12NOV99
SPH6080	Complete Technical Review		18	15NOV99	10DEC99
SPH6085	Revise Report		28	13DEC99	21JAN00
SPG47D12	Conduct Geol Mapping Thermal Alcove		122	27MAR00	15SEP00
SPG47H12	Begin Geo Mapping Solitario Cnyn Drill Rm		31	26JUL00	07SEP00

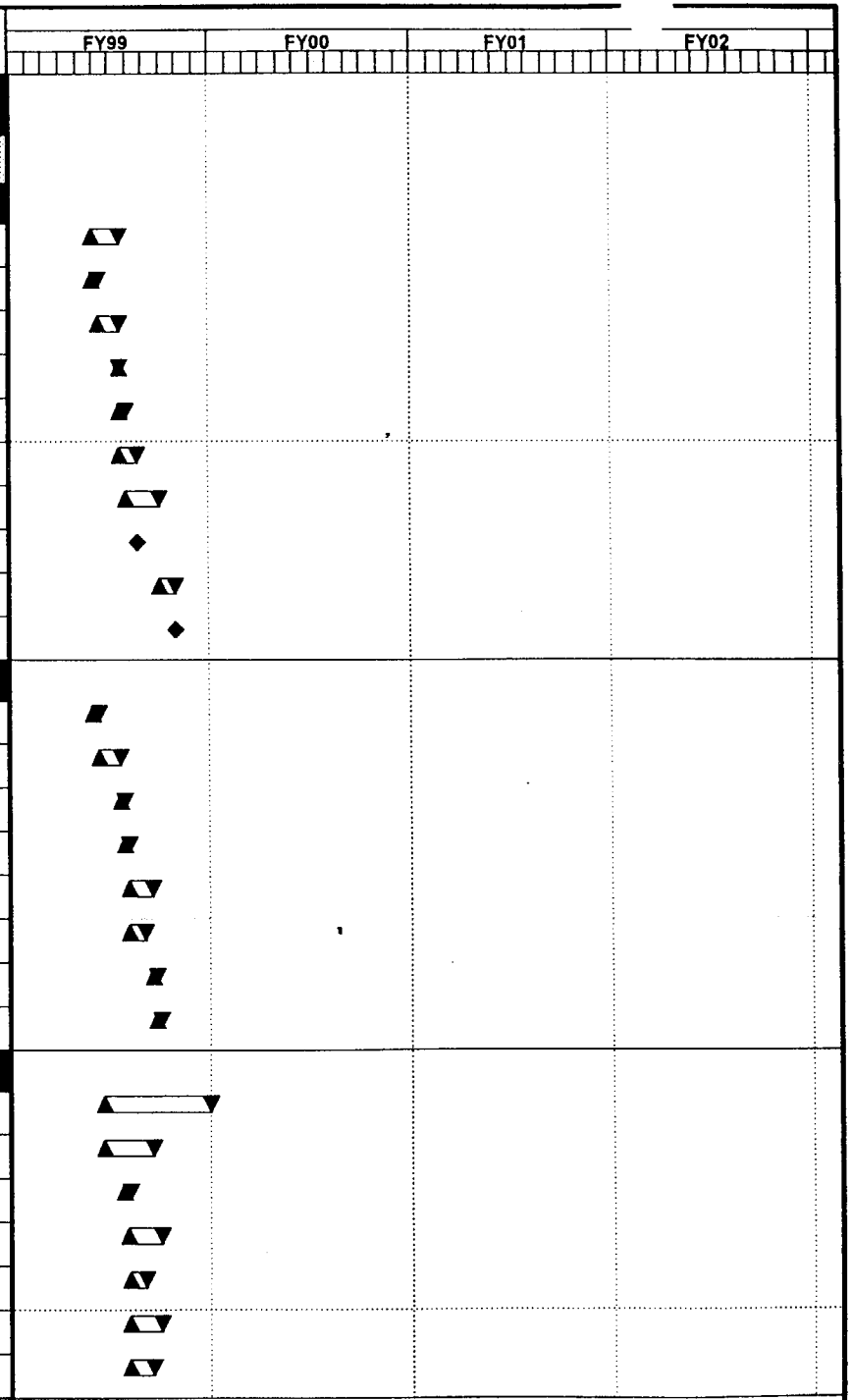


Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPG47F13	Geologic Mapping in Niche 6		184	29AUG00	23MAY01
SPG47H13	Compl Goe Mapping Solitario Cnyn Drill Rm		22	08SEP00	10OCT00
SPH240	Conduct Pneumatic Mon. & Gas Smplg		35	02OCT00*	21NOV00
SPH380	Monitor Moisture in Cross Drift		250	02OCT00*	28SEP01
SPX240	USGS Set-Asides		250	02OCT00*	28SEP01
SPX302	USGS Set-Asides		250	02OCT00*	28SEP01
SPG47G12	Geologic Geo Mapping of Crest Alcove		104	04OCT00	07MAR01
SPH248	Conduct 3D Pneumatic/Tracer Testing		206	22NOV00	17SEP01
SPH244	Begin DP Pneum Mon, Hydrochem, 3D Tstng		189	02JAN01*	28SEP01
SPH246	Begin Analysis & Interp Field Data		166	05FEB01*	28SEP01
SPH382	Prepare Cross-Drift Moisture Monit Data Pkg		63	02JUL01*	28SEP01
SPH382M4	Cross-Drift Moist Monitoring Data Pkg to RPC/TDB	M4	0		28SEP01

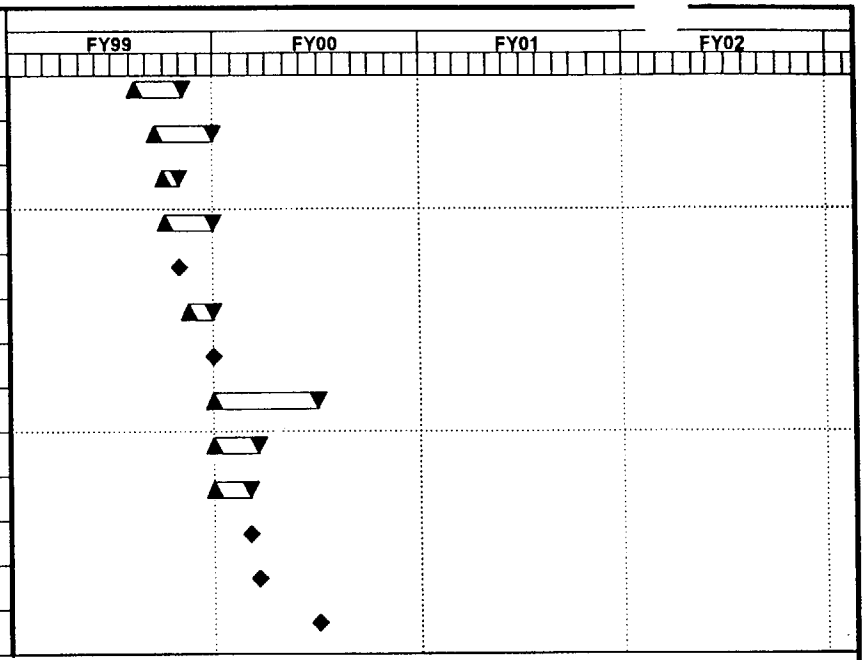


R SD-6

Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
140 Natural Environment Program Operations					
SP6A100	Re-Initiate Geophysical Logging Subcontract		36	01MAR99*	19APR99
SP6C300	Maintain Geologic Staff for SD-6		10	01MAR99	12MAR99
SP6C310	Provide SMF Field Geologists for Sample Collect		26	15MAR99	19APR99
SP6A110	USW SD-6 Geophysical Logging		1	20APR99	20APR99
SP6C320	Archive Smpl @ SMF & Complete Records Pkge		10	20APR99	03MAY99
SP6B200	USW SD-6 Geophysical Logging Analysis		23	21APR99	21MAY99
SP6B220	USW SD-6 Stratigraphic Logging		43	03MAY99*	01JUL99
SP6A20M4	TDMS/RPC: Submit USW SD-6 Geophys Log data	M4	0		21MAY99
SP6B240	USW SD-6 Review/Finalization of Stratig logs		20	02JUL99	30JUL99
SP6B24M4	TDMS/RPC: Submit USW SD-6 Stratigraphic Data	M4	0		30JUL99
170 Site Construction Operations					
SCA0850	USW SD-6 Maintain Craft Labor		10	01MAR99*	12MAR99
SCA0855	USW SD-6 Drilling to Total Depth		26	15MAR99	19APR99
SCA0860	USW SD-6 Discharge Pipeline Construction		6	20APR99	27APR99
SCA0865	USW SD-6 Pump Installation & Test Setup		5	28APR99	04MAY99
SCA0870	USW SD-6 Aquifer Pump test		31	05MAY99	17JUN99
SCA0890	C-Hole Complex Workovers		20	05MAY99	02JUN99
SCA0875	USW SD-6 Pump Removal & Test Breakdown		5	18JUN99	24JUN99
SCA0880	USW SD-6 Rig & Equipment Demobilization		5	25JUN99	01JUL99
819 United States Geological Survey					
SPH4411	Conduct Elemental & Isotopic Anlys SD-6 Samples		136	22MAR99*	30SEP99
SPH447	Collect SZ Samples-Water Table & Pumping Tests		63	22MAR99*	17JUN99
SPH3000	Prep Equip for Removing Pckr-Instr C-Wells		7	26APR99*	04MAY99
SP6B300	USW SD-6 Stratigraphic Logging		43	03MAY99*	01JUL99
SPH3004	Wrk w/ Constr to Remove Dhole Instr frm C-Wells		20	05MAY99	02JUN99
SPH3008	Demob USGS Surf Equip/Prep Long-term Storage		42	05MAY99*	02JUL99
SPH330A1	Conduct SZ Testing at SD-6		31	05MAY99*	17JUN99



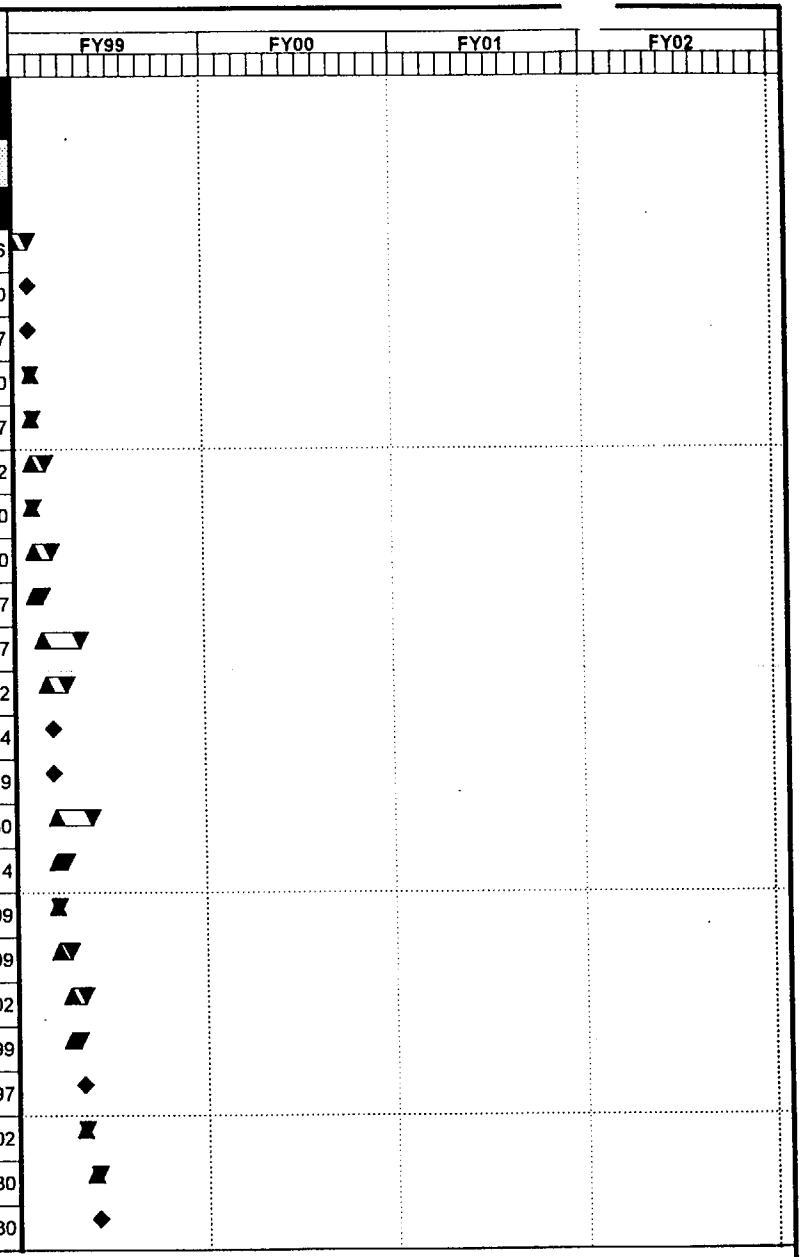
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish
SPH3012	Prep & Aquire Required Closing Calibr on Equip		61	12MAY99*	06AUG99
SPH3491	Prep SZ Data Pkg SD-6		73	18JUN99*	30SEP99
SP6B340	USW SD-6 Review/Finalization of Stratig logs		20	02JUL99	30JUL99
SPH3016	Prep & Submit Data Pkgs for Closing Calibrations		62	06JUL99*	30SEP99
SP6B34M4	TDMS/RPC: Submit USW SD-6 Stratigraphic Data	M4	0		30JUL99
SPH3481	Prep Memo Hydraulic Properties SD-6		31	18AUG99*	30SEP99
SPH30M4	TDB/RPC: Closing Calibration Data	M4	0		30SEP99
SPH348A1	Continue Prep Memo Hydraulic Properties SD-6		124	01OCT99*	31MAR00
SPH349A1	Continue Prep SZ Data Pkg SD-6		53	01OCT99*	17DEC99
SPH451	Summarize Results of SZ Sampling & Analyses		41	01OCT99	01DEC99
SPH451M4	TDMS/RPC: Summ Results SZ Sampl & Analyses	M4	0		01DEC99
SPH3491M4	RPC/TDB: SD-6 Pumping/Monitoring Data Pkg	M4	0		17DEC99
SPH3481M4	Report: Hydraulic Properties Testing SD-6	M4	0		31MAR00



Schedule

Site Recommendation Schedule Trace

Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
I ISM PMR						
C1000						
140 Natural Environment Program Operations						
SPP5800	AP3.10Q Data-Stratigraphic Workbook		21	01OCT98*	30OCT98	26
SPI000	Strat Workbook-Input Parameters and Data Identif		0		30OCT98	480
SPI002	Strat Workbook-Models and Codes Identified		0		30OCT98	497
SPI004	Strat Workbook-Determine DTN Assignment		2	02NOV98	03NOV98	480
SPI028	Strat Workbook-Determine if Model-Rel SW is Unde		5	02NOV98	06NOV98	497
SPP5802	Prep Draft AP3.10Q-Stratigraphic Workbook		18	02NOV98	30NOV98	202
SPI006	Strat Workbook-Determine if Data/DTN in TDMS		3	04NOV98	06NOV98	480
SPI008	Strat Workbook-Submit Data/DTN to TDMS as Necess		22	09NOV98	11DEC98	480
SPI030	Strat Workbook-Place Model-Related SW Under SMS		10	09NOV98	23NOV98	497
SPI032	Strat Workbook-Verify Model-Related Software		44	24NOV98	04FEB99	497
SPP5804	AP3.10Q Chckng/Rev-Stratigraphic Workbook		22	01DEC98	08JAN99	202
SPI012	Strat Workbook-Procurement Related Issues ID'd t		0		11DEC98	514
SPI020	Strat Workbook-Data Related Software Issues Iden		0		11DEC98	499
SPI010	Strat Workbook-Verify/Trace Data		44	14DEC98	23FEB99	480
SPI014	Strat Workbook-Resolve Procurement Related Data		10	14DEC98	05JAN99	514
SPI022	Strat Workbook-Determine if Data Rel SW is Under		5	14DEC98	18DEC98	499
SPI024	Strat Workbook-Place Under SMS Control as Necess		10	21DEC98	12JAN99	499
SPP5806	Prep Final AP3.10Q Rpt-Stratigraphic Workbook		20	11JAN99	05FEB99	202
SPI026	Strat Workbook-Verify Data-Related Software		10	13JAN99	26JAN99	499
SPI034	Strat Workbook-Qualified/Verified SW Available		0		04FEB99	497
C1000	ISM3.1 Stratigraphic Workbook - AP3.10Q	M4	1	05FEB99	05FEB99	202
SPI016	Strat Workbook-Update TDMS		5	24FEB99	02MAR99	480
SPI018	Strat Workbook-Qualified/Verified Data Available		0		02MAR99	480



Project Start 01OCT98
Project Finish 30SEP02
Data Date 01OCT98
Run Date 16MAY99

Early Bar
Progress Bar

M008

Sheet 1 of 209

CR-M&O M008 PMDQ/LADS
SR Logic Trace M0AJ (5521)Activities
As of May 17,1999 @ 8:00 AM

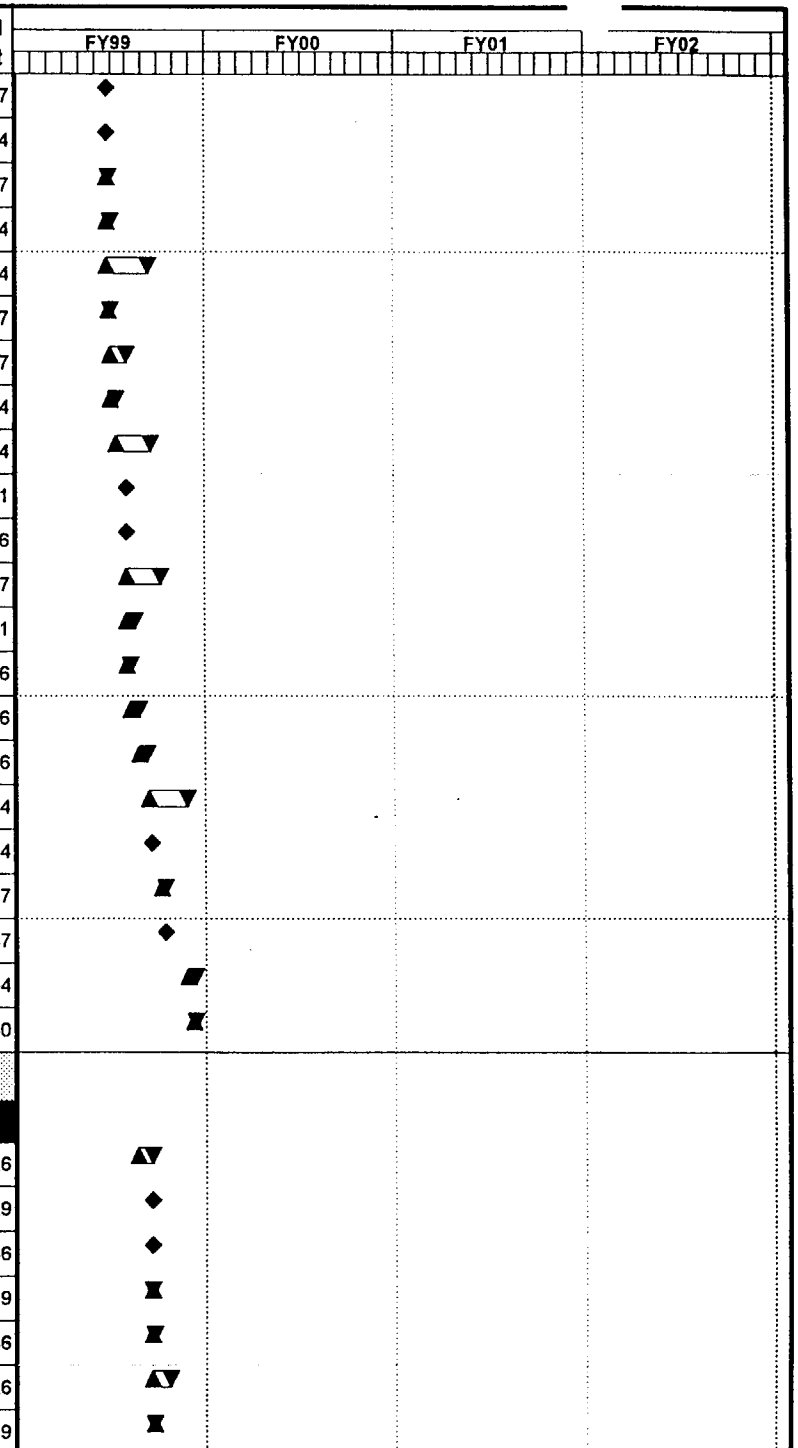
(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

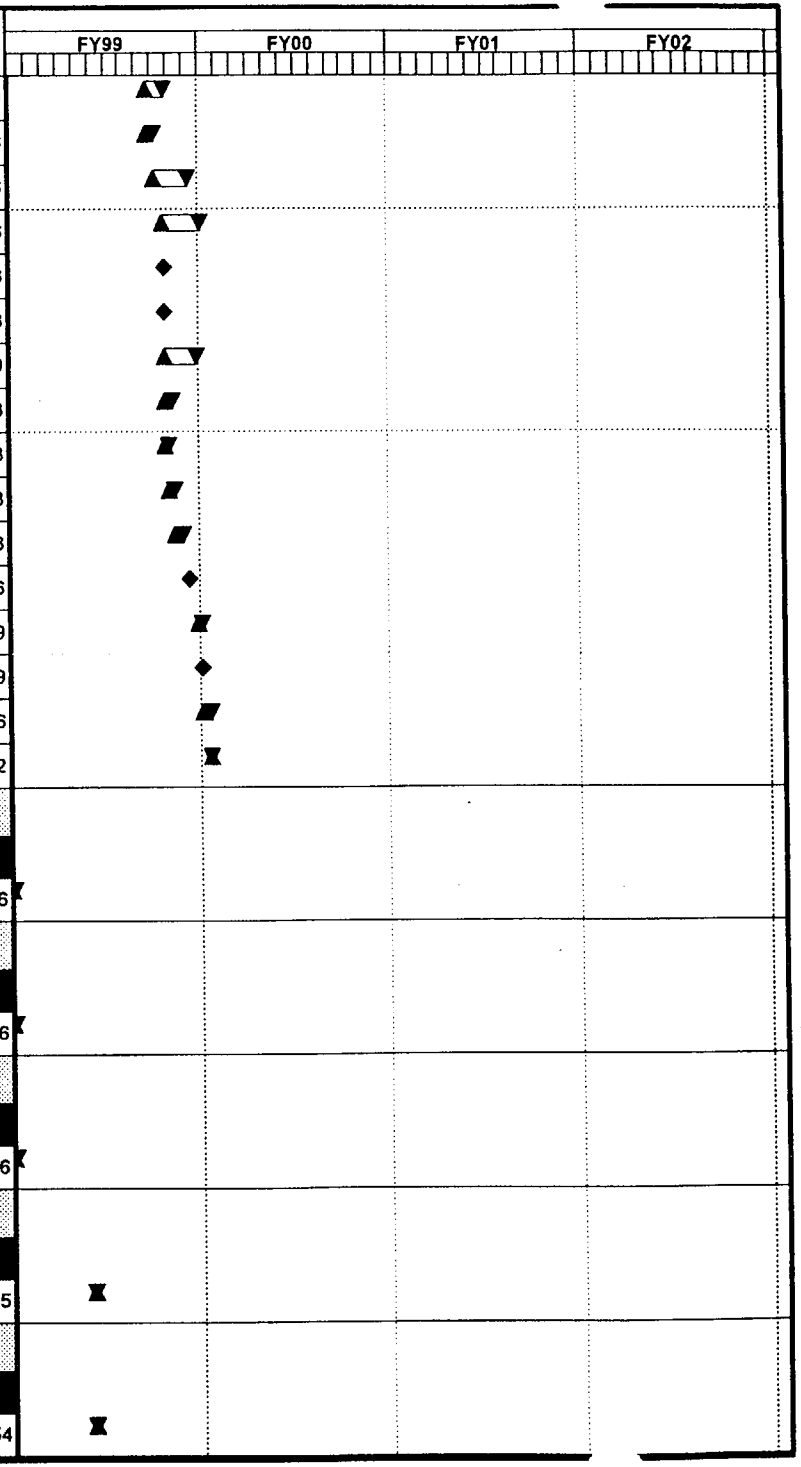
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
C1020						
140 Natural Environment Program Operations						
C1020	ISM3.1 Borehole Porosities	M4	1	21MAY99*	21MAY99	9
C1035						
140 Natural Environment Program Operations						
SPP5820	AP3.10Q Data-GFM3.1		36	02NOV98	04JAN99	26
SPI072	Rpt-GFM3.1-Input Parameters and Data Identified		0		04JAN99	444
SPI074	Rpt-GFM3.1-Models and Codes Identified		0		04JAN99	461
SPI076	Rpt-GFM3.1-Determine DTN Assignment		2	05JAN99	06JAN99	444
SPI100	Rpt-GFM3.1-Determine if Model-Rel SW is Under S		5	05JAN99	11JAN99	461
SPP5822	Prep Draft AP3.10Q-GFM3.1		98	05JAN99	21MAY99	26
SPI078	Rpt-GFM3.1-Determine if Data/DTN in TDMS		3	07JAN99	11JAN99	444
SPI080	Rpt-GFM3.1-Submit Data/DTN to TDMS as Necessary		22	12JAN99	10FEB99	444
SPI102	Rpt-GFM3.1-Place Model-Related SW Under SMS Con		10	12JAN99	25JAN99	461
SPI104	Rpt-GFM3.1-Verify Model-Related Software		44	26JAN99	29MAR99	461
SPI084	Rpt-GFM3.1-Procurement Related Issues ID'd to C		0		10FEB99	478
SPI092	Rpt-GFM3.1-Data Related Software Issues Identif		0		10FEB99	463
SPI082	Rpt-GFM3.1-Verify/Trace Data		44	11FEB99	14APR99	444
SPI086	Rpt-GFM3.1-Resolve Procurement Related Data Iss		10	11FEB99	25FEB99	478
SPI094	Rpt-GFM3.1-Determine if Data Rel SW is Under SM		5	11FEB99	18FEB99	463
SPI096	Rpt-GFM3.1-Place Under SMS Control as Necessary		10	19FEB99	04MAR99	463
SPI098	Rpt-GFM3.1-Verify Data-Related Software		10	05MAR99	18MAR99	463
SPI106	Rpt-GFM3.1-Qualified/Verified SW Available		0		29MAR99	461
SPI088	Rpt-GFM3.1-Update TDMS		5	15APR99	21APR99	444
SPI090	Rpt-GFM3.1-Qualified/Verified Data Available		0		21APR99	444
SPP5824	AP3.10Q Chckng/Rev-GFM3.1		56	24MAY99	11AUG99	62
SPP5826	Prep Final AP3.10Q Rpt-GFM3.1		11	12AUG99	26AUG99	62
C1035	GFM3.1 - AP3.10Q	M4	1	26AUG99	26AUG99	62
C1040						
140 Natural Environment Program Operations						
SPP5830	AP3.10Q Data-Rock Properties Model		18	02MAR99	25MAR99	54

FY99 FY00 FY01 FY02

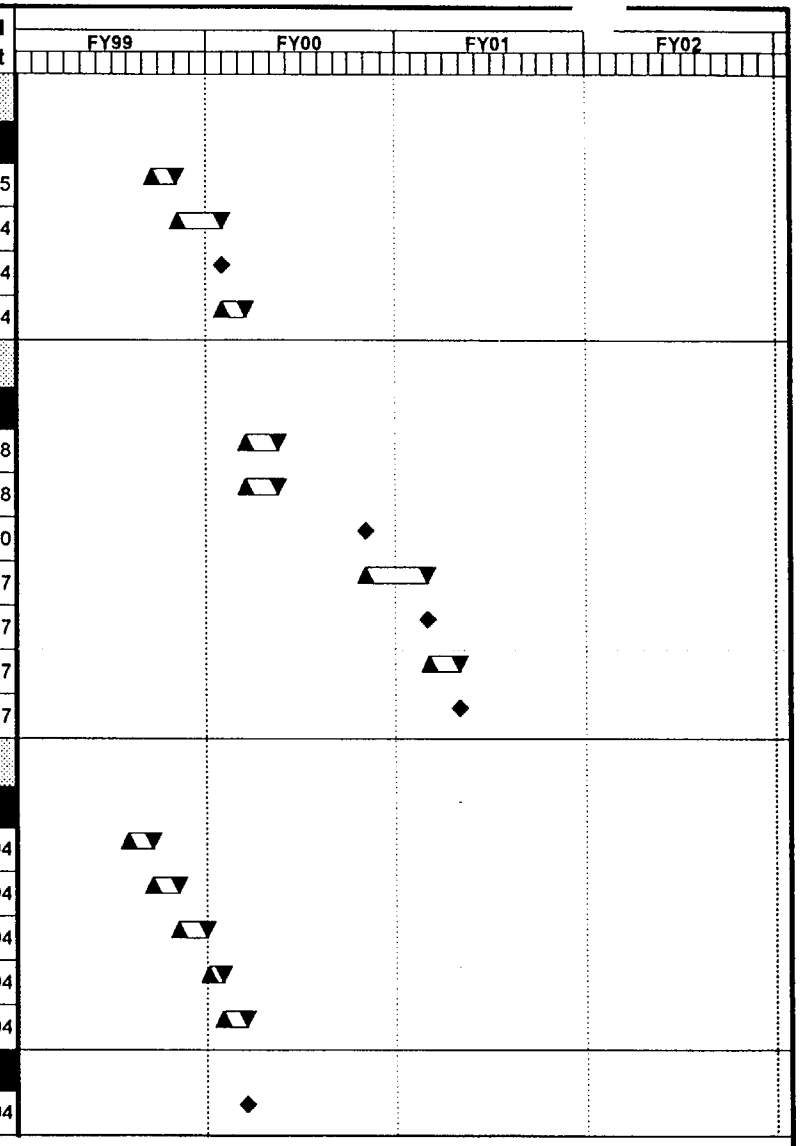
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPI108	Rock Properties-Input Parameters and Data Identi		0		25MAR99	387
SPI110	Rock Properties-Models and Codes Identified		0		25MAR99	404
SPI112	Rock Properties-Determine DTN Assignment		2	26MAR99	29MAR99	387
SPI136	Rock Properties-Determine if Model-Rel SW is Und		5	26MAR99	01APR99	404
SPP5832	Prep Draft AP3.10Q-Rock Porperties Model		56	26MAR99	14JUN99	54
SPI114	Rock Properties-Determine if Data/DTN in TDMS		3	30MAR99	01APR99	387
SPI116	Rock Properties-Submit Data/DTN to TDMS as Neces		22	02APR99	03MAY99	387
SPI138	Rock Properties-Place Model-Related SW Under SMS		10	02APR99	15APR99	404
SPI140	Rock Properties-Verify Model-Related Software		44	16APR99	17JUN99	404
SPI120	Rock Properties-Procurement Related Issues ID'd		0		03MAY99	421
SPI128	Rock Properties-Data Related Software Issues Ide		0		03MAY99	406
SPI118	Rock Properties-Verify/Trace Data		44	04MAY99	06JUL99	387
SPI122	Rock Properties-Resolve Procurement Related Data		10	04MAY99	17MAY99	421
SPI130	Rock Properties-Determine if Data Rel SW is Unde		5	04MAY99	10MAY99	406
SPI132	Rock Properties-Place Under SMS Control as Neces		10	11MAY99	24MAY99	406
SPI134	Rock Properties-Verify Data-Related Software		10	25MAY99	08JUN99	406
SPP5834	AP3.10Q Chckng/Rev-Rock Properties Model		50	15JUN99	24AUG99	54
SPI142	Rock Properties-Qualified/Verified SW Available		0		17JUN99	404
SPI124	Rock Properties-Update TDMS		5	07JUL99	13JUL99	387
SPI126	Rock Properties-Qualified/Verified Data Availabl		0		13JUL99	387
SPP5836	Prep Final AP3.10Q Rpt-Rock Properties Model		11	25AUG99	09SEP99	54
C1040	ISM3.1 Rock Properties Model - AP3.10Q	M4	1	09SEP99	09SEP99	130
C1045						
140 Natural Environment Program Operations						
SPP5840	AP3.10Q Data-Min-Pet model		17	24MAY99	16JUN99	26
SPI144	Min-Pet Model-Input Parameters and Data Identifi		0		16JUN99	329
SPI146	Min-Pet Model-Models and Codes Identified		0		16JUN99	346
SPI148	Min-Pet Model-Determine DTN Assignment		2	17JUN99	18JUN99	329
SPI172	Min-Pet Model-Determine if Model-Rel SW is Under		5	17JUN99	23JUN99	346
SPP5842	Prep Draft AP3.10Q-Min-Pet Model		25	17JUN99	22JUL99	26
SPI150	Min-Pet Model-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99	329



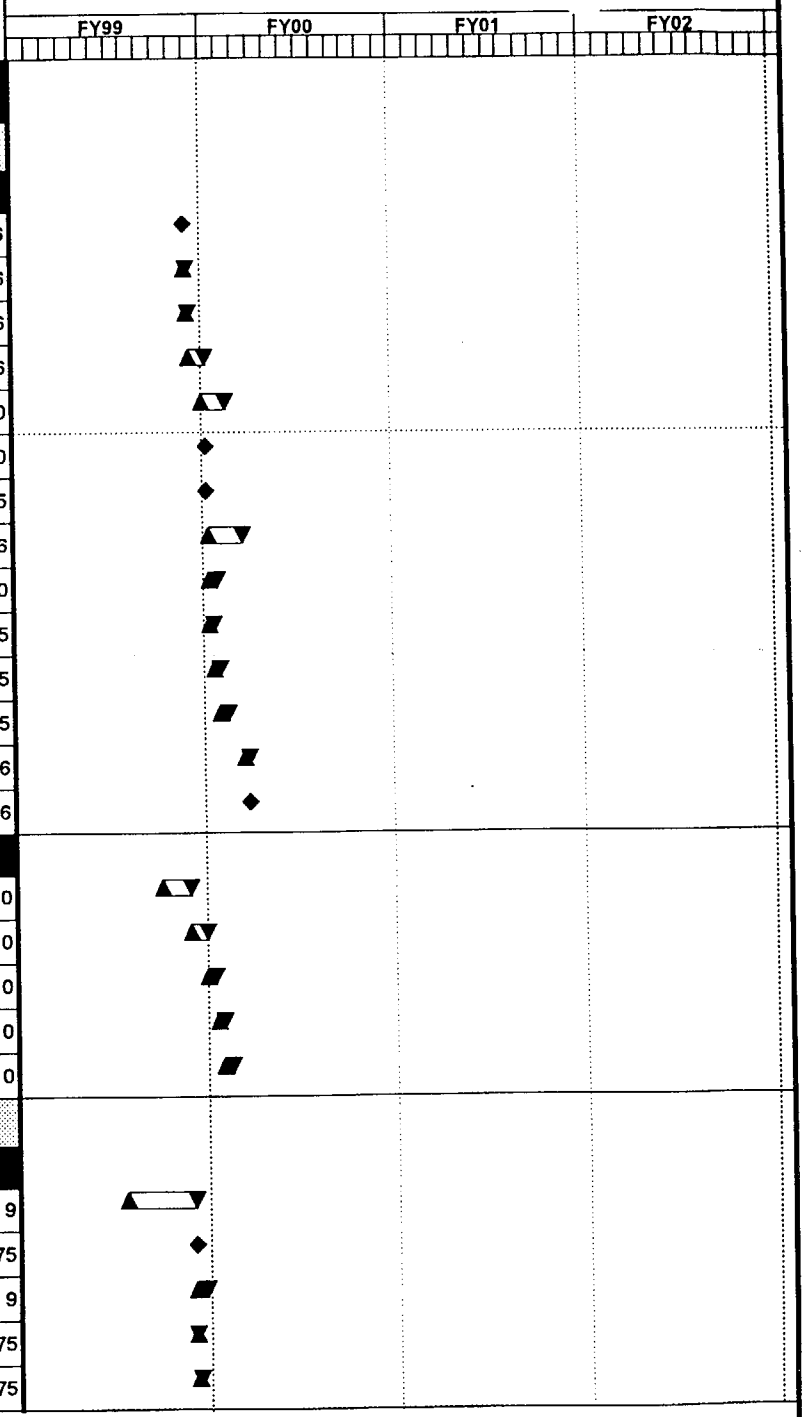
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPI152	Min-Pet Model-Submit Data/DTN to TDMS as Necessa		22	24JUN99	26JUL99	329
SPI174	Min-Pet Model-Place Model-Related SW Under SMS C		10	24JUN99	08JUL99	346
SPI176	Min-Pet Model-Verify Model-Related Software		44	09JUL99	09SEP99	346
SPP5844	AP3.10Q Chckng/Rev-Min-Pet Model		51	23JUL99	04OCT99	26
SPI156	Min-Pet Model-Procurement Related Issues ID'd to		0		26JUL99	363
SPI164	Min-Pet Model-Data Related Software Issues Ident		0		26JUL99	348
SPI154	Min-Pet Model-Verify/Trace Data		44	27JUL99	27SEP99	329
SPI158	Min-Pet Model-Resolve Procurement Related Data I		10	27JUL99	09AUG99	363
SPI166	Min-Pet Model-Determine if Data Rel SW is Under		5	27JUL99	02AUG99	348
SPI168	Min-Pet Model-Place Under SMS Control as Necessa		10	03AUG99	16AUG99	348
SPI170	Min-Pet Model-Verify Data-Related Software		10	17AUG99	30AUG99	348
SPI178	Min-Pet Model-Qualified/Verified SW Available		0		09SEP99	346
SPI160	Min-Pet Model-Update TDMS		5	28SEP99	04OCT99	329
SPI162	Min-Pet Model-Qualified/Verified Data Available		0		04OCT99	329
SPP5846	Prep Final AP3.10Q Rpt-Min-Pet Model		11	05OCT99	20OCT99	26
C1045	ISM3.1 Min-Pet Model - AP3.10Q	M4	1	20OCT99	20OCT99	102
C1060						
140 Natural Environment Program Operations						
C1060	Surface & Borehole Geophysics Data	M4	1	01OCT98*	01OCT98	46
C1061						
140 Natural Environment Program Operations						
C1061	Regional Potentrometer Surface	M4	1	01OCT98*	01OCT98	46
C1062						
140 Natural Environment Program Operations						
C1062	Mapping, Geologic Data	M4	1	01OCT98*	01OCT98	46
C1063						
140 Natural Environment Program Operations						
C1063	Hydrogeological Properties Data	M4	1	01MAR99*	01MAR99	85
C1064						
140 Natural Environment Program Operations						
C1064	Min-Pet Data	M4	1	01MAR99*	01MAR99	54



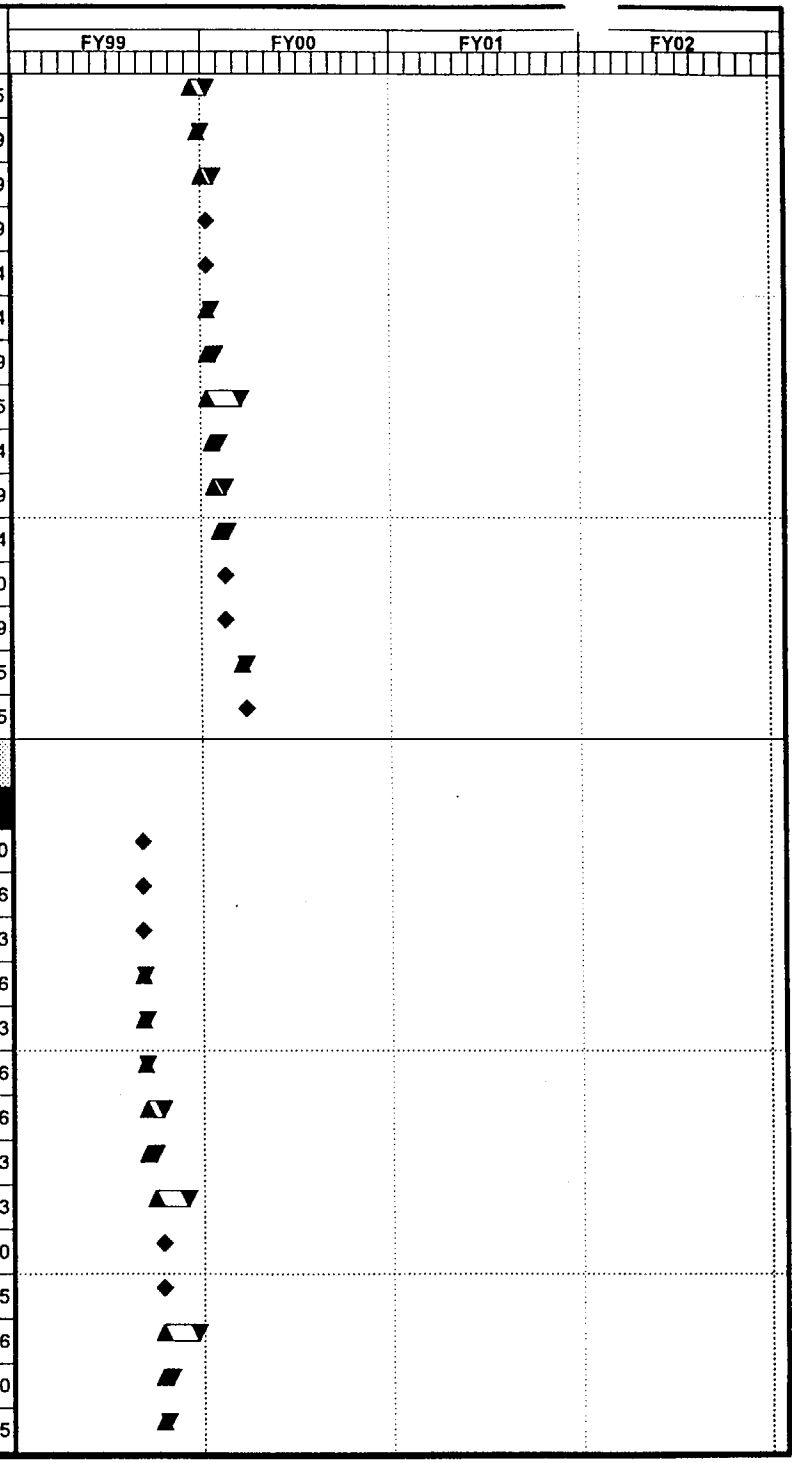
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
C5500						
300 Regulatory & Licensing						
SLP5860	ISM PMR Text Process		34	17JUN99	04AUG99	95
SLP5865	M&O ISM PMR Review		60	06AUG99	01NOV99	94
SLP58BM3	ISM PMR Rev 00	M3	0		01NOV99	94
SLP5870	DOE ISM PMR Review		29	02NOV99	15DEC99	94
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SPI00A	Revise ISM PMR AP 3.10Q's for SR		41	16DEC99	14FEB00	118
SPI00B	Prepare ISM PMR REV-02A for SR		41	16DEC99	14FEB00	118
SPI00BM4	ISM PMR Rev-02A for SR	M4	0		01AUG00*	0
SPI00C	M&O Review ISM PMR Rev-02A for SR		83	02AUG00	01DEC00	17
SPI00CM3	ISM PMR Rev-02 for SR	M3	0		01DEC00	17
SPI00D	DOE Review ISM PMR 02 for SR		41	04DEC00	31JAN01	17
SPI00EM3	Rev 3 ISM PMR for SR	M3	0		31JAN01	17
150 Support Operations						
BMP125	PIM 3.10Q/PMR Planning & Text Support (ISM)		32	03MAY99*	16JUN99	94
BMP127	PIM Text & M&O Review Prep Support ISM)		35	17JUN99	05AUG99	94
BMP128	PIM M&O Rev. & DOE Rev. Prep Support (ISM)		40	06AUG99	01OCT99	94
BMP130	Cont PIM M&O Rev. & DOE Rev. Prep Support (ISM)		20	04OCT99	01NOV99	94
BMP132	PIM DOE Rev. & Final Accept. Support (ISM)		29	02NOV99	15DEC99	94
300 Regulatory & Licensing						
SLP58CM3	Rev 01 ISM PMR	M3	0		15DEC99	94



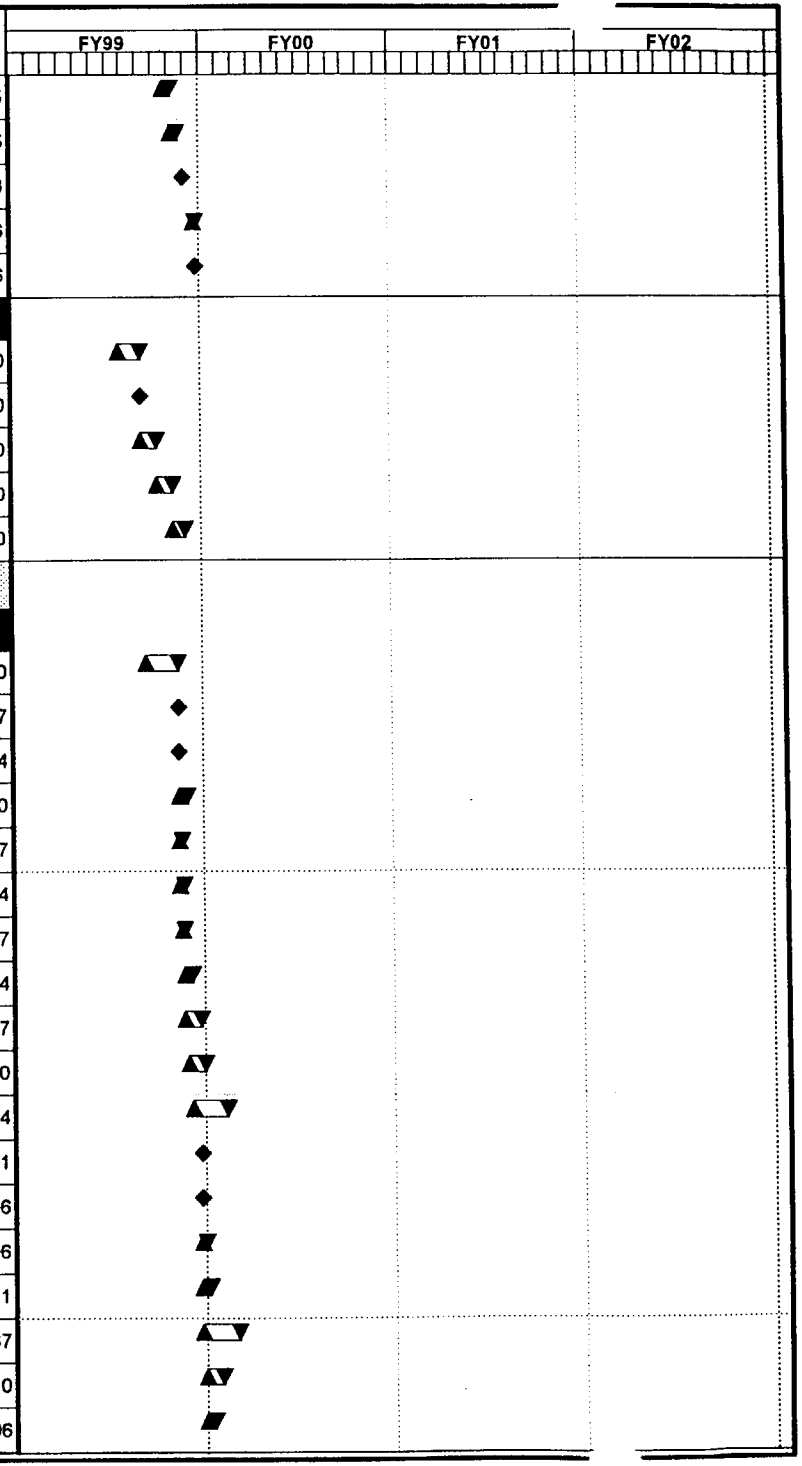
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
B BIO PMR						
F0000						
130 Performance Assessment Operations						
SSB600	FEP Analysis-Input Parameters and Data Identifie		0		31AUG99	276
SSB604	FEP Analysis-Determine DTN Assignment		2	01SEP99	02SEP99	276
SSB606	FEP Analysis-Determine if Data/DTN in TDMS		3	03SEP99	08SEP99	276
SSB608	FEP Analysis-Submit Data/DTN to TDMS as Necessar		22	09SEP99	08OCT99	276
SLPA1572	Review FEP Analysis		30	01OCT99	15NOV99	0
SSB612	FEP Analysis-Procurement Related Issues ID'd to		0		08OCT99	310
SSB620	FEP Analysis-Data Related Software Issues Identi		0		08OCT99	295
SSB610	FEP Analysis-Verify/Trace Data		44	12OCT99	15DEC99	276
SSB614	FEP Analysis-Resolve Procurement Related Data Is		10	12OCT99	25OCT99	310
SSB622	FEP Analysis-Determine if Data Rel SW is Under S		5	12OCT99	18OCT99	295
SSB624	FEP Analysis-Place Under SMS Control as Necessar		10	19OCT99	01NOV99	295
SSB626	FEP Analysis-Verify Data-Related Software		10	02NOV99	16NOV99	295
SSB616	FEP Analysis-Update TDMS		5	16DEC99	22DEC99	276
SSB618	FEP Analysis-Qualified/Verified Data Available		0		22DEC99	276
150 Support Operations						
SSPMR420	AP3.10Q data (FEP Analysis)		39	08JUL99*	31AUG99	0
SSPMR425	AP3.10Q Draft (FEP Analysis)		21	01SEP99	30SEP99	0
SSPMR427	Continue AP3.10Q Draft (FEP Analysis)		10	01OCT99	15OCT99	0
SSPMR430	AP3.10Q Check (FEP Analysis)		11	18OCT99	01NOV99	0
SSPMR435	AP3.10Q Final (FEP Analysis)		9	02NOV99	15NOV99	0
F1020						
130 Performance Assessment Operations						
SLPA1574	AP3.10Q data (Radionuclide Removal from Soil)		91	26APR99*	01SEP99	9
SLPA1588	Radionuclide Removal-Input Parameters and Data I		0		01SEP99	275
SLPA1576	AP3.10Q Draft (Radionuclide Removal from Soil)		15	02SEP99	23SEP99	9
SLPA1592	Radionuclide Removal-Determine DTN Assignment		2	02SEP99	03SEP99	275
SLPA1596	Radionuclide Removal-Determine if Data/DTN in TD		3	07SEP99	09SEP99	275



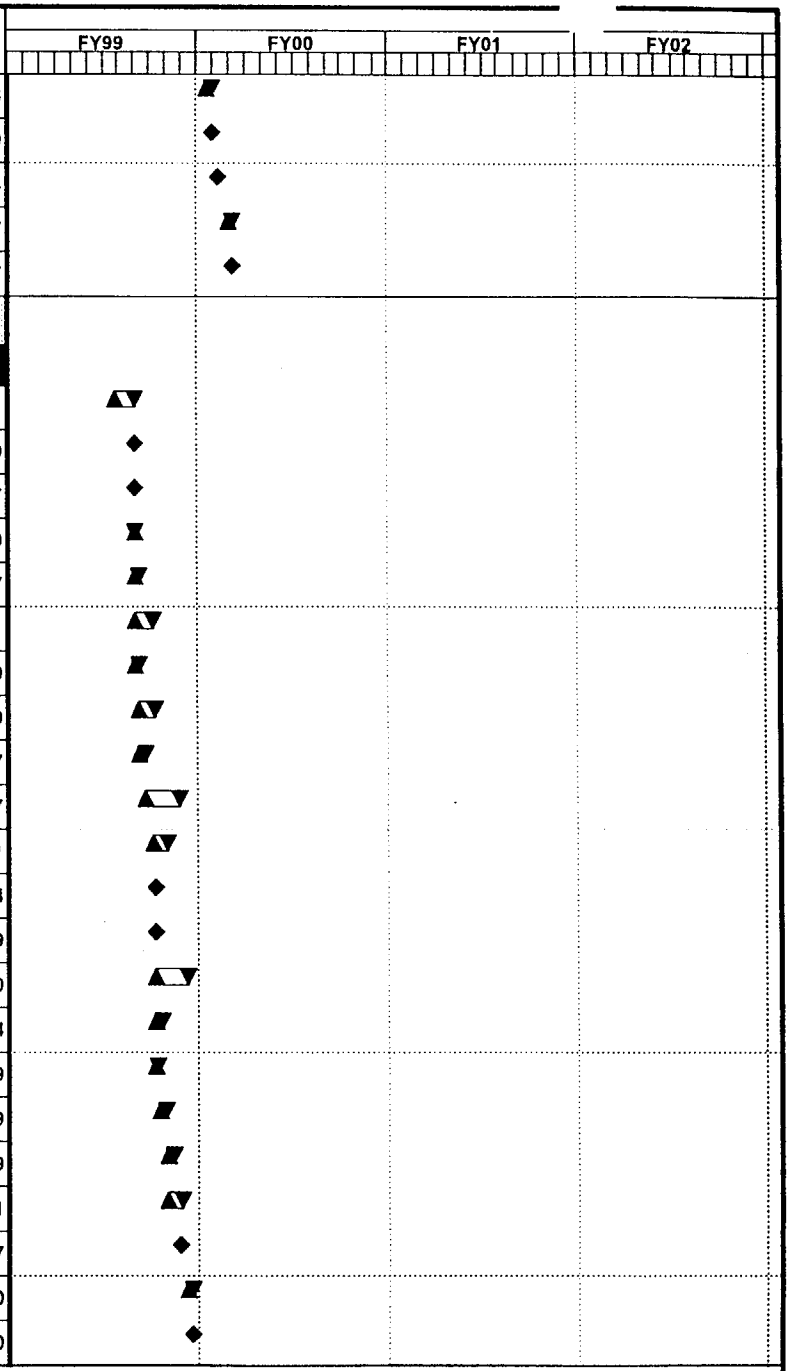
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1600	Radionuclide Removal-Submit Data/DTN to TDMS as		22	10SEP99	12OCT99	275
SLPA1578	AP3.10Q Check (Radionuclide Removal from Soil)		5	24SEP99	30SEP99	9
SLPA1580	Cont AP3.10Q Check(Radionuclide Rem'l from Soil)		15	01OCT99	22OCT99	9
SLPA1604	Radionuclide Removal-Procurement Related Issues		0		12OCT99	309
SLPA1606	Radionuclide Removal-Data Related Software Issue		0		12OCT99	294
SLPA1608	Radionuclide Removal-Determine if Data Rel SW is		5	13OCT99	19OCT99	294
SLPA1610	Radionuclide Removal-Resolve Procurement Related		10	13OCT99	26OCT99	309
SLPA1612	Radionuclide Removal-Verify/Trace Data		44	13OCT99	16DEC99	275
SLPA1614	Radionuclide Removal-Place Under SMS Control as		10	20OCT99	02NOV99	294
SLPA1582	AP3.10Q Final (Radionuclide Removal from Soil)		15	25OCT99	15NOV99	9
SLPA1616	Radionuclide Removal-Verify Data-Related Softwar		10	03NOV99	17NOV99	294
SLPA1584	Receive Radoinuclide Removal From Soil 0 AP3.10Q	M4	0		15NOV99*	0
SLPA1586	AP3.10Q Final (Radionuclide Removal from Soil)	M4	0		15NOV99	9
SLPA1620	Radionuclide Removal-Update TDMS		5	17DEC99	23DEC99	275
SLPA1622	Radionuclide Removal-Qualified/Verified Data Ava		0		23DEC99	275
F1030						
130 Performance Assessment Operations						
SLPA1624	Receive Critical Group - AP3.10Q	M4	0		07JUN99*	0
SSB252	Critical Group-Input Parameters and Data Identif		0		07JUN99	336
SSB254	Critical Group-Models and Codes Identified		0		07JUN99	353
SSB256	Critical Group-Determine DTN Assignment		2	08JUN99	09JUN99	336
SSB280	Critical Group-Determine if Model-Rel SW is Unde		5	08JUN99	14JUN99	353
SSB258	Critical Group-Determine if Data/DTN in TDMS		3	10JUN99	14JUN99	336
SSB260	Critical Group-Submit Data/DTN to TDMS as Necess		22	15JUN99	15JUL99	336
SSB282	Critical Group-Place Model-Related SW Under SMS		10	15JUN99	28JUN99	353
SSB284	Critical Group-Verify Model-Related Software		44	29JUN99	30AUG99	353
SSB264	Critical Group-Procurement Related Issues ID'd t		0		15JUL99	370
SSB272	Critical Group-Data Related Software Issues Iden		0		15JUL99	355
SSB262	Critical Group-Verify/Trace Data		44	16JUL99	16SEP99	336
SSB266	Critical Group-Resolve Procurement Related Data		10	16JUL99	29JUL99	370
SSB274	Critical Group-Determine if Data Rel SW is Under		5	16JUL99	22JUL99	355



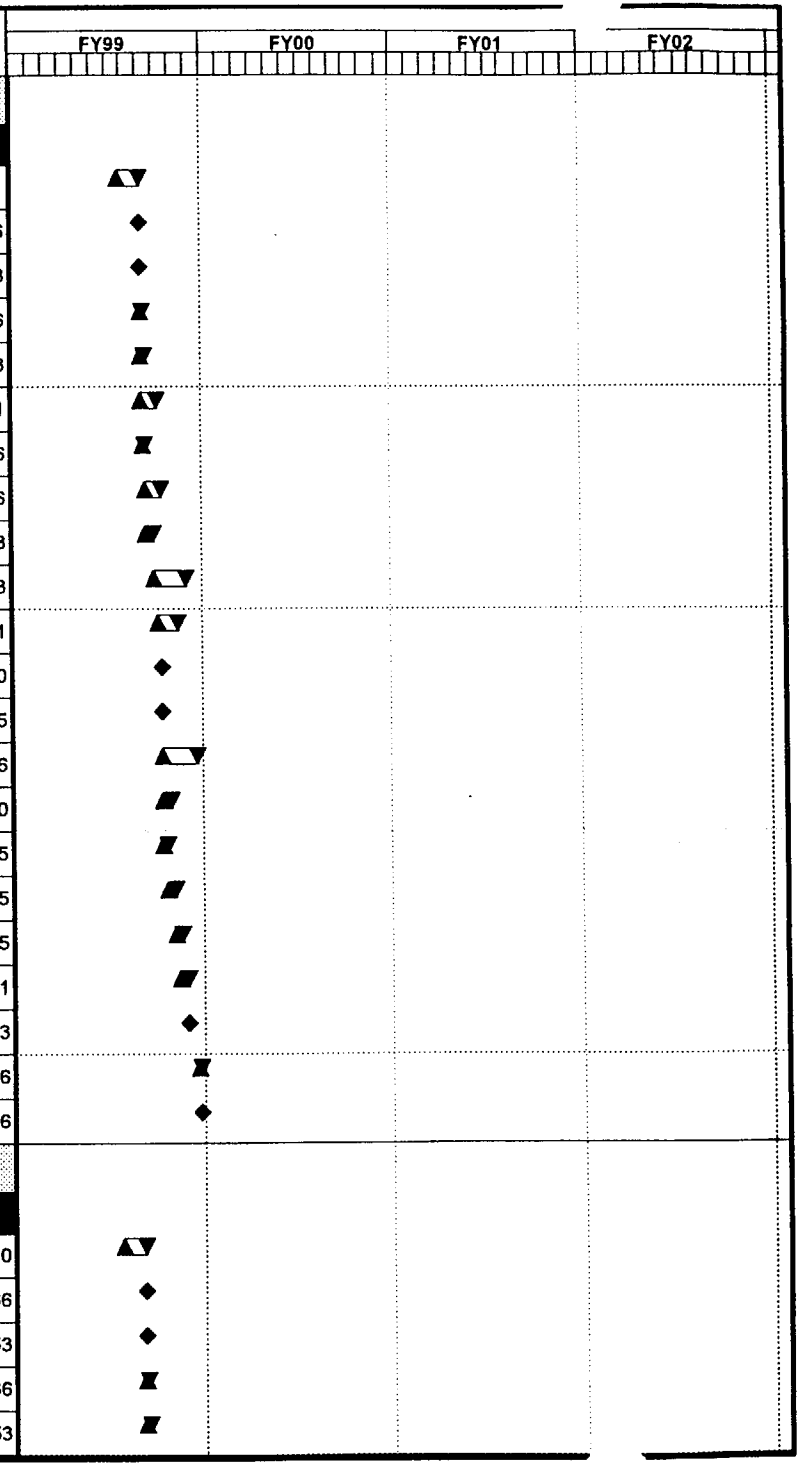
Activity ID	Activity Description	MILE	Orig dur	Earl, Start	Early Finish	Total Float
SSB276	Critical Group-Place Under SMS Control as Necess		10	23JUL99	05AUG99	355
SSB278	Critical Group-Verify Data-Related Software		10	06AUG99	19AUG99	355
SSB286	Critical Group-Qualified/Verified SW Available		0		30AUG99	353
SSB268	Critical Group-Update TDMS		5	17SEP99	23SEP99	336
SSB270	Critical Group-Qualified/Verified Data Available		0		23SEP99	336
150 Support Operations						
SSPMR240	AP3.10Q data (Critical Group)		30	26APR99*	07JUN99	0
SSPMRFM4	AP3.10Q data (Critical Group)	M4	0		07JUN99	0
SSPMR245	AP3.10Q Draft (Critical Group)		21	08JUN99	07JUL99	0
SSPMR250	AP3.10Q Checking (Critical Group)		21	08JUL99	05AUG99	0
SSPMR255	AP3.10Q Final (Critical Group)		17	06AUG99	30AUG99	0
F1060						
130 Performance Assessment Operations						
SLPA1626	AP3.10Q data (Water Usage)		44	15JUN99*	16AUG99	0
SLPA1636	Water Usage-Input Parameters and Data Identified		0		16AUG99	287
SLPA1638	Water Usage-Models and Codes Identified		0		16AUG99	304
SLPA1628	AP3.10Q Draft (Water Usage)		11	17AUG99	31AUG99	0
SLPA1640	Water Usage-Determine DTN Assignment		2	17AUG99	18AUG99	287
SLPA1642	Water Usage-Determine if Model-Rel SW is Under S		5	17AUG99	23AUG99	304
SLPA1644	Water Usage-Determine if Data/DTN in TDMS		3	19AUG99	23AUG99	287
SLPA1646	Water Usage-Place Model-Related SW Under SMS Con		10	24AUG99	07SEP99	304
SLPA1648	Water Usage-Submit Data/DTN to TDMS as Necessary		22	24AUG99	23SEP99	287
SLPA1630	AP3.10Q Checking (Water Usage)		21	01SEP99	30SEP99	0
SLPA1650	Water Usage-Verify Model-Related Software		44	08SEP99	09NOV99	304
SLPA1652	Water Usage-Procurement Related Issues ID'd to C		0		23SEP99	321
SLPA1654	Water Usage-Data Related Software Issues Identif		0		23SEP99	306
SLPA1656	Water Usage-Determine if Data Rel SW is Under SM		5	24SEP99	30SEP99	306
SLPA1658	Water Usage-Resolve Procurement Related Data Iss		10	24SEP99	07OCT99	321
SLPA1660	Water Usage-Verify/Trace Data		44	24SEP99	30NOV99	287
SLPA1632	AP3.10Q Final (Water Usage)		20	01OCT99	29OCT99	0
SLPA1662	Water Usage-Place Under SMS Control as Necessary		10	01OCT99	15OCT99	306



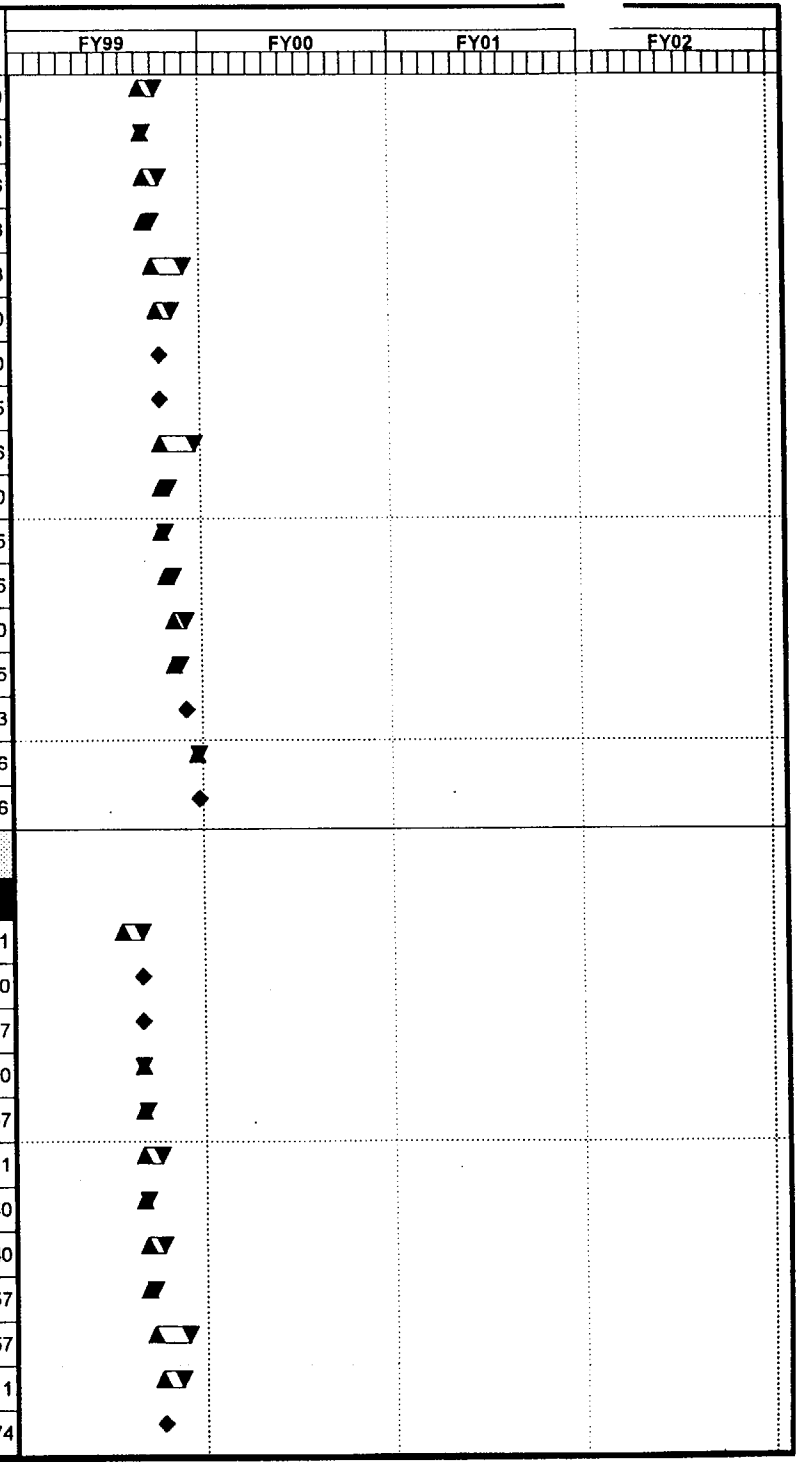
Activity ID	Activity Description	MILE	Orig dur	Earl, Start	Early Finish	Total Float
SLPA1664	Water Usage-Verify Data-Related Software		10	18OCT99	29OCT99	306
SLPA1634	AP3.10Q Final (Water Usage)	M4	0		29OCT99	19
SLPA1666	Water Usage-Qualified/Verified SW Available		0		09NOV99	304
SLPA1668	Water Usage-Update TDMS		5	01DEC99	07DEC99	287
SLPA1670	Water Usage-Qualified/Verified Data Available		0		07DEC99	287
F1061						
150 Support Operations						
SSPMR200	AP3.10Q data (External Exposure Analysis)		26	26APR99*	01JUN99	1
SSB180	External Exposure-Input Parameters and Data Iden		0		01JUN99	340
SSB182	External Exposure-Models and Codes Identified		0		01JUN99	357
SSB184	External Exposure-Determine DTN Assignment		2	02JUN99	03JUN99	340
SSB208	External Exposure-Determine if Model-Rel SW is U		5	02JUN99	08JUN99	357
SSPMR205	AP3.10Q Draft (External Exposure Analysis)		25	02JUN99	07JUL99	1
SSB186	External Exposure-Determine if Data/DTN in TDMS		3	04JUN99	08JUN99	340
SSB188	External Exposure-Submit Data/DTN to TDMS as Nec		22	09JUN99	09JUL99	340
SSB210	External Exposure-Place Model-Related SW Under S		10	09JUN99	22JUN99	357
SSB212	External Exposure-Verify Model-Related Software		44	23JUN99	24AUG99	357
SSPMR210	AP3.10Q Check (External Exposure Analysis)		20	08JUL99	04AUG99	1
SSB192	External Exposure-Procurement Related Issues ID'		0		09JUL99	374
SSB200	External Exposure-Data Related Software Issues I		0		09JUL99	359
SSB190	External Exposure-Verify/Trace Data		44	12JUL99	10SEP99	340
SSB194	External Exposure-Resolve Procurement Related Da		10	12JUL99	23JUL99	374
SSB202	External Exposure-Determine if Data Rel SW is Un		5	12JUL99	16JUL99	359
SSB204	External Exposure-Place Under SMS Control as Nec		10	19JUL99	30JUL99	359
SSB206	External Exposure-Verify Data-Related Software		10	02AUG99	13AUG99	359
SSPMR215	AP3.10Q Final (External Exposure Analysis)		18	05AUG99	30AUG99	1
SSB214	External Exposure-Qualified/Verified SW Availabl		0		24AUG99	357
SSB196	External Exposure-Update TDMS		5	13SEP99	17SEP99	340
SSB198	External Exposure-Qualified/Verified Data Availa		0		17SEP99	340



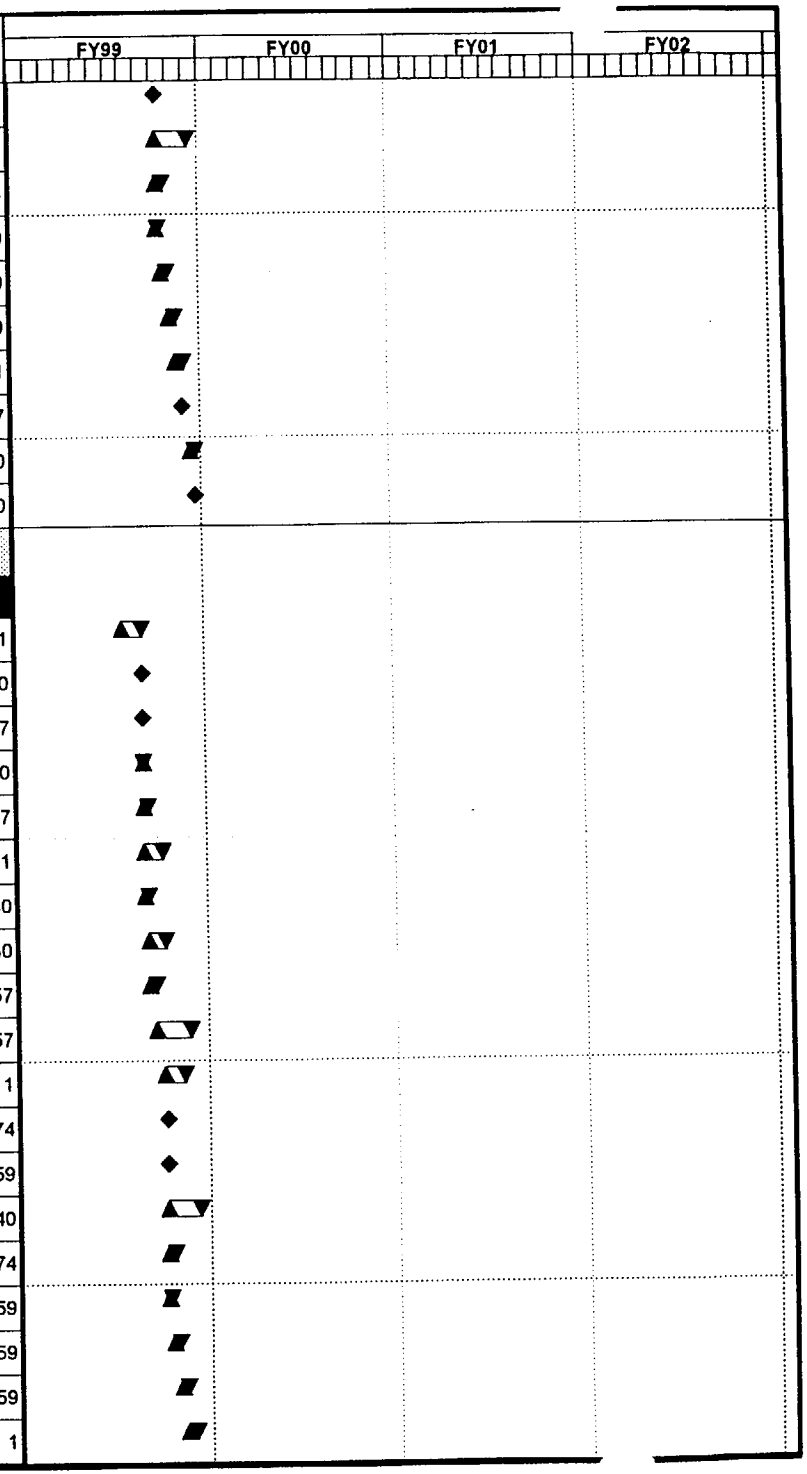
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
F1062						
150 Support Operations						
SSPMR180	AP3.10Q data (Inhalation Exposure Analysis)		30	26APR99*	07JUN99	1
SSB144	Inhalation Exposure-Input Parameters and Data Id		0		07JUN99	336
SSB146	Inhalation Exposure-Models and Codes Identified		0		07JUN99	353
SSB148	Inhalation Exposure-Determine DTN Assignment		2	08JUN99	09JUN99	336
SSB172	Inhalation Exposure-Determine if Model-Rel SW is		5	08JUN99	14JUN99	353
SSPMR185	AP3.10Q Draft (Inhalation Exposure Analysis)		21	08JUN99	07JUL99	1
SSB150	Inhalation Exposure-Determine if Data/DTN in TDM		3	10JUN99	14JUN99	336
SSB152	Inhalation Exposure-Submit Data/DTN to TDMS as N		22	15JUN99	15JUL99	336
SSB174	Inhalation Exposure-Place Model-Related SW Under		10	15JUN99	28JUN99	353
SSB176	Inhalation Exposure-Verify Model-Related Softwar		44	29JUN99	30AUG99	353
SSPMR190	AP3.10Q Check (Inhalation Exposure Analysis)		27	08JUL99	13AUG99	1
SSB156	Inhalation Exposure-Procurement Related Issues I		0		15JUL99	370
SSB164	Inhalation Exposure-Data Related Software Issues		0		15JUL99	355
SSB154	Inhalation Exposure-Verify/Trace Data		44	16JUL99	16SEP99	336
SSB158	Inhalation Exposure-Resolve Procurement Related		10	16JUL99	29JUL99	370
SSB166	Inhalation Exposure-Determine if Data Rel SW is		5	16JUL99	22JUL99	355
SSB168	Inhalation Exposure-Place Under SMS Control as N		10	23JUL99	05AUG99	355
SSB170	Inhalation Exposure-Verify Data-Related Software		10	06AUG99	19AUG99	355
SSPMR195	AP3.10Q Final (Inhalation Exposure Analysis)		11	16AUG99	30AUG99	1
SSB178	Inhalation Exposure-Qualified/Verified SW Availa		0		30AUG99	353
SSB160	Inhalation Exposure-Update TDMS		5	17SEP99	23SEP99	336
SSB162	Inhalation Exposure-Qualified/Verified Data Avai		0		23SEP99	336
F1063						
150 Support Operations						
SSPMR160	AP3.10Q data (Ingestion Exposure Analysis)		30	26APR99*	07JUN99	0
SSB108	Ingestion Exposure-Input Parameters and Data Ide		0		07JUN99	336
SSB110	Ingestion Exposure-Models and Codes Identified		0		07JUN99	353
SSB112	Ingestion Exposure-Determine DTN Assignment		2	08JUN99	09JUN99	336
SSB136	Ingestion Exposure-Determine if Model-Rel SW is		5	08JUN99	14JUN99	353



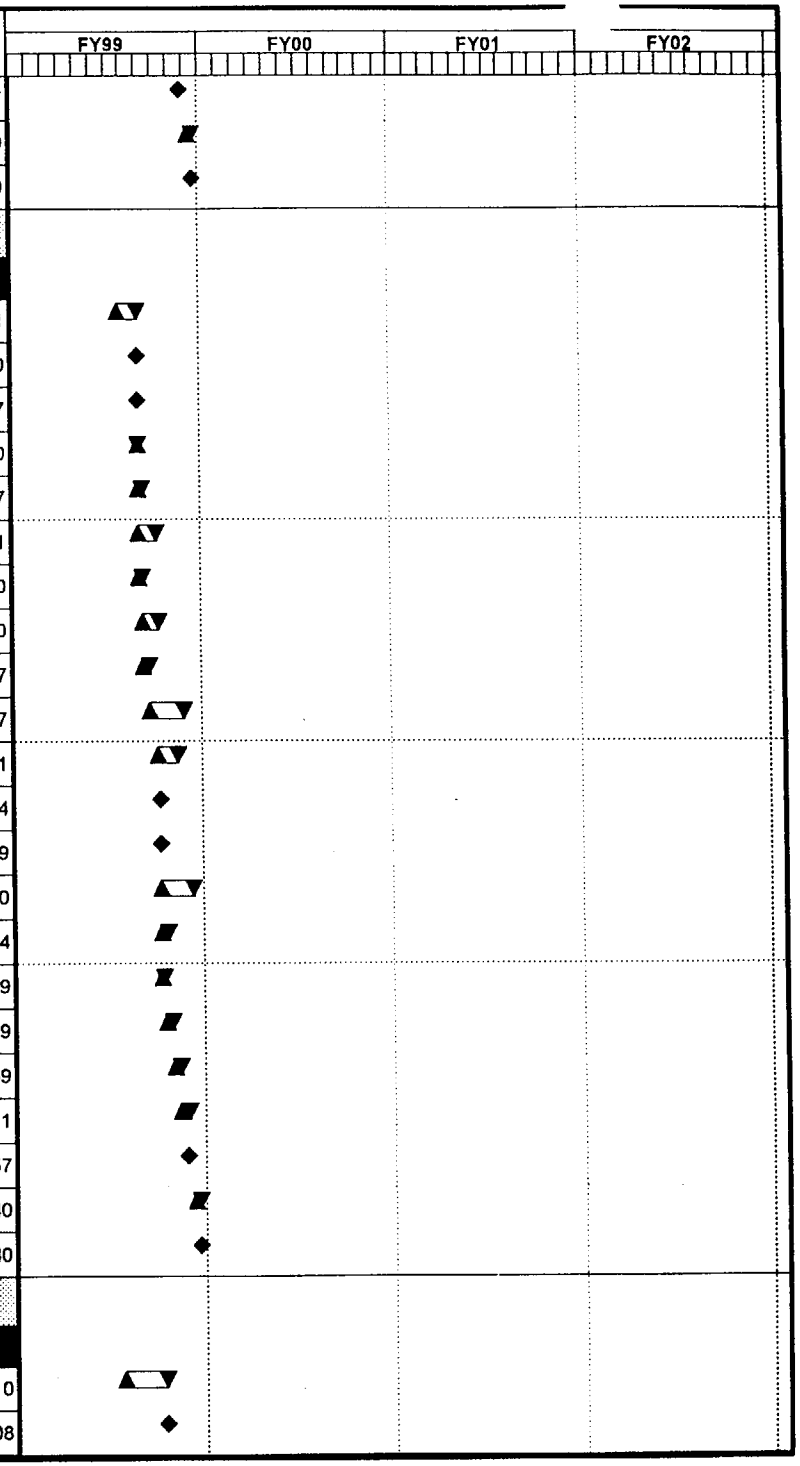
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SSPMR165	AP3.10Q Draft (Ingestion Exposure Analysis)		21	08JUN99	07JUL99	0
SSB114	Ingestion Exposure-Determine if Data/DTN in TDMS		3	10JUN99	14JUN99	336
SSB116	Ingestion Exposure-Submit Data/DTN to TDMS as Ne		22	15JUN99	15JUL99	336
SSB138	Ingestion Exposure-Place Model-Related SW Under		10	15JUN99	28JUN99	353
SSB140	Ingestion Exposure-Verify Model-Related Software		44	29JUN99	30AUG99	353
SSPMR170	AP3.10Q Check (Ingestion Exposure Analysis)		21	08JUL99	05AUG99	0
SSB120	Ingestion Exposure-Procurement Related Issues ID		0		15JUL99	370
SSB128	Ingestion Exposure-Data Related Software Issues		0		15JUL99	355
SSB118	Ingestion Exposure-Verify/Trace Data		44	16JUL99	16SEP99	336
SSB122	Ingestion Exposure-Resolve Procurement Related D		10	16JUL99	29JUL99	370
SSB130	Ingestion Exposure-Determine if Data Rel SW is U		5	16JUL99	22JUL99	355
SSB132	Ingestion Exposure-Place Under SMS Control as Ne		10	23JUL99	05AUG99	355
SSPMR175	AP3.10Q Final (Ingestion Exposure Analysis)		17	06AUG99	30AUG99	0
SSB134	Ingestion Exposure-Verify Data-Related Software		10	06AUG99	19AUG99	355
SSB142	Ingestion Exposure-Qualified/Verified SW Availab		0		30AUG99	353
SSB124	Ingestion Exposure-Update TDMS		5	17SEP99	23SEP99	336
SSB126	Ingestion Exposure-Qualified/Verified Data Avail		0		23SEP99	336
F1064						
150 Support Operations						
SSPMR140	AP3.10Q Data (Environ. Transport Param.Anal.)		26	26APR99*	01JUN99	1
SSB072	Environ. Transport-Input Parameters and Data Ide		0		01JUN99	340
SSB074	Environ. Transport-Models and Codes Identified		0		01JUN99	357
SSB076	Environ. Transport-Determine DTN Assignment		2	02JUN99	03JUN99	340
SSB100	Environ. Transport-Determine if Model-Rel SW is		5	02JUN99	08JUN99	357
SSPMR145	AP3.10Q Draft (Environ. Transport Param.Anal.)		25	02JUN99	07JUL99	1
SSB078	Environ. Transport-Determine if Data/DTN in TDMS		3	04JUN99	08JUN99	340
SSB080	Environ. Transport-Submit Data/DTN to TDMS as Ne		22	09JUN99	09JUL99	340
SSB102	Environ. Transport-Place Model-Related SW Under		10	09JUN99	22JUN99	357
SSB104	Environ. Transport-Verify Model-Related Software		44	23JUN99	24AUG99	357
SSPMR150	AP3.10Q Check (Environ. Transport Param.Anal.)		28	08JUL99	16AUG99	1
SSB084	Environ. Transport-Procurement Related Issues ID		0		09JUL99	374



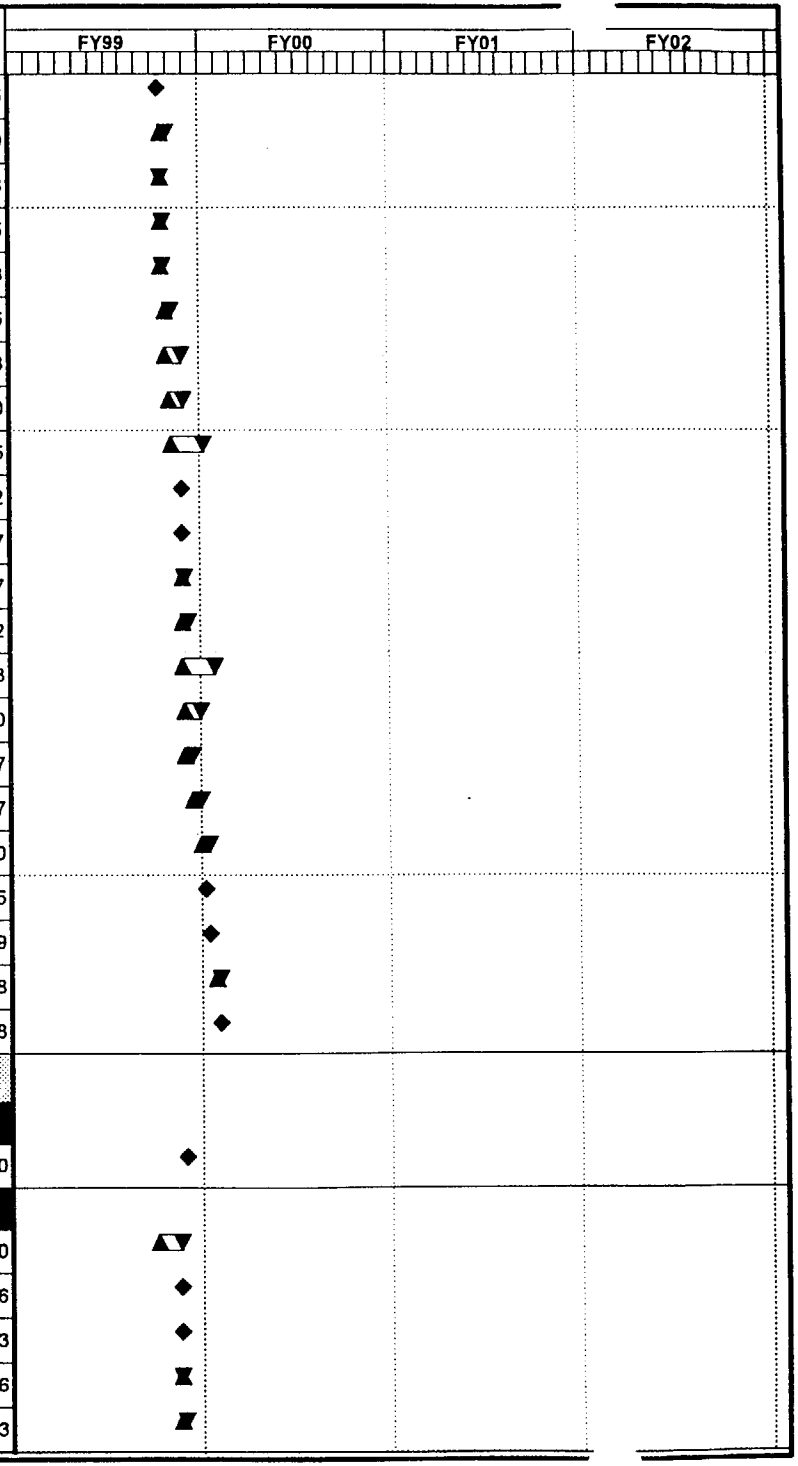
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SSB092	Environ. Transport-Data Related Software Issues		0		09JUL99	359
SSB082	Environ. Transport-Verify/Trace Data		44	12JUL99	10SEP99	340
SSB086	Environ. Transport-Resolve Procurement Related D		10	12JUL99	23JUL99	374
SSB094	Environ. Transport-Determine if Data Rel SW is U		5	12JUL99	16JUL99	359
SSB096	Environ. Transport-Place Under SMS Control as Ne		10	19JUL99	30JUL99	359
SSB098	Environ. Transport-Verify Data-Related Software		10	02AUG99	13AUG99	359
SSPMR155	AP3.10Q Final (Environ. Transport Param.Anal.)		10	17AUG99	30AUG99	1
SSB106	Environ. Transport-Qualified/Verified SW Availab		0		24AUG99	357
SSB088	Environ. Transport-Update TDMS		5	13SEP99	17SEP99	340
SSB090	Environ. Transport-Qualified/Verified Data Avail		0		17SEP99	340
F1065						
150 Support Operations						
SSPMR120	AP3.10Q data (Transfer Coefficient Param. Anal)		26	26APR99*	01JUN99	1
SSB036	Xfer Coeffic. Param-Input Parameters and Data Id		0		01JUN99	340
SSB038	Xfer Coeffic. Param-Models and Codes Identified		0		01JUN99	357
SSB040	Xfer Coeffic. Param-Determine DTN Assignment		2	02JUN99	03JUN99	340
SSB064	Xfer Coeffic. Param-Determine if Model-Rel SW is		5	02JUN99	08JUN99	357
SSPMR125	AP3.10Q Draft (Transfer Coefficient Param. Anal)		25	02JUN99	[illegible]L99	1
SSB042	Xfer Coeffic. Param-Determine if Data/DTN in TDM		3	04JUN99	08JUN99	340
SSB044	Xfer Coeffic. Param-Submit Data/DTN to TDMS as N		22	09JUN99	09JUL99	340
SSB066	Xfer Coeffic. Param-Place Model-Related SW Under		10	09JUN99	22JUN99	357
SSB068	Xfer Coeffic. Param-Verify Model-Related Softwar		44	23JUN99	24AUG99	357
SSPMR130	AP3.10Q Check (Transfer Coefficient Param. Anal)		28	08JUL99	16AUG99	1
SSB048	Xfer Coeffic. Param-Procurement Related Issues I		0		09JUL99	374
SSB056	Xfer Coeffic. Param-Data Related Software Issues		0		09JUL99	359
SSB046	Xfer Coeffic. Param-Verify/Trace Data		44	12JUL99	10SEP99	340
SSB050	Xfer Coeffic. Param-Resolve Procurement Related		10	12JUL99	23JUL99	374
SSB058	Xfer Coeffic. Param-Determine if Data Rel SW is		5	12JUL99	16JUL99	359
SSB060	Xfer Coeffic. Param-Place Under SMS Control as N		10	19JUL99	30JUL99	359
SSB062	Xfer Coeffic. Param-Verify Data-Related Software		10	02AUG99	13AUG99	359
SSPMR135	AP3.10Q Final (Transfer Coefficient Param. Anal)		10	17AUG99	30AUG99	1



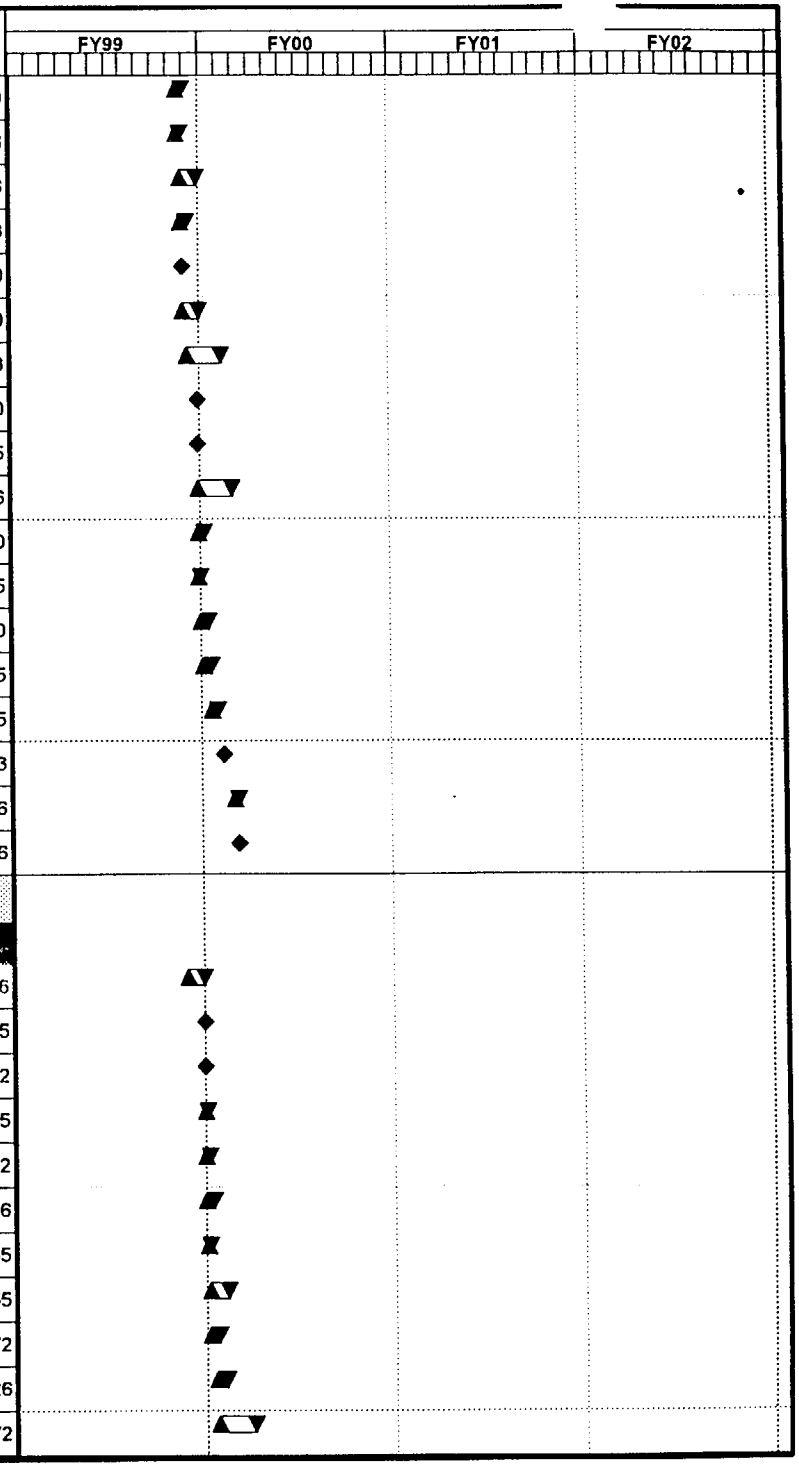
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SSB070	Xfer Coeffic. Param-Qualified/Verified SW Availa		0		24AUG99	357
SSB052	Xfer Coeffic. Param-Update TDMS		5	13SEP99	17SEP99	340
SSB054	Xfer Coeffic. Param-Qualified/Verified Data Avai		0		17SEP99	340
F1066						
150 Support Operations						
SSPMR100	AP3.10Q Data (Dose Conversion Factor Analysis)		26	26APR99*	01JUN99	1
SSB000	Dose Conv Fac-Input Parameters and Data Identifi		0		01JUN99	340
SSB002	Dose Conv Fac-Models and Codes Identified		0		01JUN99	357
SSB004	Dose Conv Fac-Determine DTN Assignment		2	02JUN99	03JUN99	340
SSB028	Dose Conv Fac-Determine if Model-Rel SW is Under		5	02JUN99	08JUN99	357
SSPMR105	AP3.10Q Draft (Dose Conversion Factor Analysis)		25	02JUN99	07JUL99	1
SSB006	Dose Conv Fac-Determine if Data/DTN in TDMS		3	04JUN99	08JUN99	340
SSB008	Dose Conv Fac-Submit Data/DTN to TDMS as Necessa		22	09JUN99	09JUL99	340
SSB030	Dose Conv Fac-Place Model-Related SW Under SMS C		10	09JUN99	22JUN99	357
SSB032	Dose Conv Fac-Verify Model-Related Software		44	23JUN99	24AUG99	357
SSPMR110	AP3.10Q Check (Dose Conversion Factor Analysis)		28	08JUL99	16AUG99	1
SSB012	Dose Conv Fac-Procurement Related Issues ID'd to		0		09JUL99	374
SSB020	Dose Conv Fac-Data Related Software Issues Ident		0		09JUL99	359
SSB010	Dose Conv Fac-Verify/Trace Data		44	12JUL99	10SEP99	340
SSB014	Dose Conv Fac-Resolve Procurement Related Data I		10	12JUL99	23JUL99	374
SSB022	Dose Conv Fac-Determine if Data Rel SW is Under		5	12JUL99	16JUL99	359
SSB024	Dose Conv Fac-Place Under SMS Control as Necessa		10	19JUL99	30JUL99	359
SSB026	Dose Conv Fac-Verify Data-Related Software		10	02AUG99	13AUG99	359
SSPMR115	AP3.10Q Final (Dose Conversion Factor Analysis)		10	17AUG99	30AUG99	1
SSB034	Dose Conv Fac-Qualified/Verified SW Available		0		24AUG99	357
SSB016	Dose Conv Fac-Update TDMS		5	13SEP99	17SEP99	340
SSB018	Dose Conv Fac-Qualified/Verified Data Available		0		17SEP99	340
F1068						
130 Performance Assessment Operations						
SLPA1672	AP3.10Q data (Soil Buildup Factor Analysis)		58	26APR99*	16JUL99	0
SLPA1684	Soil Buildup Factor-Input Parameters and Data Id		0		16JUL99	308



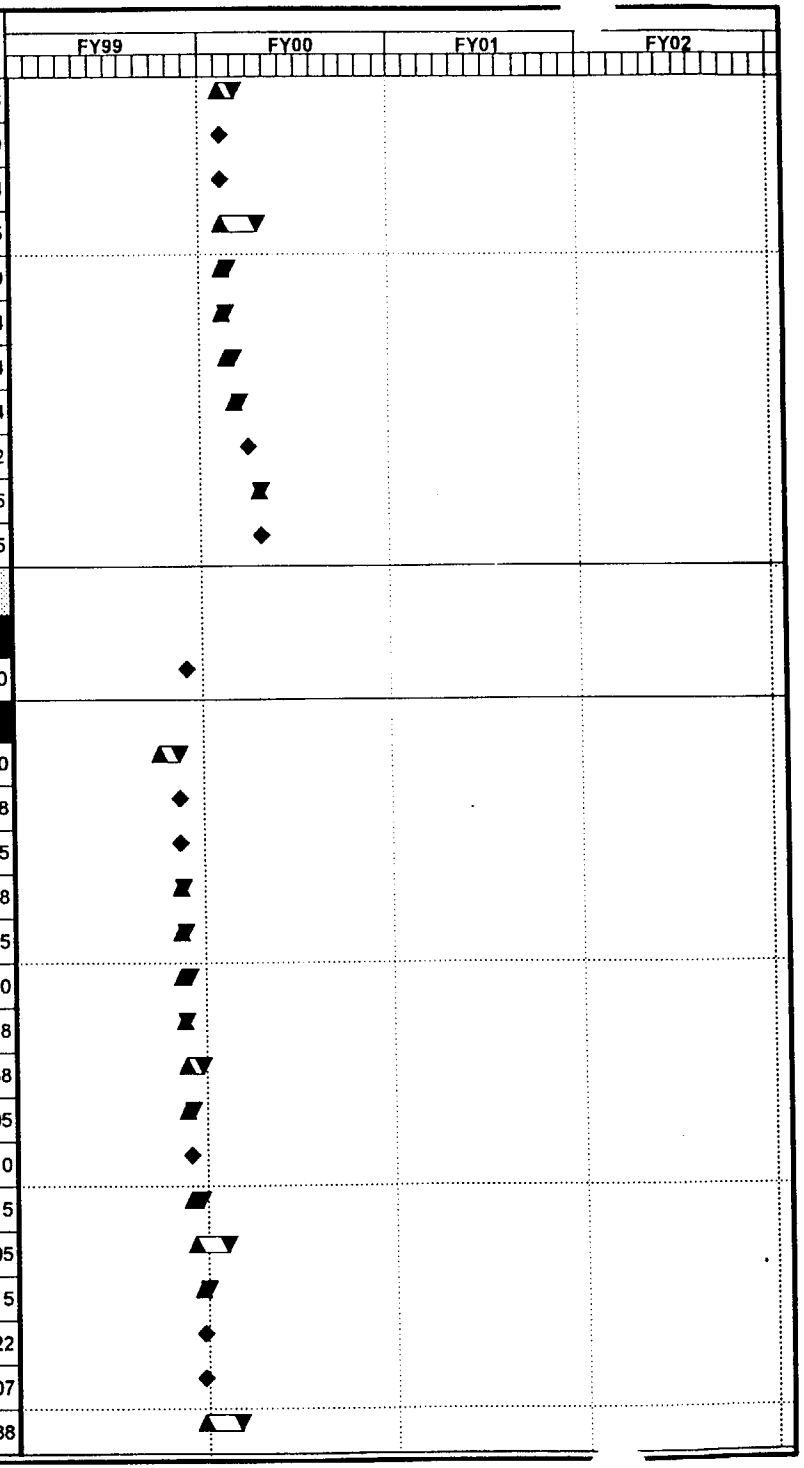
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1686	Soil Buildup Factor-Models and Codes Identified		0		16JUL99	325
SLPA1674	AP3.10Q Draft (Soil Buildup Factor Analysis)		10	19JUL99	30JUL99	0
SLPA1688	Soil Buildup Factor-Determine DTN Assignment		2	19JUL99	20JUL99	308
SLPA1690	Soil Buildup Factor-Determine if Model-Rel SW is		5	19JUL99	23JUL99	325
SLPA1692	Soil Buildup Factor-Determine if Data/DTN in TDM		3	21JUL99	23JUL99	308
SLPA1694	Soil Buildup Factor-Place Model-Related SW Under		10	26JUL99	06AUG99	325
SLPA1696	Soil Buildup Factor-Submit Data/DTN to TDMS as N		22	26JUL99	24AUG99	308
SLPA1676	AP3.10Q Check (Soil Buildup Factor Analysis)		22	02AUG99	31AUG99	0
SLPA1698	Soil Buildup Factor-Verify Model-Related Softwar		44	09AUG99	08OCT99	325
SLPA1700	Soil Buildup Factor-Procurement Related Issues I		0		24AUG99	342
SLPA1702	Soil Buildup Factor-Data Related Software Issues		0		24AUG99	327
SLPA1704	Soil Buildup Factor-Determine if Data Rel SW is		5	25AUG99	31AUG99	327
SLPA1706	Soil Buildup Factor-Resolve Procurement Related		10	25AUG99	08SEP99	342
SLPA1708	Soil Buildup Factor-Verify/Trace Data		44	25AUG99	27OCT99	308
SLPA1678	AP3.10Q Final (Soil Buildup Factor Analysis)		21	01SEP99	30SEP99	0
SLPA1710	Soil Buildup Factor-Place Under SMS Control as N		10	01SEP99	15SEP99	327
SLPA1712	Soil Buildup Factor-Verify Data-Related Software		10	16SEP99	29SEP99	327
SLPA1680	Cont AP3.10Q Final (Soil Buildup Factor Anal)		10	01OCT99	15OCT99	0
SLPA1714	Soil Buildup Factor-Qualified/Verified SW Availa		0		08OCT99	325
SLPA1682	AP3.10Q Draft (Soil Buildup Factor Analysis)	M4	0		15OCT99	29
SLPA1716	Soil Buildup Factor-Update TDMS		5	28OCT99	03NOV99	308
SLPA1718	Soil Buildup Factor-Qualified/Verified Data Avai		0		03NOV99	308
F1070						
130 Performance Assessment Operations						
SLPA1720	Receive GENII-S Disruptive Event BDCF - AP3.10Q	M4	0		30AUG99	0
150 Support Operations						
SSPMR340	AP3.10Q data (GENI-S Disruptive Event BDCF)		27	08JUL99	17AUG99	0
SSB432	GENI-S Disrup-Input Parameters and Data Identifi		0		17AUG99	286
SSB434	GENI-S Disrup-Models and Codes Identified		0		17AUG99	303
SSB436	GENI-S Disrup-Determine DTN Assignment		2	18AUG99	19AUG99	286
SSB460	GENI-S Disrup-Determine if Model-Rel SW is Under		5	18AUG99	24AUG99	303



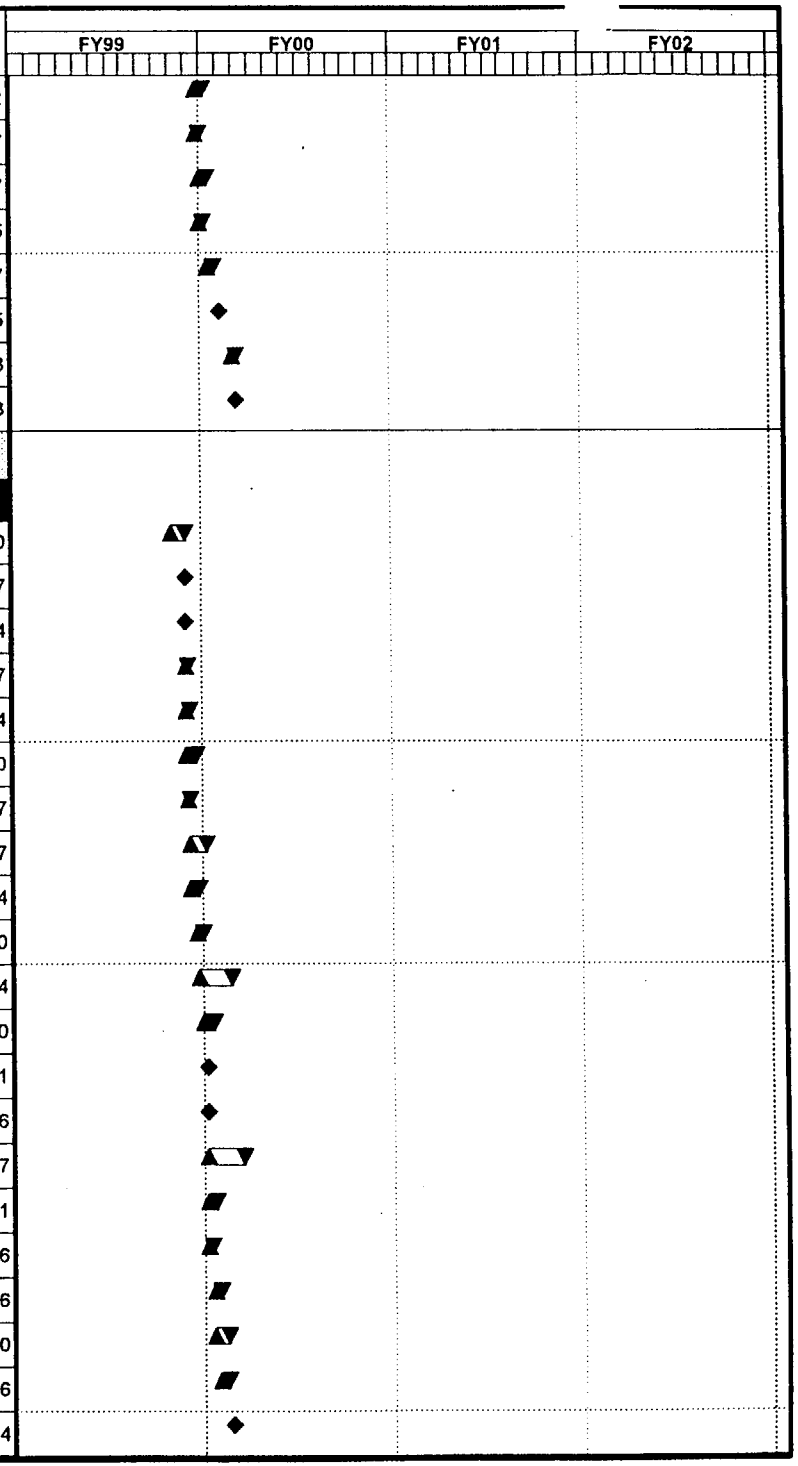
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SSPMR345	AP3.10Q Draft (GENI-S Disruptive Event BDCF)		11	18AUG99	30AUG99	0
SSB438	GENI-S Disrup-Determine if Data/DTN in TDMS		3	20AUG99	24AUG99	286
SSB440	GENI-S Disrup-Submit Data/DTN to TDMS as Necessa		22	25AUG99	24SEP99	286
SSB462	GENI-S Disrup-Place Model-Related SW Under SMS C		10	25AUG99	08SEP99	303
SSPMRHM4	AP3.10Q Draft (GENI-S Disruptive Event BDCF)	M4	0		30AUG99	0
SSPMR350	AP3.10Q Check (GENI-S Disruptive Event BDCF)		22	31AUG99	30SEP99	0
SSB464	GENI-S Disrup-Verify Model-Related Software		44	09SEP99	10NOV99	303
SSB444	GENI-S Disrup-Procurement Related Issues ID'd to		0		24SEP99	320
SSB452	GENI-S Disrup-Data Related Software Issues Ident		0		24SEP99	305
SSB442	GENI-S Disrup-Verify/Trace Data		44	27SEP99	01DEC99	286
SSB446	GENI-S Disrup-Resolve Procurement Related Data I		10	27SEP99	08OCT99	320
SSB454	GENI-S Disrup-Determine if Data Rel SW is Under		5	27SEP99	01OCT99	305
SSPMR355	AP3.10Q Final (GENI-S Disruptive Event BDCF)		10	01OCT99	15OCT99	0
SSB456	GENI-S Disrup-Place Under SMS Control as Necessa		10	04OCT99	18OCT99	305
SSB458	GENI-S Disrup-Verify Data-Related Software		10	19OCT99	01NOV99	305
SSB466	GENI-S Disrup-Qualified/Verified SW Available		0		10NOV99	303
SSB448	GENI-S Disrup-Update TDMS		5	02DEC99	08DEC99	286
SSB450	GENI-S Disrup-Qualified/Verified Data Available		0		08DEC99	286
F1071						
150 Support Operations						
SSPMR400	AP3.10Q data (Disruptive-Sensitivity Analysis)		22	31AUG99	30SEP99	26
SSB540	Disr/Sens Analy-Input Parameters and Data Identi		0		30SEP99	255
SSB542	Disr/Sens Analy-Models and Codes Identified		0		30SEP99	272
SSB544	Disr/Sens Analy-Determine DTN Assignment		2	01OCT99	04OCT99	255
SSB568	Disr/Sens Analy-Determine if Model-Rel SW is Und		5	01OCT99	07OCT99	272
SSPMR405	AP3.10Q Draft (Disruptive-Sensitivity Analysis)		10	01OCT99	15OCT99	26
SSB546	Disr/Sens Analy-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99	255
SSB548	Disr/Sens Analy-Submit Data/DTN to TDMS as Neces		22	08OCT99	09NOV99	255
SSB570	Disr/Sens Analy-Place Model-Related SW Under SMS		10	08OCT99	22OCT99	272
SSPMR410	AP3.10Q Check (Disruptive-Sensitivity Analysis)		15	18OCT99	05NOV99	26
SSB572	Disr/Sens Analy-Verify Model-Related Software		44	25OCT99	29DEC99	272



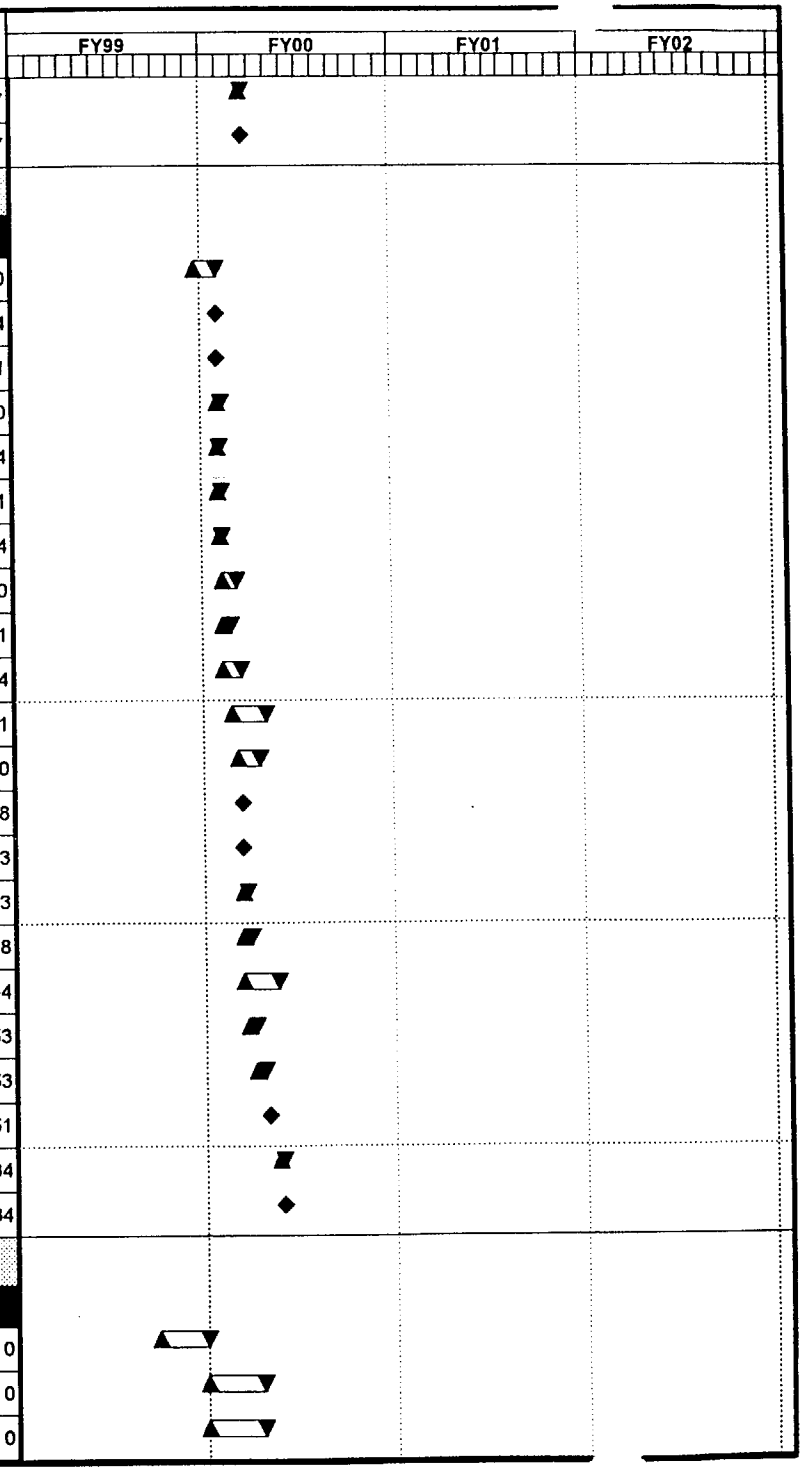
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SSPMR415	AP3.10Q Final (Disruptive-Sensitivity Analysis)		19	08NOV99	07DEC99	26
SSB552	Disr/Sens Analy-Procurement Related Issues ID'd		0		09NOV99	289
SSB560	Disr/Sens Analy-Data Related Software Issues Ide		0		09NOV99	274
SSB550	Disr/Sens Analy-Verify/Trace Data		44	10NOV99	17JAN00	255
SSB554	Disr/Sens Analy-Resolve Procurement Related Data		10	10NOV99	24NOV99	289
SSB562	Disr/Sens Analy-Determine if Data Rel SW is Unde		5	10NOV99	17NOV99	274
SSB564	Disr/Sens Analy-Place Under SMS Control as Neces		10	18NOV99	03DEC99	274
SSB566	Disr/Sens Analy-Verify Data-Related Software		10	06DEC99	17DEC99	274
SSB574	Disr/Sens Analy-Qualified/Verified SW Available		0		29DEC99	272
SSB556	Disr/Sens Analy-Update TDMS		5	18JAN00	24JAN00	255
SSB558	Disr/Sens Analy-Qualified/Verified Data Availabl		0		24JAN00	255
F1080						
130 Performance Assessment Operations						
SLPA1722	Receive GENII-S Non-Disruptive Event BDCF - AP3.	M4	0		30AUG99	0
150 Support Operations						
SSPMR260	AP3.10Q data (GENI-S/Non-Disruptive Event BDCF)		27	08JUL99	13AUG99	0
SSB288	GENI-S/Non-Disrup-Input Parameters and Data Iden		0		13AUG99	288
SSB290	GENI-S/Non-Disrup-Models and Codes Identified		0		13AUG99	305
SSB292	GENI-S/Non-Disrup-Determine DTN Assignment		2	16AUG99	17AUG99	288
SSB316	GENI-S/Non-Disrup-Determine if Model-Rel SW is U		5	16AUG99	20AUG99	305
SSPMR265	AP3.10Q Draft (GENI-S/Non-Disruptive Event BDCF)		11	16AUG99	30AUG99	0
SSB294	GENI-S/Non-Disrup-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99	288
SSB296	GENI-S/Non-Disrup-Submit Data/DTN to TDMS as Nec		22	23AUG99	22SEP99	288
SSB318	GENI-S/Non-Disrup-Place Model-Related SW Under S		10	23AUG99	03SEP99	305
SSPMRGM4	AP3.10Q Draft (GENI-S/Non-Disruptive Event BCDF)	M4	0		30AUG99	0
SSPMR270	AP3.10QCheck (GENI-S/Non-Disruptive Event BDCF)		13	31AUG99	17SEP99	5
SSB320	GENI-S/Non-Disrup-Verify Model-Related Software		44	07SEP99	08NOV99	305
SSPMR275	AP3.10Q Final (GENI-S/Non-Disruptive Event BDCF)		9	20SEP99	30SEP99	5
SSB300	GENI-S/Non-Disrup-Procurement Related Issues ID'		0		22SEP99	322
SSB308	GENI-S/Non-Disrup-Data Related Software Issues I		0		22SEP99	307
SSB298	GENI-S/Non-Disrup-Verify/Trace Data		44	23SEP99	29NOV99	288



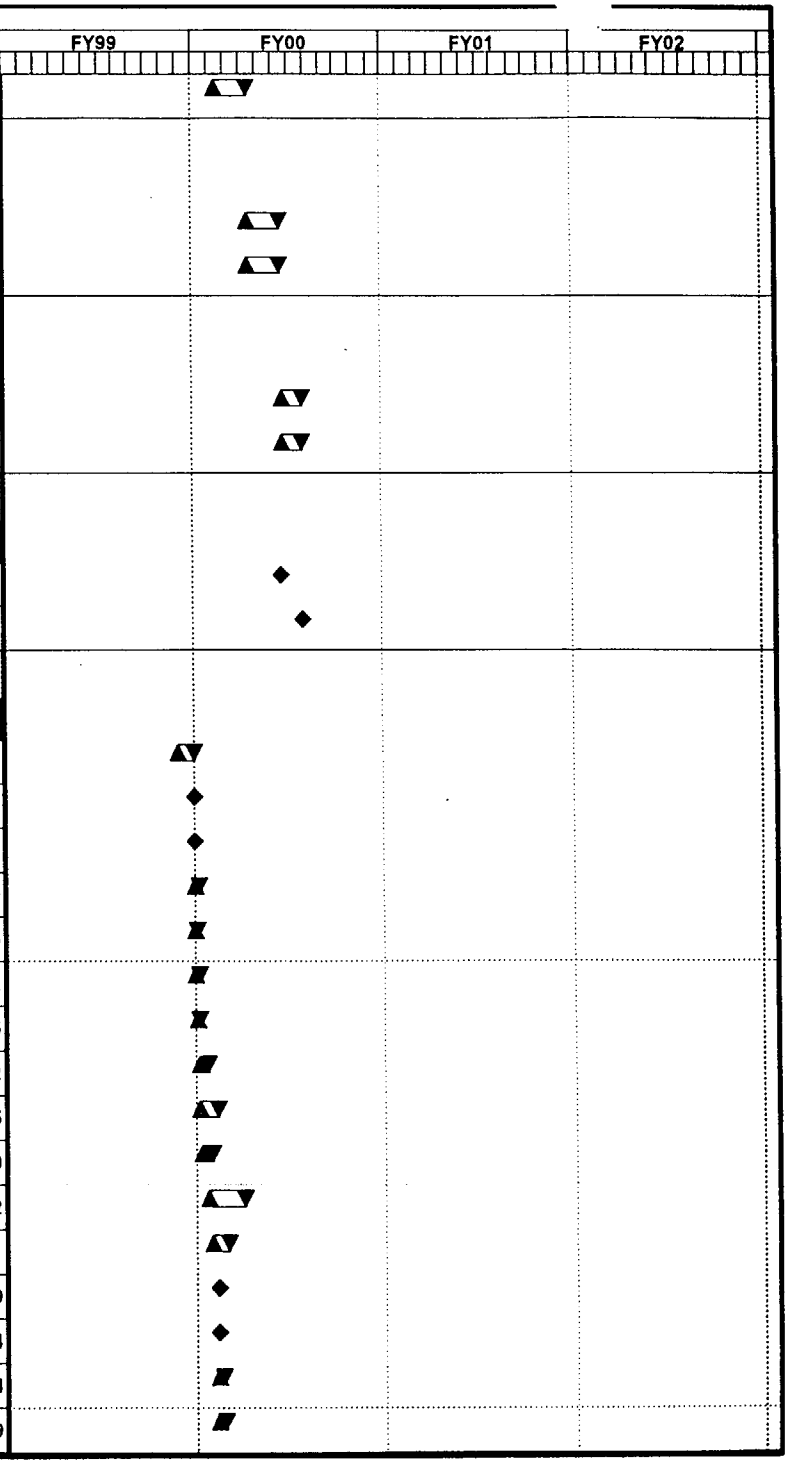
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SSB302	GENI-S/Non-Disrup-Resolve Procurement Related Da		10	23SEP99	06OCT99	322
SSB310	GENI-S/Non-Disrup-Determine if Data Rel SW is Un		5	23SEP99	29SEP99	307
SSB312	GENI-S/Non-Disrup-Place Under SMS Control as Nec		10	30SEP99	14OCT99	307
SSPMR277	AP3.10Q Final (GENI-S/Non-Disruptive Event BDCF)		5	01OCT99	07OCT99	5
SSB314	GENI-S/Non-Disrup-Verify Data-Related Software		10	15OCT99	28OCT99	307
SSB322	GENI-S/Non-Disrup-Qualified/Verified SW Availabl		0		08NOV99	305
SSB304	GENI-S/Non-Disrup-Update TDMS		5	30NOV99	06DEC99	288
SSB306	GENI-S/Non-Disrup-Qualified/Verified Data Availa		0		06DEC99	288
F1081						
150 Support Operations						
SSPMR300	AP3.10Q data (Non-Disruptive-Sensitivity Anal.)		18	05AUG99	30AUG99	0
SSB360	Non-Disrup/Sens Anal-Input Parameters and Data I		0		30AUG99	277
SSB362	Non-Disrup/Sens Anal-Models and Codes Identified		0		30AUG99	294
SSB364	Non-Disrup/Sens Anal-Determine DTN Assignment		2	31AUG99	01SEP99	277
SSB388	Non-Disrup/Sens Anal-Determine if Model-Rel SW i		5	31AUG99	07SEP99	294
SSPMR305	AP3.10Q Draft (Non-Disruptive-Sensitivity Anal)		12	31AUG99	16SEP99	0
SSB366	Non-Disrup/Sens Anal-Determine if Data/DTN in TD		3	02SEP99	07SEP99	277
SSB368	Non-Disrup/Sens Anal-Submit Data/DTN to TDMS as		22	08SEP99	07OCT99	277
SSB390	Non-Disrup/Sens Anal-Place Model-Related SW Unde		10	08SEP99	21SEP99	294
SSPMR310	AP3.10QCheck (Non-Disruptive-Sensitivity Anal.)		10	17SEP99	30SEP99	0
SSB392	Non-Disrup/Sens Anal-Verify Model-Related Softwa		44	22SEP99	24NOV99	294
SSPMR312	Cont AP3.10Q Check (Non-Disrpt-Sensitivity Anal)		12	01OCT99	19OCT99	0
SSB372	Non-Disrup/Sens Anal-Procurement Related Issues		0		07OCT99	311
SSB380	Non-Disrup/Sens Anal-Data Related Software Issue		0		07OCT99	296
SSB370	Non-Disrup/Sens Anal-Verify/Trace Data		44	08OCT99	14DEC99	277
SSB374	Non-Disrup/Sens Anal-Resolve Procurement Related		10	08OCT99	22OCT99	311
SSB382	Non-Disrup/Sens Anal-Determine if Data Rel SW is		5	08OCT99	15OCT99	296
SSB384	Non-Disrup/Sens Anal-Place Under SMS Control as		10	18OCT99	29OCT99	296
SSPMR315	AP3.10Q Final (Non-Disruptive-Sensitivity Anal.)		18	20OCT99	15NOV99	0
SSB386	Non-Disrup/Sens Anal-Verify Data-Related Softwar		10	01NOV99	15NOV99	296
SSB394	Non-Disrup/Sens Anal-Qualified/Verified SW Avail		0		24NOV99	294



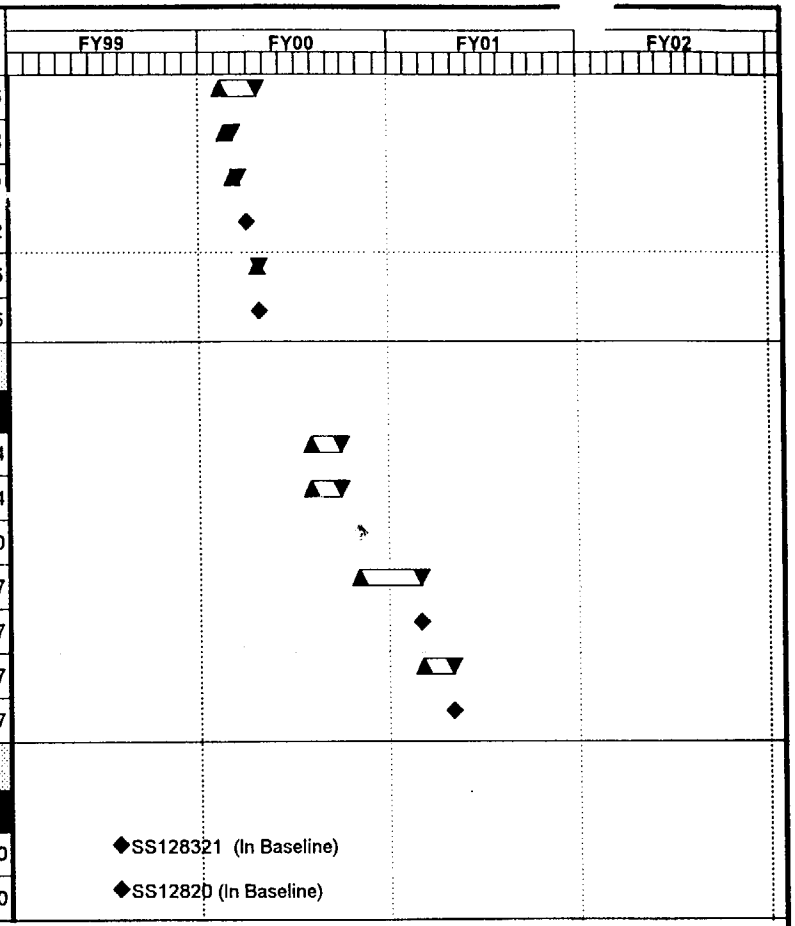
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SSB376	Non-Disrup/Sens Anal-Update TDMS		5	15DEC99	21DEC99	277
SSB378	Non-Disrup/Sens Anal-Qualified/Verified Data Ava		0		21DEC99	277
F2000A						
130 Performance Assessment Operations						
SLPA1724	AP3.10Q data (Abstraction Soil Buildup on BDCF)		30	20SEP99	01NOV99	0
SLPA1732	Abs Soil Buildup-Input Parameters and Data Ident		0		01NOV99	234
SLPA1734	Abs Soil Buildup-Models and Codes Identified		0		01NOV99	251
SLPA1726	AP3.10Q Draft (Abstraction Soil Buildup on BDCF)		4	02NOV99	05NOV99	0
SLPA1736	Abs Soil Buildup-Determine DTN Assignment		2	02NOV99	03NOV99	234
SLPA1738	Abs Soil Buildup-Determine if Model-Rel SW is Un		5	02NOV99	08NOV99	251
SLPA1740	Abs Soil Buildup-Determine if Data/DTN in TDMS		3	04NOV99	08NOV99	234
SLPA1728	AP3.10Q Check(Abstraction Soil Buildup on BDCF)		17	08NOV99	03DEC99	0
SLPA1742	Abs Soil Buildup-Place Model-Related SW Under SM		10	09NOV99	23NOV99	251
SLPA1744	Abs Soil Buildup-Submit Data/DTN to TDMS as Nece		22	09NOV99	13DEC99	234
SLPA1746	Abs Soil Buildup-Verify Model-Related Software		44	24NOV99	28JAN00	251
SLPA1730	AP3.10Q Final (Abstraction Soil Buildup on BDCF)		28	06DEC99	14JAN00	0
SLPA1748	Abs Soil Buildup-Procurement Related Issues ID'd		0		13DEC99	268
SLPA1750	Abs Soil Buildup-Data Related Software Issues Id		0		13DEC99	253
SLPA1752	Abs Soil Buildup-Determine if Data Rel SW is Und		5	14DEC99	20DEC99	253
SLPA1754	Abs Soil Buildup-Resolve Procurement Related Dat		10	14DEC99	28DEC99	268
SLPA1756	Abs Soil Buildup-Verify/Trace Data		44	14DEC99	15FEB00	234
SLPA1758	Abs Soil Buildup-Place Under SMS Control as Nece		10	21DEC99	05JAN00	253
SLPA1760	Abs Soil Buildup-Verify Data-Related Software		10	06JAN00	19JAN00	253
SLPA1762	Abs Soil Buildup-Qualified/Verified SW Available		0		28JAN00	251
SLPA1764	Abs Soil Buildup-Update TDMS		5	16FEB00	23FEB00	234
SLPA1766	Abs Soil Buildup-Qualified/Verified Data Availab		0		23FEB00	234
F2100						
150 Support Operations						
BMP100	PIM 3.10Q/PMR Planning & Text Support(Biosphere)		64	01JUL99*	30SEP99	0
BMP105	Cont.Bio PIM 3.10Q/PMR Planning & Text Support		70	01OCT99	14JAN00	0
BMP110	PIM Text & M&O Review Prep Support (Biosphere)		70	01OCT99	14JAN00	0



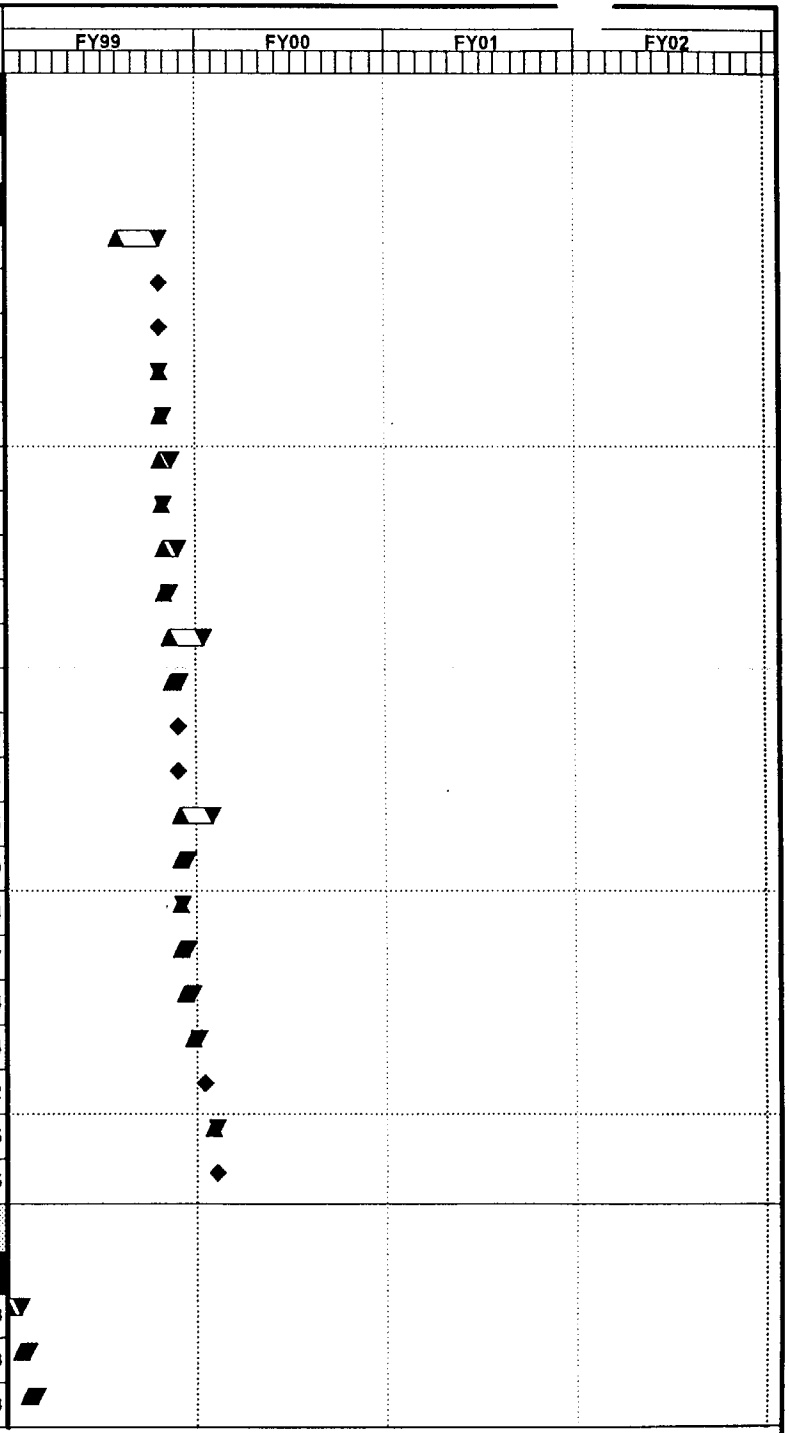
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SSPMR500	Develop Biosphere PMR Text		40	16NOV99	14JAN00	0
F2120						
150 Support Operations						
SSPMR510	Biosphere PMR M&O Review		44	17JAN00	17MAR00	0
BMP115	PIM M&O Rev. & DOE Rev. Prep Support (Biosphere)		44	17JAN00	17MAR00	0
F2140						
150 Support Operations						
SSPMR520	Biosphere PMR DOE Review		30	20MAR00	28APR00	0
BMP120	PIM DOE Rev. & Final Accept. Support (Biosphere)		30	20MAR00	28APR00	0
F2150						
300 Regulatory & Licensing						
SLPMRAM3	Biosphere PMR Rev 00	M3	0		17MAR00	0
SLPMRM3	Rev 01 Biosphere PMR	M3	0		28APR00	0
P2000						
150 Support Operations						
SLPA1768	AP3.10Q Data (Distribution Fit BDCF)		22	31AUG99	30SEP99	0
SLPA1776	Distribution Fit-Input Parameters and Data Ident		0		30SEP99	255
SLPA1778	Distribution Fit-Models and Codes Identified		0		30SEP99	272
SLPA1770	AP3.10Q Draft (Distribution Fit BDCF)		6	01OCT99	08OCT99	0
SLPA1780	Distribution Fit-Determine DTN Assignment		2	01OCT99	04OCT99	255
SLPA1782	Distribution Fit-Determine if Model-Rel SW is Un		5	01OCT99	07OCT99	272
SLPA1784	Distribution Fit-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99	255
SLPA1786	Distribution Fit-Place Model-Related SW Under SM		10	08OCT99	22OCT99	272
SLPA1788	Distribution Fit-Submit Data/DTN to TDMS as Nece		22	08OCT99	09NOV99	255
SLPA1772	AP3.10Q Checking (Distribution Fit BDCF)		15	12OCT99	01NOV99	0
SLPA1790	Distribution Fit-Verify Model-Related Software		44	25OCT99	29DEC99	272
SLPA1774	AP3.10Q Final (Distribution Fit BDCF)		19	02NOV99	01DEC99	1
SLPA1792	Distribution Fit-Procurement Related Issues ID'd		0		09NOV99	289
SLPA1794	Distribution Fit-Data Related Software Issues Id		0		09NOV99	274
SLPA1796	Distribution Fit-Determine if Data Rel SW is Und		5	10NOV99	17NOV99	274
SLPA1798	Distribution Fit-Resolve Procurement Related Dat		10	10NOV99	24NOV99	289



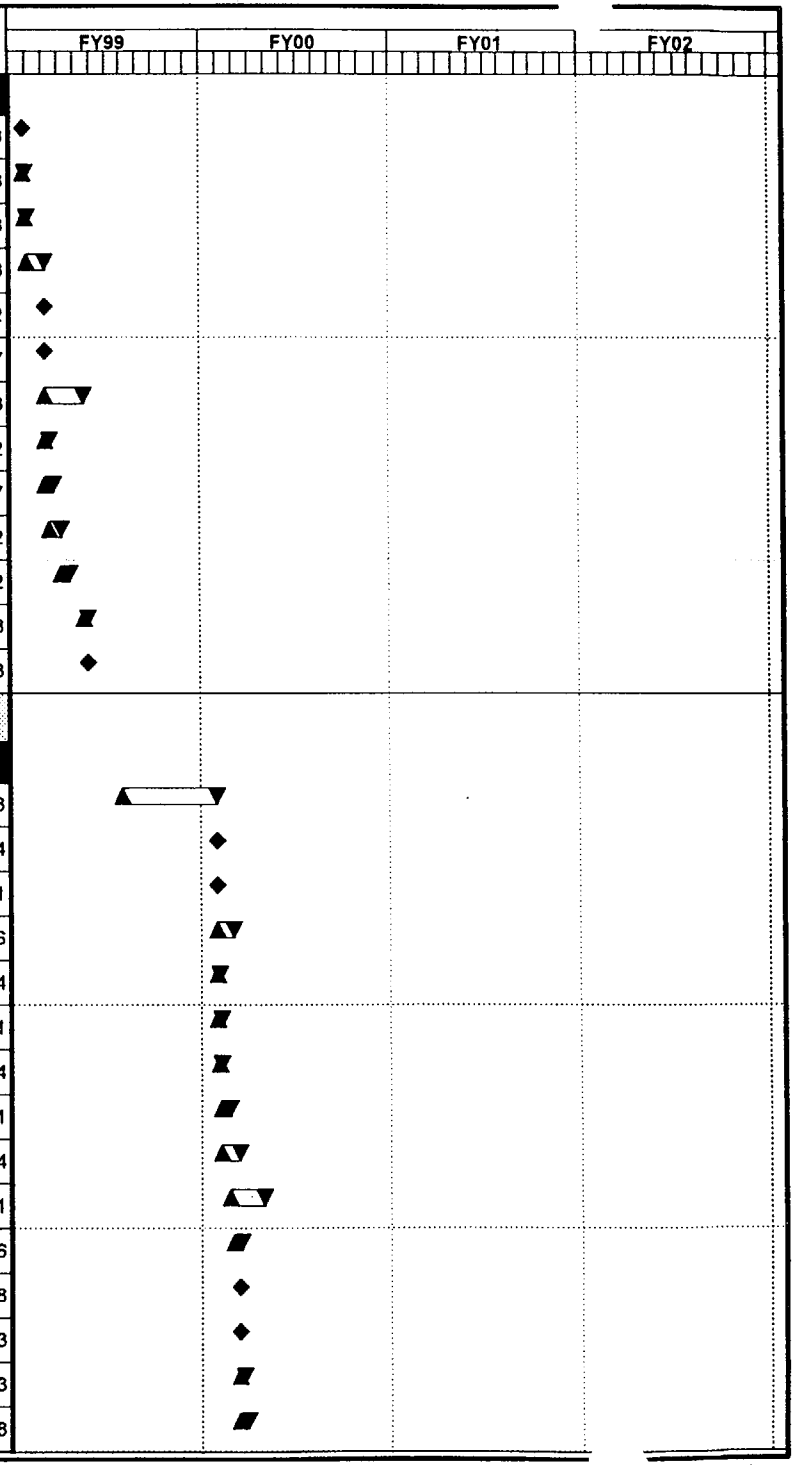
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1800	Distribution Fit-Verify/Trace Data		44	10NOV99	17JAN00	255
SLPA1802	Distribution Fit-Place Under SMS Control as Nece		10	18NOV99	03DEC99	274
SLPA1804	Distribution Fit-Verify Data-Related Software		10	06DEC99	17DEC99	274
SLPA1806	Distribution Fit-Qualified/Verified SW Available		0		29DEC99	272
SLPA1808	Distribution Fit-Update TDMS		5	18JAN00	24JAN00	255
SLPA1810	Distribution Fit-Qualified/Verified Data Availab		0		24JAN00	255
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SSB00A	Revise Bio PMR AP 3.10Q's for SR		41	01MAY00	27JUN00	24
SSB00B	Prepare Bio PMR REV-02A for SR		41	01MAY00	27JUN00	24
SSB00BM4	Bio PMR Rev-02A for SR	M4	0		01AUG00*	0
SSB00C	M&O Review Bio PMR Rev-02A for SR		83	02AUG00	01DEC00	17
SSB00CM3	Bio PMR Rev-02 for SR	M3	0		01DEC00	17
SSB00D	DOE Review Bio PMR 02 for SR		41	04DEC00	31JAN01	17
SSB00EM3	Rev 03 Bio PMR for SR	M3	0		31JAN01	17
150 Support Operations						
SSPMAM5	Submit Data for AP3.10Q Analysis	M5	0		26APR99*	0
SSPMM5	Submit Data for AP3.10Q Analysis	M5	0		26APR99*	0



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
E EBS PMR						
EB010 Invert Diffusion Model						
120 Engineered Barrier System Operations						
RPPM120A	Invert Diffusion Properties Model AP 3.10Q		56	03MAY99*	21JUL99	71
RPE792	Invert Diffus Predict-Input Parameters and Data		0		21JUL99	305
RPE794	Invert Diffus Predict-Models and Codes Identifie		0		21JUL99	322
RPE796	Invert Diffus Predict-Determine DTN Assignment		2	22JUL99	23JUL99	305
RPE820	Invert Diffus Predict-Determine if Model-Rel SW		5	22JUL99	28JUL99	322
RPPM120B	Prep 3.10Q Drft Doc(Invert Diffus Predict Model)		18	22JUL99	16AUG99	117
RPE798	Invert Diffus Predict-Determine if Data/DTN in T		3	26JUL99	28JUL99	305
RPE800	Invert Diffus Predict-Submit Data/DTN to TDMS as		22	29JUL99	27AUG99	305
RPE822	Invert Diffus Predict-Place Model-Related SW Und		10	29JUL99	11AUG99	322
RPE824	Invert Diffus Predict-Verify Model-Related Softw		44	12AUG99	14OCT99	322
RPPM120C	3.10Q Chkg/Revw(Invert Diffus Predictive Model)		10	17AUG99	30AUG99	117
RPE804	Invert Diffus Predict-Procurement Related Issues		0		27AUG99	339
RPE812	Invert Diffus Predict-Data Related Software Issu		0		27AUG99	324
RPE802	Invert Diffus Predict-Verify/Trace Data		44	30AUG99	01NOV99	305
RPE806	Invert Diffus Predict-Resolve Procurement Relate		10	30AUG99	13SEP99	339
RPE814	Invert Diffus Predict-Determine if Data Rel SW i		5	30AUG99	03SEP99	324
RPPM120D	Prep Fnl 3.10Q Rpt(Invert Diffus Predict Model)		10	31AUG99	14SEP99	117
RPE816	Invert Diffus Predict-Place Under SMS Control as		10	07SEP99	20SEP99	324
RPE818	Invert Diffus Predict-Verify Data-Related Softwa		10	21SEP99	04OCT99	324
RPE826	Invert Diffus Predict-Qualified/Verified SW Avai		0		14OCT99	322
RPE808	Invert Diffus Predict-Update TDMS		5	02NOV99	08NOV99	305
RPE810	Invert Diffus Predict-Qualified/Verified Data Av		0		08NOV99	305
EB015 PCE Model Validation Experiment/Analysis						
120 Engineered Barrier System Operations						
RPPM115B	Prep 3.10Q Drft Doc(PCE Model Valid Exper/Analy)		18	01OCT98	27OCT98	313
RPPM115C	3.10Q Chkg/Revw(PCE Model Valid Exper/Analysis)		10	28OCT98	10NOV98	313
RPPM115D	Prep Fnl 3.10Q Rpt(PCE Model Valid Exper/Analys)		10	12NOV98	25NOV98	313

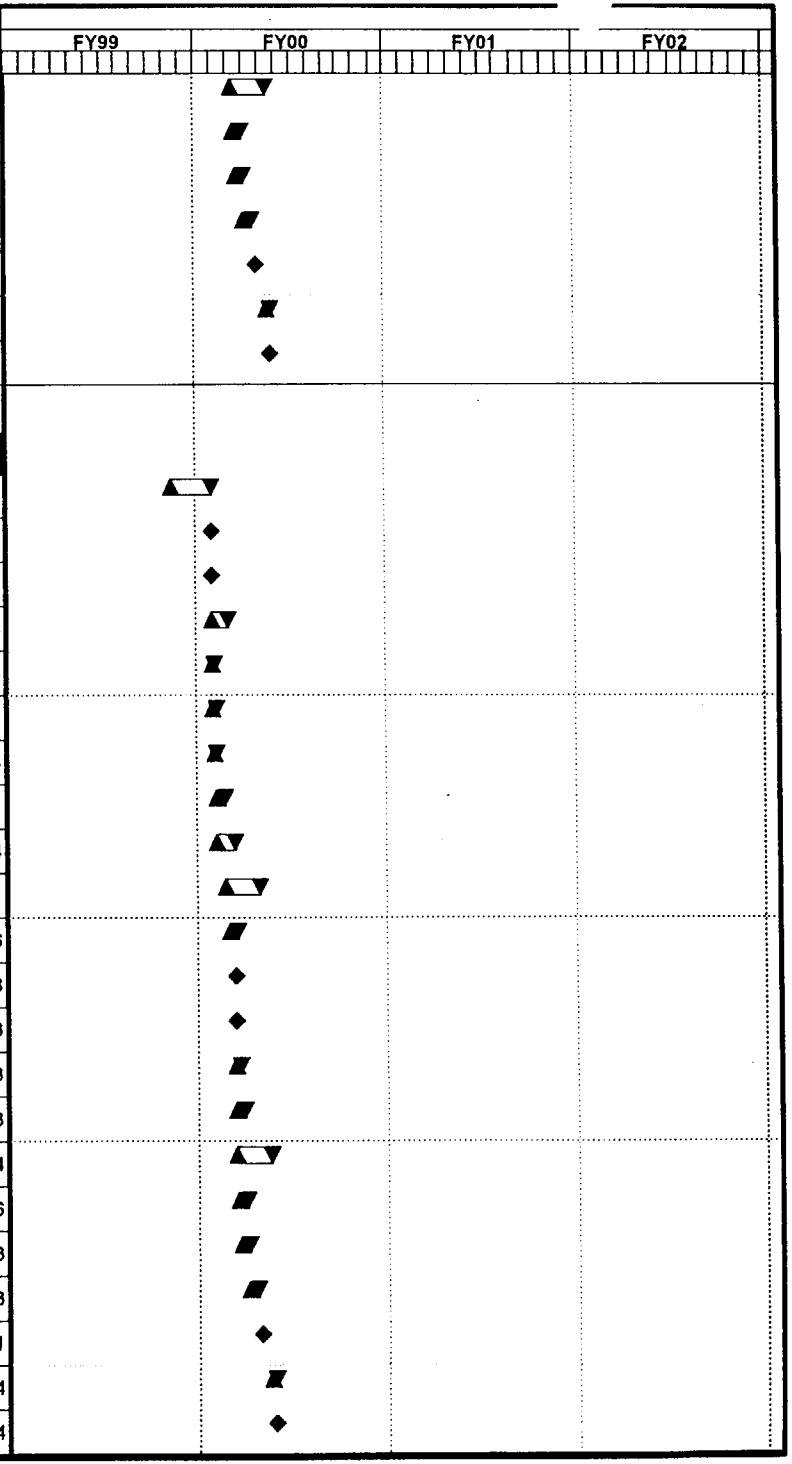


Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
130 Performance Assessment Operations						
RPQ1000	PCE Model Val-Input Parameters and Data Identifi		0		27OCT98	483
RPQ1004	PCE Model Val-Determine DTN Assignment		2	28OCT98	29OCT98	483
RPQ1008	PCE Model Val-Determine if Data/DTN in TDMS		3	30OCT98	03NOV98	483
RPQ1010	PCE Model Val-Submit Data/DTN to TDMS as Necessa		22	04NOV98	08DEC98	483
RPQ1016	PCE Model Val-Data Related Software Issues Ident		0		08DEC98	502
RPQ1018	PCE Model Val-Procurement Related Issues ID'd to		0		08DEC98	517
RPQ1020	PCE Model Val-Verify/Trace Data		44	09DEC98	18FEB99	483
RPQ1022	PCE Model Val-Determine if Data Rel SW is Under		5	09DEC98	15DEC98	502
RPQ1024	PCE Model Val-Rxesolve Procurement Related Data		10	09DEC98	22DEC98	517
RPQ1026	PCE Model Val-Place Under SMS Control as Necessa		10	16DEC98	07JAN99	502
RPQ1028	PCE Model Val-Verify Data-Related Software		10	08JAN99	21JAN99	502
RPQ1030	PCE Model Val-Update TDMS		5	19FEB99	25FEB99	483
RPQ1032	PCE Model Val-Qualified/Verified Data Available		0		25FEB99	483
EB115 Phy/Chem Abstraction						
120 Engineered Barrier System Operations						
SLPA1000	Phy/Chem Abstraction - AP3.10Q		127	03MAY99*	01NOV99	18
SLPA1008	Phy/Chem Abst-Input Parameters and Data Identifi		0		01NOV99	234
SLPA1010	Phy/Chem Abst-Models and Codes Identified		0		01NOV99	251
SLPA1002	Prep 3.10Q Drft Doc (Phy/Chem Abstraction)		18	02NOV99	30NOV99	46
SLPA1012	Phy/Chem Abst-Determine DTN Assignment		2	02NOV99	03NOV99	234
SLPA1014	Phy/Chem Abst-Determine if Model-Rel SW is Under		5	02NOV99	08NOV99	251
SLPA1016	Phy/Chem Abst-Determine if Data/DTN in TDMS		3	04NOV99	08NOV99	234
SLPA1018	Phy/Chem Abst-Place Model-Related SW Under SMS C		10	09NOV99	23NOV99	251
SLPA1020	Phy/Chem Abst-Submit Data/DTN to TDMS as Necessa		22	09NOV99	13DEC99	234
SLPA1022	Phy/Chem Abst-Verify Model-Related Software		44	24NOV99	28JAN00	251
SLPA1004	3.10Q Chkg/Revw (Phy Chem Abstraction)		10	01DEC99	14DEC99	46
SLPA1024	Phy/Chem Abst-Procurement Related Issues ID'd to		0		13DEC99	268
SLPA1026	Phy/Chem Abst-Data Related Software Issues Ident		0		13DEC99	253
SLPA1028	Phy/Chem Abst-Determine if Data Rel SW is Under		5	14DEC99	20DEC99	253
SLPA1030	Phy/Chem Abst-Resolve Procurement Related Data I		10	14DEC99	28DEC99	268

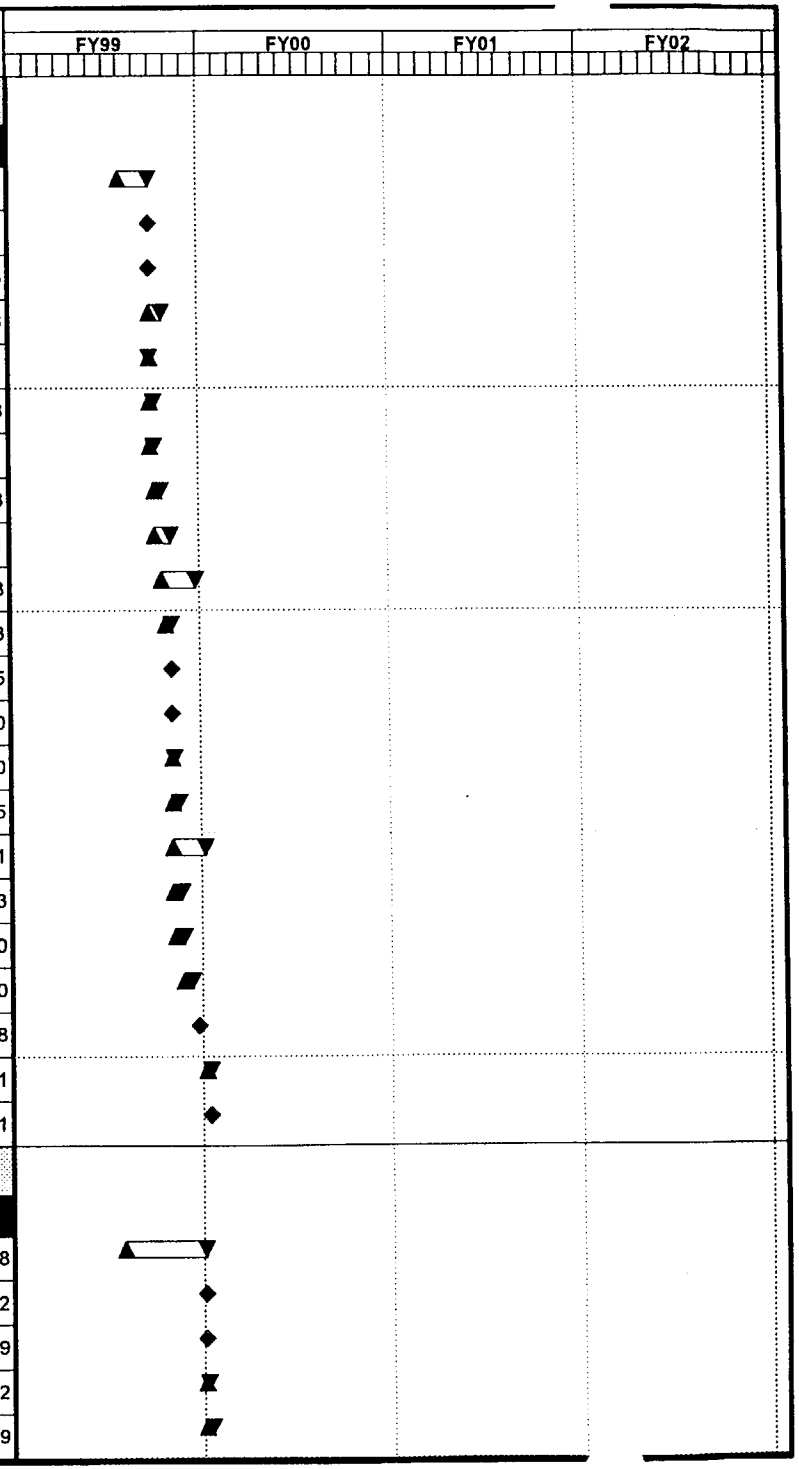


Sheet

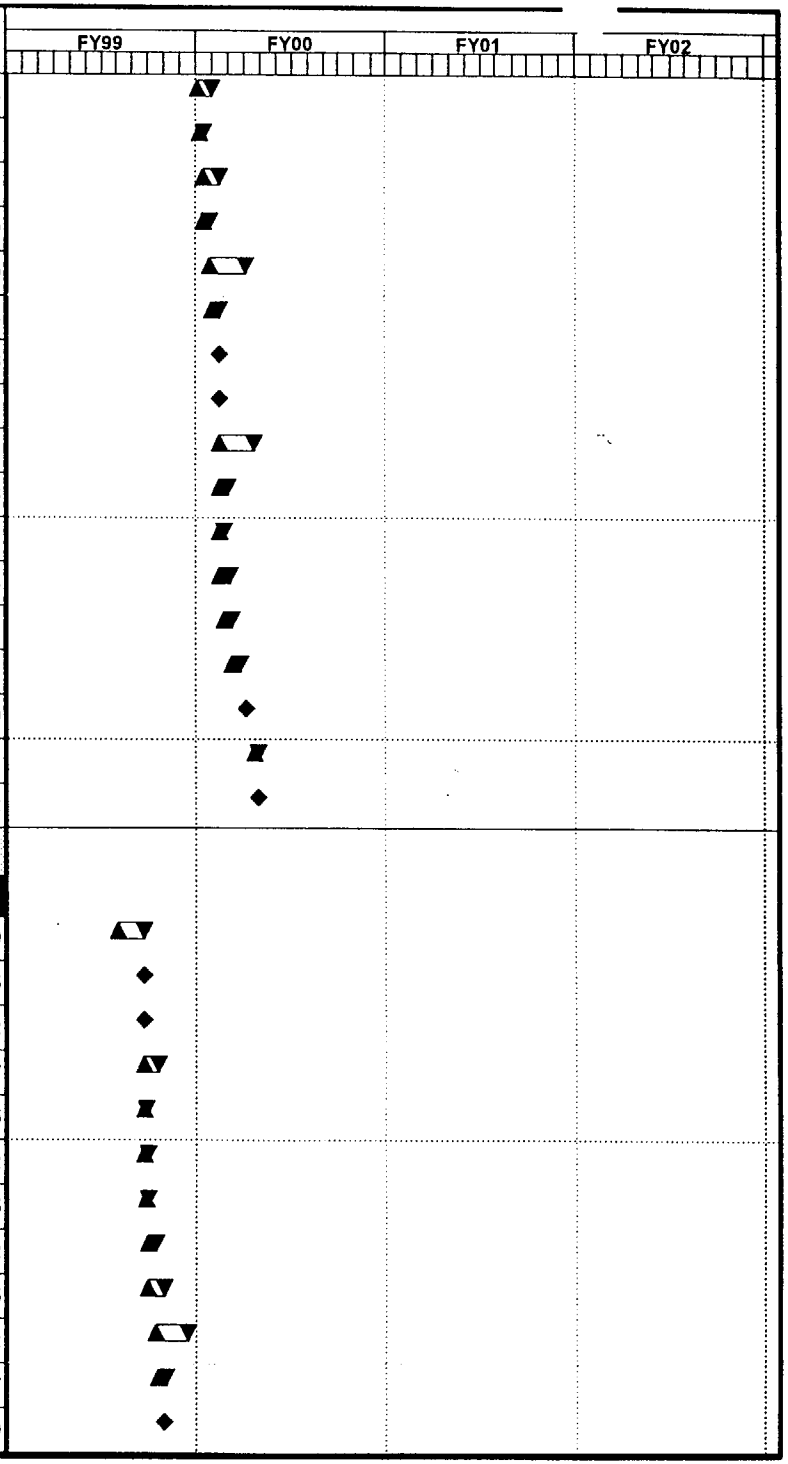
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1032	Phy/Chem Abst-Verify/Trace Data		44	14DEC99	15FEB00	234
SLPA1006	Prep Fnl 3.10Q Rpt (Phy/Chem Abstraction)		10	15DEC99	29DEC99	46
SLPA1034	Phy/Chem Abst-Place Under SMS Control as Necessa		10	21DEC99	05JAN00	253
SLPA1036	Phy/Chem Abst-Verify Data-Related Software		10	06JAN00	19JAN00	253
SLPA1038	Phy/Chem Abst-Qualified/Verified SW Available		0		28JAN00	251
SLPA1040	Phy/Chem Abst-Update TDMS		5	16FEB00	23FEB00	234
SLPA1042	Phy/Chem Abst-Qualified/Verified Data Available		0		23FEB00	234
EB125 EBS Degr. Modes & FEPs Abstractions						
120 Engineered Barrier System Operations						
SLPA1044	EBS Degr. Modes & FEPs Abstraction - AP3.10Q		54	16AUG99*	01NOV99	0
SLPA1052	Degr. Mode Abst-Input Parameters and Data Identi		0		01NOV99	234
SLPA1054	Degr. Mode Abst-Models and Codes Identified		0		01NOV99	251
SLPA1046	Prep 3.10Q Drft Doc (Degr. Mode Abstraction)		18	02NOV99	30NOV99	46
SLPA1056	Degr. Mode Abst-Determine DTN Assignment		2	02NOV99	03NOV99	234
SLPA1058	Degr. Mode Abst-Determine if Model-Rel SW is Und		5	02NOV99	08NOV99	251
SLPA1060	Degr. Mode Abst-Determine if Data/DTN in TDMS		3	04NOV99	08NOV99	234
SLPA1062	Degr. Mode Abst-Place Model-Related SW Under SMS		10	09NOV99	23NOV99	251
SLPA1064	Degr. Mode Abst-Submit Data/DTN to TDMS as Neces		22	09NOV99	13DEC99	234
SLPA1066	Degr. Mode Abst-Verify Model-Related Software		44	24NOV99	28JAN00	251
SLPA1048	3.10Q Chkg/Revw (Degr. Mode Abstraction)		10	01DEC99	14DEC99	46
SLPA1068	Degr. Mode Abst-Procurement Related Issues ID'd		0		13DEC99	268
SLPA1070	Degr. Mode Abst-Data Related Software Issues Ide		0		13DEC99	253
SLPA1072	Degr. Mode Abst-Determine if Data Rel SW is Unde		5	14DEC99	20DEC99	253
SLPA1074	Degr. Mode Abst-Resolve Procurement Related Data		10	14DEC99	28DEC99	268
SLPA1076	Degr. Mode Abst-Verify/Trace Data		44	14DEC99	15FEB00	234
SLPA1050	Prep Fnl 3.10Q Rpt (Degr. Mode Abstraction)		10	15DEC99	29DEC99	46
SLPA1078	Degr. Mode Abst-Place Under SMS Control as Neces		10	21DEC99	05JAN00	253
SLPA1080	Degr. Mode Abst-Verify Data-Related Software		10	06JAN00	19JAN00	253
SLPA1082	Degr. Mode Abst-Qualified/Verified SW Available		0		28JAN00	251
SLPA1084	Degr. Mode Abst-Update TDMS		5	16FEB00	23FEB00	234
SLPA1086	Degr. Mode Abst-Qualified/Verified Data Availabl		0		23FEB00	234



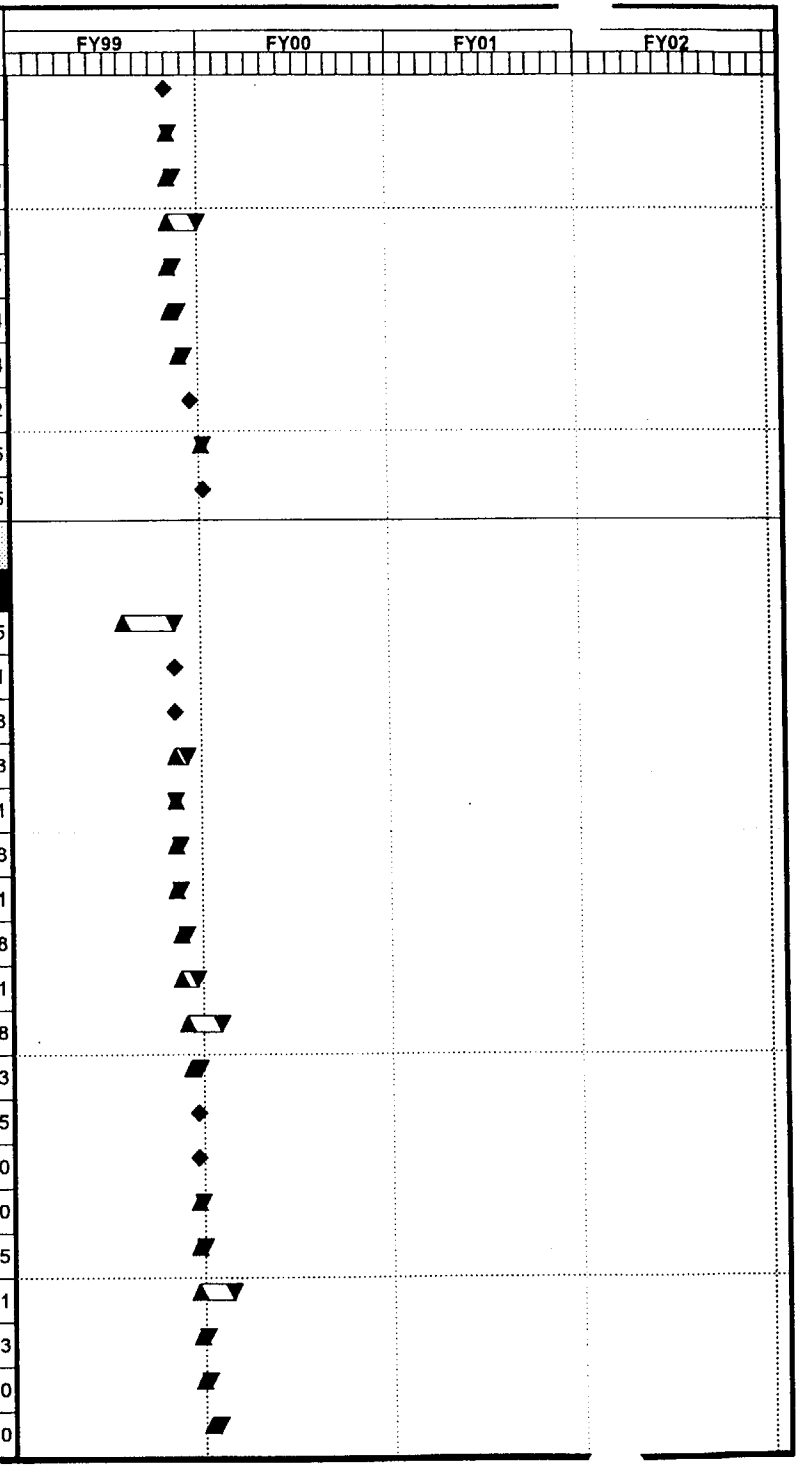
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
EB135 Corrosion Products						
120 Engineered Barrier System Operations						
SLPA1088	Corrosion Products - AP3.10Q		40	03MAY99*	28JUN99	105
SLPA1096	Corrosion Prod-Input Parameters and Data Identif		0		28JUN99	321
SLPA1098	Corrosion Prod-Models and Codes Identified		0		28JUN99	338
SLPA1090	Prep 3.10Q Drft Doc(Corrosion Products)		18	29JUN99	23JUL99	133
SLPA1100	Corrosion Prod-Determine DTN Assignment		2	29JUN99	30JUN99	321
SLPA1102	Corrosion Prod-Determine if Model-Rel SW is Unde		5	29JUN99	06JUL99	338
SLPA1104	Corrosion Prod-Determine if Data/DTN in TDMS		3	01JUL99	06JUL99	321
SLPA1106	Corrosion Prod-Place Model-Related SW Under SMS		10	07JUL99	20JUL99	338
SLPA1108	Corrosion Prod-Submit Data/DTN to TDMS as Necess		22	07JUL99	05AUG99	321
SLPA1110	Corrosion Prod-Verify Model-Related Software		44	21JUL99	21SEP99	338
SLPA1092	3.10Q Chkg/Revw(Corrosion Products)		10	26JUL99	06AUG99	133
SLPA1112	Corrosion Prod-Procurement Related Issues ID'd t		0		05AUG99	355
SLPA1114	Corrosion Prod-Data Related Software Issues Iden		0		05AUG99	340
SLPA1116	Corrosion Prod-Determine if Data Rel SW is Under		5	06AUG99	12AUG99	340
SLPA1118	Corrosion Prod-Resolve Procurement Related Data		10	06AUG99	19AUG99	355
SLPA1120	Corrosion Prod-Verify/Trace Data		44	06AUG99	07OCT99	321
SLPA1094	Prep Fnl 3.10Q Rpt(Corrosion Products)		10	09AUG99	20AUG99	133
SLPA1122	Corrosion Prod-Place Under SMS Control as Necess		10	13AUG99	26AUG99	340
SLPA1124	Corrosion Prod-Verify Data-Related Software		10	27AUG99	10SEP99	340
SLPA1126	Corrosion Prod-Qualified/Verified SW Available		0		21SEP99	338
SLPA1128	Corrosion Prod-Update TDMS		5	08OCT99	15OCT99	321
SLPA1130	Corrosion Prod-Qualified/Verified Data Available		0		15OCT99	321
EB155 Water Distr/Removal Model						
120 Engineered Barrier System Operations						
RPPM050A	Water Distrib/Removal Model - AP3.10Q		109	03MAY99*	05OCT99	18
RPE288	Water Distr/Rem-Input Parameters and Data Identi		0		05OCT99	252
RPE290	Water Distr/Rem-Models and Codes Identified		0		05OCT99	269
RPE292	Water Distr/Rem-Determine DTN Assignment		2	06OCT99	07OCT99	252
RPE316	Water Distr/Rem-Determine if Model-Rel SW is Und		5	06OCT99	13OCT99	269



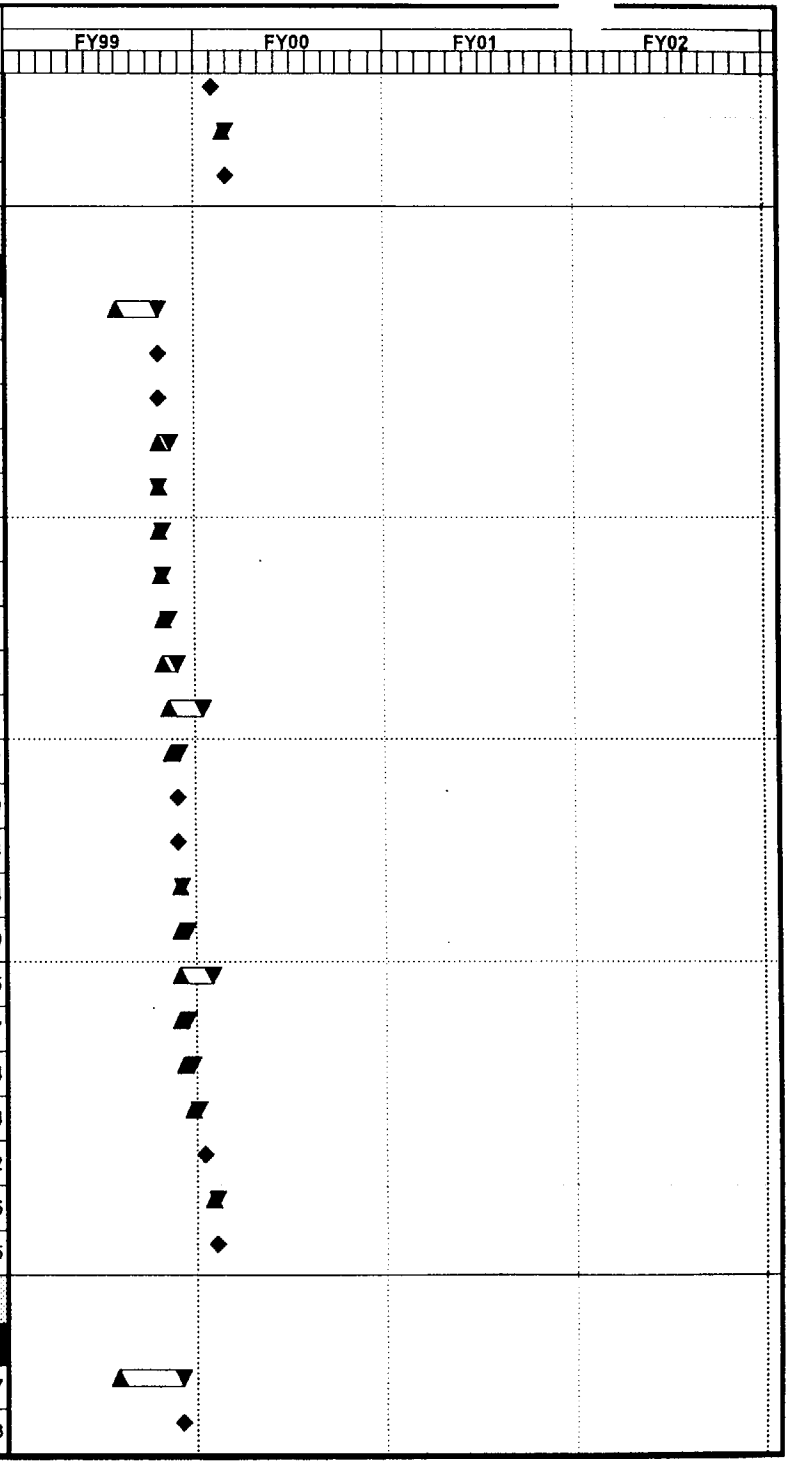
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
RPPM050B	Prep 3.10Q Drft Doc (Water Distr/Removal Model)		18	06OCT99	01NOV99	64
RPE294	Water Distr/Rem-Determine if Data/DTN in TDMS		3	08OCT99	13OCT99	252
RPE296	Water Distr/Rem-Submit Data/DTN to TDMS as Neces		22	14OCT99	15NOV99	252
RPE318	Water Distr/Rem-Place Model-Related SW Under SMS		10	14OCT99	27OCT99	269
RPE320	Water Distr/Rem-Verify Model-Related Software		44	28OCT99	04JAN00	269
RPPM050C	3.10Q Chkg/Revw (Water Distr/Removal Model)		10	02NOV99	16NOV99	64
RPE300	Water Distr/Rem-Procurement Related Issues ID'd		0		15NOV99	286
RPE308	Water Distr/Rem-Data Related Software Issues Ide		0		15NOV99	271
RPE298	Water Distr/Rem-Verify/Trace Data		44	16NOV99	20JAN00	252
RPE302	Water Distr/Rem-Resolve Procurement Related Data		10	16NOV99	01DEC99	286
RPE310	Water Distr/Rem-Determine if Data Rel SW is Unde		5	16NOV99	22NOV99	271
RPPM050D	Prep Fnl 3.10Q Rpt (Water Distr/Removal Model)		10	17NOV99	02DEC99	64
RPE312	Water Distr/Rem-Place Under SMS Control as Neces		10	23NOV99	08DEC99	271
RPE314	Water Distr/Rem-Verify Data-Related Software		10	09DEC99	22DEC99	271
RPE322	Water Distr/Rem-Qualified/Verified SW Available		0		04JAN00	269
RPE304	Water Distr/Rem-Update TDMS		5	21JAN00	27JAN00	252
RPE306	Water Distr/Rem-Qualified/Verified Data Availabl		0		27JAN00	252
EB165 Seepage/Backfill Interaction						
120 Engineered Barrier System Operations						
SLPA1132	Seepage/Backfill Interaction - AP3.10Q		36	03MAY99*	22JUN99	109
SLPA1140	Sepg/Bkfill Intr-Input Parameters and Data Ident		0		22JUN99	325
SLPA1142	Sepg/Bkfill Intr-Models and Codes Identified		0		22JUN99	342
SLPA1134	Prep 3.10Q Drft Doc (Sepg/Bkfill Intractn)		18	23JUN99	19JUL99	137
SLPA1144	Sepg/Bkfill Intr-Determine DTN Assignment		2	23JUN99	24JUN99	325
SLPA1146	Sepg/Bkfill Intr-Determine if Model-Rel SW is Un		5	23JUN99	29JUN99	342
SLPA1148	Sepg/Bkfill Intr-Determine if Data/DTN in TDMS		3	25JUN99	29JUN99	325
SLPA1150	Sepg/Bkfill Intr-Place Model-Related SW Under SM		10	30JUN99	14JUL99	342
SLPA1152	Sepg/Bkfill Intr-Submit Data/DTN to TDMS as Nece		22	30JUN99	30JUL99	325
SLPA1154	Sepg/Bkfill Intr-Verify Model-Related Software		44	15JUL99	15SEP99	342
SLPA1136	3.10Q Chkg/Revw (Sepg/Bkfill Intractn)		10	20JUL99	02AUG99	137
SLPA1156	Sepg/Bkfill Intr-Procurement Related Issues ID'd		0		30JUL99	359



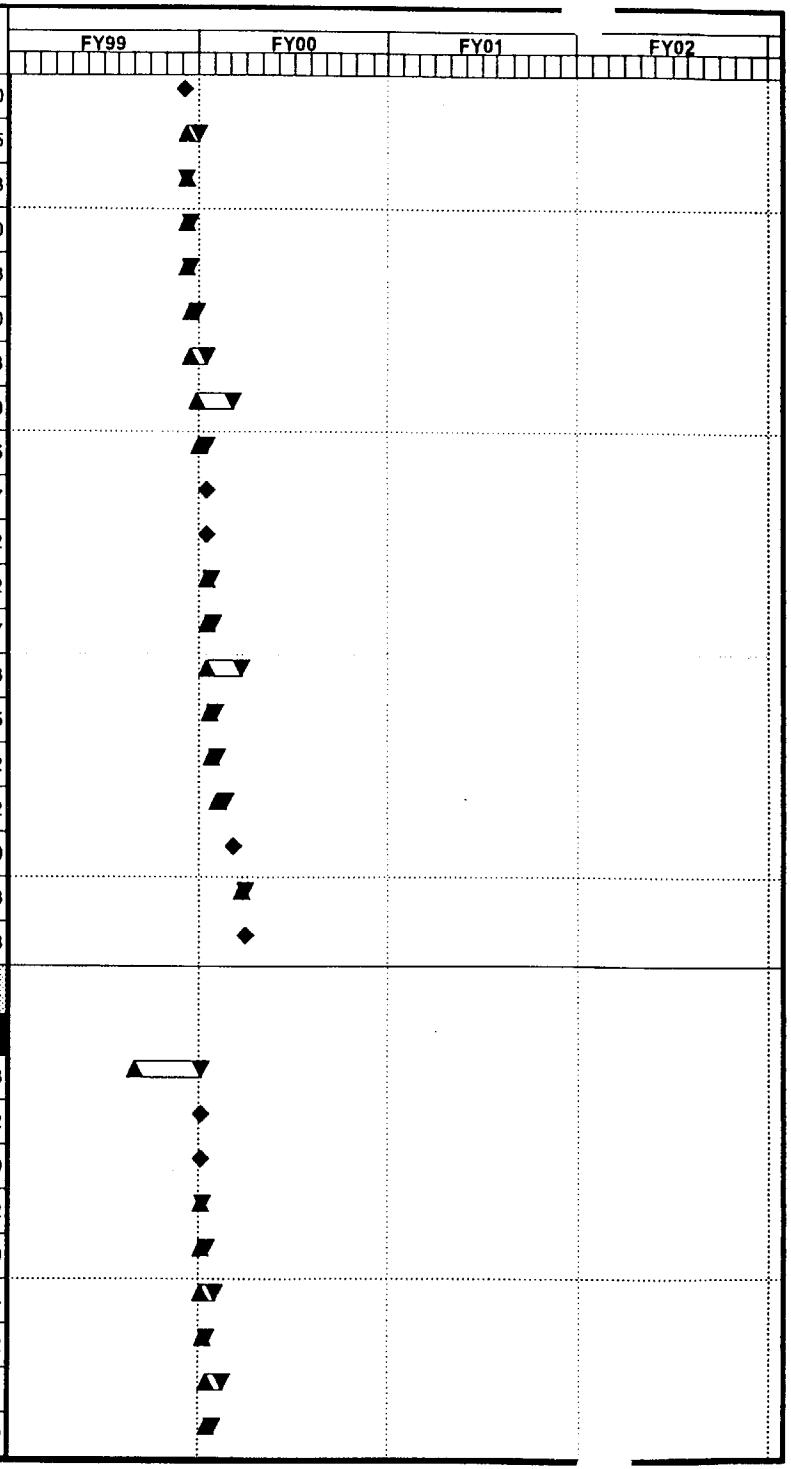
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1158	Sepg/Bkfill Intr-Data Related Software Issues Id		0		30JUL99	344
SLPA1160	Sepg/Bkfill Intr-Determine if Data Rel SW is Und		5	02AUG99	06AUG99	344
SLPA1162	Sepg/Bkfill Intr-Resolve Procurement Related Dat		10	02AUG99	13AUG99	359
SLPA1164	Sepg/Bkfill Intr-Verify/Trace Data		44	02AUG99	01OCT99	325
SLPA1138	Prep Fnl 3.10Q Rpt (Sepg/Bkfill Intractn)		10	03AUG99	16AUG99	137
SLPA1166	Sepg/Bkfill Intr-Place Under SMS Control as Nece		10	09AUG99	20AUG99	344
SLPA1168	Sepg/Bkfill Intr-Verify Data-Related Software		10	23AUG99	03SEP99	344
SLPA1170	Sepg/Bkfill Intr-Qualified/Verified SW Available		0		15SEP99	342
SLPA1172	Sepg/Bkfill Intr-Update TDMS		5	04OCT99	08OCT99	325
SLPA1174	Sepg/Bkfill Intr-Qualified/Verified Data Availab		0		08OCT99	325
EB175 Gas Flux & Composition						
120 Engineered Barrier System Operations						
SLPA1176	Gas Flux & Composition - AP3.10Q		70	03MAY99*	10AUG99	75
SLPA1184	Gas Flux & Comp-Input Parameters and Data Identi		0		10AUG99	291
SLPA1186	Gas Flux & Comp-Models and Codes Identified		0		10AUG99	308
SLPA1178	Prep 3.10Q Drft Doc (Gas Flux & Composition)		18	11AUG99	03SEP99	103
SLPA1188	Gas Flux & Comp-Determine DTN Assignment		2	11AUG99	12AUG99	291
SLPA1190	Gas Flux & Comp-Determine if Model-Rel SW is Und		5	11AUG99	17AUG99	308
SLPA1192	Gas Flux & Comp-Determine if Data/DTN in TDMS		3	13AUG99	17AUG99	291
SLPA1194	Gas Flux & Comp-Place Model-Related SW Under SMS		10	18AUG99	31AUG99	308
SLPA1196	Gas Flux & Comp-Submit Data/DTN to TDMS as Neces		22	18AUG99	17SEP99	291
SLPA1198	Gas Flux & Comp-Verify Model-Related Software		44	01SEP99	03NOV99	308
SLPA1180	3.10Q Chkg/Revw (Gas Flux & Composition)		10	07SEP99	20SEP99	103
SLPA1200	Gas Flux & Comp-Procurement Related Issues ID'd		0		17SEP99	325
SLPA1202	Gas Flux & Comp-Data Related Software Issues Ide		0		17SEP99	310
SLPA1204	Gas Flux & Comp-Determine if Data Rel SW is Unde		5	20SEP99	24SEP99	310
SLPA1206	Gas Flux & Comp-Resolve Procurement Related Data		10	20SEP99	01OCT99	325
SLPA1208	Gas Flux & Comp-Verify/Trace Data		44	20SEP99	22NOV99	291
SLPA1182	Prep Fnl 3.10Q Rpt (Gas Flux & Composition)		10	21SEP99	04OCT99	103
SLPA1210	Gas Flux & Comp-Place Under SMS Control as Neces		10	27SEP99	08OCT99	310
SLPA1212	Gas Flux & Comp-Verify Data-Related Software		10	12OCT99	25OCT99	310



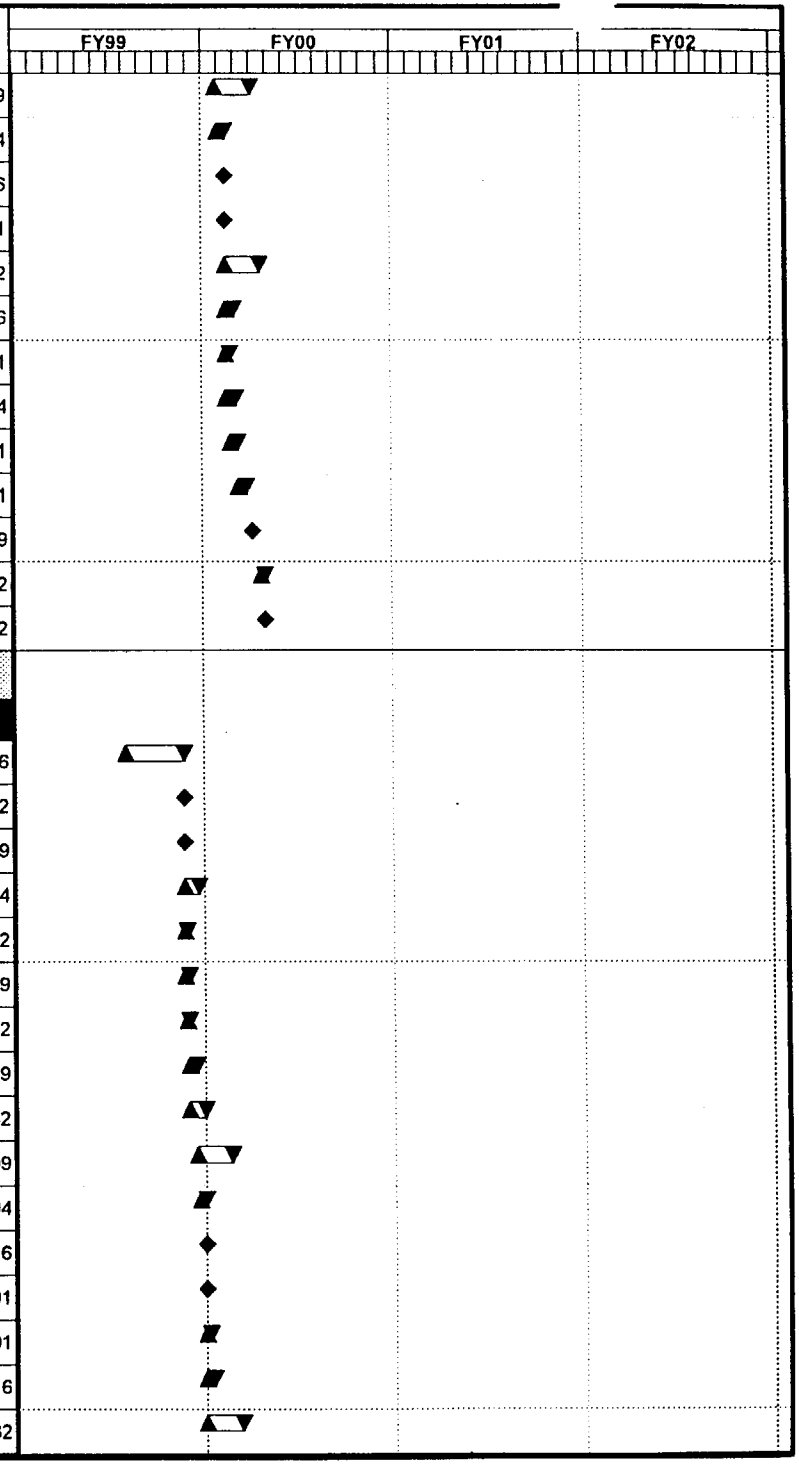
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1214	Gas Flux & Comp-Qualified/Verified SW Available		0		03NOV99	308
SLPA1216	Gas Flux & Comp-Update TDMS		5	23NOV99	01DEC99	291
SLPA1218	Gas Flux & Comp-Qualified/Verified Data Availabl		0		01DEC99	291
EB185 Microbial Communities						
120 Engineered Barrier System Operations						
SLPA1220	Microbial Communities - AP3.10Q		56	03MAY99*	21JUL99	89
SLPA1228	Microb Comm-Input Parameters and Data Identified		0		21JUL99	305
SLPA1230	Microb Comm-Models and Codes Identified		0		21JUL99	322
SLPA1222	Prep 3.10Q Drft Doc (Microb Communities)		18	22JUL99	16AUG99	117
SLPA1232	Microb Comm-Determine DTN Assignment		2	22JUL99	23JUL99	305
SLPA1234	Microb Comm-Determine if Model-Rel SW is Under S		5	22JUL99	28JUL99	322
SLPA1236	Microb Comm-Determine if Data/DTN in TDMS		3	26JUL99	28JUL99	305
SLPA1238	Microb Comm-Place Model-Related SW Under SMS Con		10	29JUL99	11AUG99	322
SLPA1240	Microb Comm-Submit Data/DTN to TDMS as Necessary		22	29JUL99	27AUG99	305
SLPA1242	Microb Comm-Verify Model-Related Software		44	12AUG99	14OCT99	322
SLPA1224	3.10Q Chkg/Revw (Microb Communities)		10	17AUG99	30AUG99	117
SLPA1244	Microb Comm-Procurement Related Issues ID'd to C		0		27AUG99	339
SLPA1246	Microb Comm-Data Related Software Issues Identif		0		27AUG99	324
SLPA1248	Microb Comm-Determine if Data Rel SW is Under SM		5	30AUG99	03SEP99	324
SLPA1250	Microb Comm-Resolve Procurement Related Data Iss		10	30AUG99	13SEP99	339
SLPA1252	Microb Comm-Verify/Trace Data		44	30AUG99	01NOV99	305
SLPA1226	Prep Fnl 3.10Q Rpt (Microb Communities)		10	31AUG99	14SEP99	117
SLPA1254	Microb Comm-Place Under SMS Control as Necessary		10	07SEP99	20SEP99	324
SLPA1256	Microb Comm-Verify Data-Related Software		10	21SEP99	04OCT99	324
SLPA1258	Microb Comm-Qualified/Verified SW Available		0		14OCT99	322
SLPA1260	Microb Comm-Update TDMS		5	02NOV99	08NOV99	305
SLPA1262	Microb Comm-Qualified/Verified Data Available		0		08NOV99	305
EB195 Colloid Concentration						
120 Engineered Barrier System Operations						
SLPA1264	Colloid Concentration - AP3.10Q		88	03MAY99*	03SEP99	57
SLPA1272	Colloidal Con-Input Parameters and Data Identifi		0		03SEP99	273



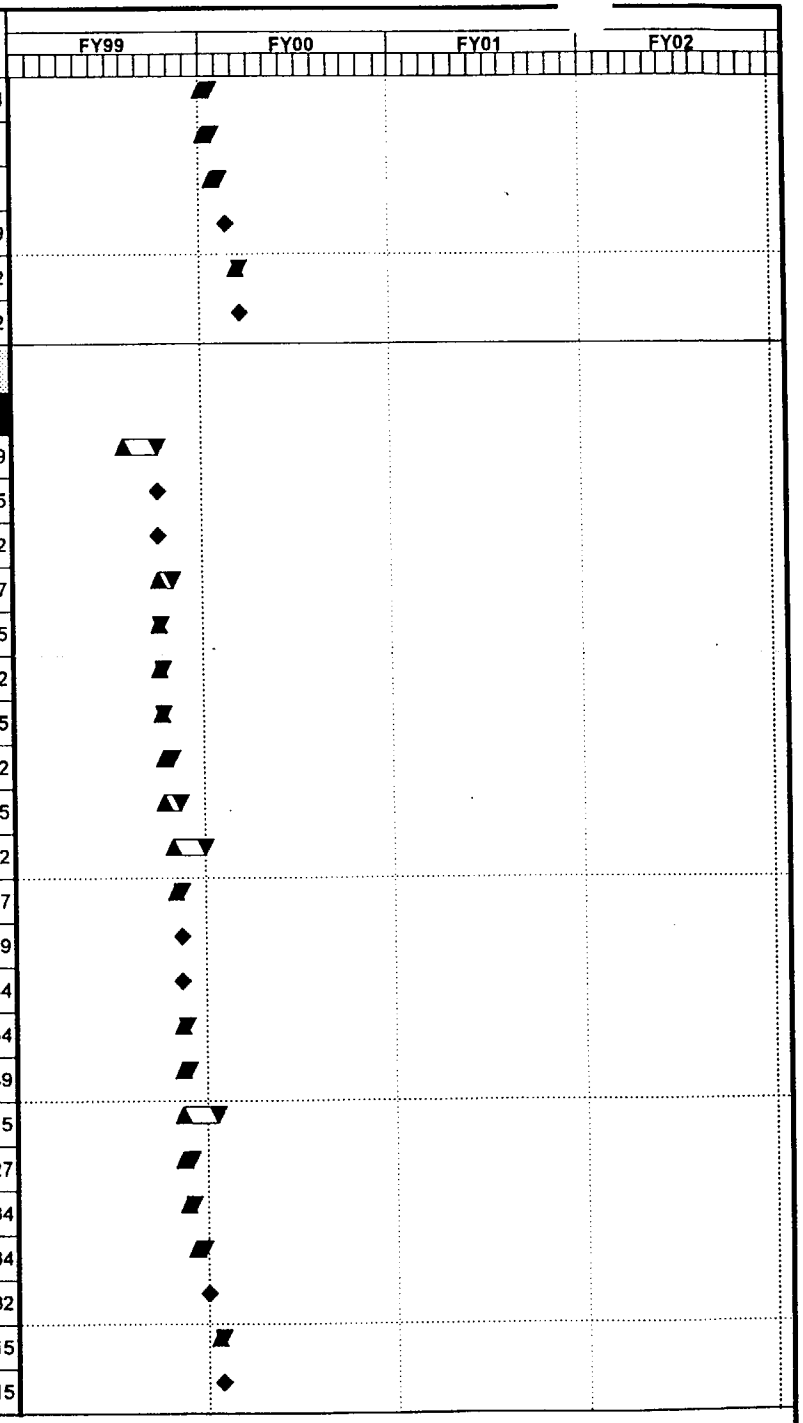
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1274	Colloidal Con-Models and Codes Identified		0		03SEP99	290
SLPA1266	Prep 3.10Q Drft Doc (Colloidal Concentration)		18	07SEP99	30SEP99	85
SLPA1276	Colloidal Con-Determine DTN Assignment		2	07SEP99	08SEP99	273
SLPA1278	Colloidal Con-Determine if Model-Rel SW is Under		5	07SEP99	13SEP99	290
SLPA1280	Colloidal Con-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99	273
SLPA1282	Colloidal Con-Place Model-Related SW Under SMS C		10	14SEP99	27SEP99	290
SLPA1284	Colloidal Con-Submit Data/DTN to TDMS as Necessa		22	14SEP99	14OCT99	273
SLPA1286	Colloidal Con-Verify Model-Related Software		44	28SEP99	02DEC99	290
SLPA1268	3.10Q Chkg/Revw (Colloidal Concentration)		10	01OCT99	15OCT99	85
SLPA1288	Colloidal Con-Procurement Related Issues ID'd to		0		14OCT99	307
SLPA1290	Colloidal Con-Data Related Software Issues Ident		0		14OCT99	292
SLPA1292	Colloidal Con-Determine if Data Rel SW is Under		5	15OCT99	21OCT99	292
SLPA1294	Colloidal Con-Resolve Procurement Related Data I		10	15OCT99	28OCT99	307
SLPA1296	Colloidal Con-Verify/Trace Data		44	15OCT99	20DEC99	273
SLPA1270	Prep Fnl 3.10Q Rpt (Colloidal Concentration)		10	18OCT99	29OCT99	85
SLPA1298	Colloidal Con-Place Under SMS Control as Necessa		10	22OCT99	04NOV99	292
SLPA1300	Colloidal Con-Verify Data-Related Software		10	05NOV99	19NOV99	292
SLPA1302	Colloidal Con-Qualified/Verified SW Available		0		02DEC99	290
SLPA1304	Colloidal Con-Update TDMS		5	21DEC99	28DEC99	273
SLPA1306	Colloidal Con-Qualified/Verified Data Available		0		28DEC99	273
EB205 EBS Radinuclide Transport Model						
120 Engineered Barrier System Operations						
RPPM060A	EBS Radinuclide Transport Model - AP3.10Q		89	01JUN99*	05OCT99	18
RPE360	EBS Rad Trans-Input Parameters and Data Identifi		0		05OCT99	252
RPE362	EBS Rad Trans-Models and Codes Identified		0		05OCT99	269
RPE364	EBS Rad Trans-Determine DTN Assignment		2	06OCT99	07OCT99	252
RPE388	EBS Rad Trans-Determine if Model-Rel SW is Under		5	06OCT99	13OCT99	269
RPPM060B	Prep 3.10Q Drft Doc(EBS Radinuclide Trans Model)		18	06OCT99	01NOV99	64
RPE366	EBS Rad Trans-Determine if Data/DTN in TDMS		3	08OCT99	13OCT99	252
RPE368	EBS Rad Trans-Submit Data/DTN to TDMS as Necessa		22	14OCT99	15NOV99	252
RPE390	EBS Rad Trans-Place Model-Related SW Under SMS C		10	14OCT99	27OCT99	269



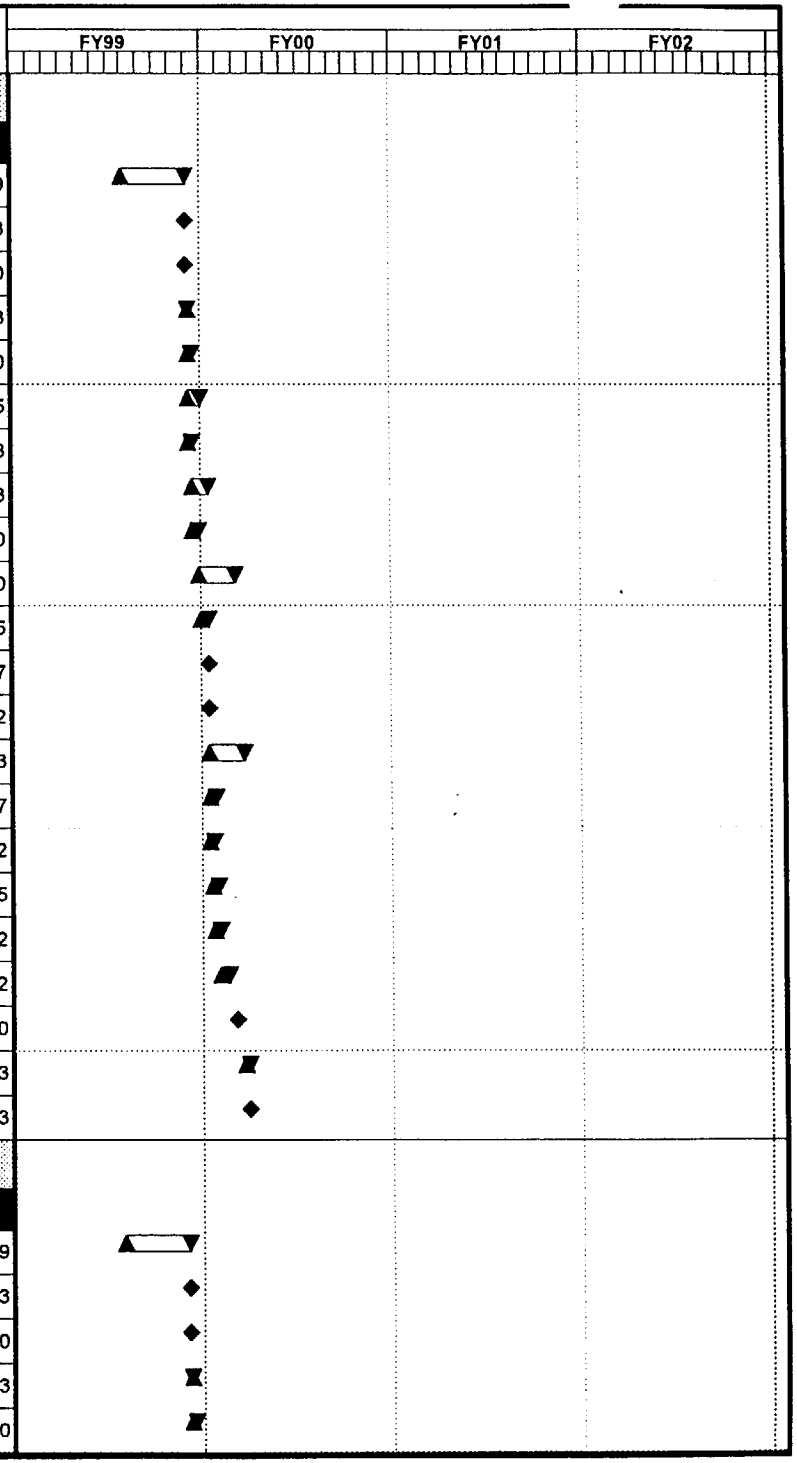
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
RPE392	EBS Rad Trans-Verify Model-Related Software		44	28OCT99	04JAN00	269
RPPM060C	3.10Q Chkg/Revw (EBS Radinuclide Trans Model)		10	02NOV99	16NOV99	64
RPE372	EBS Rad Trans-Procurement Related Issues ID'd to		0		15NOV99	286
RPE380	EBS Rad Trans-Data Related Software Issues Ident		0		15NOV99	271
RPE370	EBS Rad Trans-Verify/Trace Data		44	16NOV99	20JAN00	252
RPE374	EBS Rad Trans-Resolve Procurement Related Data I		10	16NOV99	01DEC99	286
RPE382	EBS Rad Trans-Determine if Data Rel SW is Under		5	16NOV99	22NOV99	271
RPPM060D	Prep Fnl 3.10Q Rpt (EBS Radinuclide Trans Model)		10	17NOV99	02DEC99	64
RPE384	EBS Rad Trans-Place Under SMS Control as Necessa		10	23NOV99	08DEC99	271
RPE386	EBS Rad Trans-Verify Data-Related Software		10	09DEC99	22DEC99	271
RPE394	EBS Rad Trans-Qualified/Verified SW Available		0		04JAN00	269
RPE376	EBS Rad Trans-Update TDMS		5	21JAN00	27JAN00	252
RPE378	EBS Rad Trans-Qualified/Verified Data Available		0		27JAN00	252
EB208 Seepage/Cement Interaction						
120 Engineered Barrier System Operations						
SLPA1308	Seepage/Cement Interaction - AP3.10Q		79	03MAY99*	23AUG99	66
SLPA1316	Sepg/Cemnt Int-Input Parameters and Data Identif		0		23AUG99	282
SLPA1318	Sepg/Cemnt Int-Models and Codes Identified		0		23AUG99	299
SLPA1310	Prep 3.10Q Drft Doc (Sepg/Cemnt Interaction)		18	24AUG99	17SEP99	94
SLPA1320	Sepg/Cemnt Int-Determine DTN Assignment		2	24AUG99	25AUG99	282
SLPA1322	Sepg/Cemnt Int-Determine if Model-Rel SW is Unde		5	24AUG99	30AUG99	299
SLPA1324	Sepg/Cemnt Int-Determine if Data/DTN in TDMS		3	26AUG99	30AUG99	282
SLPA1326	Sepg/Cemnt Int-Place Model-Related SW Under SMS		10	31AUG99	14SEP99	299
SLPA1328	Sepg/Cemnt Int-Submit Data/DTN to TDMS as Necess		22	31AUG99	30SEP99	282
SLPA1330	Sepg/Cemnt Int-Verify Model-Related Software		44	15SEP99	17NOV99	299
SLPA1312	3.10Q Chkg/Revw (Sepg/Cemnt Interaction)		10	20SEP99	01OCT99	94
SLPA1332	Sepg/Cemnt Int-Procurement Related Issues ID'd t		0		30SEP99	316
SLPA1334	Sepg/Cemnt Int-Data Related Software Issues Iden		0		30SEP99	301
SLPA1336	Sepg/Cemnt Int-Determine if Data Rel SW is Under		5	01OCT99	07OCT99	301
SLPA1338	Sepg/Cemnt Int-Resolve Procurement Related Data		10	01OCT99	15OCT99	316
SLPA1340	Sepg/Cemnt Int-Verify/Trace Data		44	01OCT99	07DEC99	282



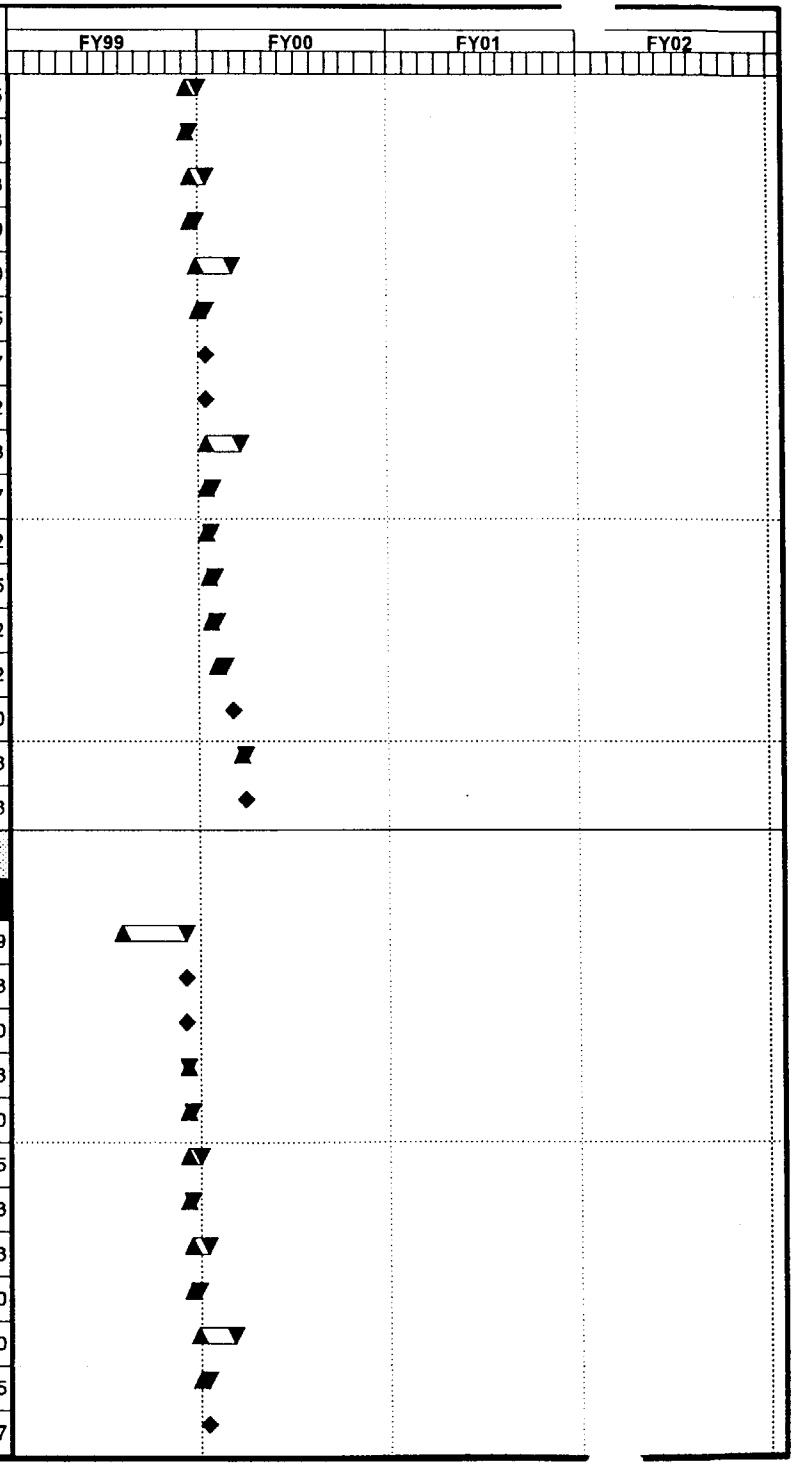
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1314	Prep Fnl 3.10Q Rpt (Sepg/Cemnt Interaction)		10	04OCT99	18OCT99	94
SLPA1342	Sepg/Cemnt Int-Place Under SMS Control as Necess		10	08OCT99	22OCT99	301
SLPA1344	Sepg/Cemnt Int-Verify Data-Related Software		10	25OCT99	05NOV99	301
SLPA1346	Sepg/Cemnt Int-Qualified/Verified SW Available		0		17NOV99	299
SLPA1348	Sepg/Cemnt Int-Update TDMS		5	08DEC99	14DEC99	282
SLPA1350	Sepg/Cemnt Int-Qualified/Verified Data Available		0		14DEC99	282
EB215 Seepage/Invert Interaction						
120 Engineered Barrier System Operations						
SLPA1352	Seepage/Invert Interaction - Ap3.10Q		46	03MAY99*	07JUL99	99
SLPA1360	Sepg/Invert Int-Input Parameters and Data Identi		0		07JUL99	315
SLPA1362	Sepg/Invert Int-Models and Codes Identified		0		07JUL99	332
SLPA1354	Prep 3.10Q Drft Doc (Sepg/Invert Interaction)		18	08JUL99	02AUG99	127
SLPA1364	Sepg/Invert Int-Determine DTN Assignment		2	08JUL99	09JUL99	315
SLPA1366	Sepg/Invert Int-Determine if Model-Rel SW is Und		5	08JUL99	14JUL99	332
SLPA1368	Sepg/Invert Int-Determine if Data/DTN in TDMS		3	12JUL99	14JUL99	315
SLPA1370	Sepg/Invert Int-Place Model-Related SW Under SMS		10	15JUL99	28JUL99	332
SLPA1372	Sepg/Invert Int-Submit Data/DTN to TDMS as Neces		22	15JUL99	13AUG99	315
SLPA1374	Sepg/Invert Int-Verify Model-Related Software		44	29JUL99	29SEP99	332
SLPA1356	3.10Q Chkg/Revw (Sepg/Invert Interaction)		10	03AUG99	16AUG99	127
SLPA1376	Sepg/Invert Int-Procurement Related Issues ID'd		0		13AUG99	349
SLPA1378	Sepg/Invert Int-Data Related Software Issues Ide		0		13AUG99	334
SLPA1380	Sepg/Invert Int-Determine if Data Rel SW is Unde		5	16AUG99	20AUG99	334
SLPA1382	Sepg/Invert Int-Resolve Procurement Related Data		10	16AUG99	27AUG99	349
SLPA1384	Sepg/Invert Int-Verify/Trace Data		44	16AUG99	18OCT99	315
SLPA1358	Prep Fnl 3.10Q Rpt (Sepg/Invert Interaction)		10	17AUG99	30AUG99	127
SLPA1386	Sepg/Invert Int-Place Under SMS Control as Neces		10	23AUG99	03SEP99	334
SLPA1388	Sepg/Invert Int-Verify Data-Related Software		10	07SEP99	20SEP99	334
SLPA1390	Sepg/Invert Int-Qualified/Verified SW Available		0		29SEP99	332
SLPA1392	Sepg/Invert Int-Update TDMS		5	19OCT99	25OCT99	315
SLPA1394	Sepg/Invert Int-Qualified/Verified Data Availabl		0		25OCT99	315



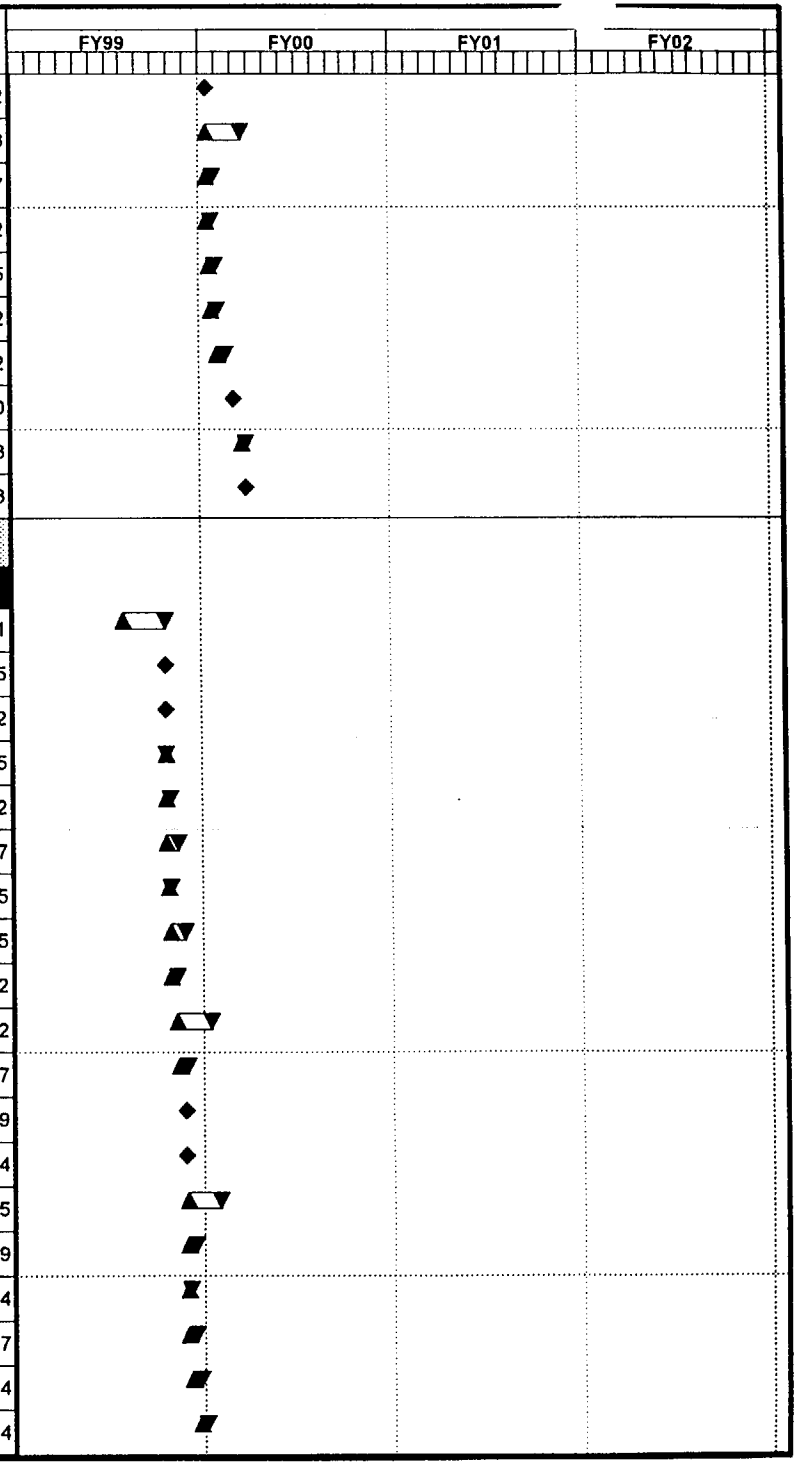
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
EB225 IN-Drift THC Analysis						
120 Engineered Barrier System Operations						
RPPM065A	In-Drift THC Analysis - AP3.10Q		88	03MAY99*	03SEP99	39
RPE396	In-Drift THC-Input Parameters and Data Identifie		0		03SEP99	273
RPE398	In-Drift THC-Models and Codes Identified		0		03SEP99	290
RPE400	In-Drift THC-Determine DTN Assignment		2	07SEP99	08SEP99	273
RPE424	In-Drift THC-Determine if Model-Rel SW is Under		5	07SEP99	13SEP99	290
RPPM065B	Prep 3.10Q Drft Doc(In-Drift THC Analysis)		18	07SEP99	30SEP99	85
RPE402	In-Drift THC-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99	273
RPE404	In-Drift THC-Submit Data/DTN to TDMS as Necessar		22	14SEP99	14OCT99	273
RPE426	In-Drift THC-Place Model-Related SW Under SMS Co		10	14SEP99	27SEP99	290
RPE428	In-Drift THC-Verify Model-Related Software		44	28SEP99	02DEC99	290
RPPM065C	3.10Q Chkg/Revw (In-Drift THC Analysis)		10	01OCT99	15OCT99	85
RPE408	In-Drift THC-Procurement Related Issues ID'd to		0		14OCT99	307
RPE416	In-Drift THC-Data Related Software Issues Identi		0		14OCT99	292
RPE406	In-Drift THC-Verify/Trace Data		44	15OCT99	20DEC99	273
RPE410	In-Drift THC-Resolve Procurement Related Data Is		10	15OCT99	28OCT99	307
RPE418	In-Drift THC-Determine if Data Rel SW is Under S		5	15OCT99	21OCT99	292
RPPM065D	Prep Fnl 3.10Q Rpt (In-Drift THC Analysis)		10	18OCT99	29OCT99	85
RPE420	In-Drift THC-Place Under SMS Control as Necessar		10	22OCT99	04NOV99	292
RPE422	In-Drift THC-Verify Data-Related Software		10	05NOV99	19NOV99	292
RPE430	In-Drift THC-Qualified/Verified SW Available		0		02DEC99	290
RPE412	In-Drift THC-Update TDMS		5	21DEC99	28DEC99	273
RPE414	In-Drift THC-Qualified/Verified Data Available		0		28DEC99	273
EB227 Drainage						
120 Engineered Barrier System Operations						
RPPM070A	Drainage - AP3.10Q		88	03MAY99*	03SEP99	39
RPE432	Drainage-Input Parameters and Data Identified		0		03SEP99	273
RPE434	Drainage-Models and Codes Identified		0		03SEP99	290
RPE436	Drainage-Determine DTN Assignment		2	07SEP99	08SEP99	273
RPE460	Drainage-Determine if Model-Rel SW is Under SMS		5	07SEP99	13SEP99	290



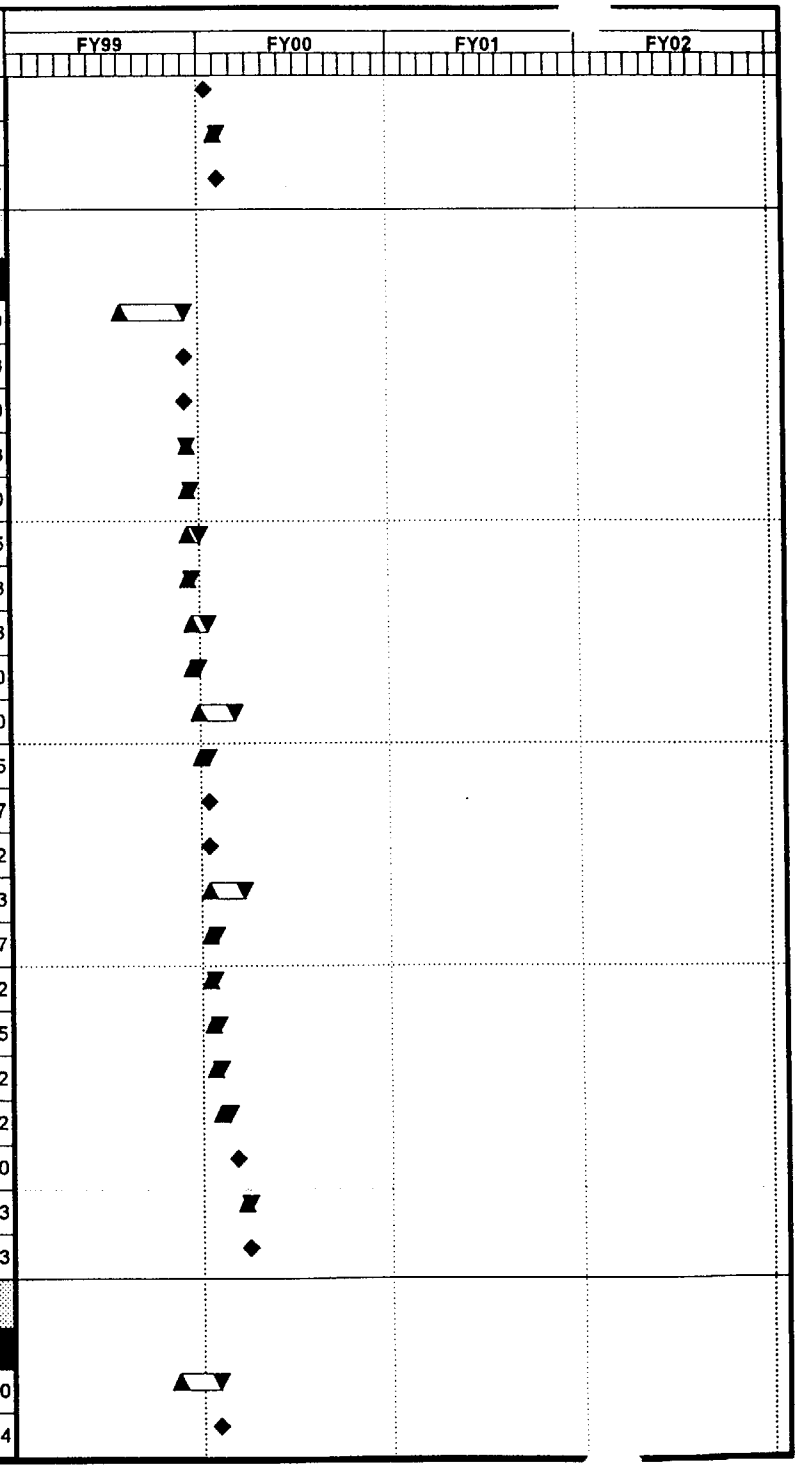
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
RPPM070B	Prep 3.10Q Drft Doc(Drainage)		18	07SEP99	30SEP99	85
RPE438	Drainage-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99	273
RPE440	Drainage-Submit Data/DTN to TDMS as Necessary		22	14SEP99	14OCT99	273
RPE462	Drainage-Place Model-Related SW Under SMS Contro		10	14SEP99	27SEP99	290
RPE464	Drainage-Verify Model-Related Software		44	28SEP99	02DEC99	290
RPPM070C	3.10Q Chkg/Revw (Drainage)		10	01OCT99	15OCT99	85
RPE444	Drainage-Procurement Related Issues ID'd to Car		0		14OCT99	307
RPE452	Drainage-Data Related Software Issues Identified		0		14OCT99	292
RPE442	Drainage-Verify/Trace Data		44	15OCT99	20DEC99	273
RPE446	Drainage-Resolve Procurement Related Data Issues		10	15OCT99	28OCT99	307
RPE454	Drainage-Determine if Data Rel SW is Under SMS C		5	15OCT99	21OCT99	292
RPPM070D	Prep Fnl 3.10Q Rpt (Drainage)		10	18OCT99	29OCT99	85
RPE456	Drainage-Place Under SMS Control as Necessary		10	22OCT99	04NOV99	292
RPE458	Drainage-Verify Data-Related Software		10	05NOV99	19NOV99	292
RPE466	Drainage-Qualified/Verified SW Available		0		02DEC99	290
RPE448	Drainage-Update TDMS		5	21DEC99	28DEC99	273
RPE450	Drainage-Qualified/Verified Data Available		0		28DEC99	273
EB229 Ventilation						
120 Engineered Barrier System Operations						
RPPM075A	Ventilation - AP3.10Q		88	03MAY99*	03SEP99	39
RPE828	Ventilation-Input Parameters and Data Identified		0		03SEP99	273
RPE830	Ventilation-Models and Codes Identified		0		03SEP99	290
RPE832	Ventilation-Determine DTN Assignment		2	07SEP99	08SEP99	273
RPE856	Ventilation-Determine if Model-Rel SW is Under S		5	07SEP99	13SEP99	290
RPPM075B	Prep 3.10Q Drft Doc(Ventilation)		18	07SEP99	30SEP99	85
RPE834	Ventilation-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99	273
RPE836	Ventilation-Submit Data/DTN to TDMS as Necessary		22	14SEP99	14OCT99	273
RPE858	Ventilation-Place Model-Related SW Under SMS Con		10	14SEP99	27SEP99	290
RPE860	Ventilation-Verify Model-Related Software		44	28SEP99	02DEC99	290
RPPM075C	3.10Q Chkg/Revw (Ventilation)		10	01OCT99	15OCT99	85
RPE840	Ventilation-Procurement Related Issues ID'd to C		0		14OCT99	307



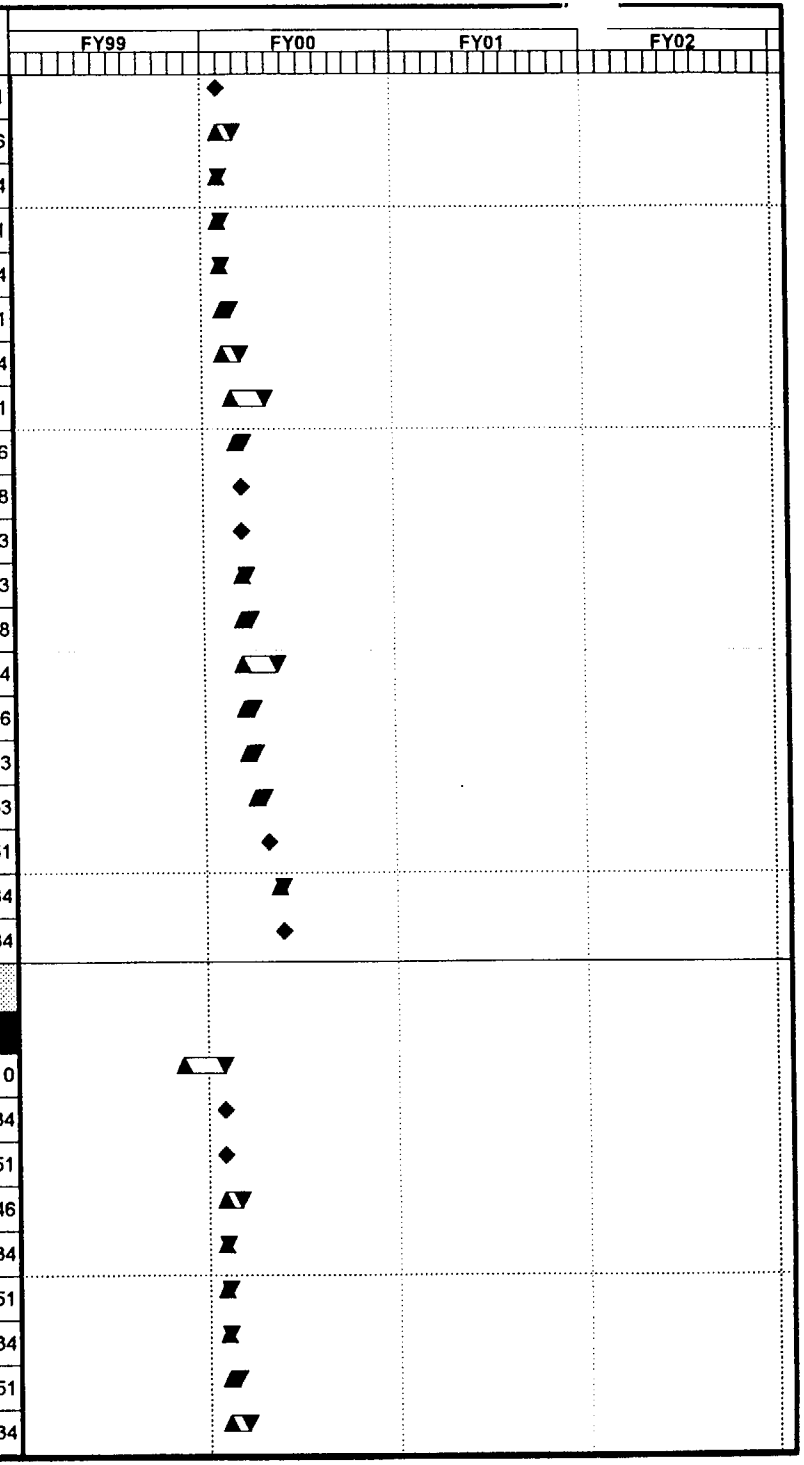
Activity ID	Activity Description	MILE	Orig dur	Earl, Start	Early Finish	Total Float
RPE848	Ventilation-Data Related Software Issues Identif		0		14OCT99	292
RPE838	Ventilation-Verify/Trace Data		44	15OCT99	20DEC99	273
RPE842	Ventilation-Resolve Procurement Related Data Iss		10	15OCT99	28OCT99	307
RPE850	Ventilation-Determine if Data Rel SW is Under SM		5	15OCT99	21OCT99	292
RPPM075D	Prep Fnl 3.10Q Rpt (Ventilation)		10	18OCT99	29OCT99	85
RPE852	Ventilation-Place Under SMS Control as Necessary		10	22OCT99	04NOV99	292
RPE854	Ventilation-Verify Data-Related Software		10	05NOV99	19NOV99	292
RPE862	Ventilation-Qualified/Verified SW Available		0		02DEC99	290
RPE844	Ventilation-Update TDMS		5	21DEC99	28DEC99	273
RPE846	Ventilation-Qualified/Verified Data Available		0		28DEC99	273
EB231 Drift Stability						
120 Engineered Barrier System Operations						
RPPM080A	Drift Stability - AP3.10Q		56	03MAY99*	21JUL99	71
RPE504	Drift Stability-Input Parameters and Data Identi		0		21JUL99	305
RPE506	Drift Stability-Models and Codes Identified		0		21JUL99	322
RPE508	Drift Stability-Determine DTN Assignment		2	22JUL99	23JUL99	305
RPE532	Drift Stability-Determine if Model-Rel SW is Und		5	22JUL99	28JUL99	322
RPPM080B	Prep 3.10Q Drft Doc(Drift Stability)		18	22JUL99	16AUG99	117
RPE510	Drift Stability-Determine if Data/DTN in TDMS		3	26JUL99	28JUL99	305
RPE512	Drift Stability-Submit Data/DTN to TDMS as Neces		22	29JUL99	27AUG99	305
RPE534	Drift Stability-Place Model-Related SW Under SMS		10	29JUL99	11AUG99	322
RPE536	Drift Stability-Verify Model-Related Software		44	12AUG99	14OCT99	322
RPPM080C	3.10Q Chkg/Revw (Drift Stability)		10	17AUG99	30AUG99	117
RPE516	Drift Stability-Procurement Related Issues ID'd		0		27AUG99	339
RPE524	Drift Stability-Data Related Software Issues Ide		0		27AUG99	324
RPE514	Drift Stability-Verify/Trace Data		44	30AUG99	01NOV99	305
RPE518	Drift Stability-Resolve Procurement Related Data		10	30AUG99	13SEP99	339
RPE526	Drift Stability-Determine if Data Rel SW is Unde		5	30AUG99	03SEP99	324
RPPM080D	Prep Fnl 3.10Q Rpt (Drift Stability)		10	31AUG99	14SEP99	117
RPE528	Drift Stability-Place Under SMS Control as Neces		10	07SEP99	20SEP99	324
RPE530	Drift Stability-Verify Data-Related Software		10	21SEP99	04OCT99	324



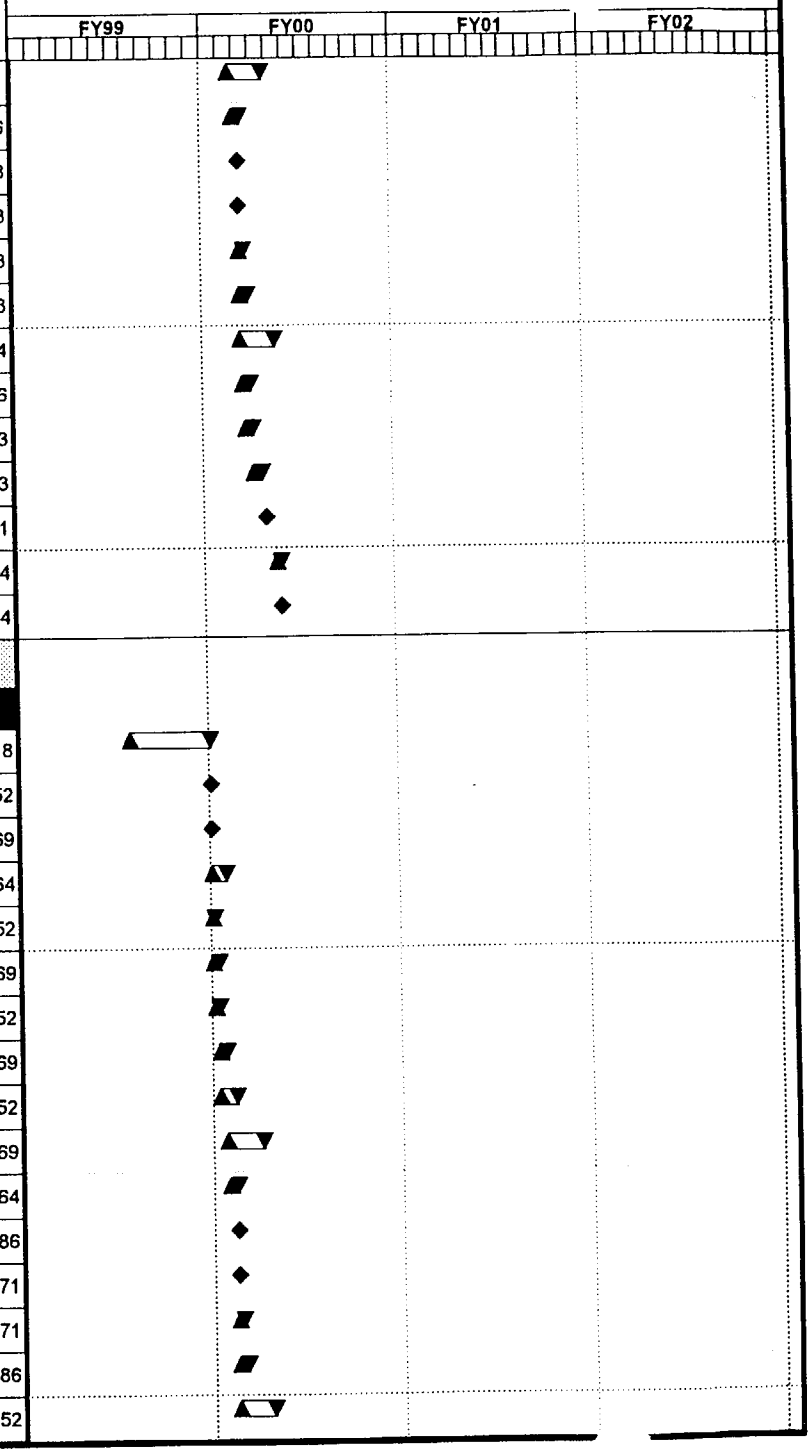
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
RPE538	Drift Stability-Qualified/Verified SW Available		0		14OCT99	322
RPE520	Drift Stability-Update TDMS		5	02NOV99	08NOV99	305
RPE522	Drift Stability-Qualified/Verified Data Availabl		0		08NOV99	305
EB235 Diversion Features						
120 Engineered Barrier System Operations						
RPPM085A	Diversion Features - AP3.10Q		88	03MAY99*	03SEP99	39
RPE540	Diversion Feat-Input Parameters and Data Identif		0		03SEP99	273
RPE542	Diversion Feat-Models and Codes Identified		0		03SEP99	290
RPE544	Diversion Feat-Determine DTN Assignment		2	07SEP99	08SEP99	273
RPE568	Diversion Feat-Determine if Model-Rel SW is Unde		5	07SEP99	13SEP99	290
RPPM085B	Prep 3.10Q Drft Doc(Diversion Features)		18	07SEP99	30SEP99	85
RPE546	Diversion Feat-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99	273
RPE548	Diversion Feat-Submit Data/DTN to TDMS as Necess		22	14SEP99	14OCT99	273
RPE570	Diversion Feat-Place Model-Related SW Under SMS		10	14SEP99	27SEP99	290
RPE572	Diversion Feat-Verify Model-Related Software		44	28SEP99	02DEC99	290
RPPM085C	3.10Q Chkg/Revw (Diversion Features)		10	01OCT99	15OCT99	85
RPE552	Diversion Feat-Procurement Related Issues ID'd t		0		14OCT99	307
RPE560	Diversion Feat-Data Related Software Issues Iden		0		14OCT99	292
RPE550	Diversion Feat-Verify/Trace Data		44	15OCT99	20DEC99	273
RPE554	Diversion Feat-Resolve Procurement Related Data		10	15OCT99	28OCT99	307
RPE562	Diversion Feat-Determine if Data Rel SW is Under		5	15OCT99	21OCT99	292
RPPM085D	Prep Fnl 3.10Q Rpt (Diversion Features)		10	18OCT99	29OCT99	85
RPE564	Diversion Feat-Place Under SMS Control as Necess		10	22OCT99	04NOV99	292
RPE566	Diversion Feat-Verify Data-Related Software		10	05NOV99	19NOV99	292
RPE574	Diversion Feat-Qualified/Verified SW Available		0		02DEC99	290
RPE556	Diversion Feat-Update TDMS		5	21DEC99	28DEC99	273
RPE558	Diversion Feat-Qualified/Verified Data Available		0		28DEC99	273
EB245 Water Distr/Rem Abstraction						
120 Engineered Barrier System Operations						
SLPA1396	Water Distr/Rem Abstraction - AP3.10Q		54	16AUG99*	01NOV99	0
SLPA1404	Water Distr/Rem Abst-Input Parameters and Data I		0		01NOV99	234



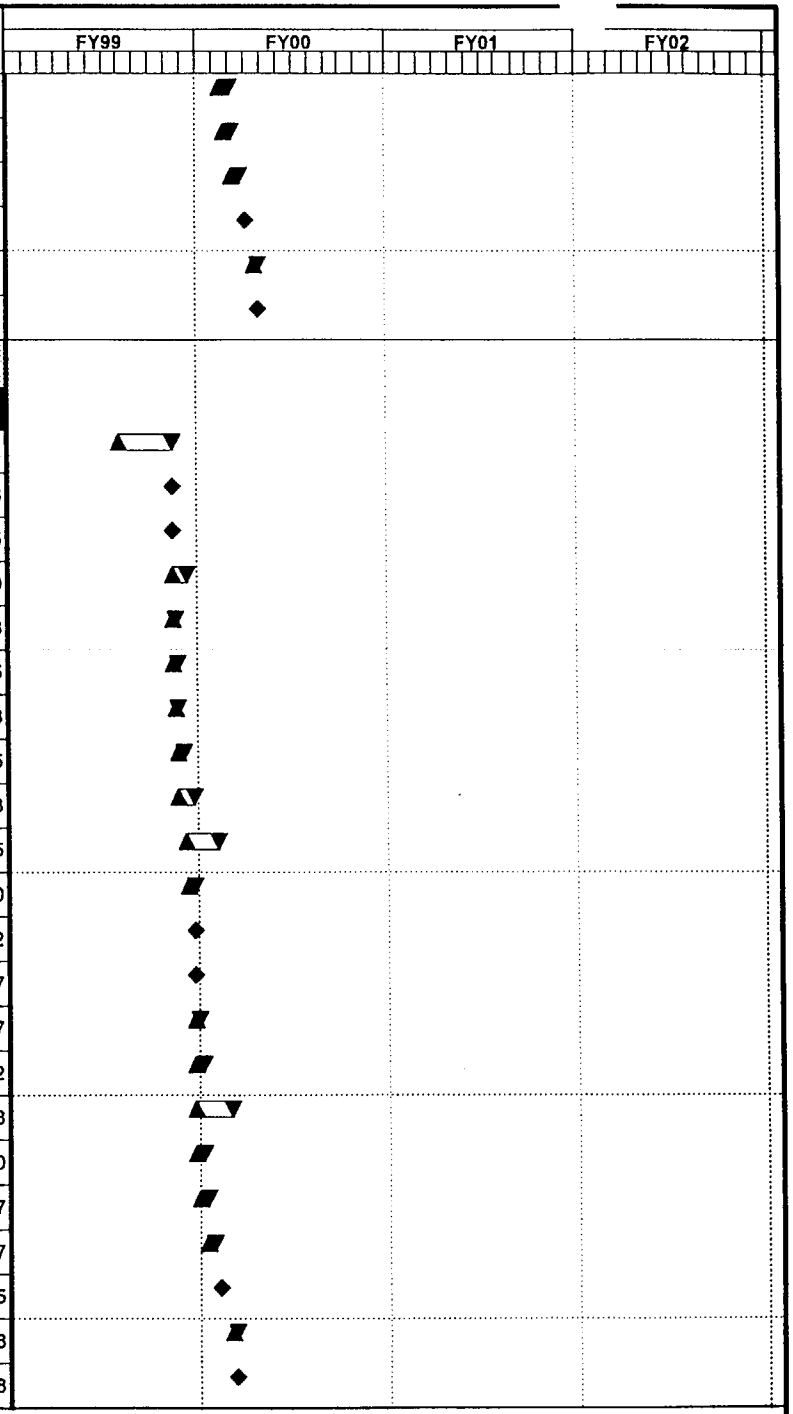
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1406	Water Distr/Rem Abst-Models and Codes Identified		0		01NOV99	251
SLPA1398	Prep 3.10Q Drft Doc(Water Distr/Rem Abstraction)		18	02NOV99	30NOV99	46
SLPA1408	Water Distr/Rem Abst-Determine DTN Assignment		2	02NOV99	03NOV99	234
SLPA1410	Water Distr/Rem Abst-Determine if Model-Rel SW i		5	02NOV99	08NOV99	251
SLPA1412	Water Distr/Rem Abst-Determine if Data/DTN in TD		3	04NOV99	08NOV99	234
SLPA1414	Water Distr/Rem Abst-Place Model-Related SW Unde		10	09NOV99	23NOV99	251
SLPA1416	Water Distr/Rem Abst-Submit Data/DTN to TDMS as		22	09NOV99	13DEC99	234
SLPA1418	Water Distr/Rem Abst-Verify Model-Related Softwa		44	24NOV99	28JAN00	251
SLPA1400	3.10Q Chkg/Revw (Water Distr/Rem Abstraction)		10	01DEC99	14DEC99	46
SLPA1420	Water Distr/Rem Abst-Procurement Related Issues		0		13DEC99	268
SLPA1422	Water Distr/Rem Abst-Data Related Software Issue		0		13DEC99	253
SLPA1424	Water Distr/Rem Abst-Determine if Data Rel SW is		5	14DEC99	20DEC99	253
SLPA1426	Water Distr/Rem Abst-Resolve Procurement Related		10	14DEC99	28DEC99	268
SLPA1428	Water Distr/Rem Abst-Verify/Trace Data		44	14DEC99	15FEB00	234
SLPA1402	Prep Fnl 3.10Q Rpt (Water Distr/Rem Abstraction)		10	15DEC99	29DEC99	46
SLPA1430	Water Distr/Rem Abst-Place Under SMS Contro as		10	21DEC99	05JAN00	253
SLPA1432	Water Distr/Rem Abst-Verify Data-Related Softwar		10	06JAN00	19JAN00	253
SLPA1434	Water Distr/Rem Abst-Qualified/Verified SW Avail		0		28JAN00	251
SLPA1436	Water Distr/Rem Abst-Update TDMS		5	16FEB00	23FEB00	234
SLPA1438	Water Distr/Rem Abst-Qualified/Verified Data Ava		0		23FEB00	234
EB255 EBS Rad. Trans. Abstraction						
120 Engineered Barrier System Operations						
SLPA1440	EBS Rad. Trans. Abstraction - AP3.10Q		54	16AUG99*	01NOV99	0
SLPA1448	EBS Rad. Trans. Abst-Input Parameters and Data I		0		01NOV99	234
SLPA1450	EBS Rad. Trans. Abst-Models and Codes Identified		0		01NOV99	251
SLPA1442	Prep 3.10Q Drft Doc(EBS Rad. Trans. Abstraction)		18	02NOV99	30NOV99	46
SLPA1452	EBS Rad. Trans. Abst-Determine DTN Assignment		2	02NOV99	03NOV99	234
SLPA1454	EBS Rad. Trans. Abst-Determine if Model-Rel SW i		5	02NOV99	08NOV99	251
SLPA1456	EBS Rad. Trans. Abst-Determine if Data/DTN in TD		3	04NOV99	08NOV99	234
SLPA1458	EBS Rad. Trans. Abst-Place Model-Related SW Unde		10	09NOV99	23NOV99	251
SLPA1460	EBS Rad. Trans. Abst-Submit Data/DTN to TDMS as		22	09NOV99	13DEC99	234



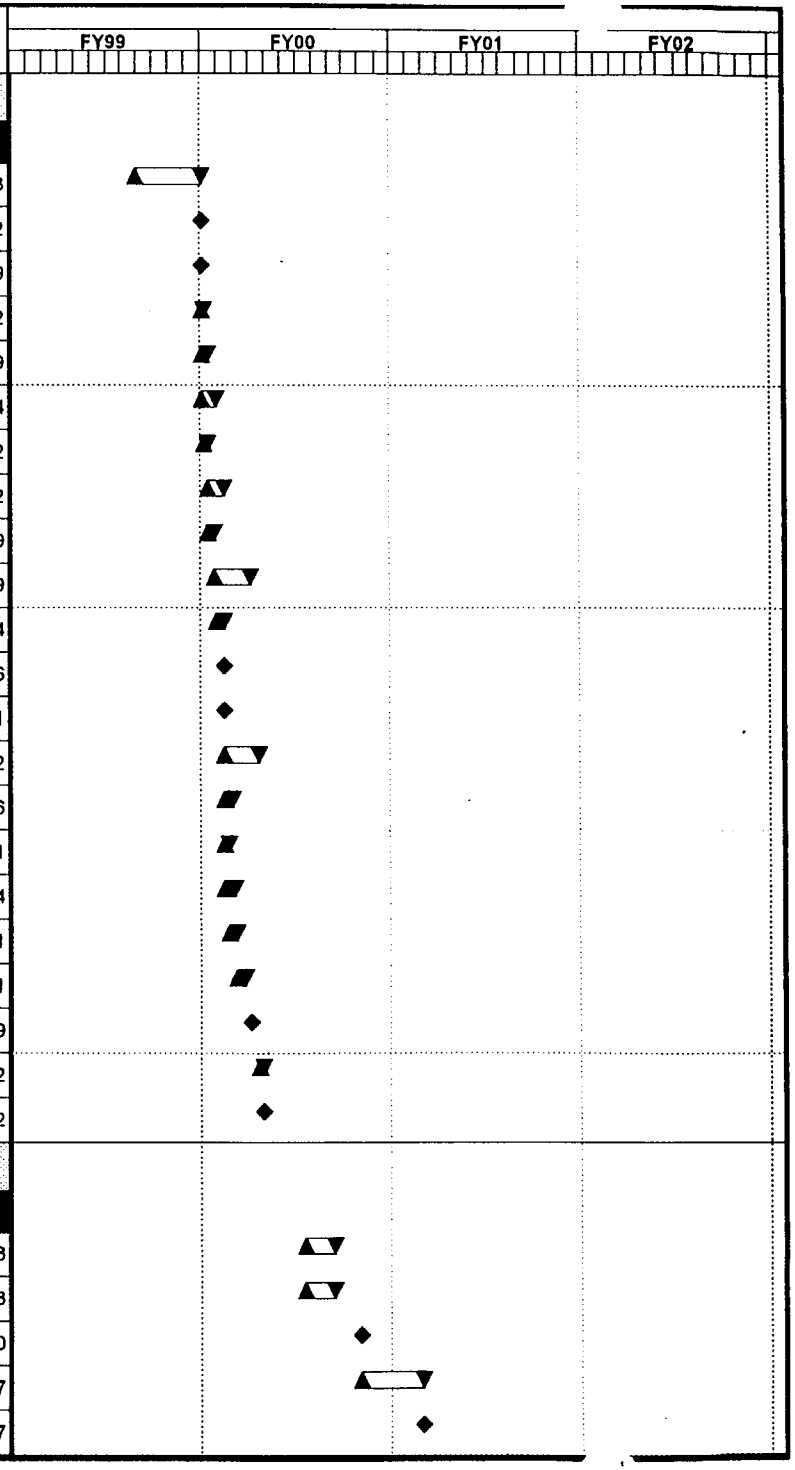
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1462	EBS Rad. Trans. Abst-Verify Model-Related Softwa		44	24NOV99	28JAN00	251
SLPA1444	3.10Q Chkg/Revw (EBS Rad. Trans. Abstraction)		10	01DEC99	14DEC99	46
SLPA1464	EBS Rad. Trans. Abst-Procurement Related Issues		0		13DEC99	268
SLPA1466	EBS Rad. Trans. Abst-Data Related Software Issue		0		13DEC99	253
SLPA1468	EBS Rad. T Abst-Determine if Data Rel SW is		5	14DEC99	20DEC99	253
SLPA1470	EBS Rad. Trans. Abst-Resolve Procurement Related		10	14DEC99	28DEC99	268
SLPA1472	EBS Rad. Trans. Abst-Verify/Trace Data		44	14DEC99	15FEB00	234
SLPA1446	Prep Fnl 3.10Q Rpt (EBS Rad. Trans. Abstraction)		10	15DEC99	29DEC99	46
SLPA1474	EBS Rad. Trans. Abst-Place Under SMS Control as		10	21DEC99	05JAN00	253
SLPA1476	EBS Rad. Trans. Abst-Verify Data-Related Softwar		10	06JAN00	19JAN00	253
SLPA1478	EBS Rad. Trans. Abst-Qualified/Verified SW Avail		0		28JAN00	251
SLPA1480	EBS Rad. Trans. Abst-Update TDMS		5	16FEB00	23FEB00	234
SLPA1482	EBS Rad. Trans. Abst-Qualified/Verified Data Ava		0		23FEB00	234
EB35 Phy/Chem Process Model						
120 Engineered Barrier System Operations						
SLPA1484	Phy/Chem Process Model - AP3.10Q		109	03MAY99*	05OCT99	18
SLPA1492	Phy/Chem Proc-Input Parameters and Data Identifi		0		05OCT99	252
SLPA1494	Phy/Chem Proc-Models and Codes Identified		0		05OCT99	269
SLPA1486	Prep 3.10Q Drft Doc(Phy/Chem Process Model)		18	06OCT99	01NOV99	64
SLPA1496	Phy/Chem Proc-Determine DTN Assignment		2	06OCT99	07OCT99	252
SLPA1498	Phy/Chem Proc-Determine if Model-Rel SW is Under		5	06OCT99	13OCT99	269
SLPA1500	Phy/Chem Proc-Determine if Data/DTN in TDMS		3	08OCT99	13OCT99	252
SLPA1502	Phy/Chem Proc-Place Model-Related SW Under SMS C		10	14OCT99	27OCT99	269
SLPA1504	Phy/Chem Proc-Submit Data/DTN to TDMS as Necessa		22	14OCT99	15NOV99	252
SLPA1506	Phy/Chem Proc-Verify Model-Related Software		44	28OCT99	04JAN00	269
SLPA1488	3.10Q Chkg/Revw(Phy/Chem Process Model)		10	02NOV99	16NOV99	64
SLPA1508	Phy/Chem Proc-Procurement Related Issues ID'd to		0		15NOV99	286
SLPA1510	Phy/Chem Proc-Data Related Software Issues Ident		0		15NOV99	271
SLPA1512	Phy/Chem Proc-Determine if Data Rel SW is Under		5	16NOV99	22NOV99	271
SLPA1514	Phy/Chem Proc-Resolve Procurement Related Data I		10	16NOV99	01DEC99	286
SLPA1516	Phy/Chem Proc-Verify/Trace Data		44	16NOV99	20JAN00	252



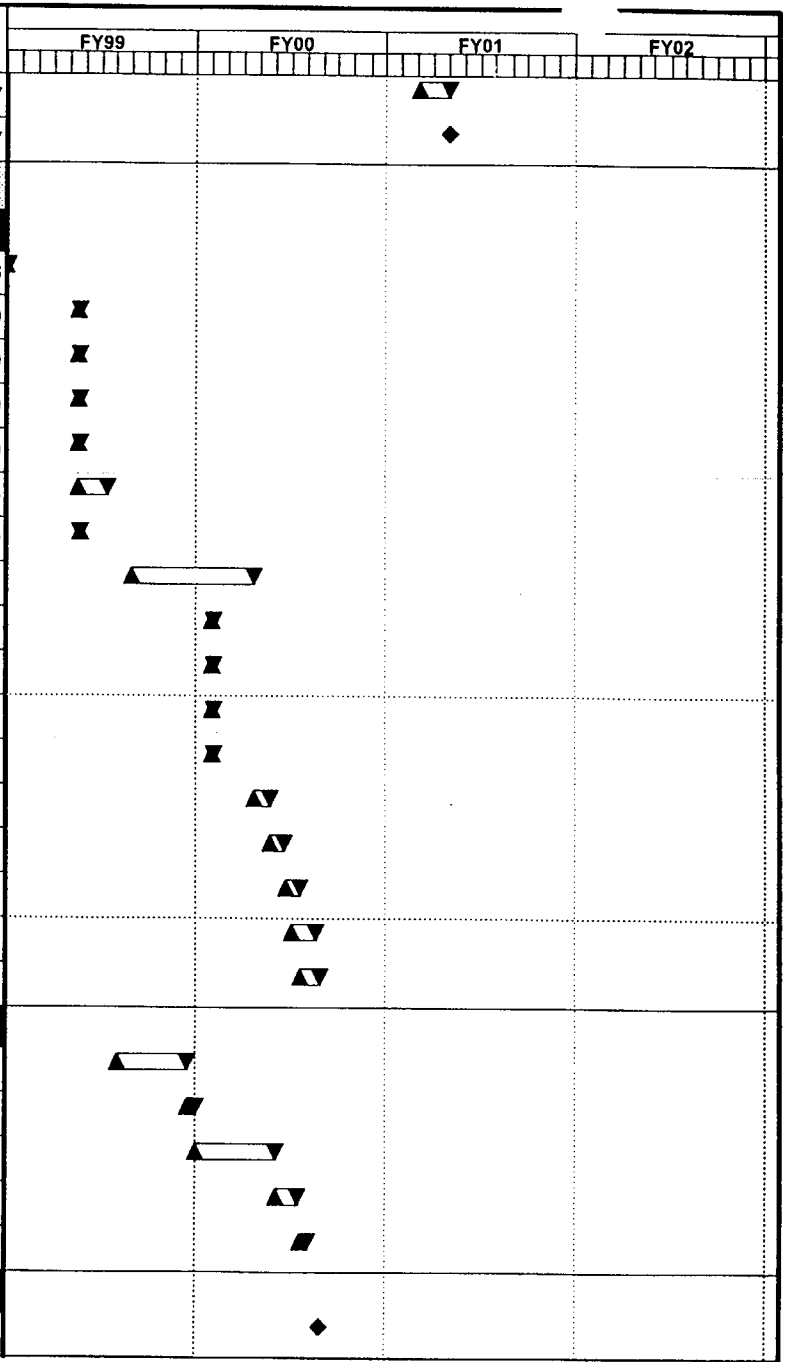
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1490	Prep Fnl 3.10Q Rpt(Phy/Chem Process Model)		10	17NOV99	02DEC99	64
SLPA1518	Phy/Chem Proc-Place Under SMS Control as Necessa		10	23NOV99	08DEC99	271
SLPA1520	Phy/Chem Proc-Verify Data-Related Software		10	09DEC99	22DEC99	271
SLPA1522	Phy/Chem Proc-Qualified/Verified SW Available		0		04JAN00	269
SLPA1524	Phy/Chem Proc-Update TDMS		5	21JAN00	27JAN00	252
SLPA1526	Phy/Chem Proc-Qualified/Verified Data Available		0		27JAN00	252
EB45 Precipitate Salts Analysis						
120 Engineered Barrier System Operations						
SLPA1528	Precipitate Salts Analysis - AP3.10Q		73	03MAY99*	13AUG99	72
SLPA1536	Precip Salts-Input Parameters and Data Identifie		0		13AUG99	288
SLPA1538	Precip Salts-Models and Codes Identified		0		13AUG99	305
SLPA1530	Prep 3.10Q Drft Doc(Precipitate Salts Analysis)		18	16AUG99	09SEP99	100
SLPA1540	Precip Salts-Determine DTN Assignment		2	16AUG99	17AUG99	288
SLPA1542	Precip Salts-Determine if Model-Rel SW is Under		5	16AUG99	20AUG99	305
SLPA1544	Precip Salts-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99	288
SLPA1546	Precip Salts-Place Model-Related SW Under SMS Co		10	23AUG99	03SEP99	305
SLPA1548	Precip Salts-Submit Data/DTN to TDMS as Necessar		22	23AUG99	22SEP99	288
SLPA1550	Precip Salts-Verify Model-Related Software		44	07SEP99	08NOV99	305
SLPA1532	3.10Q Chkg/Revw(Precipitate Salts Analysis)		10	10SEP99	23SEP99	100
SLPA1552	Precip Salts-Procurement Related Issues ID'd to		0		22SEP99	322
SLPA1554	Precip Salts-Data Related Software Issues Identi		0		22SEP99	307
SLPA1556	Precip Salts-Determine if Data Rel SW is Under S		5	23SEP99	29SEP99	307
SLPA1558	Precip Salts-Resolve Procurement Related Data Is		10	23SEP99	06OCT99	322
SLPA1560	Precip Salts-Verify/Trace Data		44	23SEP99	29NOV99	288
SLPA1534	Prep Fnl 3.10Q Rpt(Precipitates Salts Analysis)		10	24SEP99	07OCT99	100
SLPA1562	Precip Salts-Place Under SMS Control as Necessar		10	30SEP99	14OCT99	307
SLPA1564	Precip Salts-Verify Data-Related Software		10	15OCT99	28OCT99	307
SLPA1566	Precip Salts-Qualified/Verified SW Available		0		08NOV99	305
SLPA1568	Precip Salts-Update TDMS		5	30NOV99	06DEC99	288
SLPA1570	Precip Salts-Qualified/Verified Data Available		0		06DEC99	288



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
EB95 EBS Degradation Modes & FEPs Analysis						
120 Engineered Barrier System Operations						
RPPM110A	EBS FEPs/Degradation Modes Analysis - AP3.10Q		89	01JUN99*	05OCT99	18
RPE720	EBS Degrad Modes-Input Parameters and Data Ident		0		05OCT99	252
RPE722	EBS Degrad Modes-Models and Codes Identified		0		05OCT99	269
RPE724	EBS Degrad Modes-Determine DTN Assignment		2	06OCT99	07OCT99	252
RPE748	EBS Degrad Modes-Determine if Model-Rel SW is Un		5	06OCT99	13OCT99	269
RPPM110B	Prep 3.10Q Drft Doc(EBS Degrad Modes&FEPs Analy)		18	06OCT99	01NOV99	64
RPE726	EBS Degrad Modes-Determine if Data/DTN in TDMS		3	08OCT99	13OCT99	252
RPE728	EBS Degrad Modes-Submit Data/DTN to TDMS as Nece		22	14OCT99	15NOV99	252
RPE750	EBS Degrad Modes-Place Model-Related SW Under SM		10	14OCT99	27OCT99	269
RPE752	EBS Degrad Modes-Verify Model-Related Software		44	28OCT99	04JAN00	269
RPPM110C	3.10Q Chkg/Revw(EBS Degrad Modes&FEPs Analysis)		10	02NOV99	16NOV99	64
RPE732	EBS Degrad Modes-Procurement Related Issues ID'd		0		15NOV99	286
RPE740	EBS Degrad Modes-Data Related Software Issues Id		0		15NOV99	271
RPE730	EBS Degrad Modes-Verify/Trace Data		44	16NOV99	20JAN00	252
RPE734	EBS Degrad Modes-Resolve Procurement Related Dat		10	16NOV99	01DEC99	286
RPE742	EBS Degrad Modes-Determine if Data Rel SW is Und		5	16NOV99	22NOV99	271
RPPM110D	Prep Fnl 3.10Q Rpt(EBS Degrad M[illegible]&FEPs Analy)		10	17NOV99	02DEC99	64
RPE744	EBS Degrad Modes-Place Under SMS Control as Nece		10	23NOV99	08DEC99	271
RPE746	EBS Degrad Modes-Verify Data-Related Software		10	09DEC99	22DEC99	271
RPE754	EBS Degrad Modes-Qualified/Verified SW Available		0		04JAN00	269
RPE736	EBS Degrad Modes-Update TDMS		5	21JAN00	27JAN00	252
RPE738	EBS Degrad Modes-Qualified/Verified Data Availab		0		27JAN00	252
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
RPE00A	Revise EBS PMR AP 3.10Q's for SR		41	18APR00	14JUN00	33
RPE00B	Prepare EBS PMR REV-02A for SR		41	18APR00	14JUN00	33
RPE00BM4	EBS PMR Rev-02A for SR	M4	0		01AUG00*	0
RPE00C	M&O Review EBS PMR Rev-02A for SR		83	02AUG00	01DEC00	17
RPE00CM3	EBS PMR Rev-02 for SR	M3	0		01DEC00	17



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
RPE00D	DOE Review EBS PMR 02 for SR		41	04DEC00	31JAN01	17
RPE00EM3	Rev 03 EBS PMR for SR	M3	0		31JAN01	17
120 Engineered Barrier System Operations						
RPEB267	WP Data (Input)		1	01OCT98*	01OCT98	156
RPEB266	Laboratory Test Data (Input)		1	17FEB99*	17FEB99	69
RPEB272	NF Data (Input)		1	17FEB99*	17FEB99	69
RPEB273	EBS Test Data (Input)		1	17FEB99*	17FEB99	69
RPEB274	EBS Design Data (Input)		1	17FEB99*	17FEB99	69
RPEB5	Write TDPP for Overall Process Model		41	17FEB99*	14APR99	223
RPEB275	Test & Supporting Data (Input)		1	18FEB99	18FEB99*	69
RPEB100	Develop EBS PMR Rev. 00A	ZZ	158	01JUN99*	18JAN00	33
RPPM125A	Feed to TSPA(Water Distr/Rem Abstraction)	ZZ	1	02NOV99	02NOV99	122
RPPM130A	Feed to TSPA (Phy/Chem Abstraction)	ZZ	1	02NOV99	02NOV99	122
RPPM135A	Feed to TSPA (Degr. Mode Abstraction)	ZZ	1	02NOV99	02NOV99	122
RPPM140A	Feed to TSPA(EBS Rad. Trans Abstraction)	ZZ	1	02NOV99	02NOV99	122
RPEB75	EBS PMR M&O Review (Rev 00A)		22	19JAN00	17FEB00	33
RPEB145	Prepare EBS PMR Rev. 00B		20	18FEB00	17MAR00	33
RPEB85	EBS PMR DOE Review (Rev. 00B)	ZZ	21	20MAR00	17APR00	33
WPPMRA20	Waste Forms PMR DOE Review		35	03APR00	19MAY00	38
RPEB105	EBS PMR Rev. 01 (Incorp DOE Comments)		26	18APR00	23MAY00	36
150 Support Operations						
BMP140	PIM 3.10Q/PMR Planning & Text Support(EBS)		94	03MAY99*	14SEP99	34
BMP144	PIM Text & M&O Review Prep Support (EBS)		12	15SEP99	30SEP99	34
BMP148	Cont PIM Text & M&O Review Prep Support (EBS)		103	01OCT99	02MAR00	34
BMP152	PIM M&O Rev. & DOE Rev. Prep Support (EBS)		31	03MAR00	14APR00	34
BMP156	PIM DOE Rev. & Final Accept. Support (EBS)		11	17APR00	01MAY00	52
300 Regulatory & Licensing						
SLEB105M3	Rev 01 EBS PMR	M3	0		23MAY00	36



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G1005

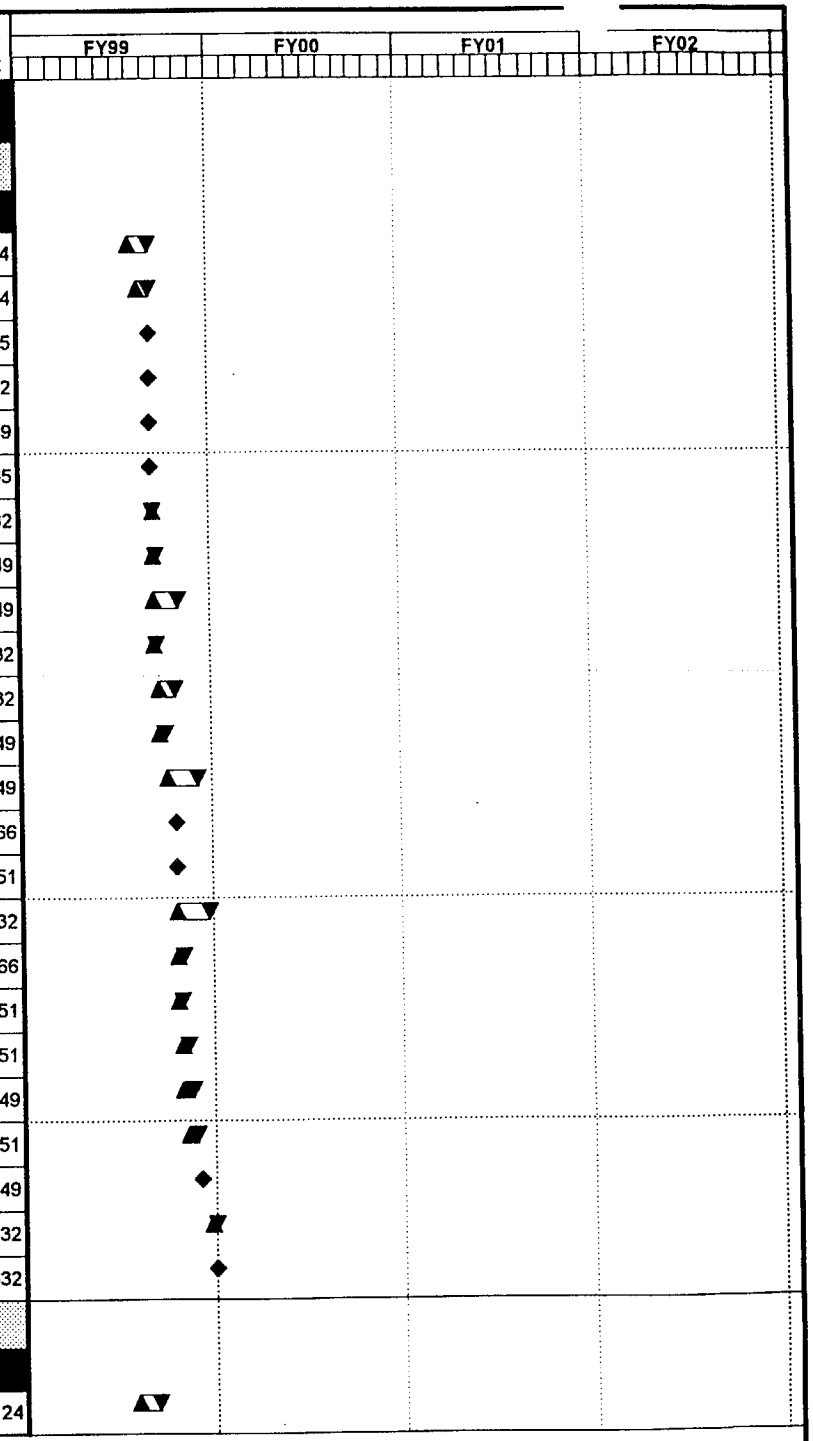
110 Waste Package Operations

Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPPMRI0	3.10Q Data (Inventory-CSNF)		29	03MAY99*	11JUN99	24
WPPMRI5	Prepare Draft Inventory CSNF - 00A		17	19MAY99*	11JUN99	24
SLPA1812	Receive Draft Inventory CSNF - 00A		0		11JUN99*	35
WPG008	Inventory-CSNF-Input Parameters and Data Identif		0		11JUN99	332
WPG010	Inventory-CSNF-Models and Codes Identified		0		11JUN99	349
WPP700M4	Provide Draft Inventory CSNF Data to PA		0		11JUN99	35
WPG012	Inventory-CSNF-Determine DTN Assignment		2	14JUN99	15JUN99	332
WPG036	Inventory-CSNF-Determine if Model-Rel SW is Unde		5	14JUN99	18JUN99	349
WPPMRJ0	3.10Q Checking/Review (Inventory-CSNF)		33	14JUN99	29JUL99	49
WPG014	Inventory-CSNF-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99	332
WPG016	Inventory-CSNF-Submit Data/DTN to TDMS as Necess		22	21JUN99	21JUL99	332
WPG038	Inventory-CSNF-Place Model-Related SW Under SMS		10	21JUN99	02JUL99	349
WPG040	Inventory-CSNF-Verify Model-Related Software		44	06JUL99	03SEP99	349
WPG020	Inventory-CSNF-Procurement Related Issues ID'd t		0		21JUL99	366
WPG028	Inventory-CSNF-Data Related Software Issues Iden		0		21JUL99	351
WPG018	Inventory-CSNF-Verify/Trace Data		44	22JUL99	22SEP99	332
WPG022	Inventory-CSNF-Resolve Procurement Related Data		10	22JUL99	04AUG99	366
WPG030	Inventory-CSNF-Determine if Data Rel SW is Under		5	22JUL99	28JUL99	351
WPG032	Inventory-CSNF-Place Under SMS Control as Necess		10	29JUL99	11AUG99	351
WPPMRJ5	Prepare Final 3.10Q Report (Inventory-CSNF)		15	30JUL99	19AUG99	49
WPG034	Inventory-CSNF-Verify Data-Related Software		10	12AUG99	25AUG99	351
WPG042	Inventory-CSNF-Qualified/Verified SW Available		0		03SEP99	349
WPG024	Inventory-CSNF-Update TDMS		5	23SEP99	29SEP99	332
WPG026	Inventory-CSNF-Qualified/Verified Data Available		0		29SEP99	332

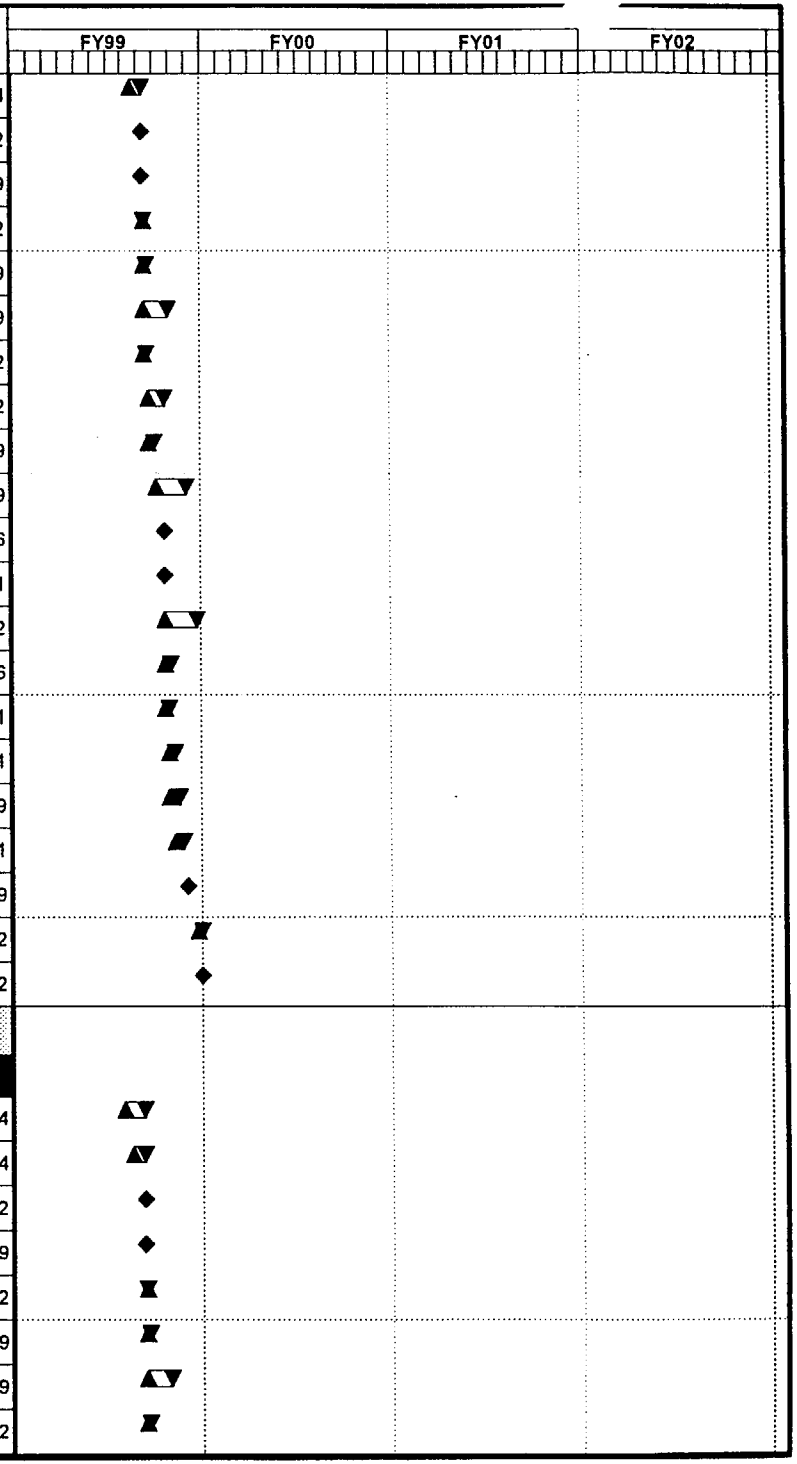
G1010

110 Waste Package Operations

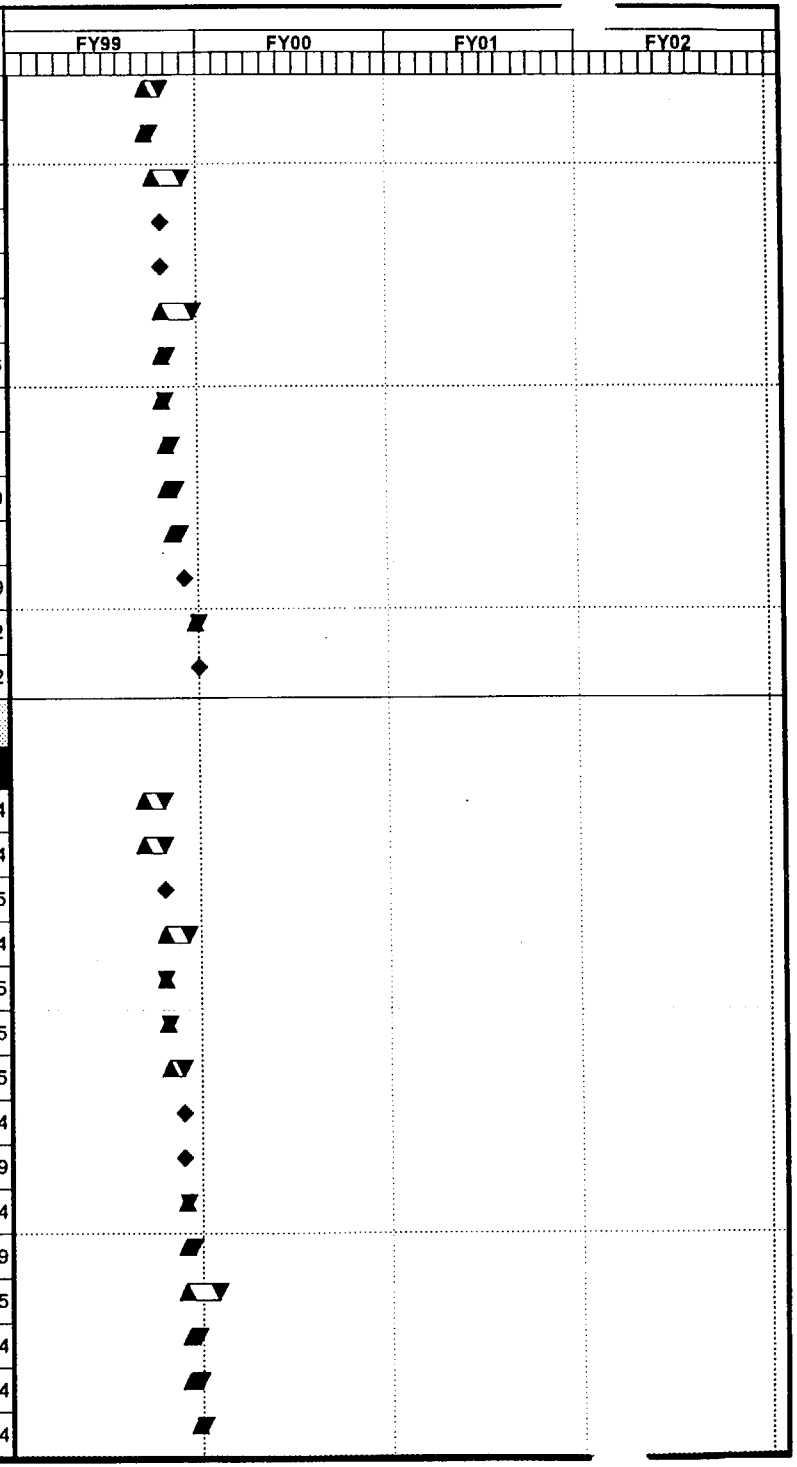
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPPMRG0	3.10Q Data (Inventory-DSNF)		29	03MAY99*	11JUN99	24



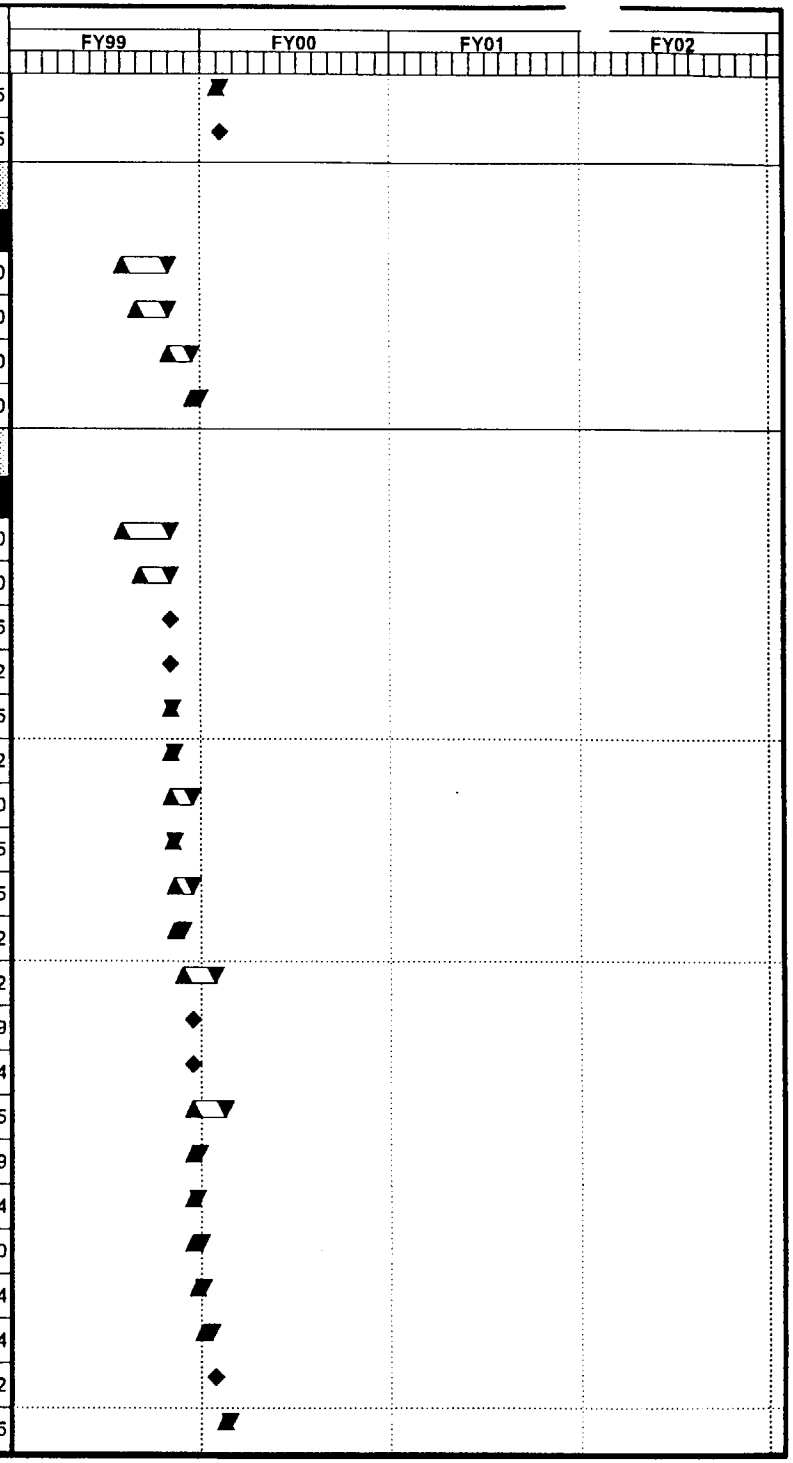
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPPMRG5	Prepare Draft Inventory DSNF - 00A		17	19MAY99*	11JUN99	24
WPF972	Inventory DSNF-Input Parameters and Data Identif		0		11JUN99	332
WPF974	Inventory DSNF-Models and Codes Identified		0		11JUN99	349
WPF976	Inventory DSNF-Determine DTN Assignment		2	14JUN99	15JUN99	332
WPG000	Inventory DSNF-Determine if Model-Rel SW is Unde		5	14JUN99	18JUN99	349
WPPMRH0	3.10Q Checking/Review Inventory DSNF - 00A		33	14JUN99	29JUL99	49
WPF978	Inventory DSNF-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99	332
WPF980	Inventory DSNF-Submit Data/DTN to TDMS as Necess		22	21JUN99	21JUL99	332
WPG002	Inventory DSNF-Place Model-Related SW Under SMS		10	21JUN99	02JUL99	349
WPG004	Inventory DSNF-Verify Model-Related Software		44	06JUL99	03SEP99	349
WPF984	Inventory DSNF-Procurement Related Issues ID'd t		0		21JUL99	366
WPF992	Inventory DSNF-Data Related Software Issues Iden		0		21JUL99	351
WPF982	Inventory DSNF-Verify/Trace Data		44	22JUL99	22SEP99	332
WPF986	Inventory DSNF-Resolve Procurement Related Data		10	22JUL99	04AUG99	366
WPF994	Inventory DSNF-Determine if Data Rel SW is Under		5	22JUL99	28JUL99	351
WPF996	Inventory DSNF-Place Under SMS Control as Necess		10	29JUL99	11AUG99	351
WPPMRH5	Prepare Final 3.10Q Report Inventory DSNF - 00A		15	30JUL99	19AUG99	49
WPF998	Inventory DSNF-Verify Data-Related Software		10	12AUG99	25AUG99	351
WPG006	Inventory DSNF-Qualified/Verified SW Available		0		03SEP99	349
WPF988	Inventory DSNF-Update TDMS		5	23SEP99	29SEP99	332
WPF990	Inventory DSNF-Qualified/Verified Data Available		0		29SEP99	332
G1015						
110 Waste Package Operations						
WPPMRE0	3.10Q Data (Inventory-HLW)		29	03MAY99*	11JUN99	24
WPPMRE5	Prepare Draft Inventory HLW - 00A		17	19MAY99*	11JUN99	24
WPF684	Inventory HLW-Input Parameters and Data Identifi		0		11JUN99	332
WPF686	Inventory HLW-Models and Codes Identified		0		11JUN99	349
WPF688	Inventory HLW-Determine DTN Assignment		2	14JUN99	15JUN99	332
WPF712	Inventory HLW-Determine if Model-Rel SW is Under		5	14JUN99	18JUN99	349
WPPMRF0	3.10Q Checking/Review Inventory HLW - 00A		33	14JUN99	29JUL99	49
WPF690	Inventory HLW-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99	332



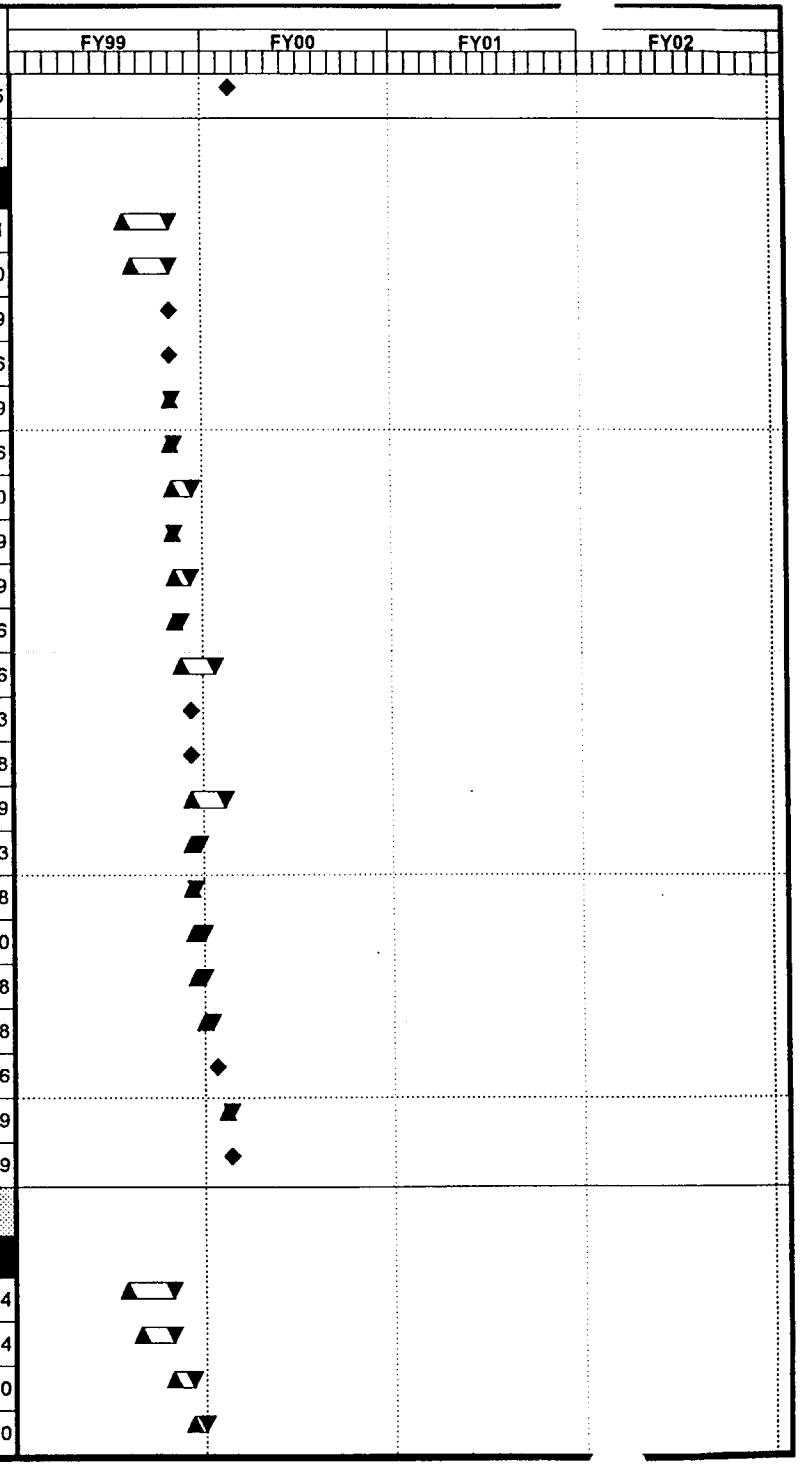
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPF692	Inventory HLW-Submit Data/DTN to TDMS as Necessa		22	21JUN99	21JUL99	332
WPF714	Inventory HLW-Place Model-Related SW Under SMS C		10	21JUN99	02JUL99	349
WPF716	Inventory HLW-Verify Model-Related Software		44	06JUL99	03SEP99	349
WPF696	Inventory HLW-Procurement Related Issues ID'd to		0		21JUL99	366
WPF704	Inventory HLW-Data Related Software Issues Ident		0		21JUL99	351
WPF694	Inventory HLW-Verify/Trace Data		44	22JUL99	22SEP99	332
WPF698	Inventory HLW-Resolve Procurement Related Data I		10	22JUL99	04AUG99	366
WPF706	Inventory HLW-Determine if Data Rel SW is Under		5	22JUL99	28JUL99	351
WPF708	Inventory HLW-Place Under SMS Control as Necessa		10	29JUL99	11AUG99	351
WPPMRF5	Prepare Final 3.10Q Report Inventory HLW - 00A		15	30JUL99	19AUG99	49
WPF710	Inventory HLW-Verify Data-Related Software		10	12AUG99	25AUG99	351
WPF718	Inventory HLW-Qualified/Verified SW Available		0		03SEP99	349
WPF700	Inventory HLW-Update TDMS		5	23SEP99	29SEP99	332
WPF702	Inventory HLW-Qualified/Verified Data Available		0		29SEP99	332
G1025						
130 Performance Assessment Operations						
SLPA1814	Prepare Draft Inventory Abstraction - 00A		27	14JUN99	21JUL99	24
SLPA1816	Perform Inventory Abstraction		27	14JUN99*	21JUL99	24
SLPA1822	Inventory Abstraction-Input Parameters and Data		0		21JUL99	305
SLPA1818	3.10Q Checking/Review Inventory Abstraction -00A		33	22JUL99	07SEP99	24
SLPA1826	Inventory Abstraction-Determine DTN Assignment		2	22JUL99	23JUL99	305
SLPA1830	Inventory Abstraction-Determine if Data/DTN in T		3	26JUL99	28JUL99	305
SLPA1834	Inventory Abstraction-Submit Data/DTN to TDMS as		22	29JUL99	27AUG99	305
SLPA1838	Inventory Abstraction-Data Related Software Issu		0		27AUG99	324
SLPA1840	Inventory Abstraction-Procurement Related Issues		0		27AUG99	339
SLPA1842	Inventory Abstraction-Determine if Data Rel SW i		5	30AUG99	03SEP99	324
SLPA1844	Inventory Abstraction-Rxesolve Procurement Relat		10	30AUG99	13SEP99	339
SLPA1846	Inventory Abstraction-Verify/Trace Data		44	30AUG99	01NOV99	305
SLPA1848	Inventory Abstraction-Place Under SMS Control as		10	07SEP99	20SEP99	324
SLPA1820	Prepare Final 3.10Q Report Inventory Abstraction		13	08SEP99	24SEP99	24
SLPA1850	Inventory Abstraction-Verify Data-Related Softwa		10	21SEP99	04OCT99	324



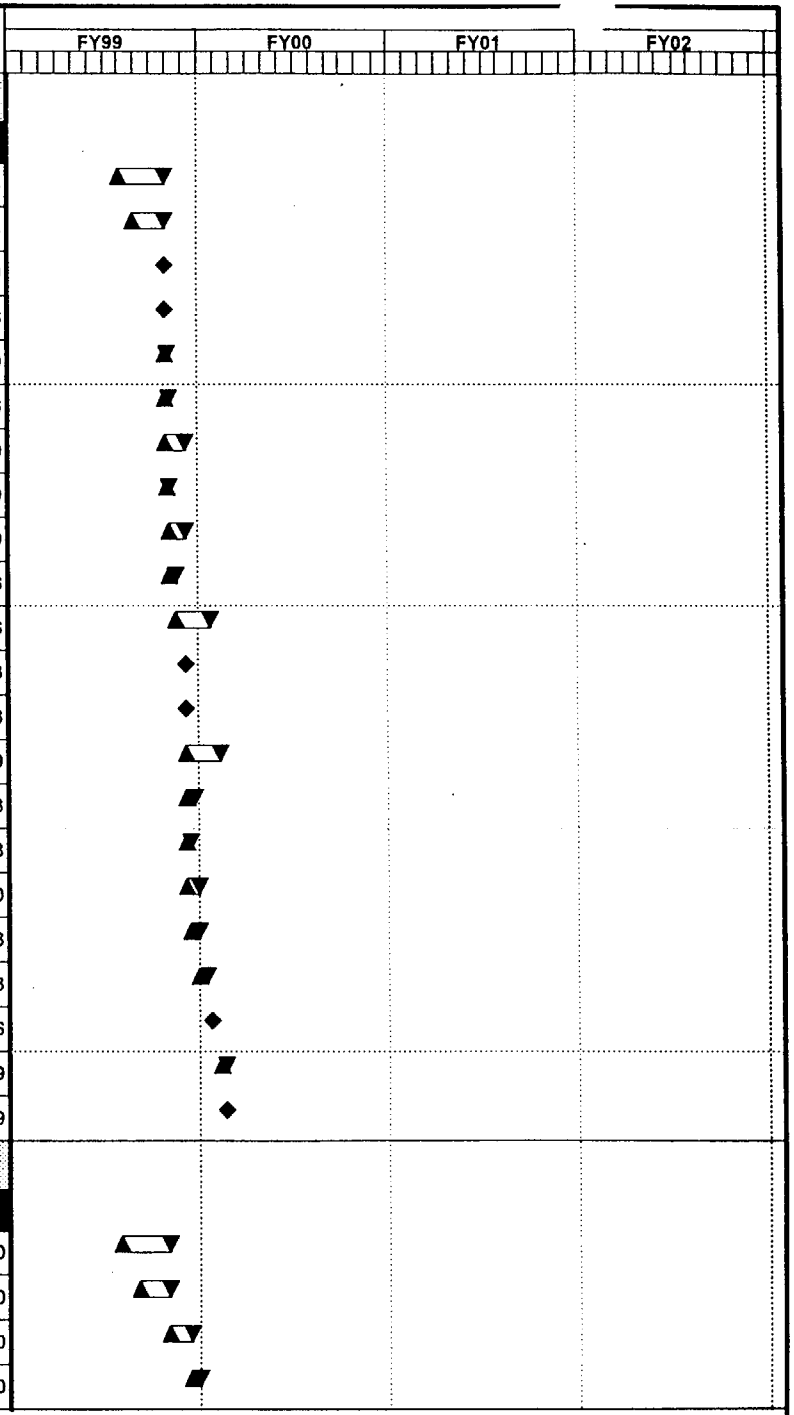
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1852	Inventory Abstraction-Update TDMS		5	02NOV99	08NOV99	305
SLPA1854	Inventory Abstraction-Qualified/Verified Data Av		0		08NOV99	305
G1055						
110 Waste Package Operations						
WPPMRFM5	Data (CLAD - Mechanical)		62	03MAY99*	29JUL99	20
WPPMRFN0	Prepare Draft (CLAD - Mechanical)		42	01JUN99*	29JUL99	20
WPPMRFN5	Checking/Review (CLAD - Mechanical)		33	30JUL99	15SEP99	20
WPPMRFO0	Prepare Final Report (CLAD - Mechanical)		11	16SEP99	30SEP99	20
G1060						
110 Waste Package Operations						
WPPMRFC5	3.10Q Data (WET UNZIPPING)		66	03MAY99*	04AUG99	0
WPPMRFD0	Prepare Draft Document (WET UNZIPPING)		42	07JUN99*	04AUG99	0
WPF900	WET UNZIPPING-Input Parameters and Data Identifi		0		04AUG99	295
WPF902	WET UNZIPPING-Models and Codes Identified		0		04AUG99	312
WPF904	WET UNZIPPING-Determine DTN Assignment		2	05AUG99	06AUG99	295
WPF928	WET UNZIPPING-Determine if Model-Rel SW is Under		5	05AUG99	11AUG99	312
WPPMRFD5	3.10Q Checking/Review (WET UNZIPPING)		28	05AUG99	14SEP99	20
WPF906	WET UNZIPPING-Determine if Data/DTN in TDMS		3	09AUG99	11AUG99	295
WPF908	WET UNZIPPING-Submit Data/DTN to TDMS as Necessa		22	12AUG99	13SEP99	295
WPF930	WET UNZIPPING-Place Model-Related SW Under SMS C		10	12AUG99	25AUG99	312
WPF932	WET UNZIPPING-Verify Model-Related Software		44	26AUG99	28OCT99	312
WPF912	WET UNZIPPING-Procurement Related Issues ID'd to		0		13SEP99	329
WPF920	WET UNZIPPING-Data Related Software Issues Ident		0		13SEP99	314
WPF910	WET UNZIPPING-Verify/Trace Data		44	14SEP99	16NOV99	295
WPF914	WET UNZIPPING-Resolve Procurement Related Data I		10	14SEP99	27SEP99	329
WPF922	WET UNZIPPING-Determine if Data Rel SW is Under		5	14SEP99	20SEP99	314
WPPMRFE0	Prepare Final 3.10Q Report (WET UNZIPPING)		12	15SEP99	30SEP99	20
WPF924	WET UNZIPPING-Place Under SMS Control as Necessa		10	21SEP99	04OCT99	314
WPF926	WET UNZIPPING-Verify Data-Related Software		10	05OCT99	19OCT99	314
WPF934	WET UNZIPPING-Qualified/Verified SW Available		0		28OCT99	312
WPF916	WET UNZIPPING-Update TDMS		5	17NOV99	23NOV99	295



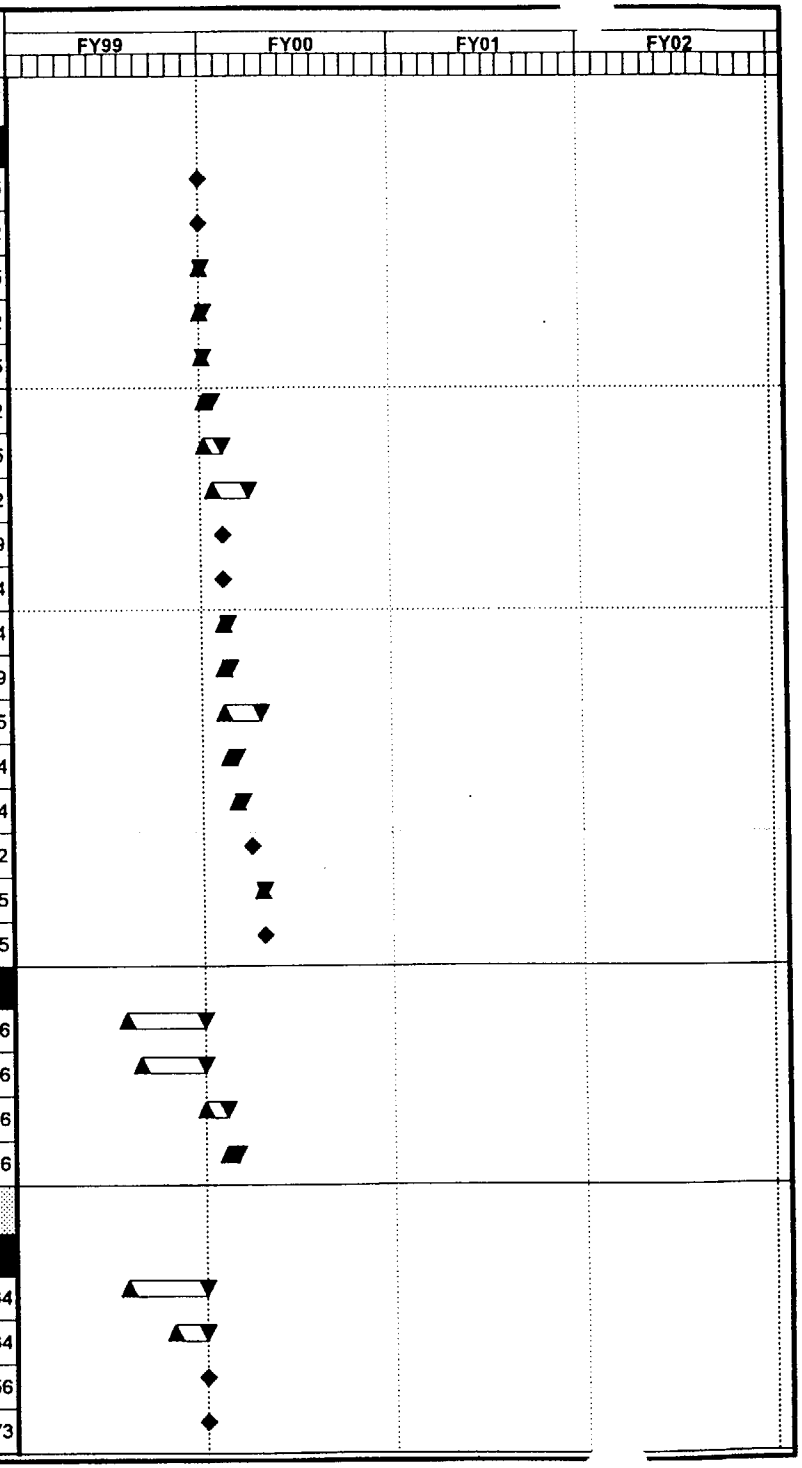
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPF918	WET UNZIPPING-Qualified/Verified Data Available		0		23NOV99	295
G1065						
110 Waste Package Operations						
WPPMRFA5	3.10Q Data (DRY UNZIPPING)		62	03MAY99*	29JUL99	21
WPPMRFB0	Prepare Draft DRY UNZIPPING Document		53	17MAY99*	30JUL99	20
WPF864	DRY UNZIPPING-Input Parameters and Data Identifi		0		29JUL99	299
WPF866	DRY UNZIPPING-Models and Codes Identified		0		29JUL99	316
WPF868	DRY UNZIPPING-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPF892	DRY UNZIPPING-Determine if Model-Rel SW is Under		5	30JUL99	05AUG99	316
WPPMRFB5	3.10Q Checking/Review (DRY UNZIPPING)		28	02AUG99	09SEP99	20
WPF870	DRY UNZIPPING-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99	299
WPF872	DRY UNZIPPING-Submit Data/DTN to TDMS as Necessa		22	06AUG99	07SEP99	299
WPF894	DRY UNZIPPING-Place Model-Related SW Under SMS C		10	06AUG99	19AUG99	316
WPF896	DRY UNZIPPING-Verify Model-Related Software		44	20AUG99	22OCT99	316
WPF876	DRY UNZIPPING-Procurement Related Issues ID'd to		0		07SEP99	333
WPF884	DRY UNZIPPING-Data Related Software Issues Ident		0		07SEP99	318
WPF874	DRY UNZIPPING-Verify/Trace Data		44	08SEP99	09NOV99	299
WPF878	DRY UNZIPPING-Resolve Procurement Related Data I		10	08SEP99	21SEP99	333
WPF886	DRY UNZIPPING-Determine if Data Rel SW is Under		5	08SEP99	14SEP99	318
WPPMRFC0	Prepare Final 3.10Q Report (DRY UNZIPPING)		15	10SEP99	30SEP99	20
WPF888	DRY UNZIPPING-Place Under SMS Control as Necessa		10	15SEP99	28SEP99	318
WPF890	DRY UNZIPPING-Verify Data-Related Software		10	29SEP99	13OCT99	318
WPF898	DRY UNZIPPING-Qualified/Verified SW Available		0		22OCT99	316
WPF880	DRY UNZIPPING-Update TDMS		5	10NOV99	17NOV99	299
WPF882	DRY UNZIPPING-Qualified/Verified Data Available		0		17NOV99	299
G1070						
110 Waste Package Operations						
WPPMRFK5	Data (CLAD LOCAL CORROSION)		62	03MAY99*	29JUL99	4
WPPMRFL0	Prepare Draft Document (CLAD LOCAL CORROSION)		42	01JUN99*	29JUL99	4
WPPMRFL5	Checking/Review (CLAD LOCAL CORROSION)		28	30JUL99	08SEP99	20
WPPMRFM0	Prepare Final Report (CLAD LOCAL CORROSION)		16	09SEP99	30SEP99	20



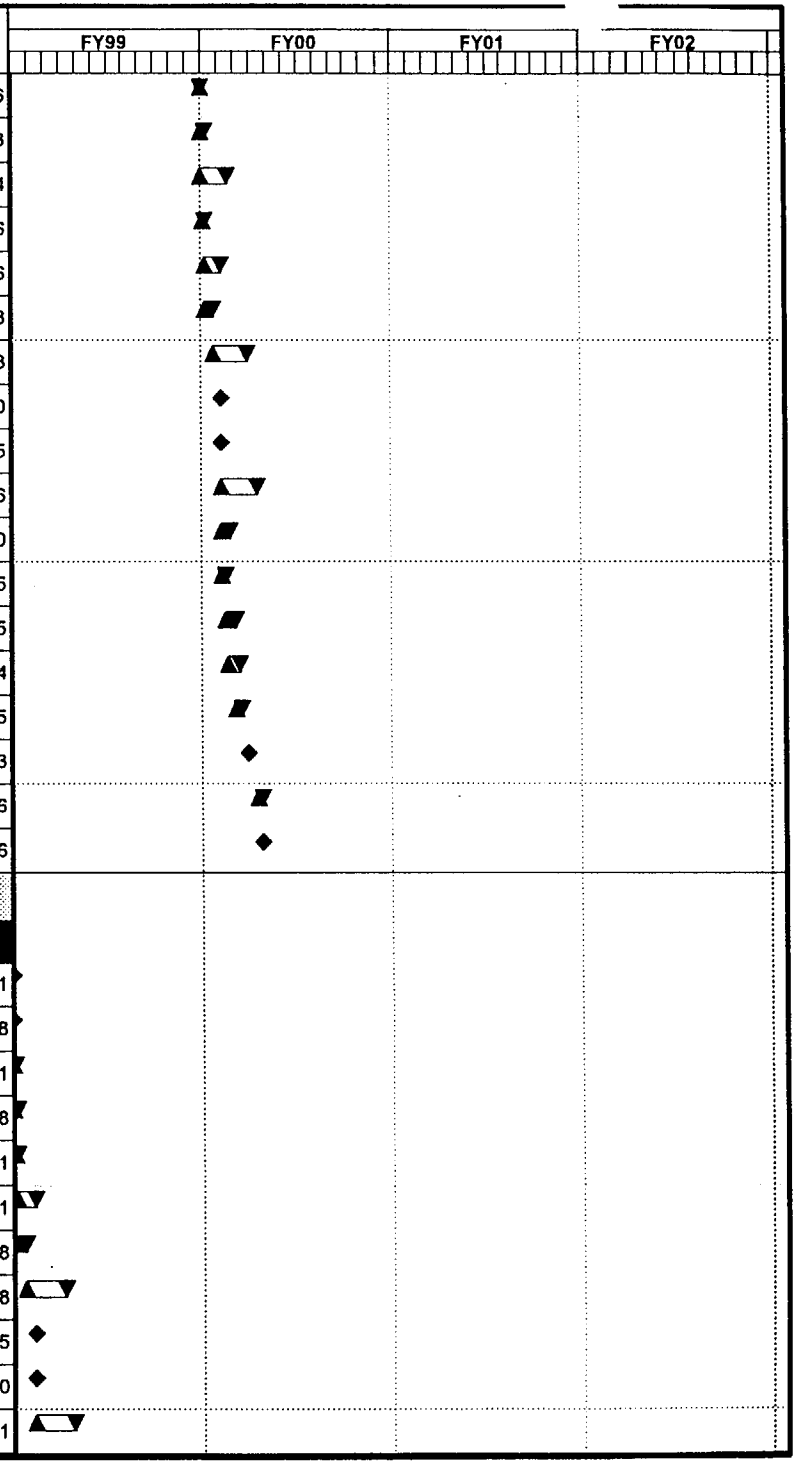
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
G1075						
110 Waste Package Operations						
WPPMRFE5	3.10Q Data (CLAD - DHC)		62	03MAY99*	29JUL99	4
WPPMRFF0	Prepare Draft Document (CLAD - DHC)		42	01JUN99*	29JUL99	4
WPF936	CLAD - DHC-Input Parameters and Data Identified		0		29JUL99	299
WPF938	CLAD - DHC-Models and Codes Identified		0		29JUL99	316
WPF940	CLAD - DHC-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPF964	CLAD - DHC-Determine if Model-Rel SW is Under SM		5	30JUL99	05AUG99	316
WPPMRFF5	3.10Q Checking/Review (CLAD - DHC)		28	30JUL99	08SEP99	20
WPF942	CLAD - DHC-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99	299
WPF944	CLAD - DHC-Submit Data/DTN to TDMS as Necessary		22	06AUG99	07SEP99	299
WPF966	CLAD - DHC-Place Model-Related SW Under SMS Cont		10	06AUG99	19AUG99	316
WPF968	CLAD - DHC-Verify Model-Related Software		44	20AUG99	22OCT99	316
WPF948	CLAD - DHC-Procurement Related Issues ID'd to Ca		0		07SEP99	333
WPF956	CLAD - DHC-Data Related Software Issues Identifi		0		07SEP99	318
WPF946	CLAD - DHC-Verify/Trace Data		44	08SEP99	09NOV99	299
WPF950	CLAD - DHC-Resolve Procurement Related Data Issu		10	08SEP99	21SEP99	333
WPF958	CLAD - DHC-Determine if Data Rel SW is Under SMS		5	08SEP99	14SEP99	318
WPPMRFG0	Prepare Final 3.10Q Report (CLAD - DHC)		16	09SEP99	30SEP99	20
WPF960	CLAD - DHC-Place Under SMS Control as Necessary		10	15SEP99	28SEP99	318
WPF962	CLAD - DHC-Verify Data-Related Software		10	29SEP99	13OCT99	318
WPF970	CLAD - DHC-Qualified/Verified SW Available		0		22OCT99	316
WPF952	CLAD - DHC-Update TDMS		5	10NOV99	17NOV99	299
WPF954	CLAD - DHC-Qualified/Verified Data Available		0		17NOV99	299
G1080						
110 Waste Package Operations						
WPPMRFI5	Data (CLAD - INITIAL STATE)		66	03MAY99*	04AUG99	0
WPPMRFJ0	Prepare Draft Document (CLAD - INITIAL STATE)		42	07JUN99*	04AUG99	0
WPPMRFJ5	Checking/Review (CLAD - INITIAL STATE)		28	05AUG99	14SEP99	20
WPPMRFK0	Prepare Final Report (CLAD - INITIAL STATE)		12	15SEP99	30SEP99	20



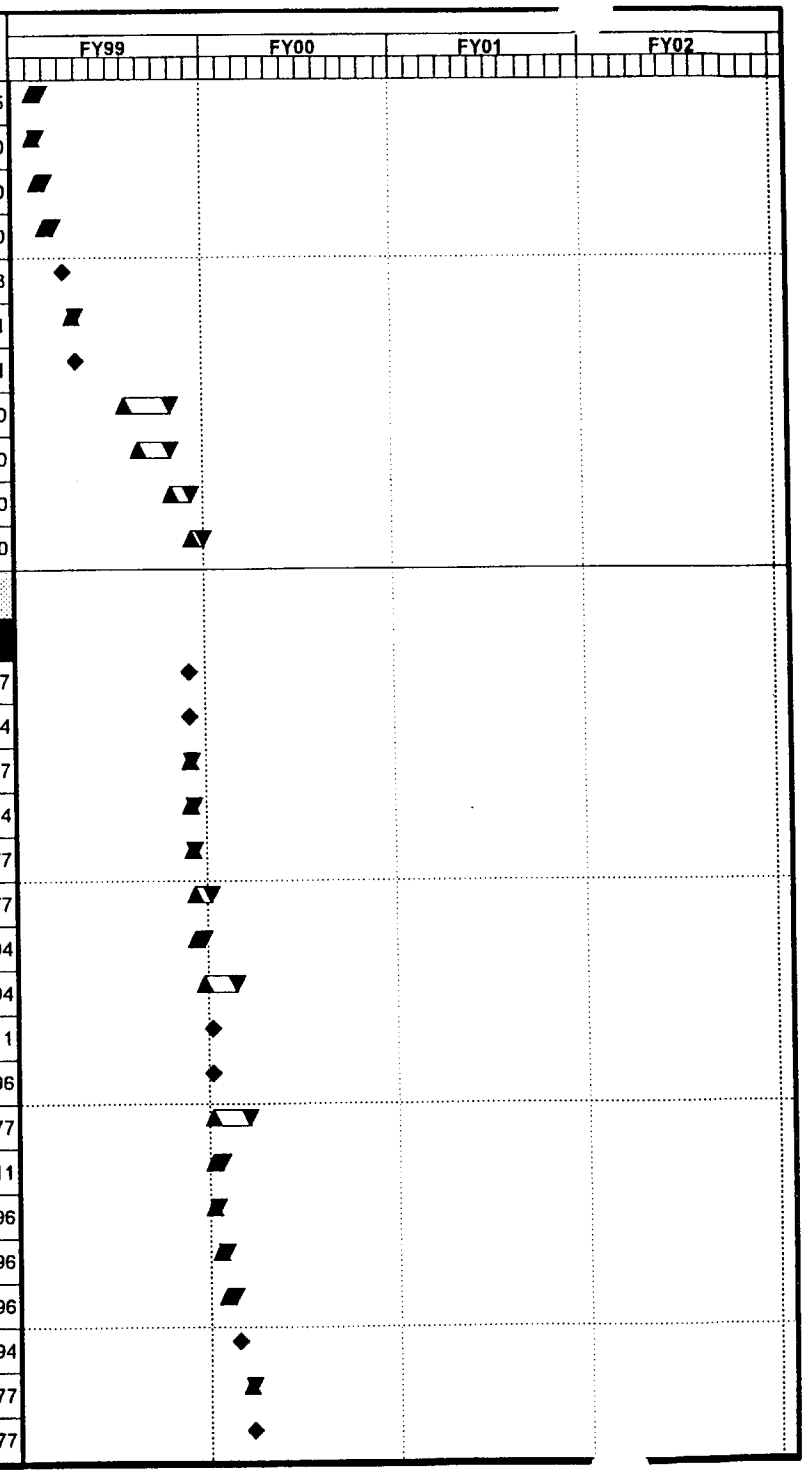
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
G1090						
110 Waste Package Operations						
SLPA1864	FEB Screen/CLAD-Input Parameters and Data Identi		0		30SEP99	255
SLPA1866	FEB Screen/CLAD-Models and Codes Identified		0		30SEP99	272
SLPA1868	FEB Screen/CLAD-Determine DTN Assignment		2	01OCT99	04OCT99	255
SLPA1870	FEB Screen/CLAD-Determine if Model-Rel SW is Und		5	01OCT99	07OCT99	272
SLPA1872	FEB Screen/CLAD-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99	255
SLPA1874	FEB Screen/CLAD-Place Model-Related SW Under SMS		10	08OCT99	22OCT99	272
SLPA1876	FEB Screen/CLAD-Submit Data/DTN to TDMS as Neces		22	08OCT99	09NOV99	255
SLPA1878	FEB Screen/CLAD-Verify Model-Related Software		44	25OCT99	29DEC99	272
SLPA1880	FEB Screen/CLAD-Procurement Related Issues ID'd		0		09NOV99	289
SLPA1882	FEB Screen/CLAD-Data Related Software Issues Ide		0		09NOV99	274
SLPA1884	FEB Screen/CLAD-Determine if Data Rel SW is Unde		5	10NOV99	17NOV99	274
SLPA1886	FEB Screen/CLAD-Resolve Procurement Related Data		10	10NOV99	24NOV99	289
SLPA1888	FEB Screen/CLAD-Verify/Trace Data		44	10NOV99	17JAN00	255
SLPA1890	FEB Screen/CLAD-Place Under SMS Control as Neces		10	18NOV99	03DEC99	274
SLPA1892	FEB Screen/CLAD-Verify Data-Related Software		10	06DEC99	17DEC99	274
SLPA1894	FEB Screen/CLAD-Qualified/Verified SW Available		0		29DEC99	272
SLPA1896	FEB Screen/CLAD-Update TDMS		5	18JAN00	24JAN00	255
SLPA1898	FEB Screen/CLAD-Qualified/Verified Data Availabl		0		24JAN00	255
130 Performance Assessment Operations						
SLPA1856	3.10Q Data (FEP Screening)-CLAD		106	03MAY99*	30SEP99	6
SLPA1858	Prepare Draft Document - FEB Screen - CLAD		86	01JUN99*	30SEP99	6
SLPA1860	3.10Q Checking/Review FEB Screen - CLAD		28	01OCT99	10NOV99	6
SLPA1862	Prepare Final 3.10Q Report FEB Screen - CLAD		12	12NOV99	01DEC99	6
G2030						
110 Waste Package Operations						
WPPMR405	3.10Q Data (CSNF Degradation Model)		105	03MAY99*	29SEP99	34
WPPMR415	Prepare Draft (CSNF Degradation Model)		42	30JUL99	29SEP99	34
WPF180	CSNF Degrad-Input Parameters and Data Identified		0		29SEP99	256
WPF182	CSNF Degrad-Models and Codes Identified		0		29SEP99	273



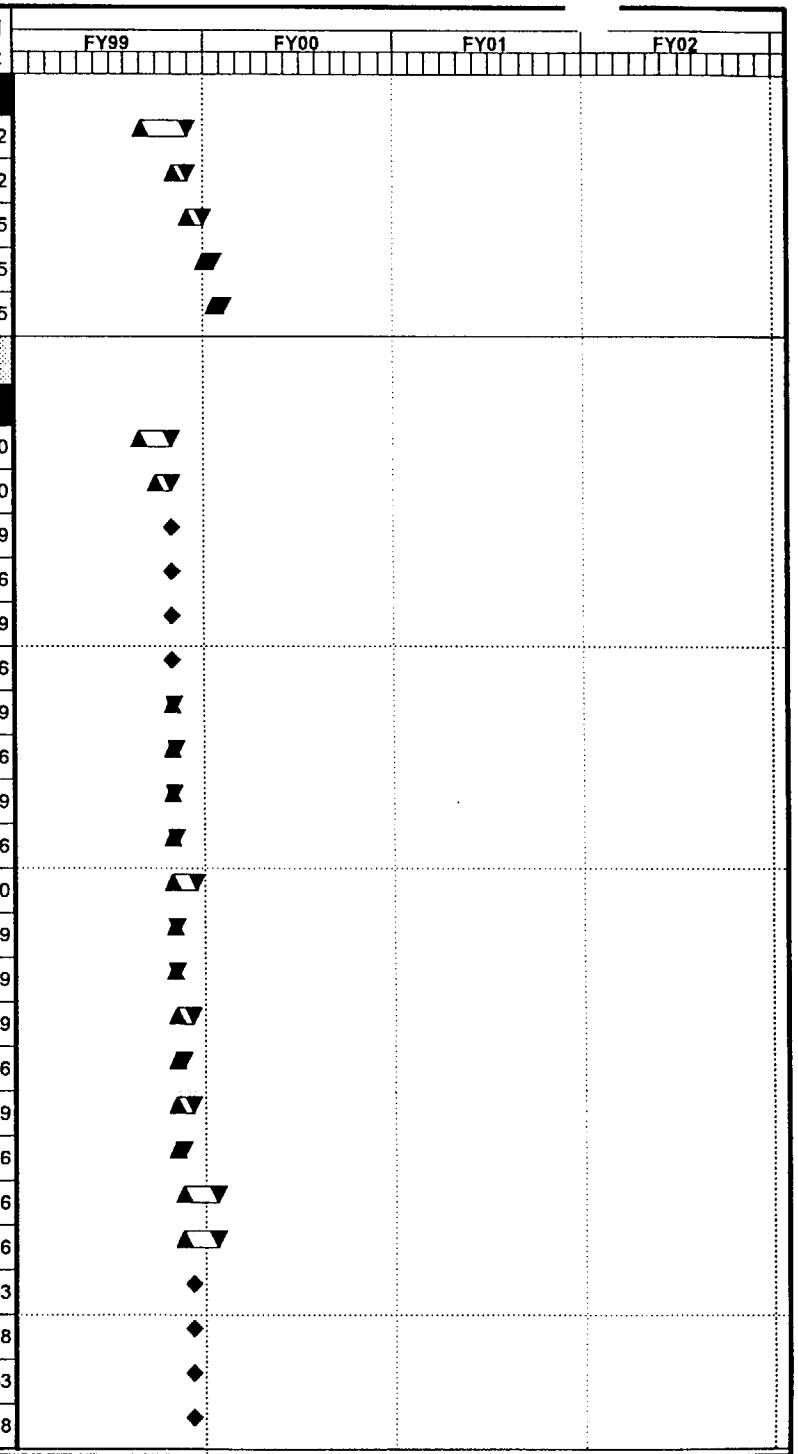
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPF184	CSNF Degrad-Determine DTN Assignment		2	30SEP99	01OCT99	256
WPF208	CSNF Degrad-Determine if Model-Rel SW is Under S		5	30SEP99	06OCT99	273
WPPMR425	3.10Q Checking/Review (CSNF Degradation Model)		33	30SEP99	17NOV99	34
WPF186	CSNF Degrad-Determine if Data/DTN in TDMS		3	04OCT99	06OCT99	256
WPF188	CSNF Degrad-Submit Data/DTN to TDMS as Necessary		22	07OCT99	08NOV99	256
WPF210	CSNF Degrad-Place Model-Related SW Under SMS Con		10	07OCT99	21OCT99	273
WPF212	CSNF Degrad-Verify Model-Related Software		44	22OCT99	28DEC99	273
WPF192	CSNF Degrad-Procurement Related Issues ID'd to C		0		08NOV99	290
WPF200	CSNF Degrad-Data Related Software Issues Identif		0		08NOV99	275
WPF190	CSNF Degrad-Verify/Trace Data		44	09NOV99	14JAN00	256
WPF194	CSNF Degrad-Resolve Procurement Related Data Iss		10	09NOV99	23NOV99	290
WPF202	CSNF Degrad-Determine if Data Rel SW is Under SM		5	09NOV99	16NOV99	275
WPF204	CSNF Degrad-Place Under SMS Control as Necessary		10	17NOV99	02DEC99	275
WPPMR430	Prepare Final 3.10Q Report (CSNF Degradation Mod		15	18NOV99	10DEC99	34
WPF206	CSNF Degrad-Verify Data-Related Software		10	03DEC99	16DEC99	275
WPF214	CSNF Degrad-Qualified/Verified SW Available		0		28DEC99	273
WPF196	CSNF Degrad-Update TDMS		5	17JAN00	21JAN00	256
WPF198	CSNF Degrad-Qualified/Verified Data Available		0		21JAN00	256
G2050						
110 Waste Package Operations						
WPF252	HLW Glass Degr-Input Parameters and Data Identif		0		30SEP98	501
WPF254	HLW Glass Degr-Models and Codes Identified		0		30SEP98	518
WPF256	HLW Glass Degr-Determine DTN Assignment		2	01OCT98*	02OCT98	501
WPF280	HLW Glass Degr-Determine if Model-Rel SW is Unde		5	01OCT98*	07OCT98	518
WPF258	HLW Glass Degr-Determine if Data/DTN in TDMS		3	05OCT98	07OCT98	501
WPF260	HLW Glass Degr-Submit Data/DTN to TDMS as Necess		22	08OCT98	09NOV98	501
WPF282	HLW Glass Degr-Place Model-Related SW Under SMS		10	08OCT98	22OCT98	518
WPF284	HLW Glass Degr-Verify Model-Related Software		44	23OCT98	06JAN99	518
WPF264	HLW Glass Degr-Procurement Related Issues ID'd t		0		09NOV98	535
WPF272	HLW Glass Degr-Data Related Software Issues Iden		0		09NOV98	520
WPF262	HLW Glass Degr-Verify/Trace Data		44	10NOV98	22JAN99	501



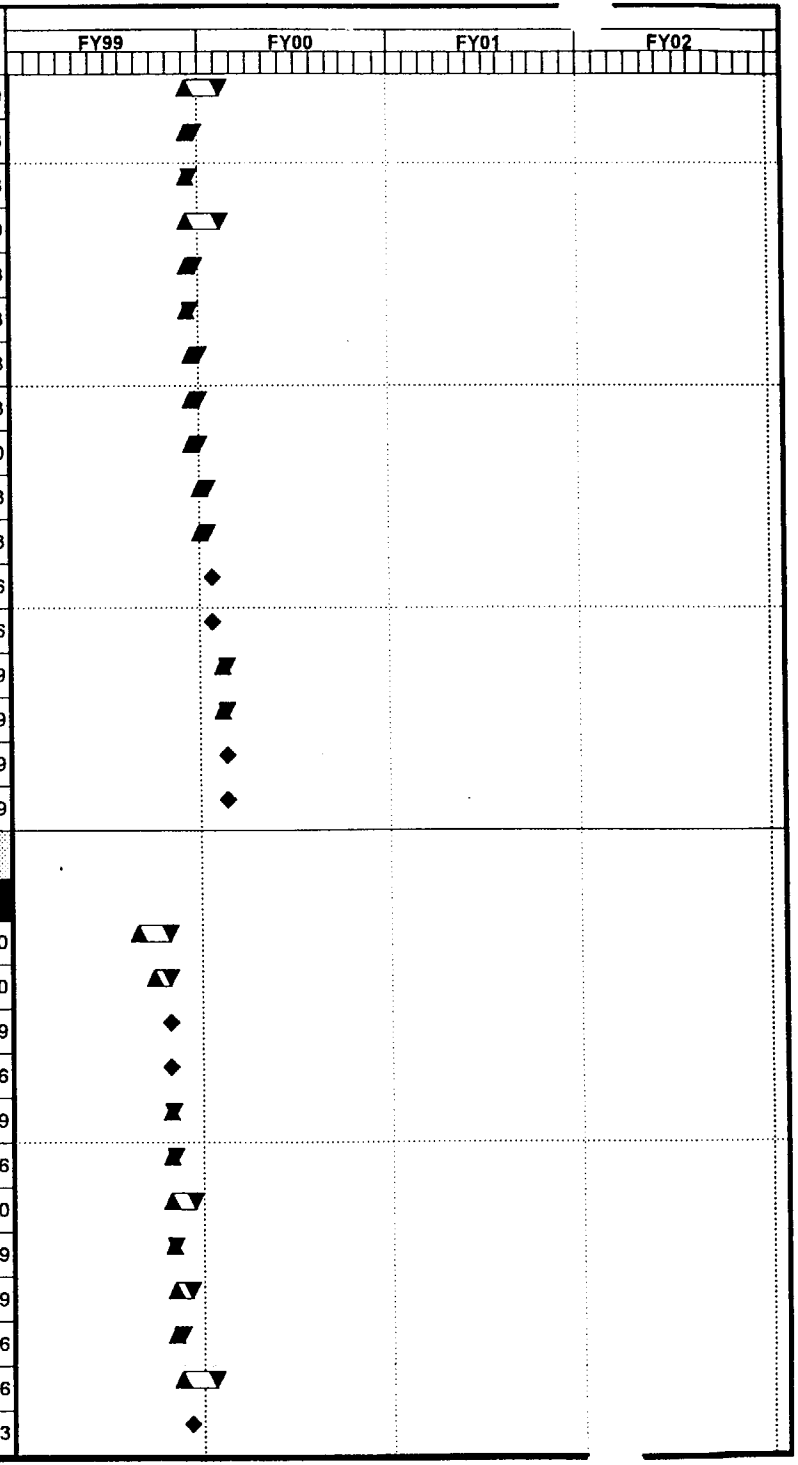
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPF266	HLW Glass Degr-Resolve Procurement Related Data		10	10NOV98	24NOV98	535
WPF274	HLW Glass Degr-Determine if Data Rel SW is Under		5	10NOV98	17NOV98	520
WPF276	HLW Glass Degr-Place Under SMS Control as Necess		10	18NOV98	03DEC98	520
WPF278	HLW Glass Degr-Verify Data-Related Software		10	04DEC98	17DEC98	520
WPF286	HLW Glass Degr-Qualified/Verified SW Available		0		06JAN99	518
WPF268	HLW Glass Degr-Update TDMS		5	25JAN99	29JAN99	501
WPF270	HLW Glass Degr-Qualified/Verified Data Available		0		29JAN99	501
WPPMR465	3.10Q Data (HLW Glass Degradation)		62	03MAY99*	29JUL99	20
WPPMR475	Prepare Draft Document (HLW Glass Degradation)		42	01JUN99*	29JUL99	20
WPPMR485	3.10Q Checking/Review (HLW Glass Degradation)		28	30JUL99	08SEP99	20
WPPMR490	Prepare Final 3.10Q Report (HLW Glass Degradation)		16	09SEP99	30SEP99	20
G2080						
110 Waste Package Operations						
WPF216	Other Waste Form Abs-Input Parameters and Data I		0		30AUG99	277
WPF218	Other Waste Form Abs-Models and Codes Identified		0		30AUG99	294
WPF220	Other Waste Form Abs-Determine DTN Assignment		2	31AUG99	01SEP99	277
WPF244	Other Waste Form Abs-Determine if Model-Rel SW i		5	31AUG99	07SEP99	294
WPF222	Other Waste Form Abs-Determine if Data/DTN in TD		3	02SEP99	07SEP99	277
WPF224	Other Waste Form Abs-Submit Data/DTN to TDMS as		22	08SEP99	07OCT99	277
WPF246	Other Waste Form Abs-Place Model-Related SW Unde		10	08SEP99	21SEP99	294
WPF248	Other Waste Form Abs-Verify Model-Related Softwa		44	22SEP99	24NOV99	294
WPF228	Other Waste Form Abs-Procurement Related Issues		0		07OCT99	311
WPF236	Other Waste Form Abs-Data Related Software Issue		0		07OCT99	296
WPF226	Other Waste Form Abs-Verify/Trace Data		44	08OCT99	14DEC99	277
WPF230	Other Waste Form Abs-Resolve Procurement Related		10	08OCT99	22OCT99	311
WPF238	Other Waste Form Abs-Determine if Data Rel SW is		5	08OCT99	15OCT99	296
WPF240	Other Waste Form Abs-Place Under SMS Control as		10	18OCT99	29OCT99	296
WPF242	Other Waste Form Abs-Verify Data-Related Softwar		10	01NOV99	15NOV99	296
WPF250	Other Waste Form Abs-Qualified/Verified SW Avail		0		24NOV99	294
WPF232	Other Waste Form Abs-Update TDMS		5	15DEC99	21DEC99	277
WPF234	Other Waste Form Abs-Qualified/Verified Data Ava		0		21DEC99	277



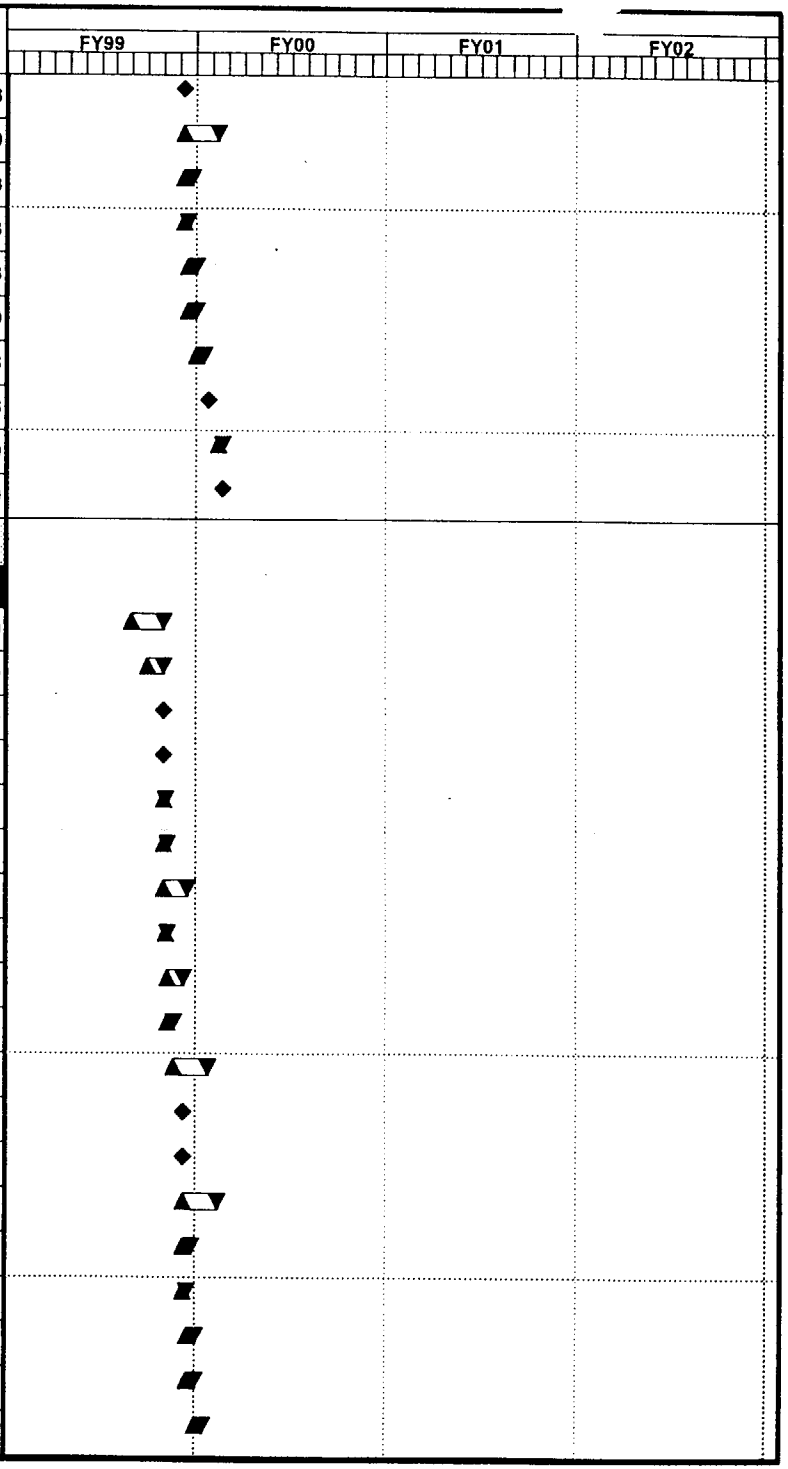
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
130 Performance Assessment Operations						
SLPA1900	3.10Q Data (Other Waste Form Abstraction)		63	02JUN99*	30AUG99	22
SLPA1902	Prepare Draft (Other Waste Form Abstraction)		21	02AUG99*	30AUG99	22
SLPA1904	3.10Q Checking/Review (Other Waste Form Abstract		22	31AUG99	30SEP99	55
SLPA1906	3.10Q Checking/Review (Other Waste Form Abstract		11	01OCT99	18OCT99	55
SLPA1908	Prepare Final 3.10Q Report (Other Waste Form Abs		15	19OCT99	08NOV99	55
G3000						
110 Waste Package Operations						
WPPMRD96	3.10Q Data (U-Silicate Data)		42	01JUN99*	29JUL99	20
WPPMRD97	Prepare Draft (U-Silicate Data)		21	30JUN99*	29JUL99	20
WPF000	U-Silicate Data-Input Parameters and Data Identi		0		29JUL99	299
WPF002	U-Silicate Data-Models and Codes Identified		0		29JUL99	316
WPF648	U-Silicate Data-Input Parameters and Data Identi		0		29JUL99	299
WPF650	U-Silicate Data-Models and Codes Identified		0		29JUL99	316
WPF004	U-Silicate Data-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPF028	U-Silicate Data-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99	316
WPF652	U-Silicate Data-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPF676	U-Silicate Data-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99	316
WPPMRD98	3.10Q Checking/Review (U-Silicate Data)		33	30JUL99	15SEP99	20
WPF006	U-Silicate Data-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99	299
WPF654	U-Silicate Data-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99	299
WPF008	U-Silicate Data-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99	299
WPF030	U-Silicate Data-Place Model-Related SW Under SMS		10	06AUG99	19AUG99	316
WPF656	U-Silicate Data-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99	299
WPF678	U-Silicate Data-Place Model-Related SW Under SMS		10	06AUG99	19AUG99	316
WPF032	U-Silicate Data-Verify Model-Related Software		44	20AUG99	22OCT99	316
WPF680	U-Silicate Data-Verify Model-Related Software		44	20AUG99	22OCT99	316
WPF012	U-Silicate Data-Procurement Related Issues ID'd		0		07SEP99	333
WPF020	U-Silicate Data-Data Related Software Issues Ide		0		07SEP99	318
WPF660	U-Silicate Data-Procurement Related Issues ID'd		0		07SEP99	333
WPF668	U-Silicate Data-Data Related Software Issues Ide		0		07SEP99	318



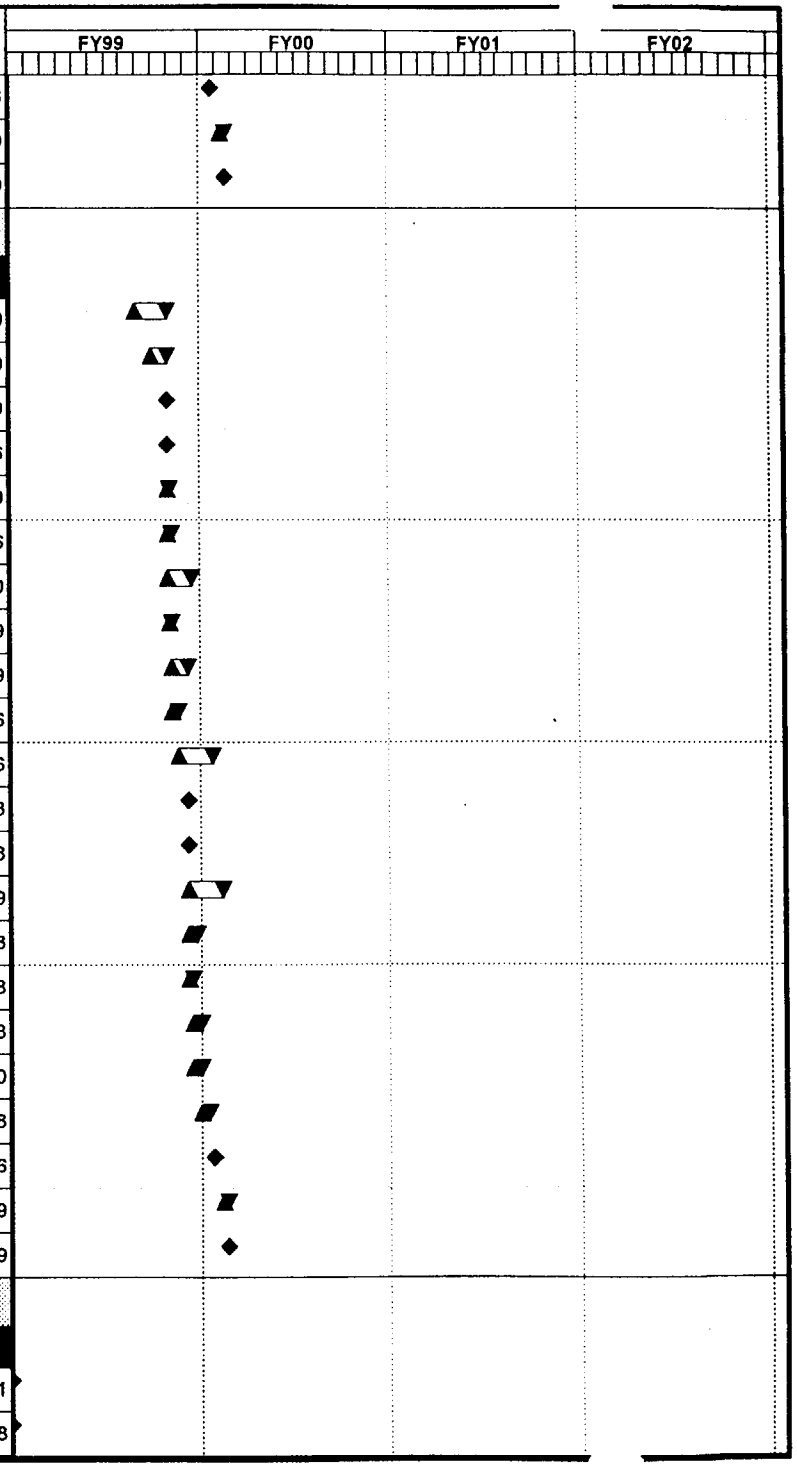
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPF010	U-Silicate Data-Verify/Trace Data		44	08SEP99	09NOV99	299
WPF014	U-Silicate Data-Resolve Procurement Related Data		10	08SEP99	21SEP99	333
WPF022	U-Silicate Data-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99	318
WPF658	U-Silicate Data-Verify/Trace Data		44	08SEP99	09NOV99	299
WPF662	U-Silicate Data-Resolve Procurement Related Data		10	08SEP99	21SEP99	333
WPF670	U-Silicate Data-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99	318
WPF024	U-Silicate Data-Place Under SMS Control as Neces		10	15SEP99	28SEP99	318
WPF672	U-Silicate Data-Place Under SMS Control as Neces		10	15SEP99	28SEP99	318
WPPMRD99	Prepare Final 3.10Q Report (U-Silicate Data)		11	16SEP99	30SEP99	20
WPF026	U-Silicate Data-Verify Data-Related Software		10	29SEP99	13OCT99	318
WPF674	U-Silicate Data-Verify Data-Related Software		10	29SEP99	13OCT99	318
WPF034	U-Silicate Data-Qualified/Verified SW Available		0		22OCT99	316
WPF682	U-Silicate Data-Qualified/Verified SW Available		0		22OCT99	316
WPF016	U-Silicate Data-Update TDMS		5	10NOV99	17NOV99	299
WPF664	U-Silicate Data-Update TDMS		5	10NOV99	17NOV99	299
WPF018	U-Silicate Data-Qualified/Verified Data Availabl		0		17NOV99	299
WPF666	U-Silicate Data-Qualified/Verified Data Availabl		0		17NOV99	299
G3005						
110 Waste Package Operations						
WPPMRE15	3.10Q Data (2nd Phase Modeling)		42	01JUN99*	29JUL99	20
WPPMRE20	Prepare Draft Document (2nd Phase Modeling)		21	30JUN99*	29JUL99	20
WPF756	2nd Phase Model-Input Parameters and Data Identi		0		29JUL99	299
WPF758	2nd Phase Model-Models and Codes Identified		0		29JUL99	316
WPF760	2nd Phase Model-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPF784	2nd Phase Model-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99	316
WPPMRE25	3.10Q Checking/Review (2nd Phase Modeling)		33	30JUL99	15SEP99	20
WPF762	2nd Phase Model-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99	299
WPF764	2nd Phase Model-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99	299
WPF786	2nd Phase Model-Place Model-Related SW Under SMS		10	06AUG99	19AUG99	316
WPF788	2nd Phase Model-Verify Model-Related Software		44	20AUG99	20OCT99	316
WPF768	2nd Phase Model-Procurement Related Issues ID'd		0		07SEP99	333



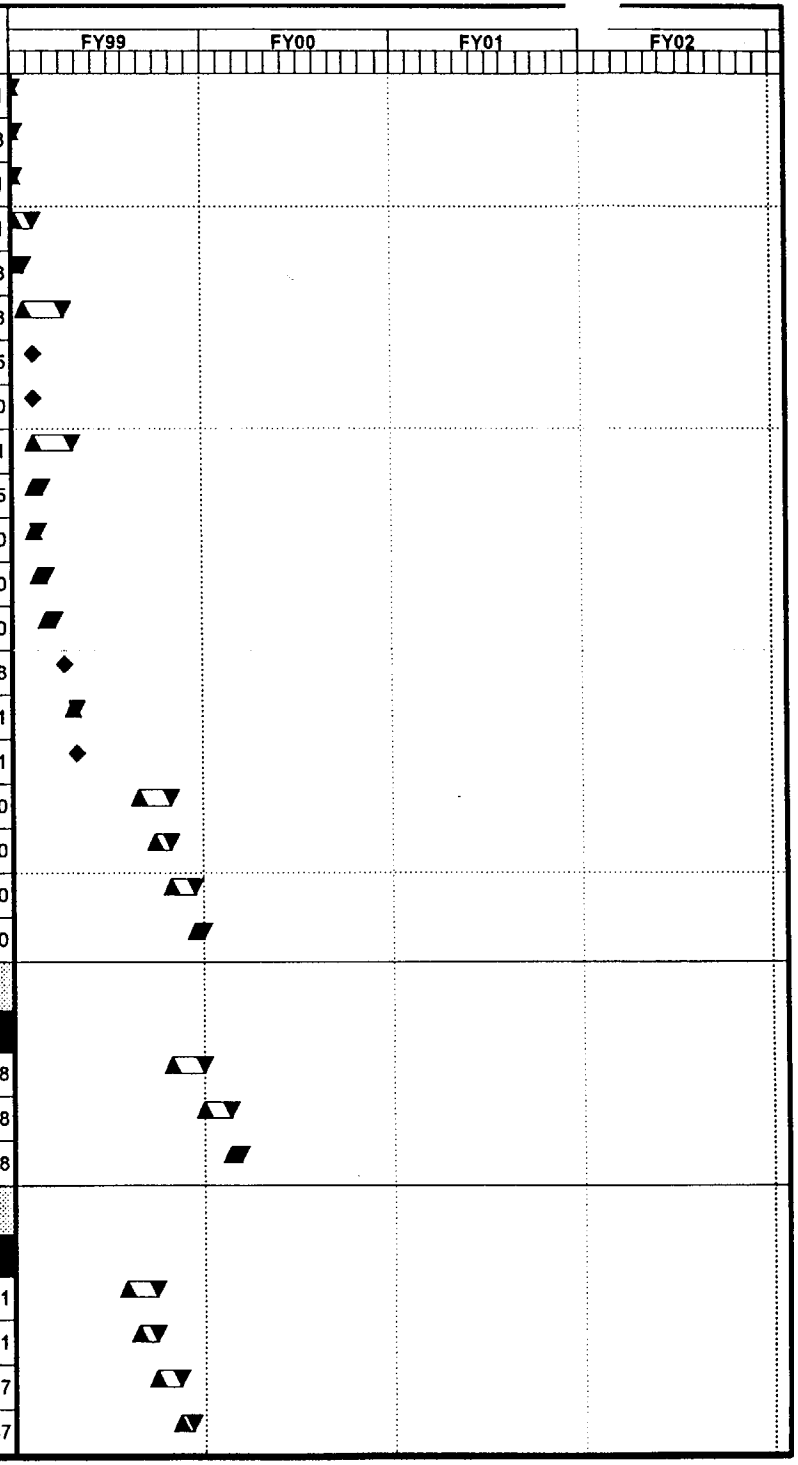
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPF776	2nd Phase Model-Data Related Software Issues Ide		0		07SEP99	318
WPF766	2nd Phase Model-Verify/Trace Data		44	08SEP99	09NOV99	299
WPF770	2nd Phase Model-Resolve Procurement Related Data		10	08SEP99	21SEP99	333
WPF778	2nd Phase Model-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99	318
WPF780	2nd Phase Model-Place Under SMS Control as Neces		10	15SEP99	28SEP99	318
WPPMRE30	Prepare Final 3.10Q Report (2nd Phase Modeling)		11	16SEP99	30SEP99	20
WPF782	2nd Phase Model-Verify Data-Related Software		10	29SEP99	13OCT99	318
WPF790	2nd Phase Model-Qualified/Verified SW Available		0		22OCT99	316
WPF772	2nd Phase Model-Update TDMS		5	10NOV99	17NOV99	299
WPF774	2nd Phase Model-Qualified/Verified Data Availabl		0		17NOV99	299
G3010						
110 Waste Package Operations						
WPPMRE01	3.10Q Data (2nd Phases - ANL)		42	01JUN99*	29JUL99	20
WPPMRE02	Prepare Draft (2nd Phases - ANL)		21	30JUN99*	29JUL99	20
WPF720	2nd Phases - ANL-Input Parameters and Data Ident		0		29JUL99	299
WPF722	2nd Phases - ANL-Models and Codes Identified		0		29JUL99	316
WPF724	2nd Phases - ANL-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPF748	2nd Phases - ANL-Determine if Model-Rel SW is Un		5	30JUL99	05AUG99	316
WPPMRE03	3.10Q Checking/Review (2nd Phases - ANL)		33	30JUL99	15SEP99	20
WPF726	2nd Phases - ANL-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99	299
WPF728	2nd Phases - ANL-Submit Data/DTN to TDMS as Nece		22	06AUG99	07SEP99	299
WPF750	2nd Phases - ANL-Place Model-Related SW Under SM		10	06AUG99	19AUG99	316
WPF752	2nd Phases - ANL-Verify Model-Related Software		44	20AUG99	22OCT99	316
WPF732	2nd Phases - ANL-Procurement Related Issues ID'd		0		07SEP99	333
WPF740	2nd Phases - ANL-Data Related Software Issues Id		0		07SEP99	318
WPF730	2nd Phases - ANL-Verify/Trace Data		44	08SEP99	09NOV99	299
WPF734	2nd Phases - ANL-Resolve Procurement Related Dat		10	08SEP99	21SEP99	333
WPF742	2nd Phases - ANL-Determine if Data Rel SW is Und		5	08SEP99	14SEP99	318
WPF744	2nd Phases - ANL-Place Under SMS Control as Nece		10	15SEP99	28SEP99	318
WPPMRE04	Prepare Final 3.10Q Report (2nd Phases - ANL)		11	16SEP99	30SEP99	20
WPF746	2nd Phases - ANL-Verify Data-Related Software		10	29SEP99	13OCT99	318



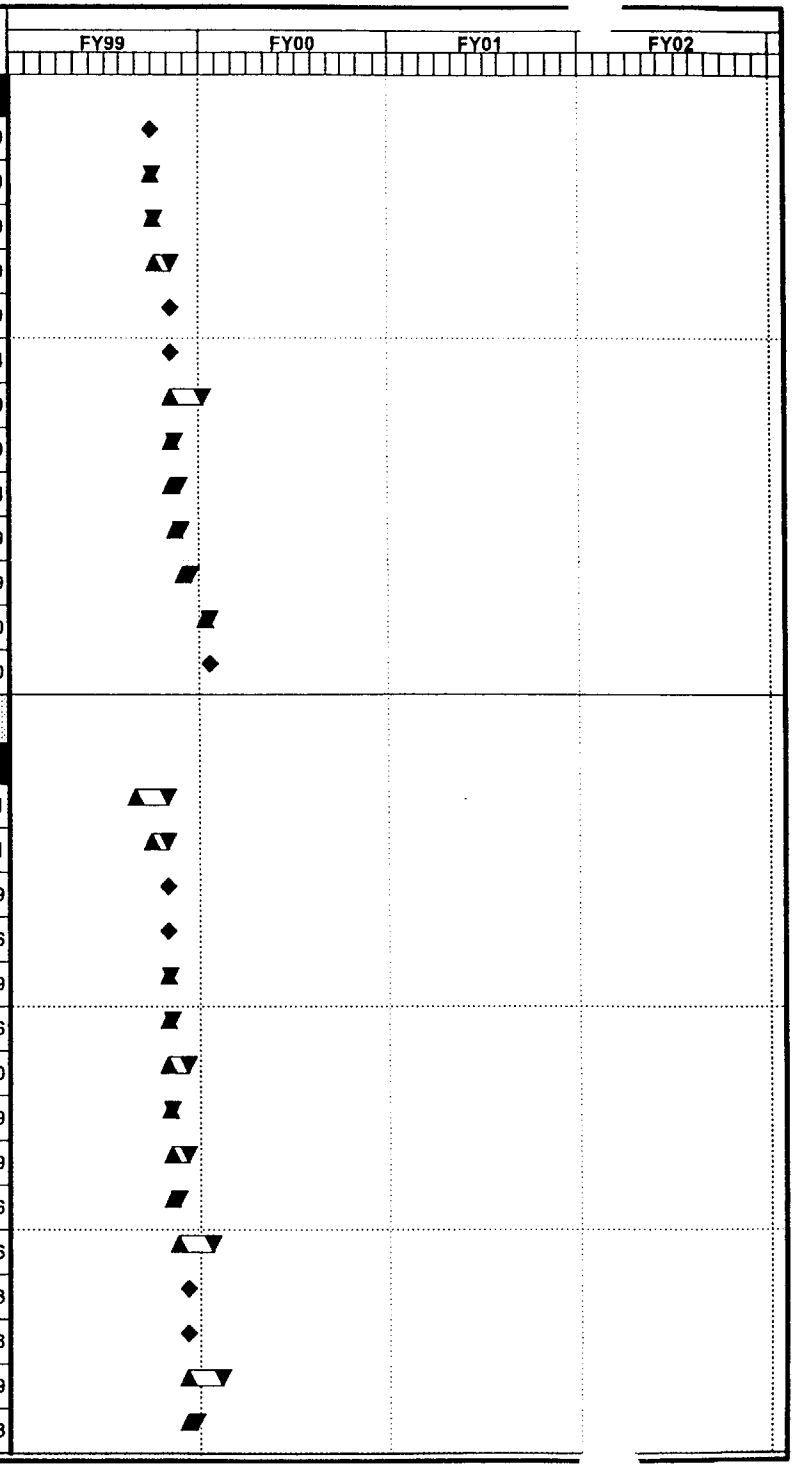
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPF754	2nd Phases - ANL-Qualified/Verified SW Available		0		22OCT99	316
WPF736	2nd Phases - ANL-Update TDMS		5	10NOV99	17NOV99	299
WPF738	2nd Phases - ANL-Qualified/Verified Data Availab		0		17NOV99	299
G3015						
110 Waste Package Operations						
WPPMRE35	3.10Q Data (Solubility LANL)		42	01JUN99*	29JUL99	20
WPPMRE40	Prepare Draft (Solubility LANL)		21	30JUN99*	29JUL99	20
WPF792	Solubility LANL-Input Parameters and Data Identi		0		29JUL99	299
WPF794	Solubility LANL-Models and Codes Identified		0		29JUL99	316
WPF796	Solubility LANL-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPF820	Solubility LANL-Determine if Model-Rel SW is Und		5	30JUL99	05AUG99	316
WPPMRE45	3.10Q Checking/Review (Solubility LANL)		33	30JUL99	15SEP99	20
WPF798	Solubility LANL-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99	299
WPF800	Solubility LANL-Submit Data/DTN to TDMS as Neces		22	06AUG99	07SEP99	299
WPF822	Solubility LANL-Place Model-Related SW Under SMS		10	06AUG99	19AUG99	316
WPF824	Solubility LANL-Verify Model-Related Software		44	20AUG99	22OCT99	316
WPF804	Solubility LANL-Procurement Related Issues ID'd		0		07SEP99	333
WPF812	Solubility LANL-Data Related Software Issues Ide		0		07SEP99	318
WPF802	Solubility LANL-Verify/Trace Data		44	08SEP99	09NOV99	299
WPF806	Solubility LANL-Resolve Procurement Related Data		10	08SEP99	21SEP99	333
WPF814	Solubility LANL-Determine if Data Rel SW is Unde		5	08SEP99	14SEP99	318
WPF816	Solubility LANL-Place Under SMS Control as Neces		10	15SEP99	28SEP99	318
WPPMRE50	Prepare Final 3.10Q Report (Solubility LANL)		11	16SEP99	30SEP99	20
WPF818	Solubility LANL-Verify Data-Related Software		10	29SEP99	13OCT99	318
WPF826	Solubility LANL-Qualified/Verified SW Available		0		22OCT99	316
WPF808	Solubility LANL-Update TDMS		5	10NOV99	17NOV99	299
WPF810	Solubility LANL-Qualified/Verified Data Availabl		0		17NOV99	299
G3020						
110 Waste Package Operations						
WPF828	Solubility LANL-Input Parameters and Data Identi		0		30SEP98	501
WPF830	Solubility LANL-Models and Codes Identified		0		30SEP98	518



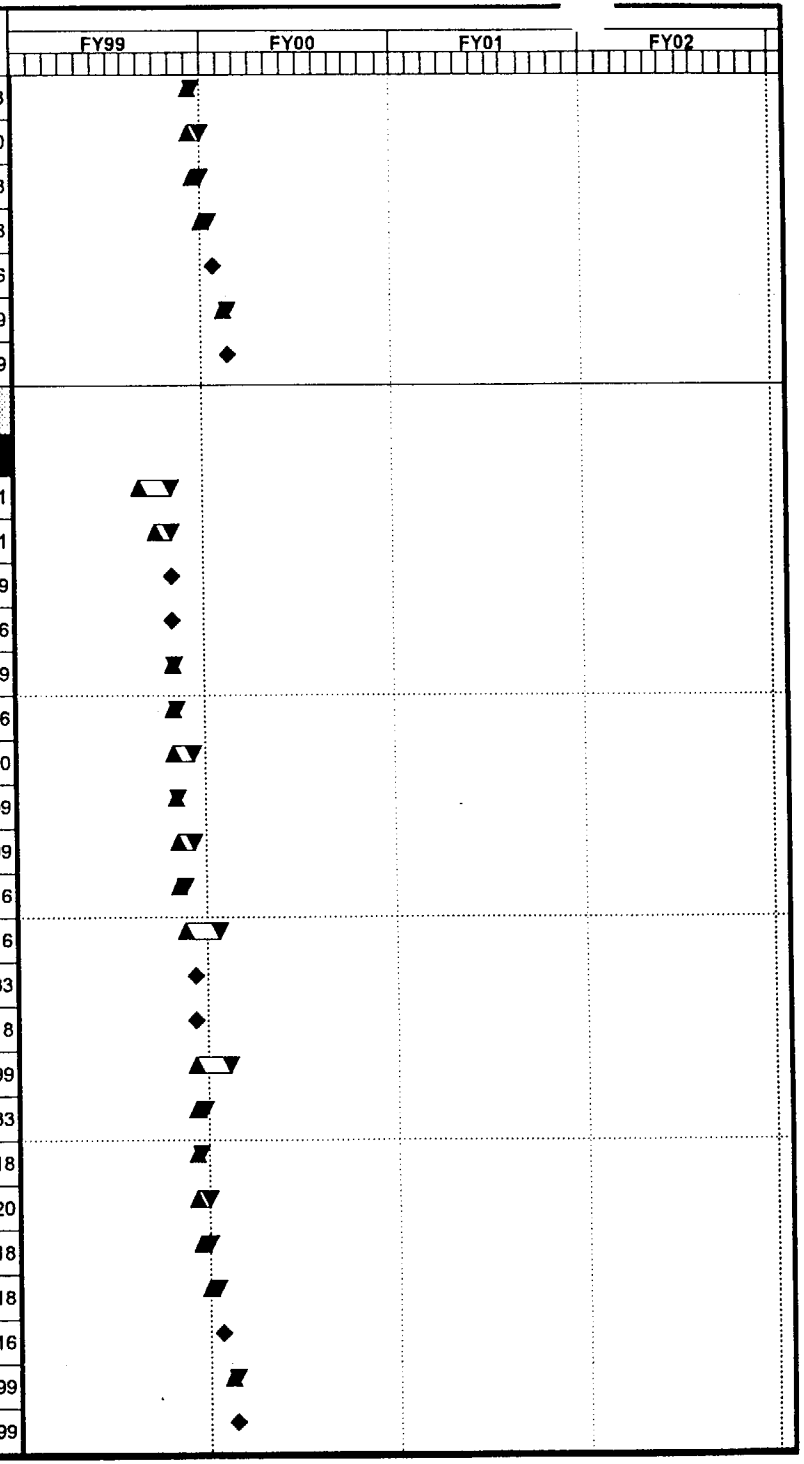
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPF832	Solubility LANL-Determine DTN Assignment		2	01OCT98*	02OCT98	501
WPF856	Solubility LANL-Determine if Model-Rel SW is Und		5	01OCT98*	07OCT98	518
WPF834	Solubility LANL-Determine if Data/DTN in TDMS		3	05OCT98	07OCT98	501
WPF836	Solubility LANL-Submit Data/DTN to TDMS as Neces		22	08OCT98	09NOV98	501
WPF858	Solubility LANL-Place Model-Related SW Under SMS		10	08OCT98	22OCT98	518
WPF860	Solubility LANL-Verify Model-Related Software		44	23OCT98	06JAN99	518
WPF840	Solubility LANL-Procurement Related Issues ID'd		0		09NOV98	535
WPF848	Solubility LANL-Data Related Software Issues Ide		0		09NOV98	520
WPF838	Solubility LANL-Verify/Trace Data		44	10NOV98	22JAN99	501
WPF842	Solubility LANL-Resolve Procurement Related Data		10	10NOV98	24NOV98	535
WPF850	Solubility LANL-Determine if Data Rel SW is Unde		5	10NOV98	17NOV98	520
WPF852	Solubility LANL-Place Under SMS Control as Neces		10	18NOV98	03DEC98	520
WPF854	Solubility LANL-Verify Data-Related Software		10	04DEC98	17DEC98	520
WPF862	Solubility LANL-Qualified/Verified SW Available		0		06JAN99	518
WPF844	Solubility LANL-Update TDMS		5	25JAN99	29JAN99	501
WPF846	Solubility LANL-Qualified/Verified Data Availabl		0		29JAN99	501
WPPMRE55	3.10Q Data (Solubility LLNL)		42	01JUN99*	29JUL99	20
WPPMRE60	Prepare Draft (Solubility LANL)		21	30JUN99*	29JUL99	20
WPPMRE65	3.10Q Checking/Review (Solubility LANL)		33	30JUL99	15SEP99	20
WPPMRE70	Prepare Final 3.10Q Report (Solubility LANL)		11	16SEP99	30SEP99	20
G3025						
110 Waste Package Operations						
WPPMR505	Prepare Dft Document Dissolve Concen Limits Abs.		43	30JUL99*	29SEP99	38
WPPMR515	3.10Q Checking/Review Dissolve Concen Limits Abs		33	01OCT99	18NOV99	38
WPPMR620	Prepare Final 3.10Q Report Dissolve Concen Limit		10	19NOV99	06DEC99	38
G3030						
110 Waste Package Operations						
WPPMRD55	Data (Send Colloids to LANL)		41	03MAY99*	29JUN99	1
WPPMRD60	Prepare Draft Document (Send Colloids to LANL)		22	28MAY99*	29JUN99	1
WPPMRD65	Checking/Review (Send Colloids to LANL)		33	30JUN99	16AUG99	37
WPPMRD70	Prepare Final Report (Send Colloids to LANL)		15	17AUG99	07SEP99	37



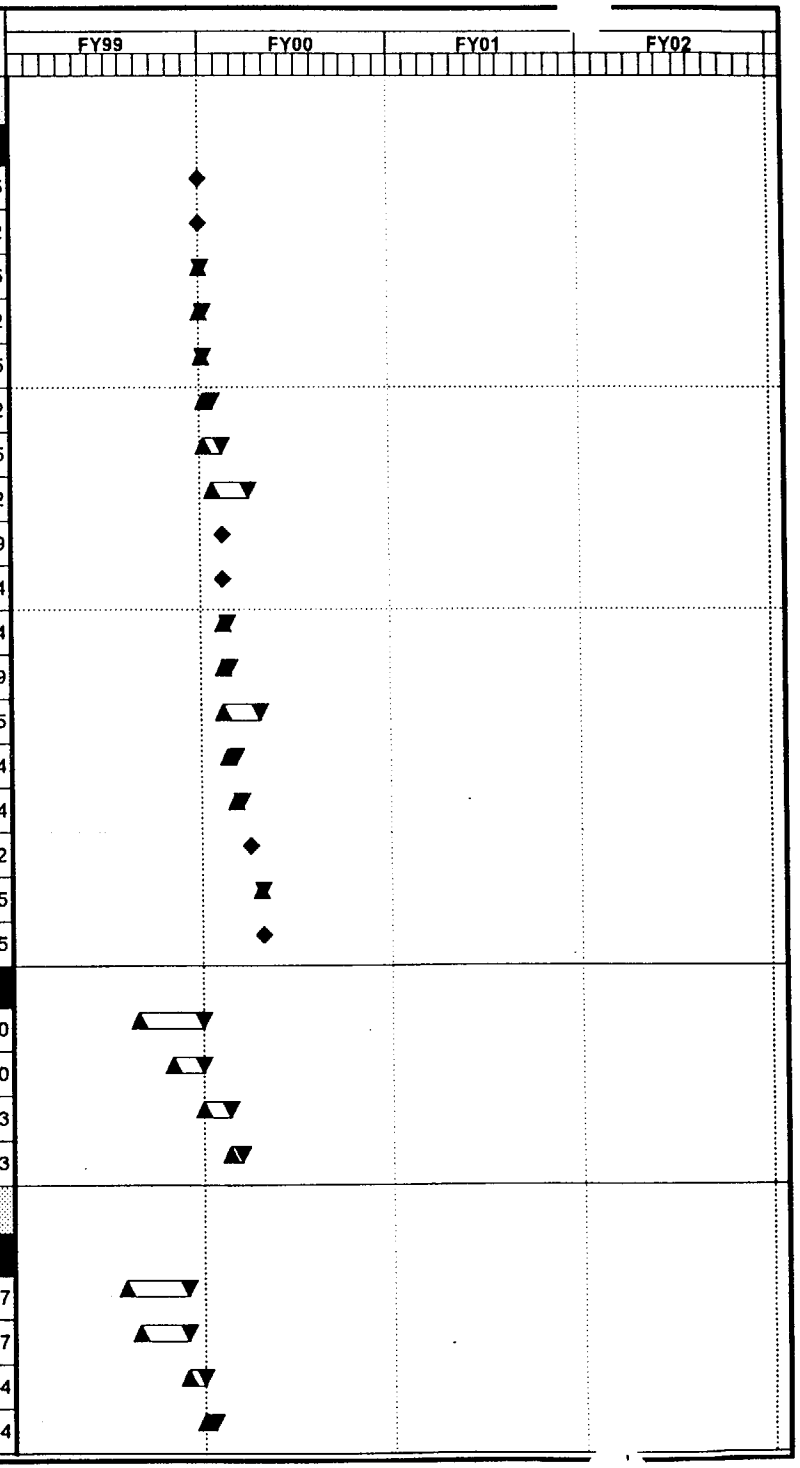
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
130 Performance Assessment Operations						
WPQ1100	Colloids to LANL-Input Parameters and Data Ident		0		29JUN99	320
WPQ1104	Colloids to LANL-Determine DTN Assignment		2	30JUN99	01JUL99	320
WPQ1108	Colloids to LANL-Determine if Data/DTN in TDMS		3	02JUL99	07JUL99	320
WPQ1110	Colloids to LANL-Submit Data/DTN to TDMS as Nece		22	08JUL99	06AUG99	320
WPQ1116	Colloids to LANL-Data Related Software Issues Id		0		06AUG99	339
WPQ1118	Colloids to LANL-Procurement Related Issues ID'd		0		06AUG99	354
WPQ1120	Colloids to LANL-Verify/Trace Data		44	09AUG99	08OCT99	320
WPQ1122	Colloids to LANL-Determine if Data Rel SW is Und		5	09AUG99	13AUG99	339
WPQ1124	Colloids to LANL-Rxesolve Procurement Related Da		10	09AUG99	20AUG99	354
WPQ1126	Colloids to LANL-Place Under SMS Control as Nece		10	16AUG99	27AUG99	339
WPQ1128	Colloids to LANL-Verify Data-Related Software		10	30AUG99	13SEP99	339
WPQ1130	Colloids to LANL-Update TDMS		5	12OCT99	18OCT99	320
WPQ1132	Colloids to LANL-Qualified/Verified Data Availab		0		18OCT99	320
G3035						
110 Waste Package Operations						
WPPMRD35	3.10Q Data(Colloid Source term LANL Data & Mod)		42	01JUN99*	29JUL99	1
WPPMRD40	Prepare Draft (Colloid Source term LANL Data & M		21	30JUN99*	29JUL99	1
WPF576	Colloid Source term-Input Parameters and Data Id		0		29JUL99	299
WPF578	Colloid Source term-Models and Codes Identified		0		29JUL99	316
WPF580	Colloid Source term-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPF604	Colloid Source term-Determine if Model-Rel SW is		5	30JUL99	05AUG99	316
WPPMRD45	3.10Q Checking/Review (Colloid Source term LANL		28	30JUL99	08SEP99	20
WPF582	Colloid Source term-Determine if Data/DTN in TDM		3	03AUG99	05AUG99	299
WPF584	Colloid Source term-Submit Data/DTN to TDMS as N		22	06AUG99	07SEP99	299
WPF606	Colloid Source term-Place Model-Related SW Under		10	06AUG99	19AUG99	316
WPF608	Colloid Source term-Verify Model-Related Softwar		44	20AUG99	22OCT99	316
WPF588	Colloid Source term-Procurement Related Issues I		0		07SEP99	333
WPF596	Colloid Source term-Data Related Software Issues		0		07SEP99	318
WPF586	Colloid Source term-Verify/Trace Data		44	08SEP99	09NOV99	299
WPF590	Colloid Source term-Resolve Procurement Related		10	08SEP99	21SEP99	333



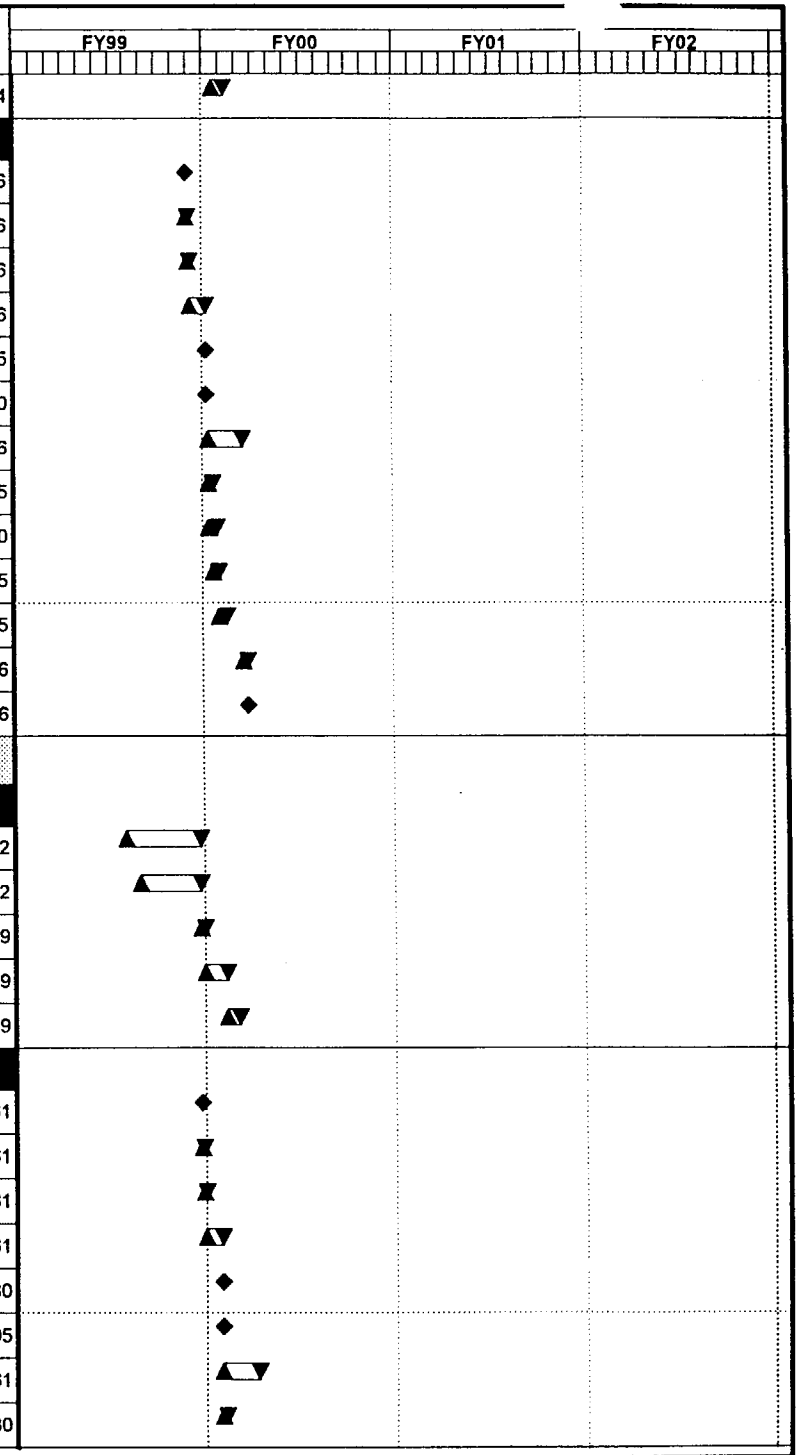
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPF598	Colloid Source term-Determine if Data Rel SW is		5	08SEP99	14SEP99	318
WPPMRD50	Prepare Final 3.10Q Report (Colloid Source term		16	09SEP99	30SEP99	20
WPF600	Colloid Source term-Place Under SMS Control as N		10	15SEP99	28SEP99	318
WPF602	Colloid Source term-Verify Data-Related Software		10	29SEP99	13OCT99	318
WPF610	Colloid Source term-Qualified/Verified SW Availa		0		22OCT99	316
WPF592	Colloid Source term-Update TDMS		5	10NOV99	17NOV99	299
WPF594	Colloid Source term-Qualified/Verified Data Avai		0		17NOV99	299
G3040						
110 Waste Package Operations						
WPPMRD05	3.10Q Data (Colloid source Term ANL)		42	01JUN99*	29JUL99	1
WPPMRD10	Prepare Draft (Colloid source Term ANL)		21	30JUN99*	29JUL99	1
WPF540	Colloid source Term-Input Parameters and Data Id		0		29JUL99	299
WPF542	Colloid source Term-Models and Codes Identified		0		29JUL99	316
WPF544	Colloid source Term-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPF568	Colloid source Term-Determine if Model-Rel SW is		5	30JUL99	05AUG99	316
WPPMRD15	3.10Q Checking/Review (Colloid source Term ANL)		28	30JUL99	08SEP99	20
WPF546	Colloid source Term-Determine if Data/DTN in TDM		3	03AUG99	05AUG99	299
WPF548	Colloid source Term-Submit Data/DTN to TDMS as N		22	06AUG99	07SEP99	299
WPF570	Colloid source Term-Place Model-Related SW Under		10	06AUG99	19AUG99	316
WPF572	Colloid source Term-Verify Model-Related Softwar		44	20AUG99	22OCT99	316
WPF552	Colloid source Term-Procurement Related Issues I		0		07SEP99	333
WPF560	Colloid source Term-Data Related Software Issues		0		07SEP99	318
WPF550	Colloid source Term-Verify/Trace Data		44	08SEP99	09NOV99	299
WPF554	Colloid source Term-Resolve Procurement Related		10	08SEP99	21SEP99	333
WPF562	Colloid source Term-Determine if Data Rel SW is		5	08SEP99	14SEP99	318
WPPMRD20	Prepare Final 3.10Q Report (Colloid source Term		16	09SEP99	30SEP99	20
WPF564	Colloid source Term-Place Under SMS Control as N		10	15SEP99	28SEP99	318
WPF566	Colloid source Term-Verify Data-Related Software		10	29SEP99	13OCT99	318
WPF574	Colloid source Term-Qualified/Verified SW Availa		0		22OCT99	316
WPF556	Colloid source Term-Update TDMS		5	10NOV99	17NOV99	299
WPF558	Colloid source Term-Qualified/Verified Data Avai		0		17NOV99	299



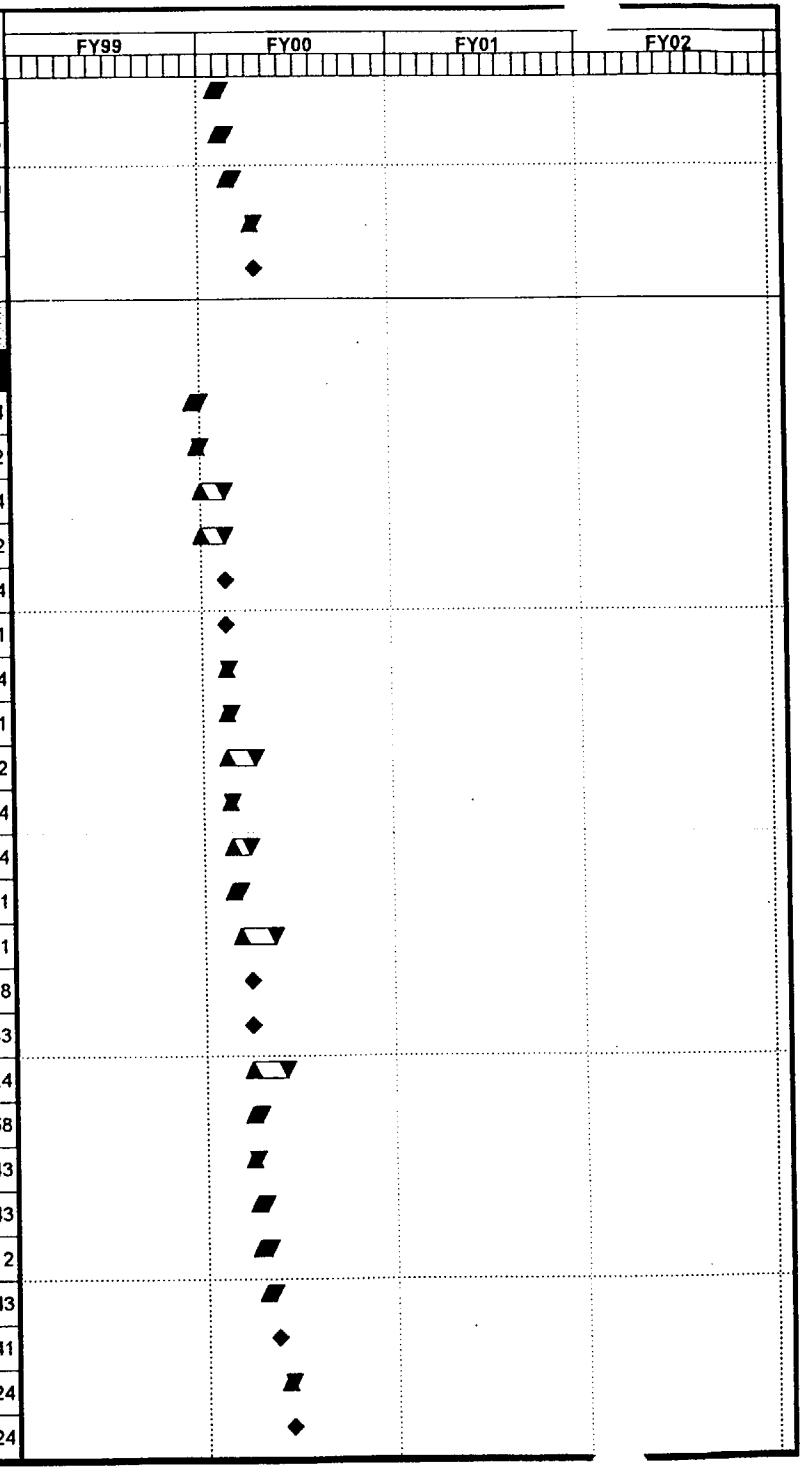
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
G3050						
110 Waste Package Operations						
SLPA1918	Colloid source-Input Parameters and Data Identif		0		30SEP99	255
SLPA1920	Colloid source-Models and Codes Identified		0		30SEP99	272
SLPA1922	Colloid source-Determine DTN Assignment		2	01OCT99	04OCT99	255
SLPA1924	Colloid source-Determine if Model-Rel SW is Unde		5	01OCT99	07OCT99	272
SLPA1926	Colloid source-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99	255
SLPA1928	Colloid source-Place Model-Related SW Under SMS		10	08OCT99	22OCT99	272
SLPA1930	Colloid source-Submit Data/DTN to TDMS as Necess		22	08OCT99	09NOV99	255
SLPA1932	Colloid source-Verify Model-Related Software		44	25OCT99	29DEC99	272
SLPA1934	Colloid source-Procurement Related Issues ID'd t		0		09NOV99	289
SLPA1936	Colloid source-Data Related Software Issues Iden		0		09NOV99	274
SLPA1938	Colloid source-Determine if Data Rel SW is Under		5	10NOV99	17NOV99	274
SLPA1940	Colloid source-Resolve Procurement Related Data		10	10NOV99	24NOV99	289
SLPA1942	Colloid source-Verify/Trace Data		44	10NOV99	17JAN00	255
SLPA1944	Colloid source-Place Under SMS Control as Necess		10	18NOV99	03DEC99	274
SLPA1946	Colloid source-Verify Data-Related Software		10	06DEC99	17DEC99	274
SLPA1948	Colloid source-Qualified/Verified SW Available		0		29DEC99	272
SLPA1950	Colloid source-Update TDMS		5	18JAN00	24JAN00	255
SLPA1952	Colloid source-Qualified/Verified Data Available		0		24JAN00	255
130 Performance Assessment Operations						
SLPA1910	Perform Abstract (Colloid source Term)		86	01JUN99*	30SEP99	0
SLPA1912	Prepare Draft (Colloid source Term Abstract) 00A		43	02AUG99*	30SEP99	0
SLPA1914	3.10Q Checking/Review (Colloid source Term Abstr		33	01OCT99	18NOV99	33
SLPA1916	Prepare Final 3.10Q Report (Colloid source Term		15	19NOV99	13DEC99	33
G3060						
110 Waste Package Operations						
WPPMRM0	Data (In-Package Chemistry - CSNF)		85	03MAY99*	31AUG99	17
WPPMRM5	Prepare Draft Inventory CSNF 00A		65	01JUN99*	31AUG99	17
WPPMRN0	Checking/Review Inventory CSNF 00A FY99		21	01SEP99	30SEP99	54
WPPMRN0Z	Checking/Review Inventory CSNF 00A FY00		12	01OCT99	19OCT99	54



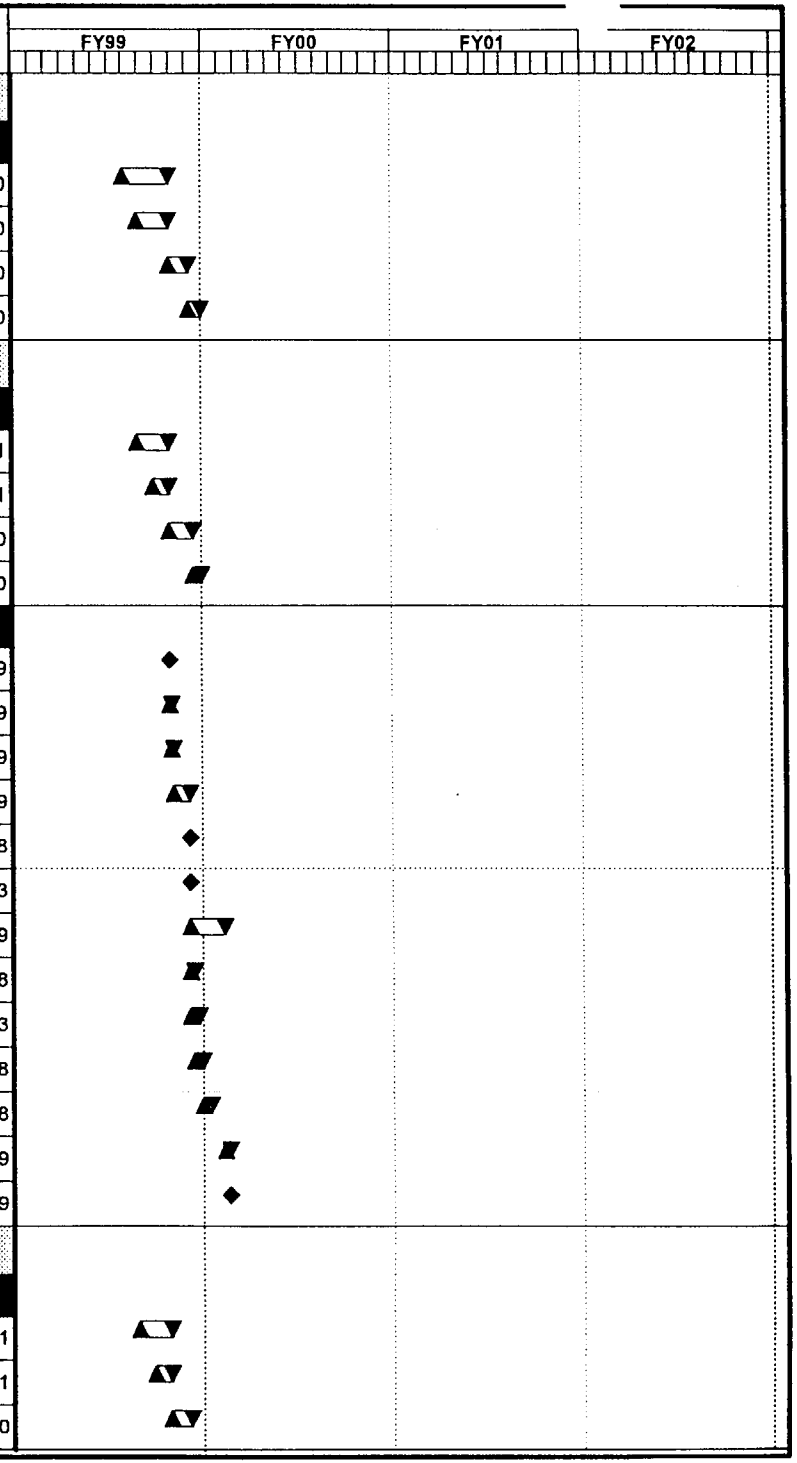
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPPMRN5	Prepare Final Report Inventory CSNF 00A		15	20OCT99	09NOV99	54
130 Performance Assessment Operations						
WPQ1200	Inventory CSNF-Input Parameters and Data Identif		0		31AUG99	276
WPQ1204	Inventory CSNF-Determine DTN Assignment		2	01SEP99	02SEP99	276
WPQ1208	Inventory CSNF-Determine if Data/DTN in TDMS		3	03SEP99	08SEP99	276
WPQ1210	Inventory CSNF-Submit Data/DTN to TDMS as Necess		22	09SEP99	08OCT99	276
WPQ1216	Inventory CSNF-Data Related Software Issues Iden		0		08OCT99	295
WPQ1218	Inventory CSNF-Procurement Related Issues ID'd t		0		08OCT99	310
WPQ1220	Inventory CSNF-Verify/Trace Data		44	12OCT99	15DEC99	276
WPQ1222	Inventory CSNF-Determine if Data Rel SW is Under		5	12OCT99	18OCT99	295
WPQ1224	Inventory CSNF-Rxesolve Procurement Related Data		10	12OCT99	25OCT99	310
WPQ1226	Inventory CSNF-Place Under SMS Control as Necess		10	19OCT99	01NOV99	295
WPQ1228	Inventory CSNF-Verify Data-Related Software		10	02NOV99	16NOV99	295
WPQ1230	Inventory CSNF-Update TDMS		5	16DEC99	22DEC99	276
WPQ1232	Inventory CSNF-Qualified/Verified Data Available		0		22DEC99	276
G3070						
110 Waste Package Operations						
WPPMRK0	Data (In-Package Chemistry - Co Dosposal)		100	03MAY99*	22SEP99	2
WPPMRK5	Prepare Draft Co Dosposal		80	01JUN99*	22SEP99	2
WPPMRL0	Checking/Review Co Dosposal FY99		6	23SEP99	30SEP99	39
WPPMRL0Z	Checking/Review Co Dosposal FY00		27	01OCT99	09NOV99	39
WPPMRL5	Prepare Final Report Co Dosposal		15	10NOV99	03DEC99	39
130 Performance Assessment Operations						
WPQ1250	Co Dosposal-Input Parameters and Data Identified		0		22SEP99	261
WPQ1254	Co Dosposal-Determine DTN Assignment		2	23SEP99	24SEP99	261
WPQ1258	Co Dosposal-Determine if Data/DTN in TDMS		3	27SEP99	29SEP99	261
WPQ1260	Co Dosposal-Submit Data/DTN to TDMS as Necessary		22	30SEP99	01NOV99	261
WPQ1266	Co Dosposal-Data Related Software Issues Identif		0		01NOV99	280
WPQ1268	Co Dosposal-Procurement Related Issues ID'd to C		0		01NOV99	295
WPQ1270	Co Dosposal-Verify/Trace Data		44	02NOV99	07JAN00	261
WPQ1272	Co Dosposal-Determine if Data Rel SW is Under SM		5	02NOV99	08NOV99	280



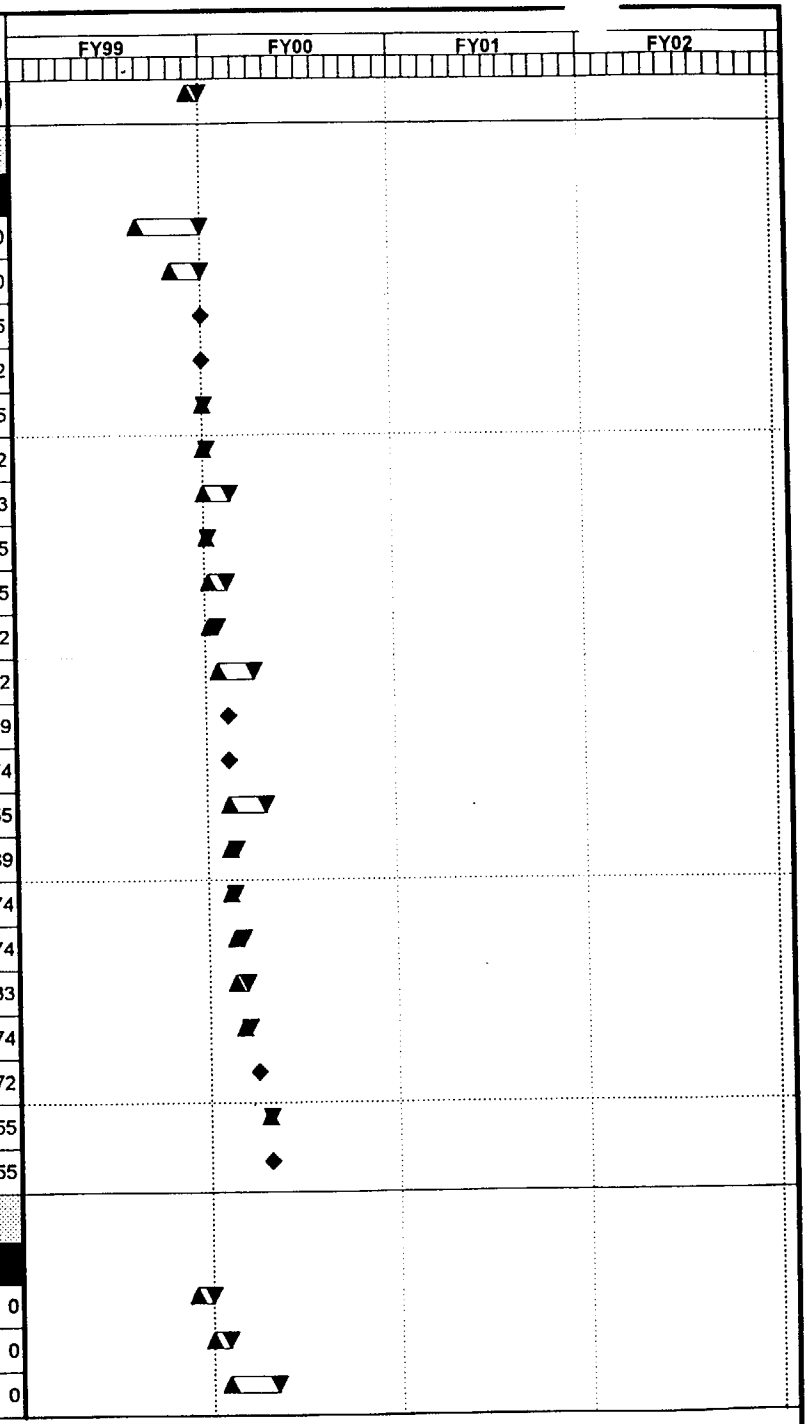
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPQ1274	Co Dosposal-Rxesolve Procurement Related Data Is		10	02NOV99	16NOV99	295
WPQ1276	Co Dosposal-Place Under SMS Control as Necessary		10	09NOV99	23NOV99	280
WPQ1278	Co Dosposal-Verify Data-Related Software		10	24NOV99	09DEC99	280
WPQ1280	Co Dosposal-Update TDMS		5	10JAN00	14JAN00	261
WPQ1282	Co Dosposal-Qualified/Verified Data Available		0		14JAN00	261
G3075						
110 Waste Package Operations						
WPPMR555	3.10Q Data (In-Package Chemistry Summary)FY99		12	15SEP99*	30SEP99	224
WPPMR565	Prepare Draft (In-Package Chemistry Summary)FY99		6	23SEP99	30SEP99	2
WPPMR55Z	3.10Q Data (In-Package Chemistry Summary)FY00		31	01OCT99	16NOV99	224
WPPMR56Z	Prepare Draft (In-Package Chemistry Summary)FY00		31	01OCT99	16NOV99	2
WPF360	In-Package Chem-Input Parameters and Data Identi		0		16NOV99	224
WPF362	In-Package Chem-Models and Codes Identified		0		16NOV99	241
WPF364	In-Package Chem-Determine DTN Assignment		2	17NOV99	18NOV99	224
WPF388	In-Package Chem-Determine if Model-Rel SW is Und		5	17NOV99	23NOV99	241
WPPMR575	3.10Q Checking/Review (In-Package Chemistry Summ		33	17NOV99	06JAN00	2
WPF366	In-Package Chem-Determine if Data/DTN in TDMS		3	19NOV99	23NOV99	224
WPF368	In-Package Chem-Submit Data/DTN to TDMS as Neces		22	24NOV99	28DEC99	224
WPF390	In-Package Chem-Place Model-Related SW Under SMS		10	24NOV99	09DEC99	241
WPF392	In-Package Chem-Verify Model-Related Software		44	10DEC99	11FEB00	241
WPF372	In-Package Chem-Procurement Related Issues ID'd		0		28DEC99	258
WPF380	In-Package Chem-Data Related Software Issues Ide		0		28DEC99	243
WPF370	In-Package Chem-Verify/Trace Data		44	29DEC99	01MAR00	224
WPF374	In-Package Chem-Resolve Procurement Related Data		10	29DEC99	12JAN00	258
WPF382	In-Package Chem-Determine if Data Rel SW is Unde		5	29DEC99	05JAN00	243
WPF384	In-Package Chem-Place Under SMS Control as Neces		10	06JAN00	19JAN00	243
WPPMR580	Prepare Final 3.10Q Report (In-Package Chemistry		15	07JAN00	27JAN00	2
WPF386	In-Package Chem-Verify Data-Related Software		10	20JAN00	02FEB00	243
WPF394	In-Package Chem-Qualified/Verified SW Available		0		11FEB00	241
WPF376	In-Package Chem-Update TDMS		5	02MAR00	08MAR00	224
WPF378	In-Package Chem-Qualified/Verified Data Availabl		0		08MAR00	224



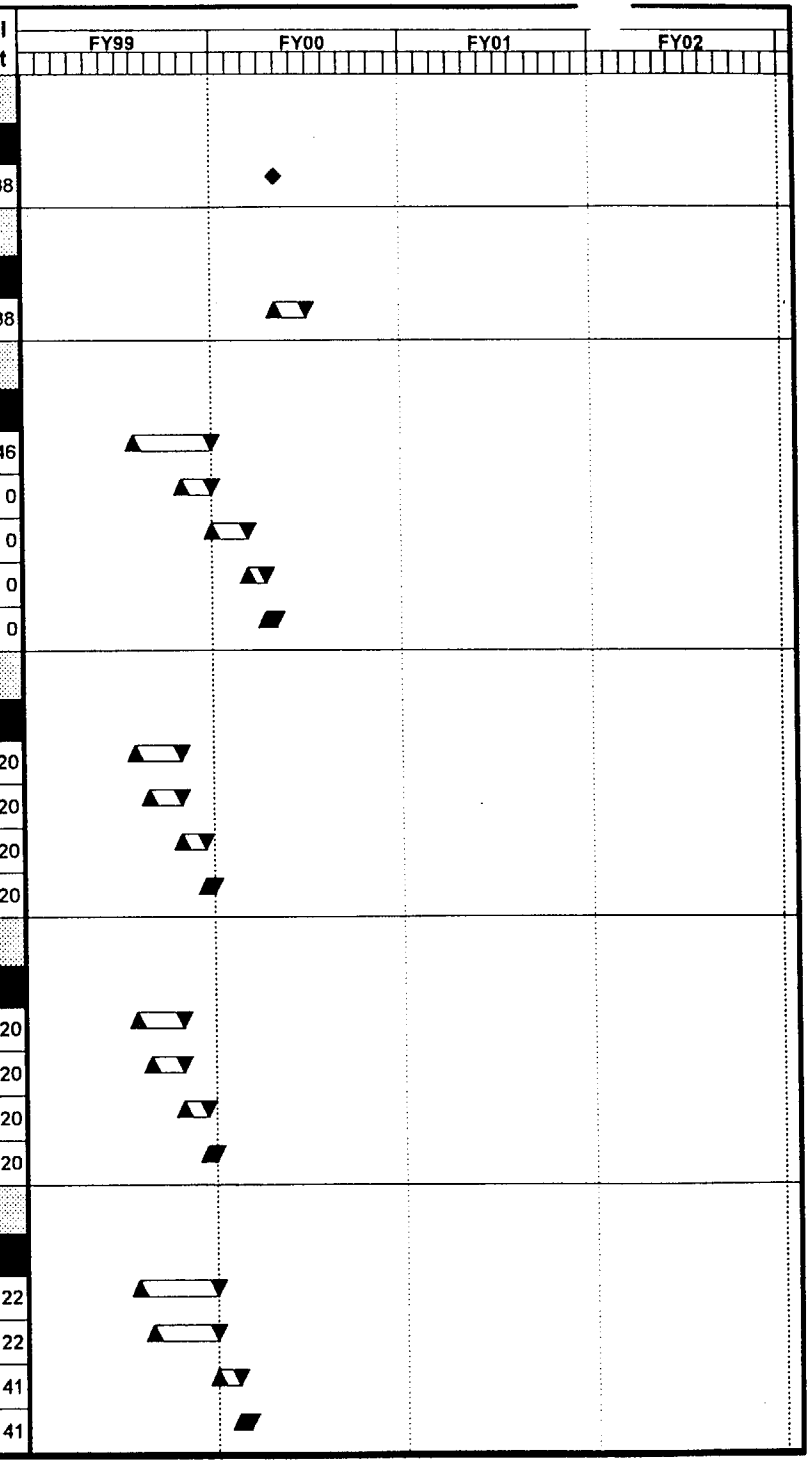
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
G3080						
110 Waste Package Operations						
WPPMRFG5	Data (IN-WP TEMPERATURE HISTORY)		62	03MAY99*	29JUL99	20
WPPMRFH0	Prepare Draft Document (IN-WP TEMP HISTORY) 00A		42	01JUN99*	29JUL99	20
WPPMRFH5	Checking/Review (IN-WP TEMPERATURE HISTORY)		28	30JUL99	08SEP99	20
WPPMRFI0	Prepare Final Report (IN-WP TEMPERATURE HISTORY		16	09SEP99	30SEP99	20
G3085						
110 Waste Package Operations						
WPPMRC05	Data (In-WP Sorption)		42	01JUN99*	29JUL99	1
WPPMRC10	Prepare Draft In WP Sorption - 00A		21	30JUN99*	29JUL99	1
WPPMRC15	Checking/Review In-WP Sorption		33	30JUL99	15SEP99	20
WPPMRC20	Prepare Final Report In-WP Sorption		11	16SEP99	30SEP99	20
130 Performance Assessment Operations						
WPQ1300	WP Sorption-Input Parameters and Data Identified		0		29JUL99	299
WPQ1304	WP Sorption-Determine DTN Assignment		2	30JUL99	02AUG99	299
WPQ1308	WP Sorption-Determine if Data/DTN in TDMS		3	03AUG99	05AUG99	299
WPQ1310	WP Sorption-Submit Data/DTN to TDMS as Necessary		22	06AUG99	07SEP99	299
WPQ1316	WP Sorption-Data Related Software Issues Identif		0		07SEP99	318
WPQ1318	WP Sorption-Procurement Related Issues ID'd to C		0		07SEP99	333
WPQ1320	WP Sorption-Verify/Trace Data		44	08SEP99	09NOV99	299
WPQ1322	WP Sorption-Determine if Data Rel SW is Under SM		5	08SEP99	14SEP99	318
WPQ1324	WP Sorption-Rxesolve Procurement Related Data Is		10	08SEP99	21SEP99	333
WPQ1326	WP Sorption-Place Under SMS Control as Necessary		10	15SEP99	28SEP99	318
WPQ1328	WP Sorption-Verify Data-Related Software		10	29SEP99	13OCT99	318
WPQ1330	WP Sorption-Update TDMS		5	10NOV99	17NOV99	299
WPQ1332	WP Sorption-Qualified/Verified Data Available		0		17NOV99	299
G3090						
110 Waste Package Operations						
WPPMRBO5	3.10Q Data (Basket Degradation & WP Setting)		42	01JUN99*	29JUL99	1
WPPMRBP0	Prepare Draft (Basket Degradation & WP Setting)		21	30JUN99*	29JUL99	1
WPPMRBP5	3.10Q Checking/Review (Basket Degradation & WP S		28	30JUL99	08SEP99	20



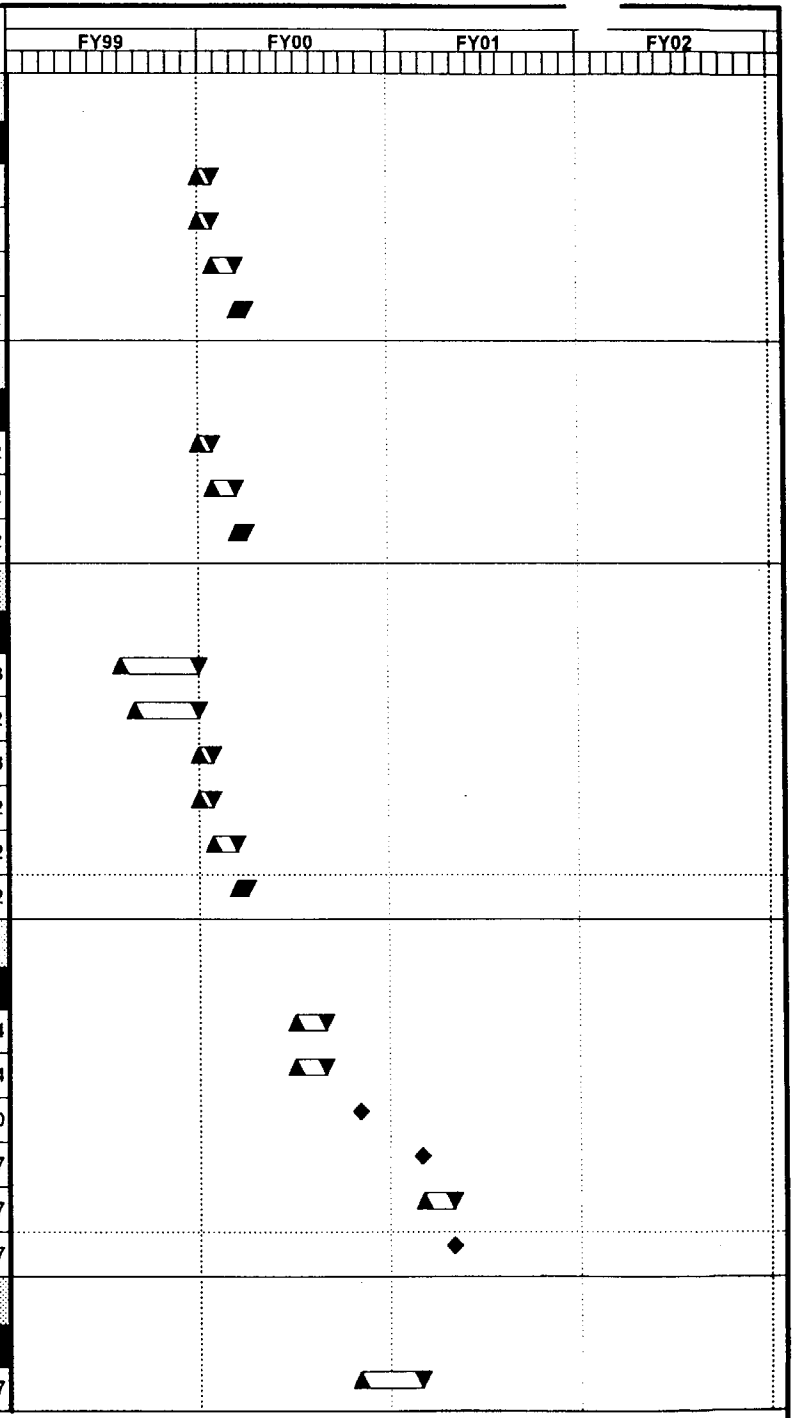
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPPMRBQ0	Prepare Final 3.10Q Report (Basket Degradation &		16	09SEP99	30SEP99	20
G3095						
110 Waste Package Operations						
WPPMR585	3.10Q In-Pkg Source Trm & Radio Nuc Trans Sumry		86	01JUN99*	30SEP99	0
WPPMR595	Prepare Draft (In-Pkg Source Trm & Radio Nuc)		43	02AUG99	30SEP99	0
WPF396	WP Transport Summ-Input Parameters and Data Iden		0		30SEP99	255
WPF398	WP Transport Summ-Models and Codes Identified		0		30SEP99	272
WPF400	WP Transport Summ-Determine DTN Assignment		2	01OCT99	04OCT99	255
WPF424	WP Transport Summ-Determine if Model-Rel SW is U		5	01OCT99	07OCT99	272
WPPMR605	3.10Q Checking/Review (In-Pkg Source Trm & Radi)		33	01OCT99	18NOV99	33
WPF402	WP Transport Summ-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99	255
WPF404	WP Transport Summ-Submit Data/DTN to TDMS as Nec		22	08OCT99	09NOV99	255
WPF426	WP Transport Summ-Place Model-Related SW Under S		10	08OCT99	22OCT99	272
WPF428	WP Transport Summ-Verify Model-Related Software		44	25OCT99	29DEC99	272
WPF408	WP Transport Summ-Procurement Related Issues ID'		0		09NOV99	289
WPF416	WP Transport Summ-Data Related Software Issues I		0		09NOV99	274
WPF406	WP Transport Summ-Verify/Trace Data		44	10NOV99	17JAN00	255
WPF410	WP Transport Summ-Resolve Procurement Related Da		10	10NOV99	24NOV99	289
WPF418	WP Transport Summ-Determine if Data Rel SW is Un		5	10NOV99	17NOV99	274
WPF420	WP Transport Summ-Place Under SMS Control as Nec		10	18NOV99	03DEC99	274
WPPMR710	Prepare Final 3.10Q Report (In-Pkg Source Trm &		15	19NOV99	13DEC99	33
WPF422	WP Transport Summ-Verify Data-Related Software		10	06DEC99	17DEC99	274
WPF430	WP Transport Summ-Qualified/Verified SW Availabl		0		29DEC99	272
WPF412	WP Transport Summ-Update TDMS		5	18JAN00	24JAN00	255
WPF414	WP Transport Summ-Qualified/Verified Data Availa		0		24JAN00	255
G4010						
110 Waste Package Operations						
WPPMR498	Initiate Developmemt WP PMR Rev 00A Text FY99		22	31AUG99*	30SEP99	0
WPPMR49Z	Initiate Developmemt WP PMR Rev 00A Text FY00		20	01OCT99	29OCT99	0
WPPMRA00	Develop Waste Form PMR -Rev 00A Text		61	01NOV99*	31JAN00	0



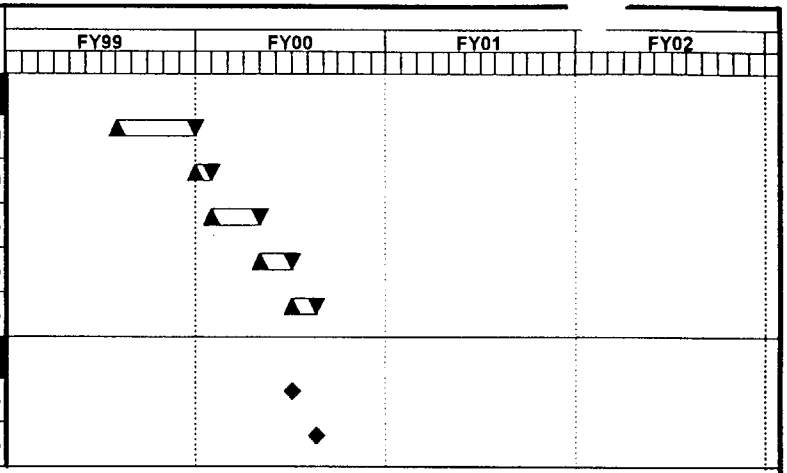
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
G4020						
110 Waste Package Operations						
WPPMRCM4	Waste Forms PMR Rev 00A	M4	0		31JAN00	38
G4030						
110 Waste Package Operations						
WPPMRA10	Waste Forms PMR M&O Review		43	01FEB00	31MAR00	38
GNEWA						
130 Performance Assessment Operations						
SLPA1954	3.10Q Summary Abstraction - CLAD Degrad		106	03MAY99*	30SEP99	46
SLPA1956	Prepare Draft Document (Summary Abstraction)FY99		40	05AUG99*	30SEP99	0
SLPA1958	Prepare Draft Document (Summary Abstraction)FY00		46	01OCT99	09DEC99	0
SLPA1960	3.10Q Checking/Review (Summary Abstraction) - CL		23	10DEC99	13JAN00	0
SLPA1962	Prepare Final 3.10Q Report (Summary Abstraction)		12	14JAN00	31JAN00	0
GNEWB						
110 Waste Package Operations						
WPPMRXC0	3.10Q Data (In-WP Evaporation)		62	03MAY99*	29JUL99	20
WPPMRXC5	Prepare Draft Document (In-WP Evaporation)		42	01JUN99*	29JUL99	20
WPPMRXD0	3.10Q Checking/Review (In-WP Evaporation)		33	30JUL99	15SEP99	20
WPPMRXD5	Prepare Final 3.10Q Report (In-WP Evaporation)		11	16SEP99	30SEP99	20
GNEWC						
110 Waste Package Operations						
WPPMRXE0	3.10Q Data (In-WP Hydrology)		62	03MAY99*	29JUL99	20
WPPMRXE5	Prepare Draft Document (In-WP Hydrology)		42	01JUN99*	29JUL99	20
WPPMRXF0	3.10Q Checking/Review (In-WP Hydrology)		33	30JUL99	15SEP99	20
WPPMRXF5	Prepare Final 3.10Q Report (In-WP Hydrology)		11	16SEP99	30SEP99	20
GNEWD						
110 Waste Package Operations						
WPPMRYA0	3.10Q Data (In-Package Chemistry Abstraction)		106	03MAY99*	30SEP99	22
WPPMRYA5	Prepare Draft Document (In-Package Chemistry Ab		86	01JUN99*	30SEP99	22
WPPMRYB0	3.10Q Checking/Review (In-Package Chemistry Abs		28	01OCT99	10NOV99	41
WPPMRYB5	Prepare Final 3.10Q Report (In-Package Chemistry		12	12NOV99	01DEC99	41



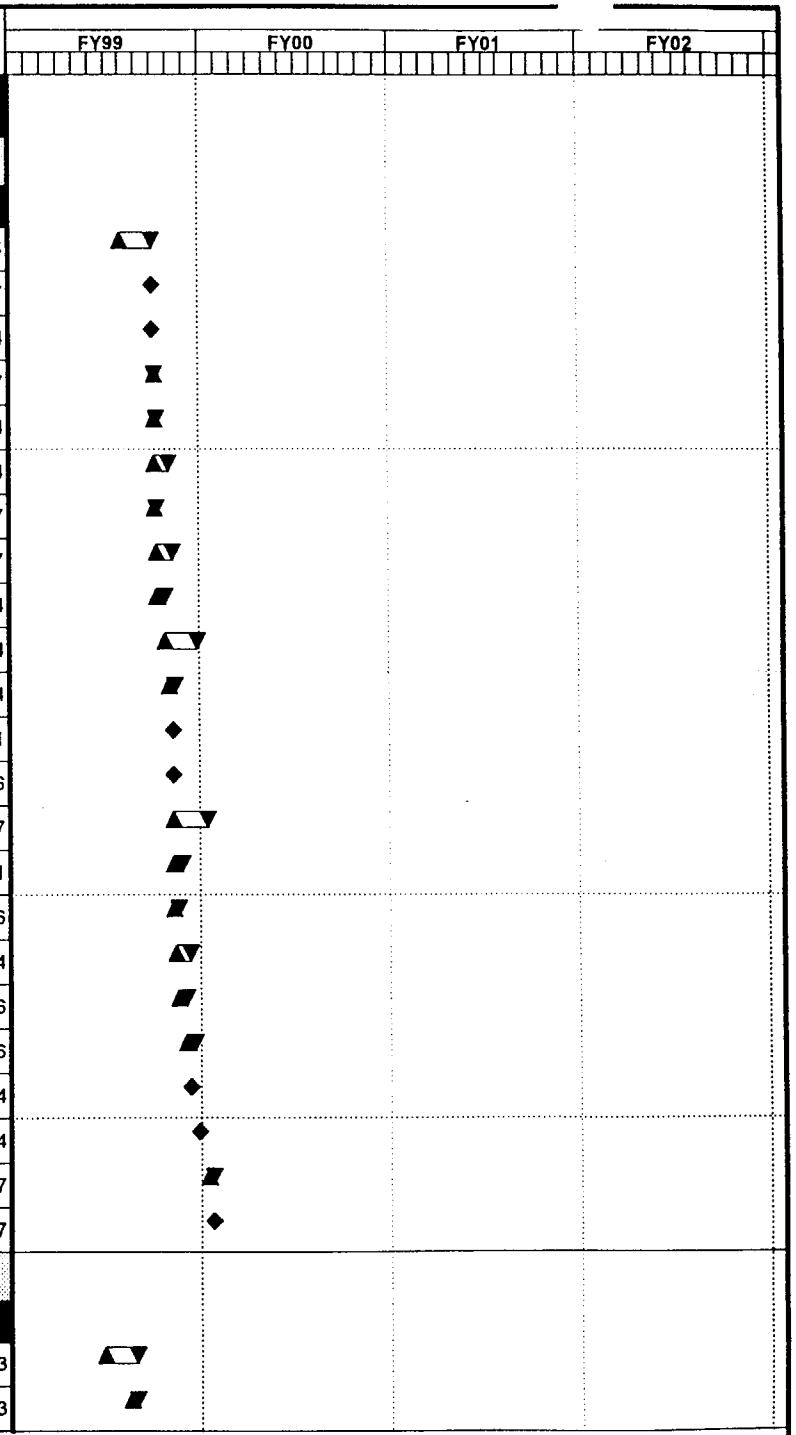
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
GNEWF						
130 Performance Assessment Operations						
SLPA1964	Perform Abstra(In-Package Source Term Abstract)		19	01OCT99*	28OCT99	22
SLPA1966	Prepare Draft Document (In-Package Source Term		19	01OCT99	28OCT99	22
SLPA1968	3.10Q Checking/Review (In-Package Source Term A		28	29OCT99	10DEC99	22
SLPA1970	Prepare Final 3.10Q Report (In-Package Source Te		12	13DEC99	29DEC99	22
GNEWG						
130 Performance Assessment Operations						
SLPA1974	Prepare Draft Document (In-Pack Radionuclid Tran		19	01OCT99*	28OCT99	22
SLPA1976	3.10Q Checking/Review (In-Pack Radionuclid Trans		28	29OCT99	10DEC99	22
SLPA1978	[illegible] Final 3.10Q Report (In-Pack Radionuclid		12	13DEC99	29DEC99	22
GNEWH						
110 Waste Package Operations						
WPPMRTG0	3.10Q Data (In-WF FEP's Screening Summary)		105	03MAY99*	29SEP99	23
WPPMRTG5	Prepare Draft Document (In-WF FEP's Screening Su		86	01JUN99*	30SEP99	22
WPPMRG0Z	3.10Q Data (In-WF FEP's Screening Summary)		19	30SEP99	27OCT99	23
WPPMRG5Z	Prepare Draft Document (In-WF FEP's Screening Su		19	01OCT99	28OCT99	22
WPPMRTH0	3.10Q Checking/Review (In-WF FEP's Screening Sum		28	29OCT99	10DEC99	22
WPPMRTH5	Prepare Final 3.10Q Report (In-WF FEP's Screenin		12	13DEC99	29DEC99	22
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
WPF00A	Revise WF PMR AP 3.10Q's for SR		41	03APR00	30MAY00	44
WPF00B	Prepare WF PMR REV-02A for SR		41	03APR00	30MAY00	44
WPF00BM4	WF PMR Rev-02A for SR	M4	0		01AUG00*	0
WPF00CM3	WF PMR Rev-02 for SR	M3	0		01DEC00	17
WPF00D	DOE Review WF PMR 02 for SR		41	04DEC00	31JAN01	17
WPF00EM3	Rev 03 WF PMR for SR	M3	0		31JAN01	17
110 Waste Package Operations						
WPF00C	M&O Review WF PMR Rev-02A for SR		83	02AUG00	01DEC00	17



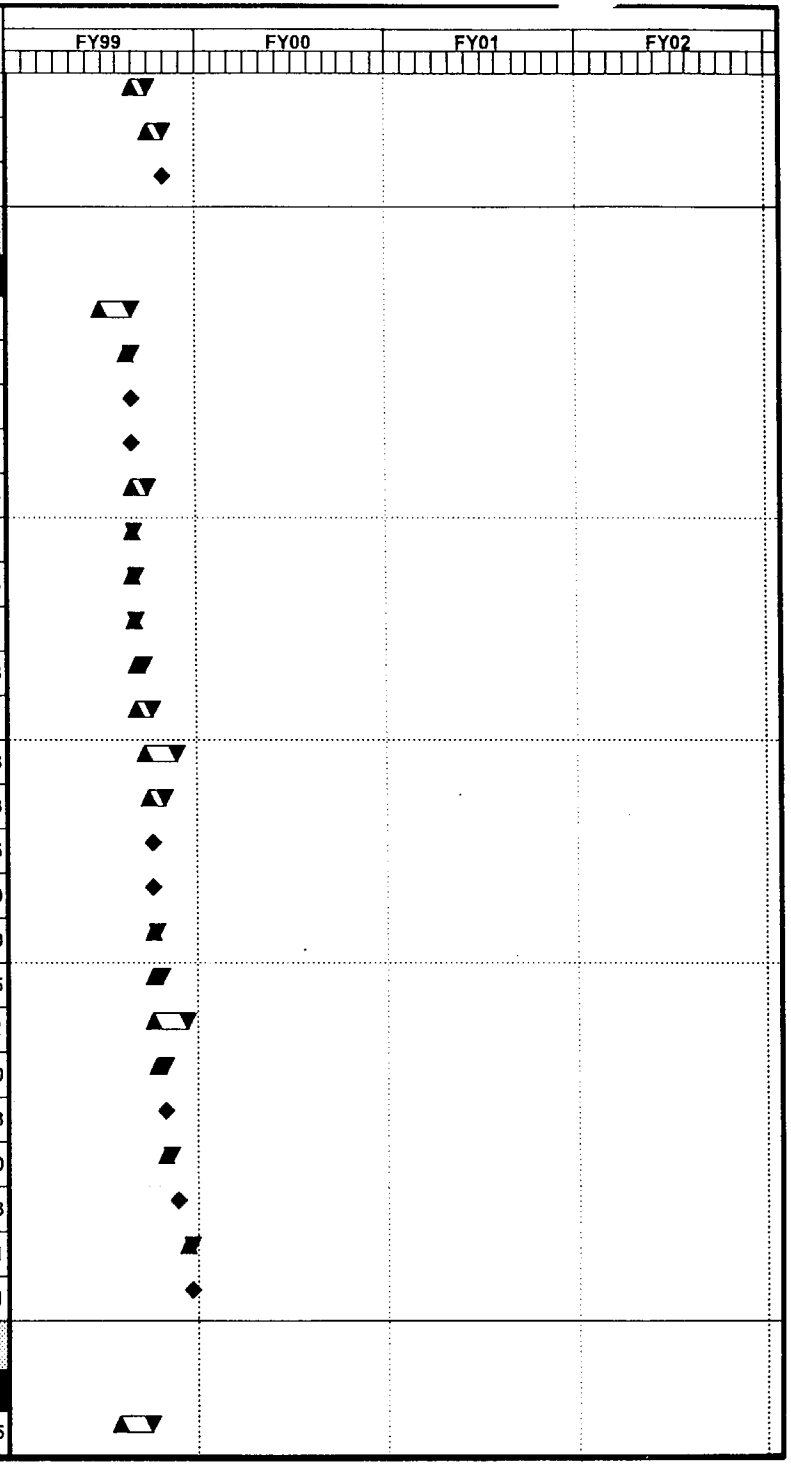
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
150 Support Operations						
BMP160	PIM 3.10Q/PMR Planning & Text Support (WF)		106	03MAY99*	30SEP99	0
BMP161	Cont.WF PIM 3.10Q/PMR Planning & Text Support		20	01OCT99	29OCT99	0
BMP162	PIM Text & M&O Review Prep Support (WF)		61	01NOV99	31JAN00	38
BMP163	PIM M&O Rev. & DOE Rev. Prep Support (WF)		43	01FEB00	31MAR00	38
BMP164	PIM DOE Rev. & Final Accept. Support (WF)		35	03APR00	19MAY00	38
300 Regulatory & Licensing						
SLPMRDM3	Waste Forms PMR Rev 00 To DOE	M3	0		31MAR00	38
SLPMRBM3	Rev 01 Waste Forms PMR	M3	0		19MAY00	38



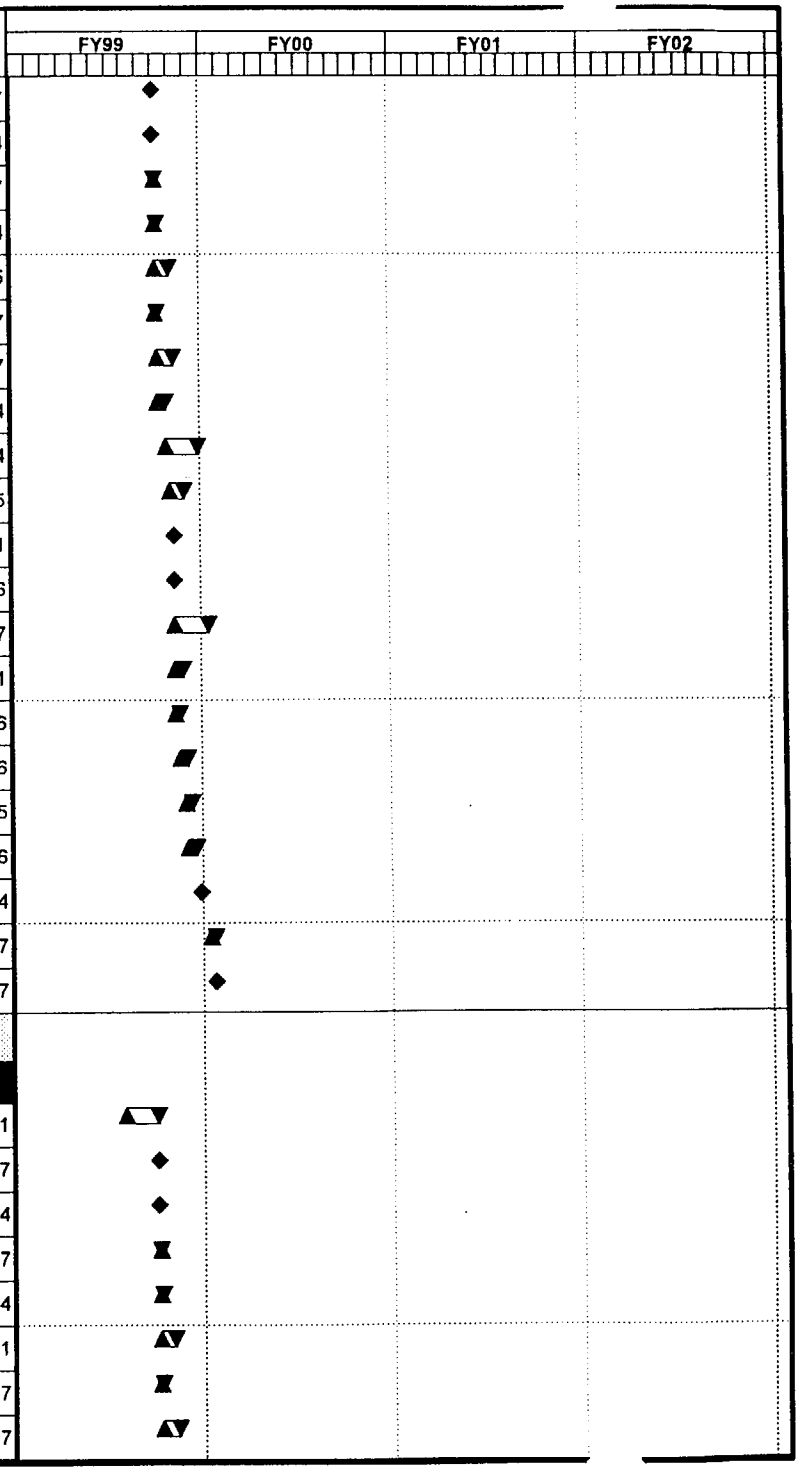
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
N NFE PMR						
N1040						
140 Natural Environment Program Operations						
SLP7088	AP3.10Q Data - ESF & LBT Thermal Tests ResultsTH		44	03MAY99*	02JUL99	44
SLN000	ESF & LBT Thermal-Input Parameters and Data Iden		0		02JUL99	317
SLN002	ESF & LBT Thermal-Models and Codes Identified		0		02JUL99	334
SLN004	ESF & LBT Thermal-Determine DTN Assignment		2	06JUL99	07JUL99	317
SLN028	ESF & LBT Thermal-Determine if Model-Rel SW is U		5	06JUL99	12JUL99	334
SLP7082	AP3.10Q Draft - ESF & LBT Thermal Tests ResultsT		20	06JUL99	02AUG99	44
SLN006	ESF & LBT Thermal-Determine if Data/DTN in TDMS		3	08JUL99	12JUL99	317
SLN008	ESF & LBT Thermal-Submit Data/DTN to TDMS as Nec		22	13JUL99	11AUG99	317
SLN030	ESF & LBT Thermal-Place Model-Related SW Under S		10	13JUL99	26JUL99	334
SLN032	ESF & LBT Thermal-Verify Model-Related Software		44	27JUL99	27SEP99	334
SLP7084	AP3.10Q Check - ESF & LBT Thermal Tests ResultsT		10	03AUG99	16AUG99	44
SLN012	ESF & LBT Thermal-Procurement Related Issues ID'		0		11AUG99	351
SLN020	ESF & LBT Thermal-Data Related Software Issues I		0		11AUG99	336
SLN010	ESF & LBT Thermal-Verify/Trace Data		44	12AUG99	14OCT99	317
SLN014	ESF & LBT Thermal-Rxesolve Procurement Related D		10	12AUG99	25AUG99	351
SLN022	ESF & LBT Thermal-Determine if Data Rel SW is Un		5	12AUG99	18AUG99	336
SLP7086	AP3.10Q Final - ESF & LBT Thermal Tests ResultsT		18	17AUG99	10SEP99	44
SLN024	ESF & LBT Thermal-Place Under SMS Control as Nec		10	19AUG99	01SEP99	336
SLN026	ESF & LBT Thermal-Verify Data-Related Software		10	02SEP99	16SEP99	336
SLP7086M4	AP3.10Q Final - ESF & LBT Thermal Tests ResultsT	M4	0		10SEP99	44
SLN034	ESF & LBT Thermal-Qualified/Verified SW Availabl		0		27SEP99	334
SLN016	ESF & LBT Thermal-Update TDMS		5	15OCT99	21OCT99	317
SLN018	ESF & LBT Thermal-Qualified/Verified Data Availa		0		21OCT99	317
N1050						
140 Natural Environment Program Operations						
SLPA1980	AP3.10Q Data - Flow Models for Heat/Fluid		44	30MAR99*	28MAY99	73
SLPA1982	AP3.10Q Draft - Flow Models for Heat/Fluid		10	17MAY99	28MAY99	73



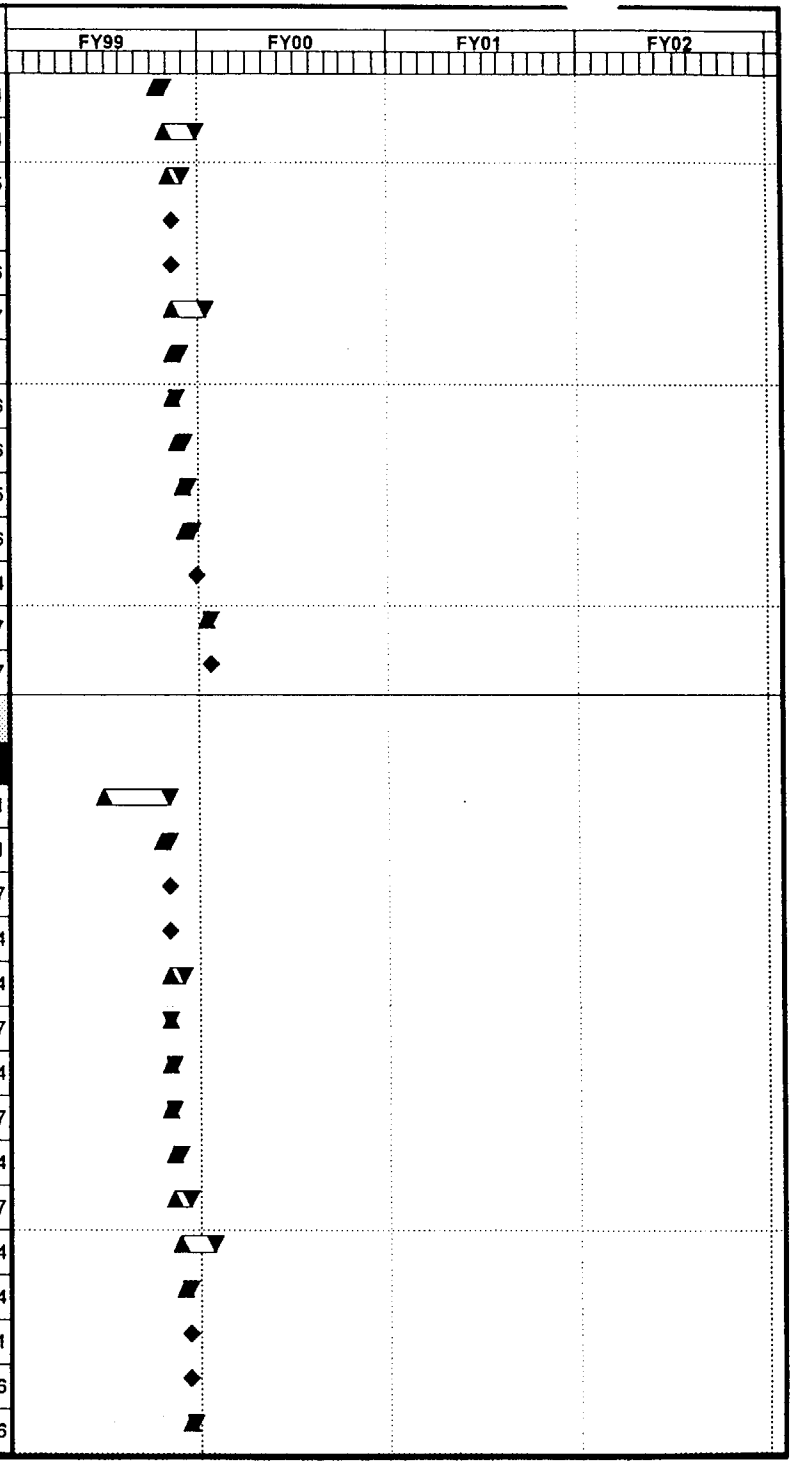
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA1984	AP3.10Q Check - Flow Model for Heat/Fluid		22	01JUN99	30JUN99	73
SLPA1986	AP3.10Q Final - ESF & LBT Thermal Tests ResultsT		21	01JUL99	30JUL99	73
SLPA1988	AP3.10Q Final - Flow Models for Heat/Fluid	M4	0		30JUL99	73
N1060						
130 Performance Assessment Operations						
SLPA2026	AP3.10Q Data - Repos Design Config & Heat Output		44	30MAR99*	28MAY99	73
SLPA2028	AP3.10Q Draft - Repos Design Config & Heat Outpu		10	17MAY99*	28MAY99	73
SLPA2036	Design Config/Heat-Input Parameters and Data Ide		0		28MAY99	341
SLPA2038	Design Config/Heat-Models and Codes Identified		0		28MAY99	358
SLPA2030	AP3.10Q Check - Repos Design Config & Heat Outpu		22	01JUN99	30JUN99	73
SLPA2040	Design Config/Heat-Determine DTN Assignment		2	01JUN99	02JUN99	341
SLPA2042	Design Config/Heat-Determine if Model-Rel SW is		5	01JUN99	07JUN99	358
SLPA2044	Design Config/Heat-Determine if Data/DTN in TDMS		3	03JUN99	07JUN99	341
SLPA2046	Design Config/Heat-Place Model-Related SW Under		10	08JUN99	21JUN99	358
SLPA2048	Design Config/Heat-Submit Data/DTN to TDMS as Ne		22	08JUN99	08JUL99	341
SLPA2050	Design Config/Heat-Verify Model-Related Software		44	22JUN99	23AUG99	358
SLPA2032	AP3.10Q Final - Repos Design Config & Heat Outpu		21	01JUL99	30JUL99	73
SLPA2052	Design Config/Heat-Procurement Related Issues ID		0		08JUL99	375
SLPA2054	Design Config/Heat-Data Related Software Issues		0		08JUL99	360
SLPA2056	Design Config/Heat-Determine if Data Rel SW is U		5	09JUL99	15JUL99	360
SLPA2058	Design Config/Heat-Rxesolve Procurement Related		10	09JUL99	22JUL99	375
SLPA2060	Design Config/Heat-Verify/Trace Data		44	09JUL99	09SEP99	341
SLPA2062	Design Config/Heat-Place Under SMS Control as Ne		10	16JUL99	29JUL99	360
SLPA2034	AP3.10Q Final - Repos Design Config & Heat Outpu	M4	0		30JUL99	73
SLPA2064	Design Config/Heat-Verify Data-Related Software		10	30JUL99	12AUG99	360
SLPA2066	Design Config/Heat-Qualified/Verified SW Availab		0		23AUG99	358
SLPA2068	Design Config/Heat-Update TDMS		5	10SEP99	16SEP99	341
SLPA2070	Design Config/Heat-Qualified/Verified Data Avail		0		16SEP99	341
N1090						
140 Natural Environment Program Operations						
SLP7200	AP3.10Q Data - ESF & LBT Thermal Tests ResultsTC		44	03MAY99*	02JUL99	45



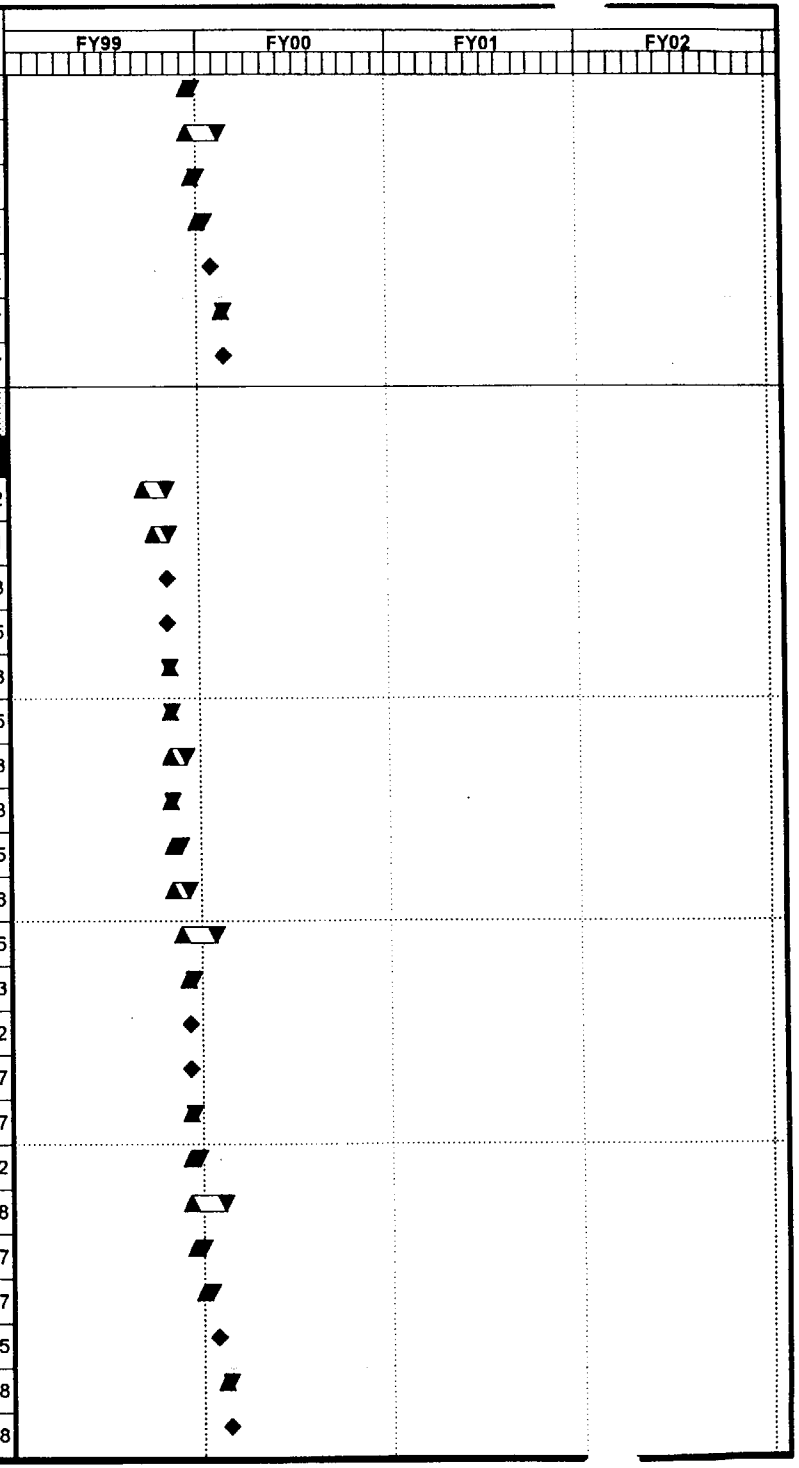
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLN144	ESF & LBT Thermal-Input Parameters and Data Iden		0		02JUL99	317
SLN146	ESF & LBT Thermal-Models and Codes Identified		0		02JUL99	334
SLN148	ESF & LBT Thermal-Determine DTN Assignment		2	06JUL99	07JUL99	317
SLN172	ESF & LBT Thermal-Determine if Model-Rel SW is U		5	06JUL99	12JUL99	334
SLP7194	AP3.10Q Draft - ESF & LBT Thermal Tests ResultsT		20	06JUL99	02AUG99	45
SLN150	ESF & LBT Thermal-Determine if Data/DTN in TDMS		3	08JUL99	12JUL99	317
SLN152	ESF & LBT Thermal-Submit Data/DTN to TDMS as Nec		22	13JUL99	11AUG99	317
SLN174	ESF & LBT Thermal-Place Model-Related SW Under S		10	13JUL99	26JUL99	334
SLN176	ESF & LBT Thermal-Verify Model-Related Software		44	27JUL99	27SEP99	334
SLP7196	AP3.10Q Check - ESF & LBT Thermal Tests ResultsT		20	03AUG99	30AUG99	45
SLN156	ESF & LBT Thermal-Procurement Related Issues ID'		0		11AUG99	351
SLN164	ESF & LBT Thermal-Data Related Software Issues I		0		11AUG99	336
SLN154	ESF & LBT Thermal-Verify/Trace Data		44	12AUG99	14OCT99	317
SLN158	ESF & LBT Thermal-Rxesolve Procurement Related D		10	12AUG99	25AUG99	351
SLN166	ESF & LBT Thermal-Determine if Data Rel SW is Un		5	12AUG99	18AUG99	336
SLN168	ESF & LBT Thermal-Place Under SMS Control as Nec		10	19AUG99	01SEP99	336
SLP7198	AP3.10Q Final - ESF & LBT Thermal Tests ResultsT		7	31AUG99	09SEP99	45
SLN170	ESF & LBT Thermal-Verify Data-Related Software		10	02SEP99	16SEP99	336
SLN178	ESF & LBT Thermal-Qualified/Verified SW Availabl		0		27SEP99	334
SLN160	ESF & LBT Thermal-Update TDMS		5	15OCT99	21OCT99	317
SLN162	ESF & LBT Thermal-Qualified/Verified Data Availa		0		21OCT99	317
N2000						
140 Natural Environment Program Operations						
SLP7208	AP3.10Q Data - ESF & LBT Thermal Test ResultsTM		44	03MAY99*	02JUL99	31
SLN180	ESF & LBT ThermalTM-Input Parameters and Data Id		0		02JUL99	317
SLN182	ESF & LBT ThermalTM-Models and Codes Identified		0		02JUL99	334
SLN184	ESF & LBT ThermalTM-Determine DTN Assignment		2	06JUL99	07JUL99	317
SLN208	ESF & LBT ThermalTM-Determine if Model-Rel SW is		5	06JUL99	12JUL99	334
SLP7202	AP3.10Q Check - ESF & LBT Thermal Test ResultsTM		20	06JUL99	02AUG99	31
SLN186	ESF & LBT ThermalTM-Determine if Data/DTN in TDM		3	08JUL99	12JUL99	317
SLN188	ESF & LBT ThermalTM-Submit Data/DTN to TDMS as N		22	13JUL99	11AUG99	317



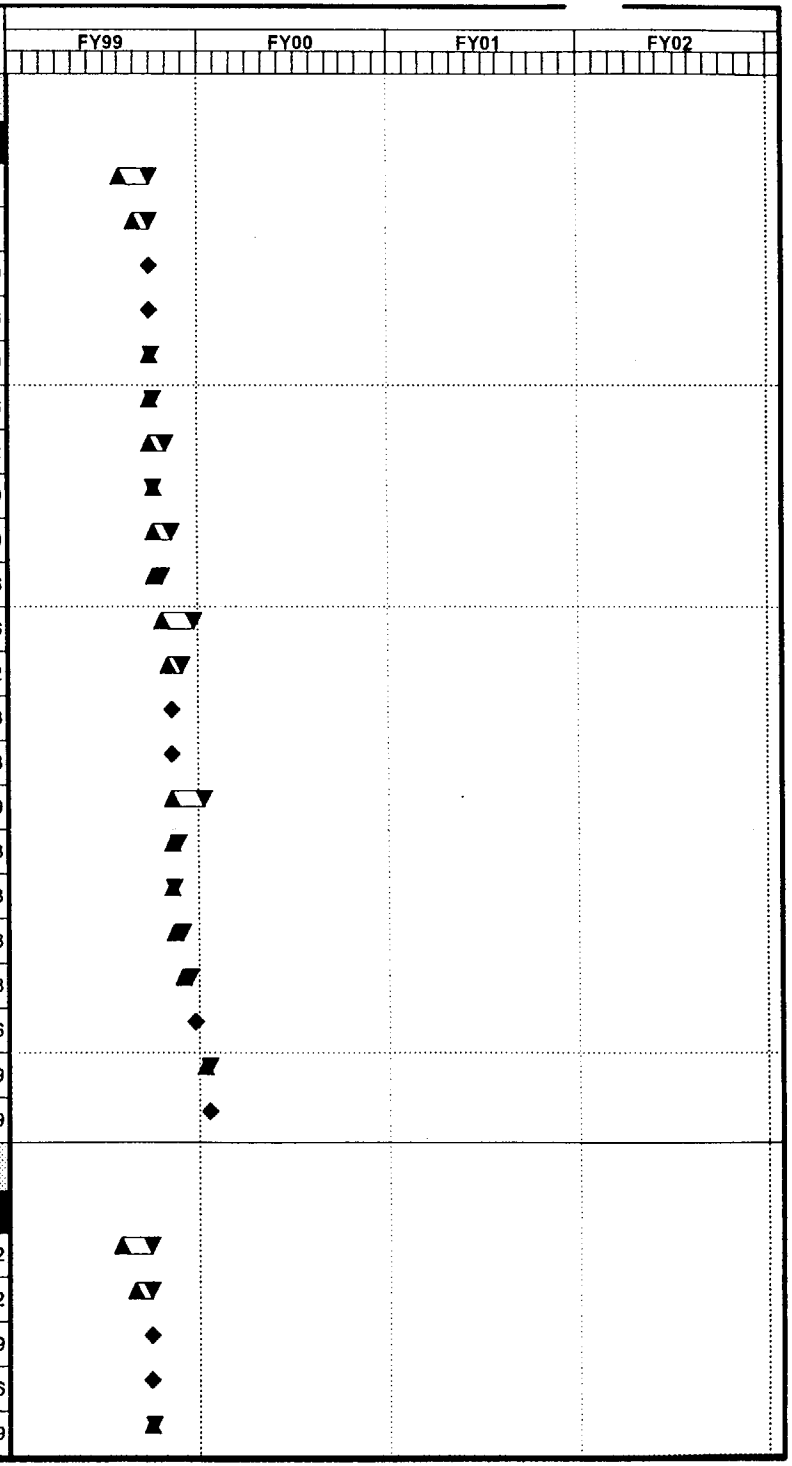
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLN210	ESF & LBT ThermalTM-Place Model-Related SW Under		10	13JUL99	26JUL99	334
SLN212	ESF & LBT ThermalTM-Verify Model-Related Softwar		44	27JUL99	27SEP99	334
SLP7204	AP3.10Q Check - ESF & LBT Thermal Test ResultsTM		20	03AUG99	30AUG99	45
SLN192	ESF & LBT ThermalTM-Procurement Related Issues I		0		11AUG99	351
SLN200	ESF & LBT ThermalTM-Data Related Software Issues		0		11AUG99	336
SLN190	ESF & LBT ThermalTM-Verify/Trace Data		44	12AUG99	14OCT99	317
SLN194	ESF & LBT ThermalTM-Rxesolve Procurement Related		10	12AUG99	25AUG99	351
SLN202	ESF & LBT ThermalTM-Determine if Data Rel SW is		5	12AUG99	18AUG99	336
SLN204	ESF & LBT ThermalTM-Place Under SMS Control as N		10	19AUG99	01SEP99	336
SLP7206	AP3.10Q Final - ESF & LBT Thermal Test ResultsTM		7	31AUG99	09SEP99	45
SLN206	ESF & LBT ThermalTM-Verify Data-Related Software		10	02SEP99	16SEP99	336
SLN214	ESF & LBT ThermalTM-Qualified/Verified SW Availa		0		27SEP99	334
SLN196	ESF & LBT ThermalTM-Update TDMS		5	15OCT99	21OCT99	317
SLN198	ESF & LBT ThermalTM-Qualified/Verified Data Avai		0		21OCT99	317
N2010						
130 Performance Assessment Operations						
SLPA2072	AP3.10Q Data - TH/THM Conceptual Model Dev.		88	30MAR99*	02AUG99	31
SLPA2074	AP3.10Q Draft - TH/THM Conceptual Model Dev.		11	19JUL99*	02AUG99	31
SLPA2080	TH/THM Conceptual-Input Parameters and Data Iden		0		02AUG99	297
SLPA2082	TH/THM Conceptual-Models and Codes Identified		0		02AUG99	314
SLPA2076	AP3.10Q check - TH/THM Conceptual Model Dev.		21	03AUG99	31AUG99	44
SLPA2084	TH/THM Conceptual-Determine DTN Assignment		2	03AUG99	04AUG99	297
SLPA2086	TH/THM Conceptual-Determine if Model-Rel SW is U		5	03AUG99	09AUG99	314
SLPA2088	TH/THM Conceptual-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99	297
SLPA2090	TH/THM Conceptual-Place Model-Related SW Under S		10	10AUG99	23AUG99	314
SLPA2092	TH/THM Conceptual-Submit Data/DTN to TDMS as Nec		22	10AUG99	09SEP99	297
SLPA2094	TH/THM Conceptual-Verify Model-Related Software		44	24AUG99	26OCT99	314
SLPA2078	AP3.10Q Final - TH/THM Conceptual Model Dev.		7	01SEP99	10SEP99	44
SLPA2096	TH/THM Conceptual-Procurement Related Issues ID'		0		09SEP99	331
SLPA2098	TH/THM Conceptual-Data Related Software Issues I		0		09SEP99	316
SLPA2100	TH/THM Conceptual-Determine if Data Rel SW is Un		5	10SEP99	16SEP99	316



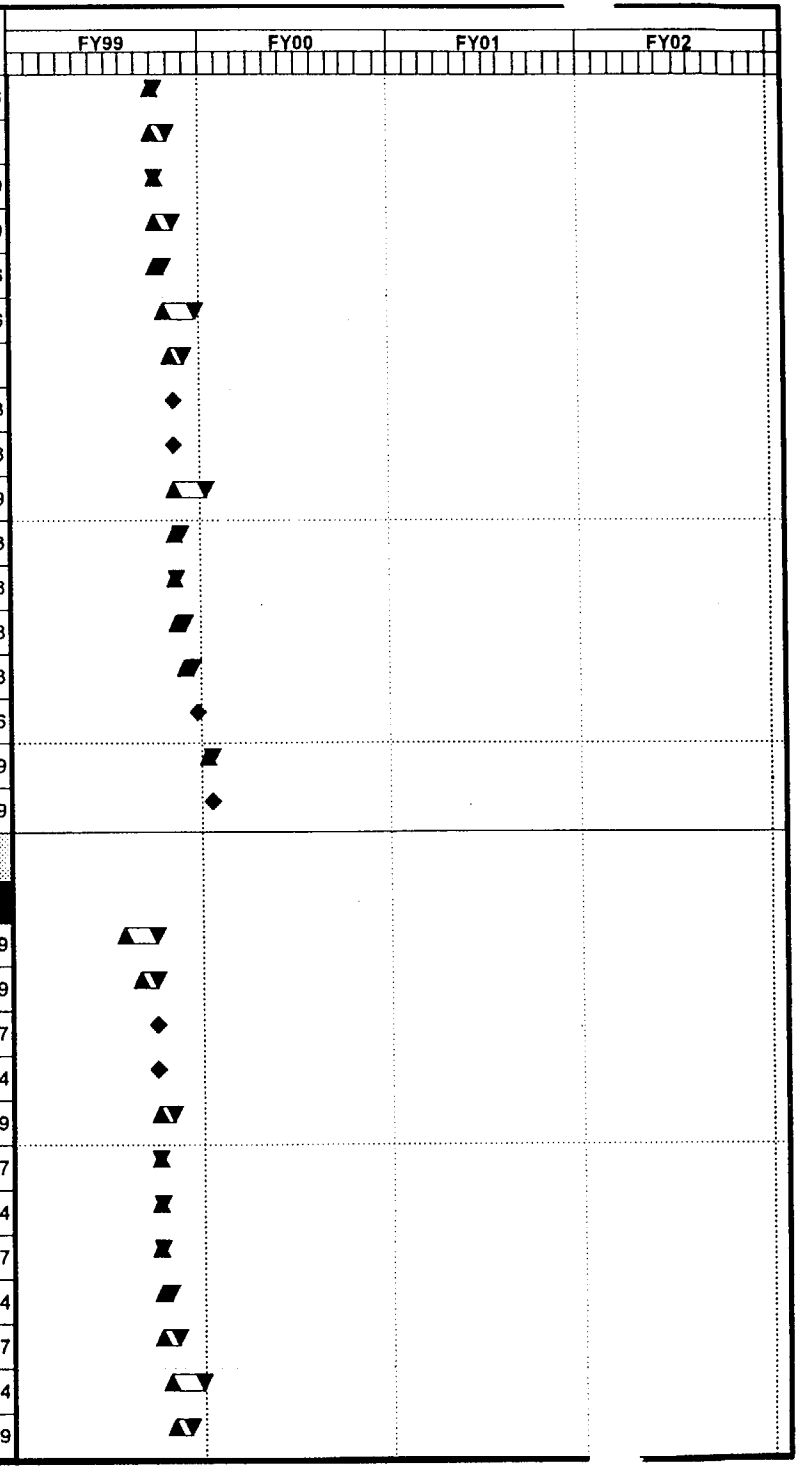
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2102	TH/THM Conceptual-Rxesolve Procurement Related D		10	10SEP99	23SEP99	331
SLPA2104	TH/THM Conceptual-Verify/Trace Data		44	10SEP99	12NOV99	297
SLPA2106	TH/THM Conceptual-Place Under SMS Control as Nec		10	17SEP99	30SEP99	316
SLPA2108	TH/THM Conceptual-Verify Data-Related Software		10	01OCT99	15OCT99	316
SLPA2110	TH/THM Conceptual-Qualified/Verified SW Availabl		0		26OCT99	314
SLPA2112	TH/THM Conceptual-Update TDMS		5	15NOV99	19NOV99	297
SLPA2114	TH/THM Conceptual-Qualified/Verified Data Availa		0		19NOV99	297
N2080						
130 Performance Assessment Operations						
SLPA2116	AP3.10Q Data - TH/THM Conceptual Model Analysis		33	15JUN99*	30JUL99	32
SLPA2118	AP3.10Q Draft - TH/THM Conceptual Model Analysis		21	02JUL99*	02AUG99	31
SLPA2124	TH/THM Conceptual-Input Parameters and Data Iden		0		30JUL99	298
SLPA2126	TH/THM Conceptual-Models and Codes Identified		0		30JUL99	315
SLPA2128	TH/THM Conceptual-Determine DTN Assignment		2	02AUG99	03AUG99	298
SLPA2130	TH/THM Conceptual-Determine if Model-Rel SW is U		5	02AUG99	06AUG99	315
SLPA2120	AP3.10Q Check - TH/THM Conceptual Model Analysis		22	03AUG99	01SEP99	43
SLPA2132	TH/THM Conceptual-Determine if Data/DTN in TDMS		3	04AUG99	06AUG99	298
SLPA2134	TH/THM Conceptual-Place Model-Related SW Under S		10	09AUG99	20AUG99	315
SLPA2136	TH/THM Conceptual-Submit Data/DTN to TDMS as Nec		22	09AUG99	08SEP99	298
SLPA2138	TH/THM Conceptual-Verify Model-Related Software		44	23AUG99	25OCT99	315
SLPA2122	AP3.10Q Final - TH/THM Conceptual Model Analysis		7	02SEP99	13SEP99	43
SLPA2140	TH/THM Conceptual-Procurement Related Issues ID'		0		08SEP99	332
SLPA2142	TH/THM Conceptual-Data Related Software Issues I		0		08SEP99	317
SLPA2144	TH/THM Conceptual-Determine if Data Rel SW is Un		5	09SEP99	15SEP99	317
SLPA2146	TH/THM Conceptual-Rxesolve Procurement Related D		10	09SEP99	22SEP99	332
SLPA2148	TH/THM Conceptual-Verify/Trace Data		44	09SEP99	10NOV99	298
SLPA2150	TH/THM Conceptual-Place Under SMS Control as Nec		10	16SEP99	29SEP99	317
SLPA2152	TH/THM Conceptual-Verify Data-Related Software		10	30SEP99	14OCT99	317
SLPA2154	TH/THM Conceptual-Qualified/Verified SW Availabl		0		25OCT99	315
SLPA2156	TH/THM Conceptual-Update TDMS		5	12NOV99	18NOV99	298
SLPA2158	TH/THM Conceptual-Qualified/Verified Data Availa		0		18NOV99	298



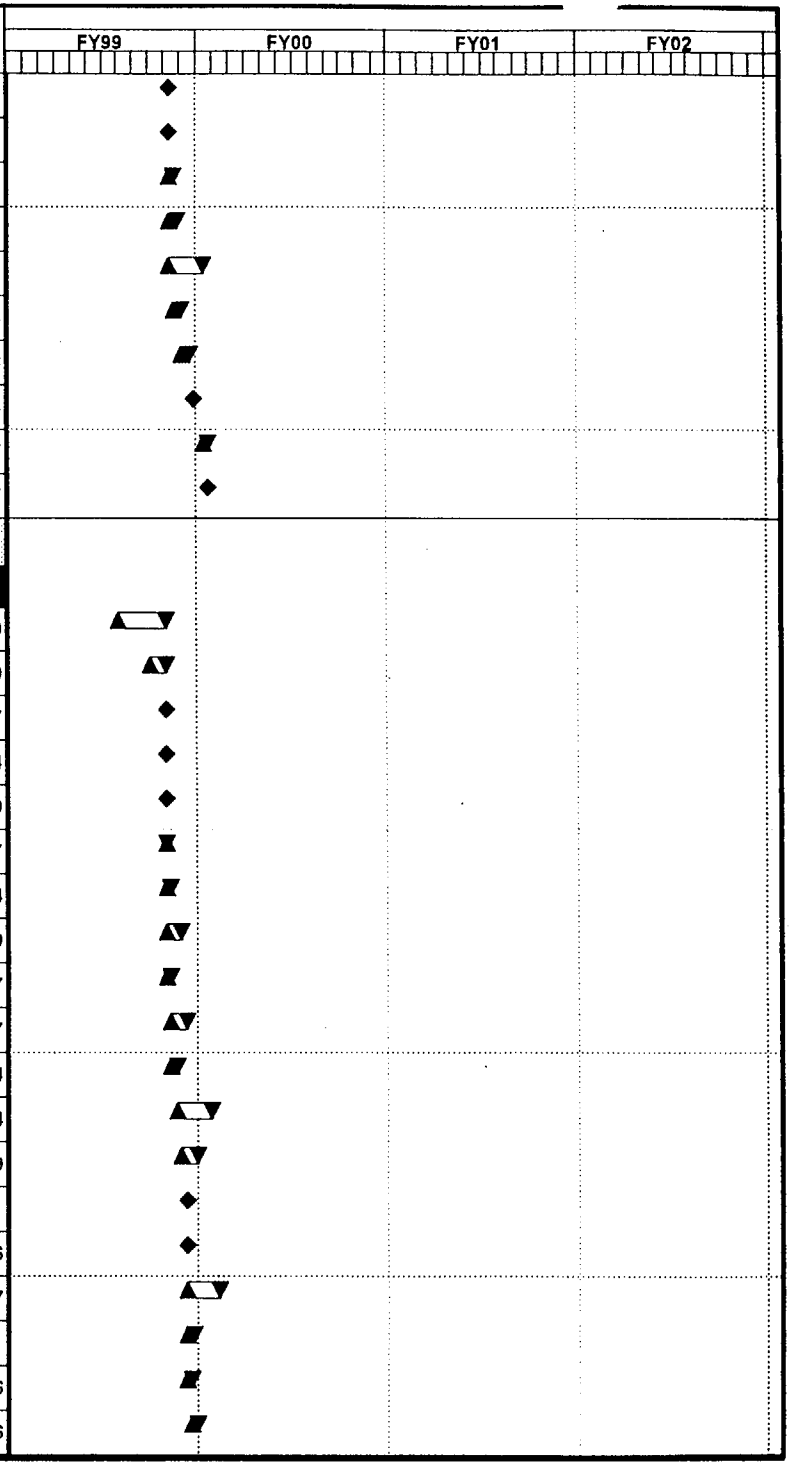
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
N3000						
140 Natural Environment Program Operations						
SPP70996	AP3.10Q Data - Analy THC Proc Drift Thermodyn		42	03MAY99*	30JUN99	22
SPP7090	AP3.10Q Draft - Analy THC Proc Drift Thermodyn		22	01JUN99	30JUN99	22
SPN504	THC Thermodyn-Input Parameters and Data Identifi		0		30JUN99	319
SPN506	THC Thermodyn-Models and Codes Identified		0		30JUN99	336
SPN508	THC Thermodyn-Determine DTN Assignment		2	01JUL99	02JUL99	319
SPN532	THC Thermodyn-Determine if Model-Rel SW is Under		5	01JUL99	08JUL99	336
SPP7092	AP3.10Q Check - Analy THC Proc Drift Thermodyn		21	01JUL99	30JUL99	52
SPN510	THC Thermodyn-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99	319
SPN512	THC Thermodyn-Submit Data/DTN to TDMS as Necessa		22	09JUL99	09AUG99	319
SPN534	THC Thermodyn-Place Model-Related SW Under SMS C		10	09JUL99	22JUL99	336
SPN536	THC Thermodyn-Verify Model-Related Software		44	23JUL99	23SEP99	336
SPP7094	AP3.10Q Final - Analy THC Proc Drift Thermodyn		21	02AUG99	30AUG99	52
SPN516	THC Thermodyn-Procurement Related Issues ID'd to		0		09AUG99	353
SPN524	THC Thermodyn-Data Related Software Issues Ident		0		09AUG99	338
SPN514	THC Thermodyn-Verify/Trace Data		44	10AUG99	12OCT99	319
SPN518	THC Thermodyn-Rxesolve Procurement Related Data		10	10AUG99	23AUG99	353
SPN526	THC Thermodyn-Determine if Data Rel SW is Under		5	10AUG99	16AUG99	338
SPN528	THC Thermodyn-Place Under SMS Control as Necessa		10	17AUG99	30AUG99	338
SPN530	THC Thermodyn-Verify Data-Related Software		10	31AUG99	14SEP99	338
SPN538	THC Thermodyn-Qualified/Verified SW Available		0		23SEP99	336
SPN520	THC Thermodyn-Update TDMS		5	13OCT99	19OCT99	319
SPN522	THC Thermodyn-Qualified/Verified Data Available		0		19OCT99	319
N3010						
140 Natural Environment Program Operations						
SPP7112	AP3.10Q Data - Analy THC Proc/Impacts on Emplac		42	03MAY99*	30JUN99	22
SPP7106	AP3.10Q Draft - Analy THC Proc/Impacts on Emplac		22	01JUN99*	30JUN99	22
SPN576	THC Proc/Impacts-Input Parameters and Data Ident		0		30JUN99	319
SPN578	THC Proc/Impacts-Models and Codes Identified		0		30JUN99	336
SPN580	THC Proc/Impacts-Determine DTN Assignment		2	01JUL99	02JUL99	319



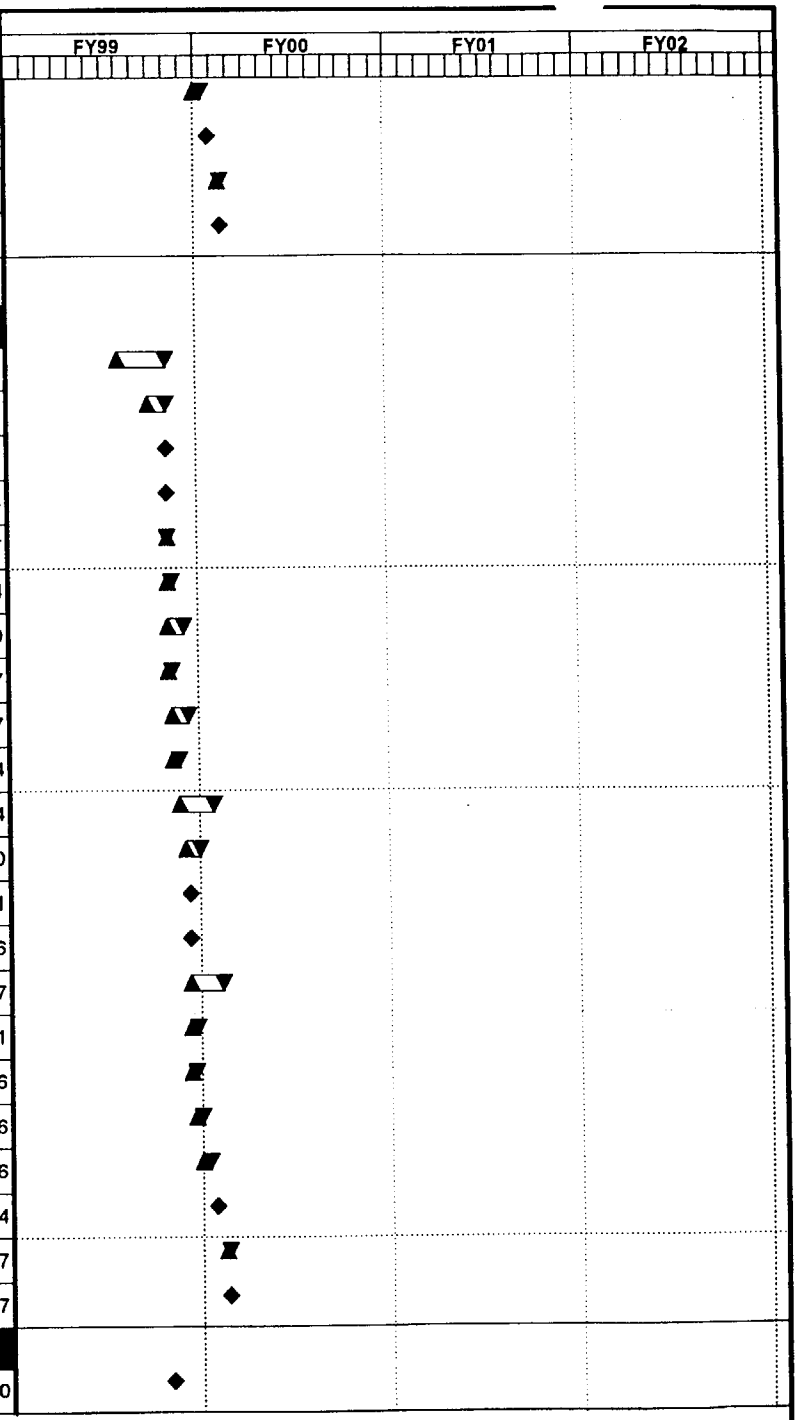
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPN604	THC Proc/Impacts-Determine if Model-Rel SW is Un		5	01JUL99	08JUL99	336
SPP7108	AP3.10Q Check - Analy THC Proc/Impacts on Emplac		21	01JUL99	30JUL99	51
SPN582	THC Proc/Impacts-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99	319
SPN584	THC Proc/Impacts-Submit Data/DTN to TDMS as Nece		22	09JUL99	09AUG99	319
SPN606	THC Proc/Impacts-Place Model-Related SW Under SM		10	09JUL99	22JUL99	336
SPN608	THC Proc/Impacts-Verify Model-Related Software		44	23JUL99	23SEP99	336
SPP7110	AP3.10Q Final - Analy THC Proc/Impacts on Emplac		22	02AUG99	31AUG99	51
SPN588	THC Proc/Impacts-Procurement Related Issues ID'd		0		09AUG99	353
SPN596	THC Proc/Impacts-Data Related Software Issues Id		0		09AUG99	338
SPN586	THC Proc/Impacts-Verify/Trace Data		44	10AUG99	12OCT99	319
SPN590	THC Proc/Impacts-Rxesolve Procurement Related Da		10	10AUG99	23AUG99	353
SPN598	THC Proc/Impacts-Determine if Data Rel SW is Und		5	10AUG99	16AUG99	338
SPN600	THC Proc/Impacts-Place Under SMS Control as Nece		10	17AUG99	30AUG99	338
SPN602	THC Proc/Impacts-Verify Data-Related Software		10	31AUG99	14SEP99	338
SPN610	THC Proc/Impacts-Qualified/Verified SW Available		0		23SEP99	336
SPN592	THC Proc/Impacts-Update TDMS		5	13OCT99	19OCT99	319
SPN594	THC Proc/Impacts-Qualified/Verified Data Availab		0		19OCT99	319
N3020						
130 Performance Assessment Operations						
SLPA2160	AP3.10Q Data - Multiscale NFE/EBS TH Model		42	05MAY99*	02JUL99	49
SLPA2162	AP3.10Q Draft - Multiscale NFE/EBS TH Model		22	03JUN99*	02JUL99	49
SLPA2168	Multiscale NFE/EBS TH-Input Parameters and Data		0		02JUL99	317
SLPA2170	Multiscale NFE/EBS TH-Models and Codes Identifie		0		02JUL99	334
SLPA2164	AP3.10Q Check - Multiscale NFE/EBS TH Model		21	06JUL99	03AUG99	49
SLPA2172	Multiscale NFE/EBS TH-Determine DTN Assignment		2	06JUL99	07JUL99	317
SLPA2174	Multiscale NFE/EBS TH-Determine if Model-Rel SW		5	06JUL99	12JUL99	334
SLPA2176	Multiscale NFE/EBS TH-Determine if Data/DTN in T		3	08JUL99	12JUL99	317
SLPA2178	Multiscale NFE/EBS TH-Place Model-Related SW Und		10	13JUL99	26JUL99	334
SLPA2180	Multiscale NFE/EBS TH-Submit Data/DTN to TDMS as		22	13JUL99	11AUG99	317
SLPA2182	Multiscale NFE/EBS TH-Verify Model-Related Softw		44	27JUL99	27SEP99	334
SLPA2166	AP3.10Q Final - Multiscale NFE/EBS TH Model		22	04AUG99	02SEP99	49



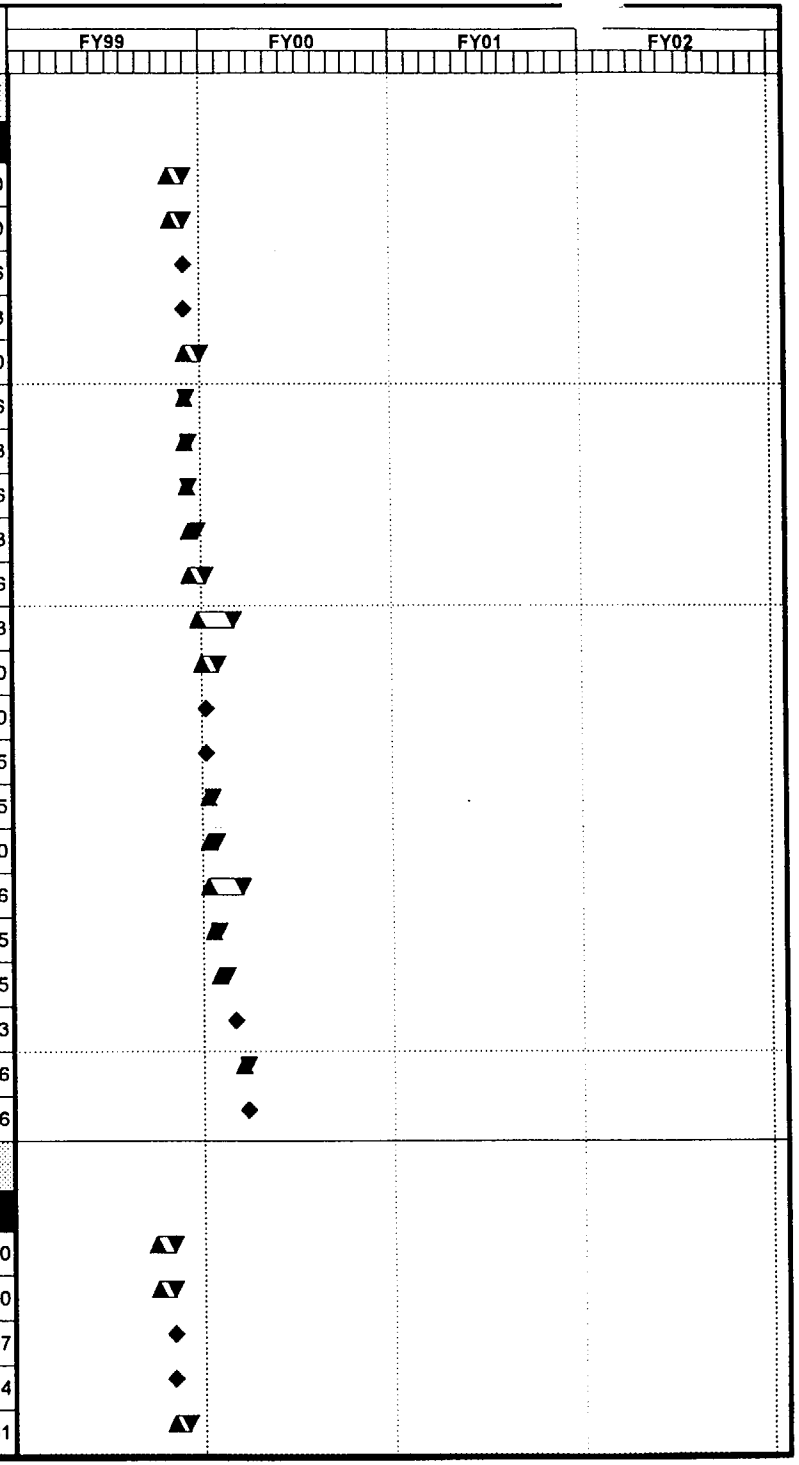
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2184	Multiscale NFE/EBS TH-Procurement Related Issues		0		11AUG99	351
SLPA2186	Multiscale NFE/EBS TH-Data Related Software Issu		0		11AUG99	336
SLPA2188	Multiscale NFE/EBS TH-Determine if Data Rel SW i		5	12AUG99	18AUG99	336
SLPA2190	Multiscale NFE/EBS TH-Rxesolve Procurement Relat		10	12AUG99	25AUG99	351
SLPA2192	Multiscale NFE/EBS TH-Verify/Trace Data		44	12AUG99	14OCT99	317
SLPA2194	Multiscale NFE/EBS TH-Place Under SMS Control as		10	19AUG99	01SEP99	336
SLPA2196	Multiscale NFE/EBS TH-Verify Data-Related Softwa		10	02SEP99	16SEP99	336
SLPA2198	Multiscale NFE/EBS TH-Qualified/Verified SW Avai		0		27SEP99	334
SLPA2200	Multiscale NFE/EBS TH-Update TDMS		5	15OCT99	21OCT99	317
SLPA2202	Multiscale NFE/EBS TH-Qualified/Verified Data Av		0		21OCT99	317
N3030						
SLP7300	AP3.10Q Data -Descr. on NFE Basecase		64	03MAY99*	02AUG99	0
SLP7302	AP3.10Q Draft -Descr. on NFE Basecase		21	02JUL99	02AUG99	0
SLN864	NFE Basecase-Input Parameters and Data Identifie		0		02AUG99	297
SLN866	NFE Basecase-Models and Codes Identified		0		02AUG99	314
SLPA2204	Receive Descr. on NFE Basecase	M4	0		02AUG99	0
SLN868	NFE Basecase-Determine DTN Assignment		2	03AUG99	04AUG99	297
SLN892	NFE Basecase-Determine if Model-Rel SW is Under		5	03AUG99	09AUG99	314
SLP7304	AP3.10Q Check -Descr. on NFE Basecase		21	03AUG99	31AUG99	29
SLN870	NFE Basecase-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99	297
SLN872	NFE Basecase-Submit Data/DTN to TDMS as Necessar		22	10AUG99	09SEP99	297
SLN894	NFE Basecase-Place Model-Related SW Under SMS Co		10	10AUG99	23AUG99	314
SLN896	NFE Basecase-Verify Model-Related Software		44	24AUG99	26OCT99	314
SLP7306	AP3.10Q Final -Descr. on NFE Basecase		22	01SEP99	01OCT99	29
SLN876	NFE Basecase-Procurement Related Issues ID'd to		0		09SEP99	331
SLN884	NFE Basecase-Data Related Software Issues Identi		0		09SEP99	316
SLN874	NFE Basecase-Verify/Trace Data		44	10SEP99	12NOV99	297
SLN878	NFE Basecase-Rxesolve Procurement Related Data I		10	10SEP99	23SEP99	331
SLN886	NFE Basecase-Determine if Data Rel SW is Under S		5	10SEP99	16SEP99	316
SLN888	NFE Basecase-Place Under SMS Control as Necessar		10	17SEP99	30SEP99	316



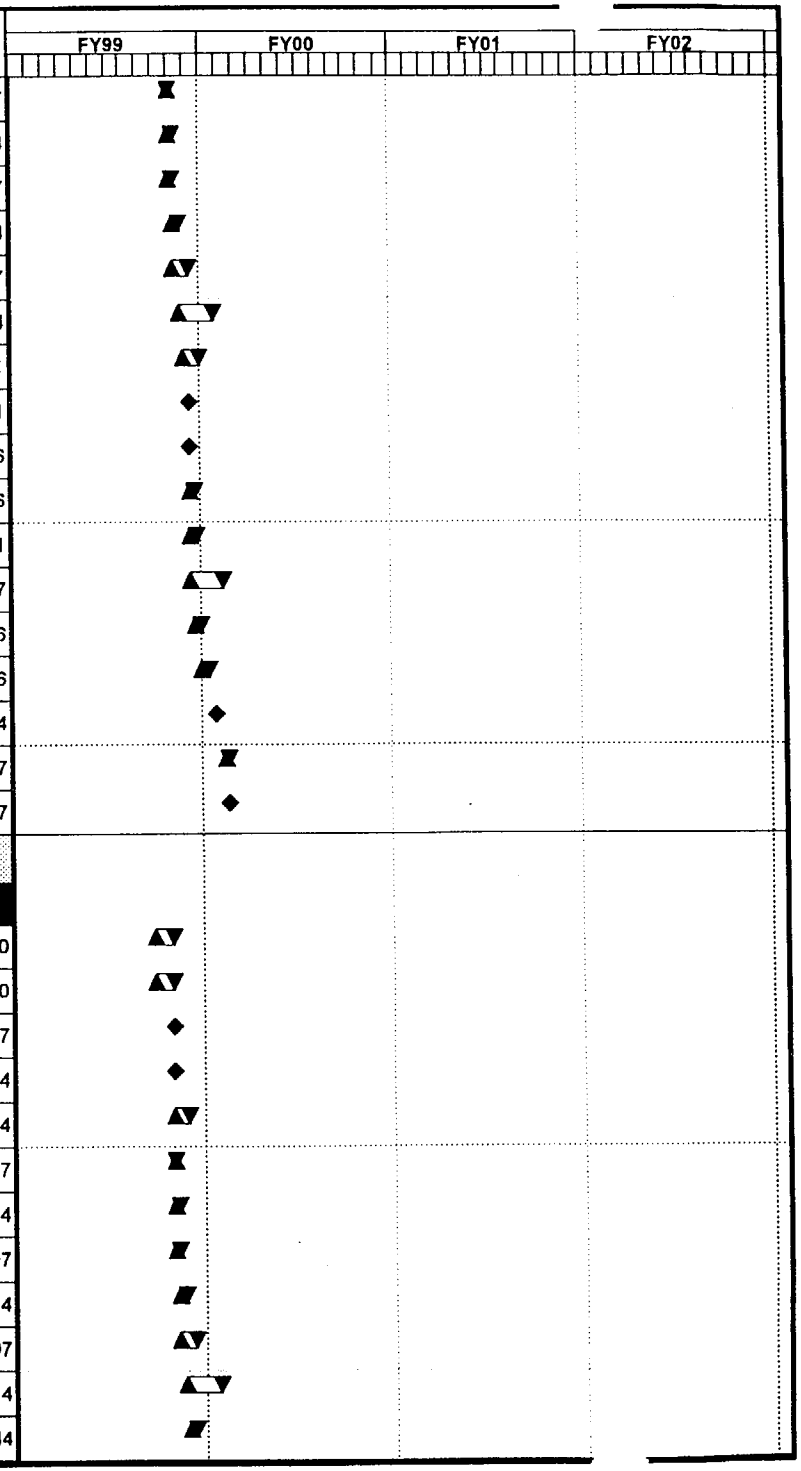
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLN890	NFE Basecase-Verify Data-Related Software		10	01OCT99	15OCT99	316
SLN898	NFE Basecase-Qualified/Verified SW Available		0		26OCT99	314
SLN880	NFE Basecase-Update TDMS		5	15NOV99	19NOV99	297
SLN882	NFE Basecase-Qualified/Verified Data Available		0		19NOV99	297
N3040						
140 Natural Environment Program Operations						
SPP7152	AP3.10Q Data - Descrip Basecase Rslts NFE		64	03MAY99*	02AUG99	0
SPP7146	AP3.10Q Draft - Descrip Basecase Rslts NFE		22	01JUL99	02AUG99	0
SPN648	Basecase Rslts NFE-Input Parameters and Data Ide		0		02AUG99	297
SPN650	Basecase Rslts NFE-Models and Codes Identified		0		02AUG99	314
SPN652	Basecase Rslts NFE-Determine DTN Assignment		2	03AUG99	04AUG99	297
SPN676	Basecase Rslts NFE-Determine if Model-Rel SW is		5	03AUG99	09AUG99	314
SPP7148	AP3.10Q Check - Descrip Basecase Rslts NFE		23	03AUG99	02SEP99	30
SPN654	Basecase Rslts NFE-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99	297
SPN656	Basecase Rslts NFE-Submit Data/DTN to TDMS as Ne		22	10AUG99	09SEP99	297
SPN678	Basecase Rslts NFE-Place Model-Related SW Under		10	10AUG99	23AUG99	314
SPN680	Basecase Rslts NFE-Verify Model-Related Software		44	24AUG99	26OCT99	314
SPP7150	AP3.10Q Final - Descrip Basecase Rslts NFE		19	03SEP99	30SEP99	30
SPN660	Basecase Rslts NFE-Procurement Related Issues ID		0		09SEP99	331
SPN668	Basecase Rslts NFE-Data Related Software Issues		0		09SEP99	316
SPN658	Basecase Rslts NFE-Verify/Trace Data		44	10SEP99	12NOV99	297
SPN662	Basecase Rslts NFE-Rxesolve Procurement Related		10	10SEP99	23SEP99	331
SPN670	Basecase Rslts NFE-Determine if Data Rel SW is U		5	10SEP99	16SEP99	316
SPN672	Basecase Rslts NFE-Place Under SMS Control as Ne		10	17SEP99	30SEP99	316
SPN674	Basecase Rslts NFE-Verify Data-Related Software		10	01OCT99	15OCT99	316
SPN682	Basecase Rslts NFE-Qualified/Verified SW Availab		0		26OCT99	314
SPN664	Basecase Rslts NFE-Update TDMS		5	15NOV99	19NOV99	297
SPN666	Basecase Rslts NFE-Qualified/Verified Data Avail		0		19NOV99	297
SLPA2206	Receive Descr Basecase Rslt of NFE-AP3.10Q		0		02AUG99	0



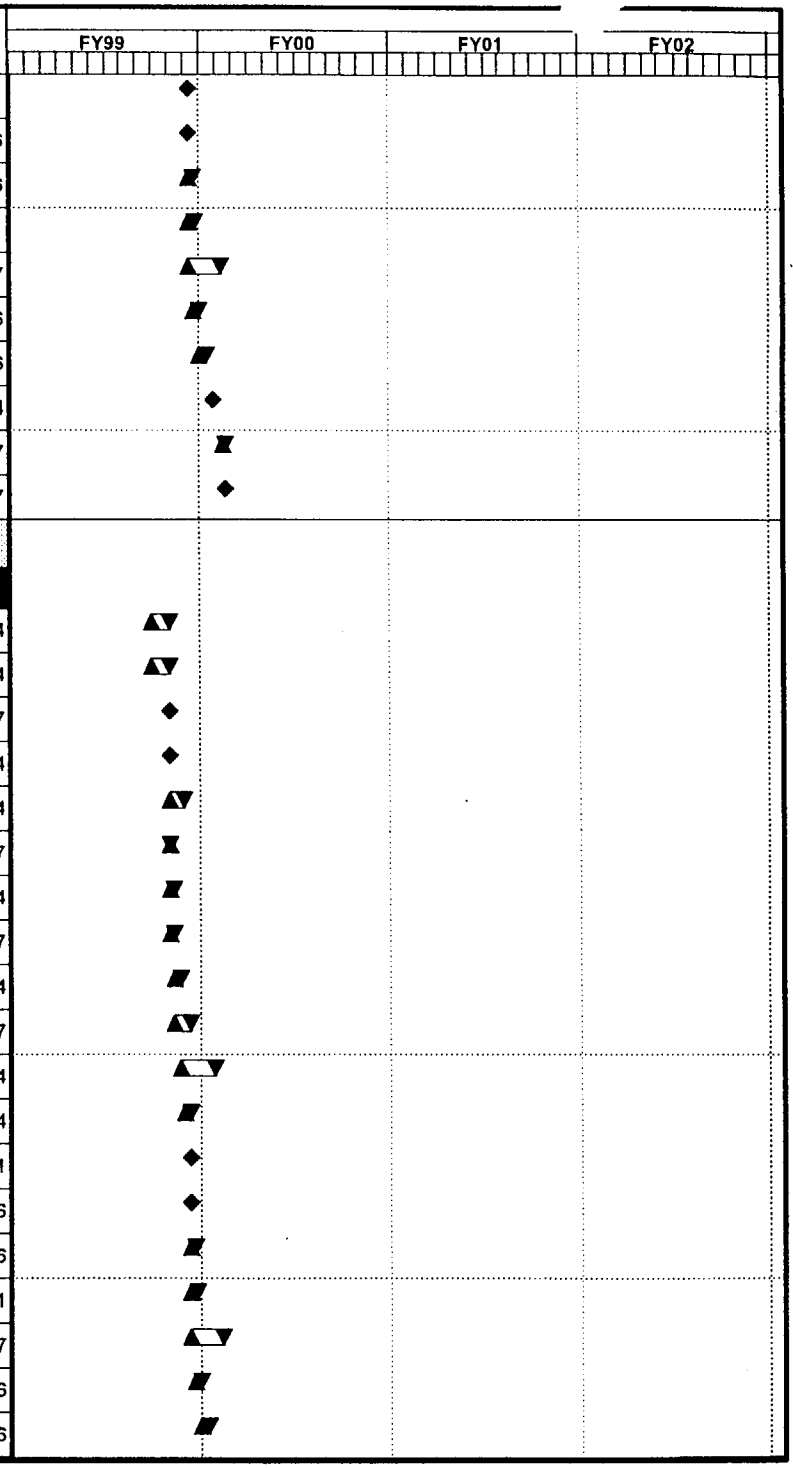
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
N3050						
130 Performance Assessment Operations						
SLPA2208	AP3.10Q Data - Descipt Abstract into NFE Basecas		23	30JUL99*	31AUG99	10
SLPA2210	AP3.10Q Draft - Descipt Abstract into NFE Baseca		22	02AUG99	31AUG99	10
SLPA2216	Des Abstract/NFE BC-Input Parameters and Data Id		0		31AUG99	276
SLPA2218	Des Abstract/NFE BC-Models and Codes Identified		0		31AUG99	293
SLPA2212	AP3.10Q Check - Descipt Abstract into NFE Baseca		21	01SEP99	30SEP99	10
SLPA2220	Des Abstract/NFE BC-Determine DTN Assignment		2	01SEP99	02SEP99	276
SLPA2222	Des Abstract/NFE BC-Determine if Model-Rel SW is		5	01SEP99	08SEP99	293
SLPA2224	Des Abstract/NFE BC-Determine if Data/DTN in TDM		3	03SEP99	08SEP99	276
SLPA2226	Des Abstract/NFE BC-Place Model-Related SW Under		10	09SEP99	22SEP99	293
SLPA2228	Des Abstract/NFE BC-Submit Data/DTN to TDMS as N		22	09SEP99	08OCT99	276
SLPA2230	Des Abstract/NFE BC-Verify Model-Related Softwar		44	23SEP99	29NOV99	293
SLPA2214	AP3.10Q Final - Descipt Abstract into NFE Baseca		20	01OCT99	29OCT99	10
SLPA2232	Des Abstract/NFE BC-Procurement Related Issues I		0		08OCT99	310
SLPA2234	Des Abstract/NFE BC-Data Related Software Issues		0		08OCT99	295
SLPA2236	Des Abstract/NFE BC-Determine if Data Rel SW is		5	12OCT99	18OCT99	295
SLPA2238	Des Abstract/NFE BC-Rxesolve Procurement Related		10	12OCT99	25OCT99	310
SLPA2240	Des Abstract/NFE BC-Verify/Trace Data		44	12OCT99	15DEC99	276
SLPA2242	Des Abstract/NFE BC-Place Under SMS Control as N		10	19OCT99	01NOV99	295
SLPA2244	Des Abstract/NFE BC-Verify Data-Related Software		10	02NOV99	16NOV99	295
SLPA2246	Des Abstract/NFE BC-Qualified/Verified SW Availa		0		29NOV99	293
SLPA2248	Des Abstract/NFE BC-Update TDMS		5	16DEC99	22DEC99	276
SLPA2250	Des Abstract/NFE BC-Qualified/Verified Data Avai		0		22DEC99	276
N3060						
130 Performance Assessment Operations						
SLPA2252	AP3.10Q Data - Descript Abstr NFE Thermodyn Env		23	30JUN99*	02AUG99	0
SLPA2254	AP3.10Q Draft - Descript Abstr NFE Thermodyn Env		21	02JUL99	02AUG99	0
SLPA2260	Abstr NFE Thermodyn-Input Parameters and Data I		0		02AUG99	297
SLPA2262	Abstr NFE Thermodyn-Models and Codes Identified		0		02AUG99	314
SLPA2256	AP3.10Q Check - Descript Abstr NFE Thermodyn Env		21	03AUG99	31AUG99	31



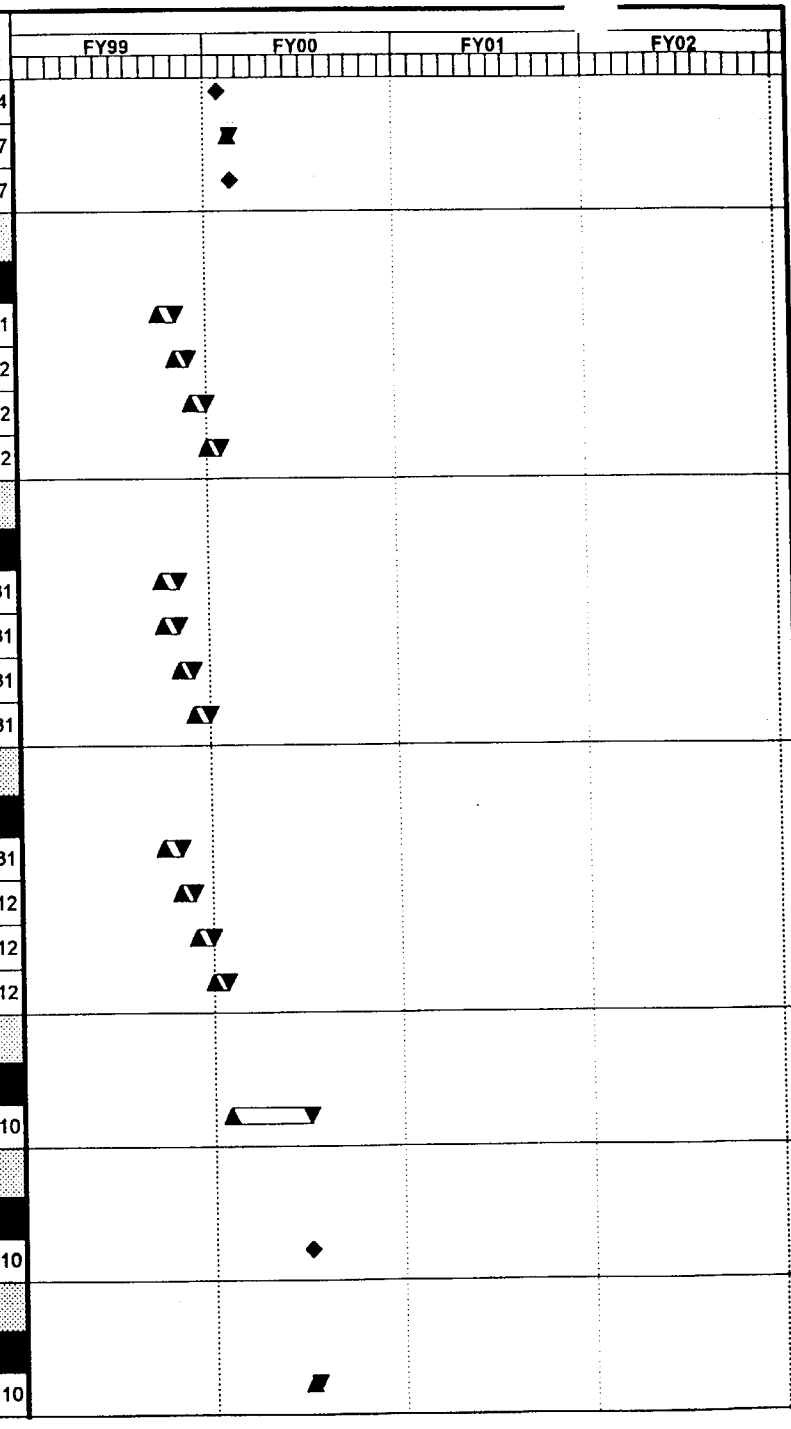
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2264	Abstr NFE Thermodyn-Determine DTN Assignment		2	03AUG99	04AUG99	297
SLPA2266	Abstr NFE Thermodyn-Determine if Model-Rel SW i		5	03AUG99	09AUG99	314
SLPA2268	Abstr NFE Thermodyn-Determine if Data/DTN in TD		3	05AUG99	09AUG99	297
SLPA2270	Abstr NFE Thermodyn-Place Model-Related SW Unde		10	10AUG99	23AUG99	314
SLPA2272	Abstr NFE Thermodyn-Submit Data/DTN to TDMS as		22	10AUG99	09SEP99	297
SLPA2274	Abstr NFE Thermodyn-Verify Model-Related Softwa		44	24AUG99	26OCT99	314
SLPA2258	AP3.10Q Final - Descript Abstr NFE Thermodyn Env		20	01SEP99	29SEP99	31
SLPA2276	Abstr NFE Thermodyn-Procurement Related Issues		0		09SEP99	331
SLPA2278	Abstr NFE Thermodyn-Data Related Software Issue		0		09SEP99	316
SLPA2280	Abstr NFE Thermodyn-Determine if Data Rel SW is		5	10SEP99	16SEP99	316
SLPA2282	Abstr NFE Thermodyn-Rxesolve Procurement Relate		10	10SEP99	23SEP99	331
SLPA2284	Abstr NFE Thermodyn-Verify/Trace Data		44	10SEP99	12NOV99	297
SLPA2286	Abstr NFE Thermodyn-Place Under SMS Control as		10	17SEP99	30SEP99	316
SLPA2288	Abstr NFE Thermodyn-Verify Data-Related Softwar		10	01OCT99	15OCT99	316
SLPA2290	Abstr NFE Thermodyn-Qualified/Verified SW Avail		0		26OCT99	314
SLPA2292	Abstr NFE Thermodyn-Update TDMS		5	15NOV99	19NOV99	297
SLPA2294	Abstr NFE Thermodyn-Qualified/Verified Data Ava		0		19NOV99	297
N3070						
130 Performance Assessment Operations						
SLPA2296	AP3.10Q Draft - Descrip Abstract NFE Empl Thrm D		23	30JUN99	02AUG99	0
SLPA2298	AP3.10Q Data - Descrip Abstract NFE Empl Thrm Dr		23	30JUN99*	02AUG99	0
SLPA2304	Abstract NFE Empl Thrm-Input Parameters and Data		0		02AUG99	297
SLPA2306	Abstract NFE Empl Thrm-Models and Codes Identifi		0		02AUG99	314
SLPA2300	AP3.10Q Check - Descrip Abstract NFE Empl Thrm D		20	03AUG99	30AUG99	44
SLPA2308	Abstract NFE Empl Thrm-Determine DTN Assignment		2	03AUG99	04AUG99	297
SLPA2310	Abstract NFE Empl Thrm-Determine if Model-Rel SW		5	03AUG99	09AUG99	314
SLPA2312	Abstract NFE Empl Thrm-Determine if Data/DTN in		3	05AUG99	09AUG99	297
SLPA2314	Abstract NFE Empl Thrm-Place Model-Related SW Un		10	10AUG99	23AUG99	314
SLPA2316	Abstract NFE Empl Thrm-Submit Data/DTN to TDMS a		22	10AUG99	09SEP99	297
SLPA2318	Abstract NFE Empl Thrm-Verify Model-Related Soft		44	24AUG99	26OCT99	314
SLPA2302	AP3.10Q Final - Descrip Abstract NFE Empl Thrm D		8	31AUG99	10SEP99	44



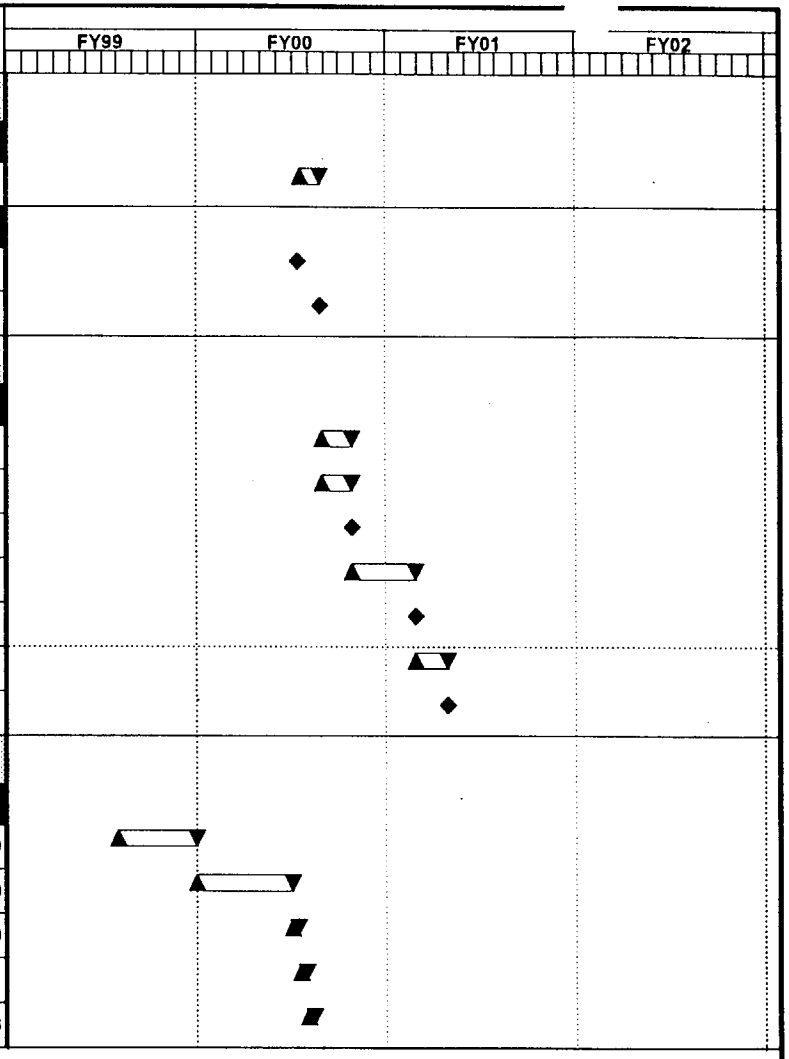
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2320	Abstract NFE Empl Thrm-Procurement Related Issue		0		09SEP99	331
SLPA2322	Abstract NFE Empl Thrm-Data Related Software Iss		0		09SEP99	316
SLPA2324	Abstract NFE Empl Thrm-Determine if Data Rel SW		5	10SEP99	16SEP99	316
SLPA2326	Abstract NFE Empl Thrm-Rxesolve Procurement Rela		10	10SEP99	23SEP99	331
SLPA2328	Abstract NFE Empl Thrm-Verify/Trace Data		44	10SEP99	12NOV99	297
SLPA2330	Abstract NFE Empl Thrm-Place Under SMS Control a		10	17SEP99	30SEP99	316
SLPA2332	Abstract NFE Empl Thrm-Verify Data-Related Softw		10	01OCT99	15OCT99	316
SLPA2334	Abstract NFE Empl Thrm-Qualified/Verified SW Ava		0		26OCT99	314
SLPA2336	Abstract NFE Empl Thrm-Update TDMS		5	15NOV99	19NOV99	297
SLPA2338	Abstract NFE Empl Thrm-Qualified/Verified Data A		0		19NOV99	297
N3080						
130 Performance Assessment Operations						
SLPA2340	AP3.10Q Draft - Descrip Abstract NFE InDrift Wtr		23	30JUN99	02AUG99	44
SLPA2342	AP3.10Q Data - Descrip Abstract NFE InDrift Wtr		23	30JUN99*	02AUG99	44
SLPA2348	Abstract NFE InDrift Wtr-Input Parameters and Da		0		02AUG99	297
SLPA2350	Abstract NFE InDrift Wtr-Models and Codes Identi		0		02AUG99	314
SLPA2344	AP3.10Q Check - Descrip Abstract NFE InDrift Wtr		21	03AUG99	31AUG99	44
SLPA2352	Abstract NFE InDrift Wtr-Determine DTN Assignmen		2	03AUG99	04AUG99	297
SLPA2354	Abstract NFE InDrift Wtr-Determine if Model-Rel		5	03AUG99	09AUG99	314
SLPA2356	Abstract NFE InDrift Wtr-Determine if Data/DTN i		3	05AUG99	09AUG99	297
SLPA2358	Abstract NFE InDrift Wtr-Place Model-Related SW		10	10AUG99	23AUG99	314
SLPA2360	Abstract NFE InDrift Wtr-Submit Data/DTN to TDMS		22	10AUG99	09SEP99	297
SLPA2362	Abstract NFE InDrift Wtr-Verify Model-Related So		44	24AUG99	26OCT99	314
SLPA2346	AP3.10Q Final - Descrip Abstract NFE InDrift Wtr		7	01SEP99	10SEP99	44
SLPA2364	Abstract NFE InDrift Wtr-Procurement Related Iss		0		09SEP99	331
SLPA2366	Abstract NFE InDrift Wtr-Data Related Software I		0		09SEP99	316
SLPA2368	Abstract NFE InDrift Wtr-Determine if Data Rel S		5	10SEP99	16SEP99	316
SLPA2370	Abstract NFE InDrift Wtr-Rxesolve Procurement Re		10	10SEP99	23SEP99	331
SLPA2372	Abstract NFE InDrift Wtr-Verify/Trace Data		44	10SEP99	12NOV99	297
SLPA2374	Abstract NFE InDrift Wtr-Place Under SMS Control		10	17SEP99	30SEP99	316
SLPA2376	Abstract NFE InDrift Wtr-Verify Data-Related Sof		10	01OCT99	15OCT99	316



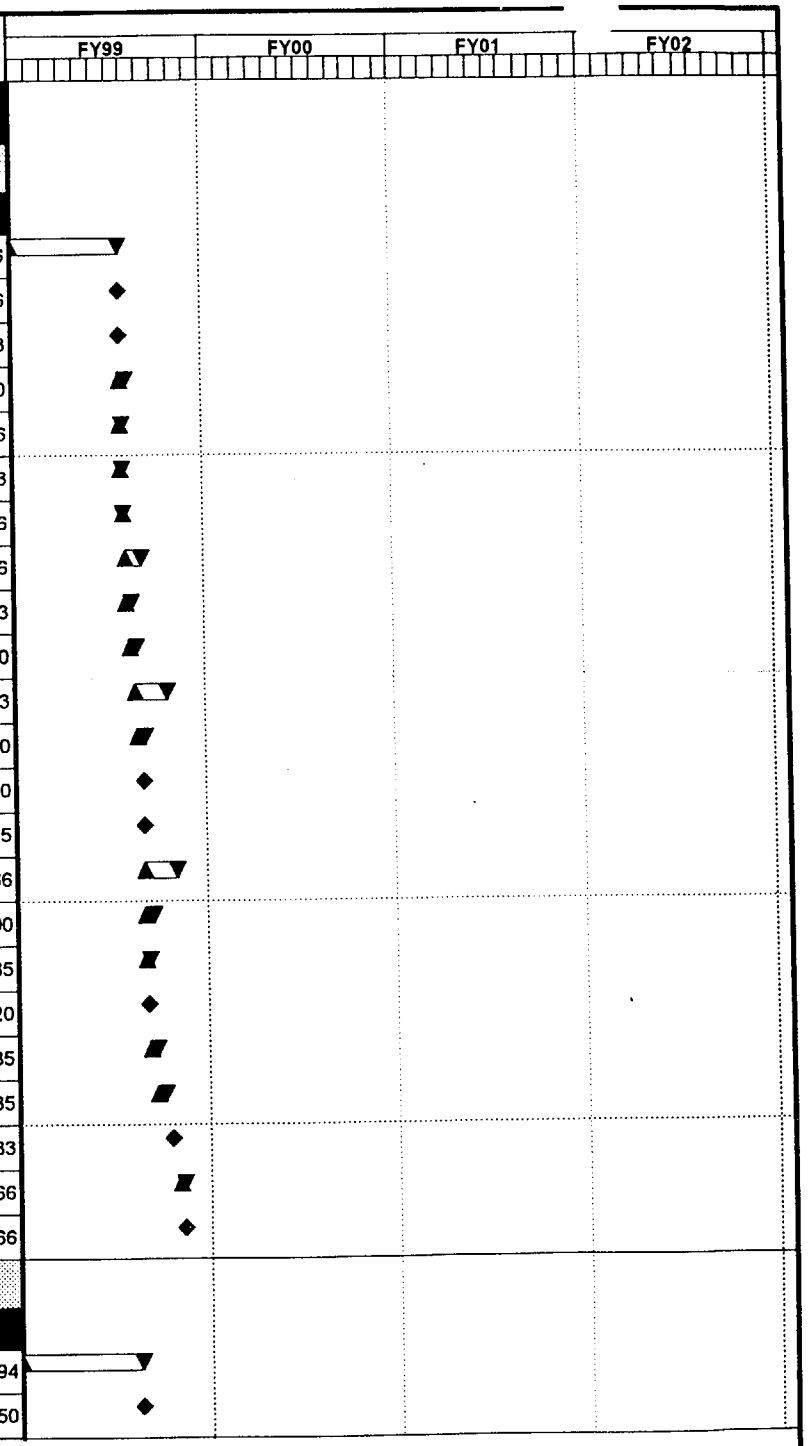
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2378	Abstract NFE InDrift Wtr-Qualified/Verified SW A		0		26OCT99	314
SLPA2380	Abstract NFE InDrift Wtr-Update TDMS		5	15NOV99	19NOV99	297
SLPA2382	Abstract NFE InDrift Wtr-Qualified/Verified Data		0		19NOV99	297
N3085						
130 Performance Assessment Operations						
SLPA2384	AP3.10Q Data - FEPs for NFE		23	30JUN99*	02AUG99	31
SLPA2386	AP3.10Q Draft - FEPs for NFE		23	30JUL99*	27AUG99	12
SLPA2388	AP3.10Q Check - FEPs for NFE		21	30AUG99	28SEP99	12
SLPA2390	AP3.10Q Final - FEPs for NFE		7	29SEP99	27OCT99	12
N3086						
130 Performance Assessment Operations						
SPP8200	AP3.10Q Data - Natural Analogues		23	30JUN99*	02AUG99	31
SPP8202	AP3.10Q Draft - Natural Analogues		23	02JUL99	02AUG99	31
SPP8210	AP3.10Q Check - Natural Analogues		21	03AUG99	31AUG99	31
SPP8224	AP3.10Q Final - Natural Analogues		7	01SEP99	29SEP99	31
N3087						
130 Performance Assessment Operations						
SPP8300	AP3.10Q Data - Model Validations		23	30JUN99*	02AUG99	31
SPP8302	AP3.10Q Draft - Model Validations		23	30JUL99*	27AUG99	12
SPP8310	AP3.10Q Check - Model Validations		21	30AUG99	28SEP99	12
SPP8324	AP3.10Q Final - Model Validations		7	29SEP99	27OCT99	12
N4000						
140 Natural Environment Program Operations						
SPP7226	Develop NFE PMR Text		104	01NOV99	31MAR00	10
N4010						
140 Natural Environment Program Operations						
SPP7228	NFE PMR Rev 00A	M4	0		31MAR00	10
N4020						
140 Natural Environment Program Operations						
SPP7230	NFE PMR M&O Review	M4	10	03APR00	14APR00	10



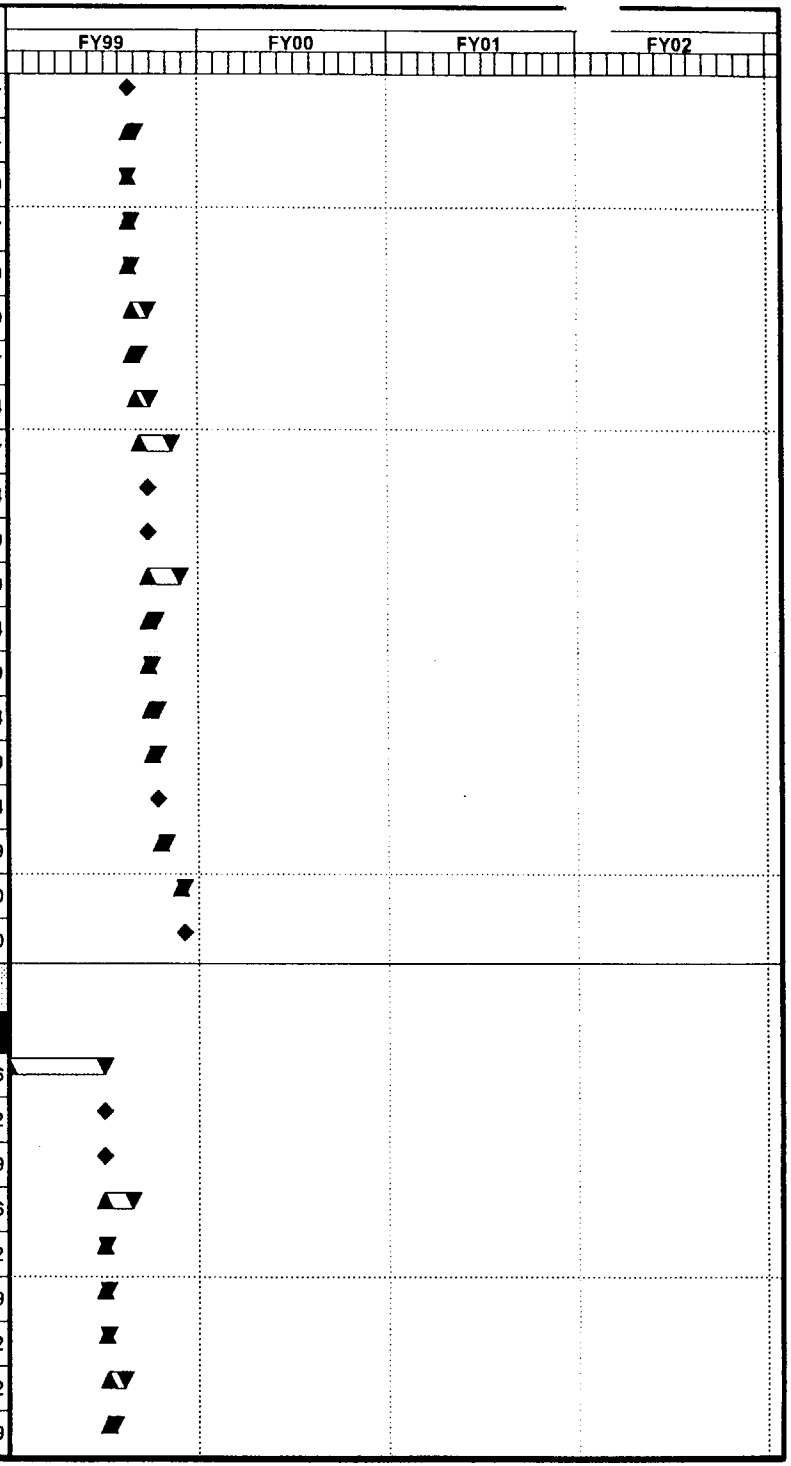
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
N4040						
140 Natural Environment Program Operations						
SPP7234	NFE PMR DOE Review		30	17APR00	26MAY00	21
300 Regulatory & Licensing						
SLP7232M3	NFE PMR Rev 00	M3	0		14APR00	10
SLP7236M3	Rev 01 NFE PMR	M3	0		26MAY00	33
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SPN00A	Revise NFE PMR AP 3.10Q's for SR		41	30MAY00	26JUL00	21
SPN00B	Prepare NFE PMR REV-02A for SR		41	30MAY00	26JUL00	21
SPN00BM4	NFE PMR Rev-02A for SR	M4	0		26JUL00	21
SPN00C	M&O Review NFE PMR Rev-02A for SR		83	27JUL00	27NOV00	21
SPN00CM3	NFE PMR Rev-02 for SR	M3	0		27NOV00	21
SPN00D	DOE Review NFE PMR 02 for SR		41	28NOV00	25JAN01	21
SPN00EM3	Rev 03 NFE PMR for SR	M3	0		25JAN01	21
150 Support Operations						
BMP170	PIM 3.10Q/PMR Planning & Text Support (NFE)		106	03MAY99*	30SEP99	10
BMP172	Cont.NFE PIM 3.10Q/PMR Planning & Text Support		124	01OCT99	31MAR00	10
BMP174	PIM Text & M&O Review Prep Support (NFE)		10	03APR00	14APR00	10
BMP176	PIM M&O Rev. & DOE Rev. Prep Support (NFE)		10	17APR00	28APR00	21
BMP178	PIM DOE Rev. & Final Accept. Support (NFE)		10	01MAY00	12MAY00	53



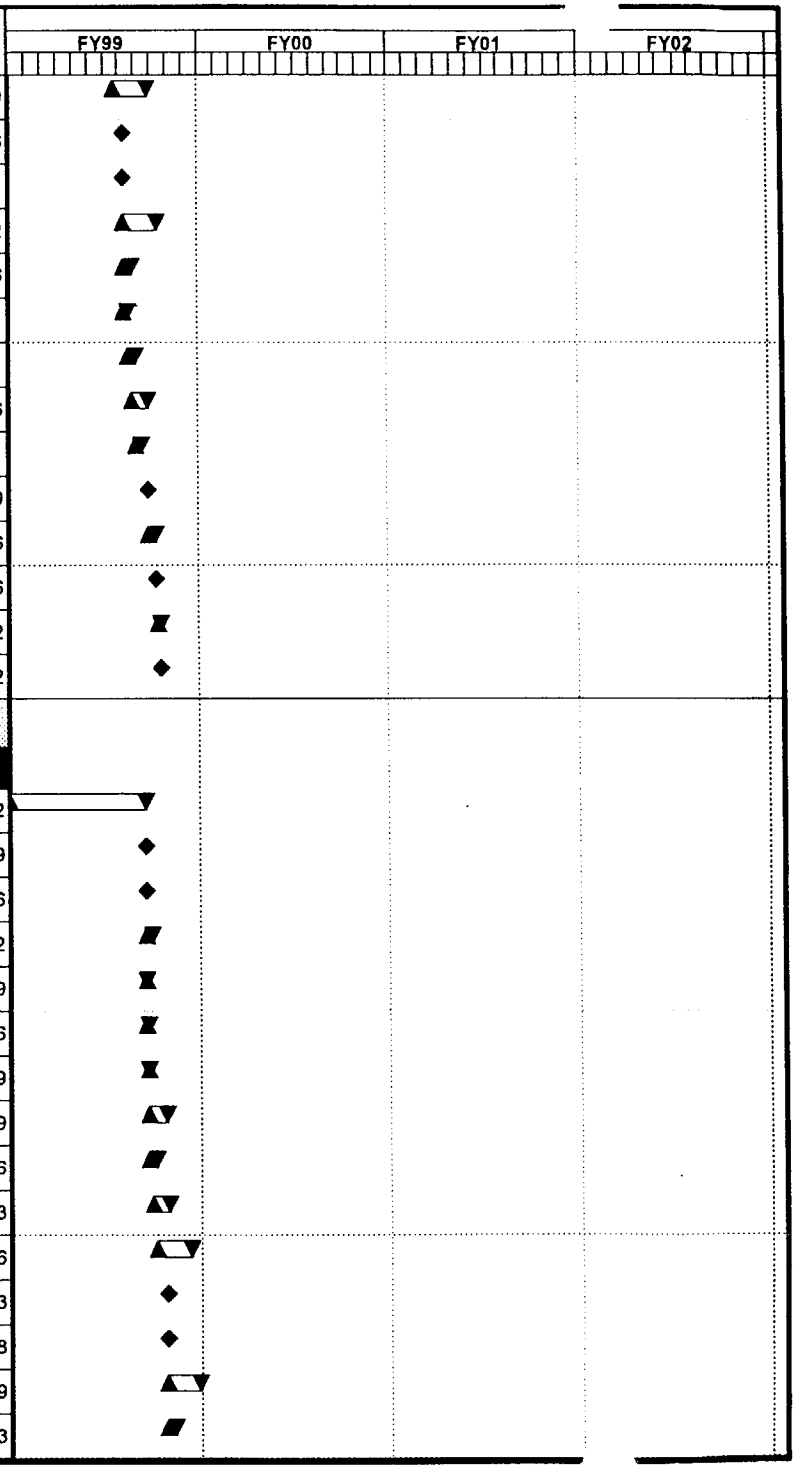
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
U UZ PMR						
U1010						
140 Natural Environment Program Operations						
SPP5000	AP3.10Q Data-3D UZ S/S Model Grid		135	01OCT98*	23APR99	16
SPU000	UZ S/S Model Grid-Input Parameters and Data Iden		0		23APR99	366
SPU002	UZ S/S Model Grid-Models and Codes Identified		0		23APR99	383
SPP5002	Prep Draft AP3.10Q-3D UZ S/S Model Grid		10	26APR99	07MAY99	120
SPU004	UZ S/S Model Grid-Determine DTN Assignment		2	26APR99	27APR99	366
SPU028	UZ S/S Model Grid-Determine if Model-Rel SW is U		5	26APR99	30APR99	383
SPU006	UZ S/S Model Grid-Determine if Data/DTN in TDMS		3	28APR99	30APR99	366
SPU008	UZ S/S Model Grid-Submit Data/DTN to TDMS as Nec		22	03MAY99	02JUN99	366
SPU030	UZ S/S Model Grid-Place Model-Related SW Under S		10	03MAY99	14MAY99	383
SPP5004	AP3.10Q Chckng/Rev-3D UZ S/S Model Grid		10	10MAY99	21MAY99	120
SPU032	UZ S/S Model Grid-Verify Model-Related Software		44	17MAY99	19JUL99	383
SPP5006	Prep Final AP3.10Q Rpt-3D UZ S/S Model Grid		10	24MAY99	07JUN99	120
SPU012	UZ S/S Model Grid-Procurement Related Issues ID'		0		02JUN99	400
SPU020	UZ S/S Model Grid-Data Related Software Issues I		0		02JUN99	385
SPU010	UZ S/S Model Grid-Verify/Trace Data		44	03JUN99	[illegible]G99	366
SPU014	UZ S/S Model Grid-Rxesolve Procurement Related D		10	03JUN99	16JUN99	400
SPU022	UZ S/S Model Grid-Determine if Data Rel SW is Un		5	03JUN99	09JUN99	385
SPP200M4	Compl AP3.10Q 3-D UZ S/S Model Grid	M4	0		07JUN99	120
SPU024	UZ S/S Model Grid-Place Under SMS Control as Nec		10	10JUN99	23JUN99	385
SPU026	UZ S/S Model Grid-Verify Data-Related Software		10	24JUN99	08JUL99	385
SPU034	UZ S/S Model Grid-Qualified/Verified SW Availabl		0		19JUL99	383
SPU016	UZ S/S Model Grid-Update TDMS		5	05AUG99	11AUG99	366
SPU018	UZ S/S Model Grid-Qualified/Verified Data Availa		0		11AUG99	366
U1020						
140 Natural Environment Program Operations						
SPP5010	AP3.10Q Data--Climate Model		151	01OCT98*	17MAY99	94
SPU036	Climate Model-Input Parameters and Data Identifi		0		17MAY99	350



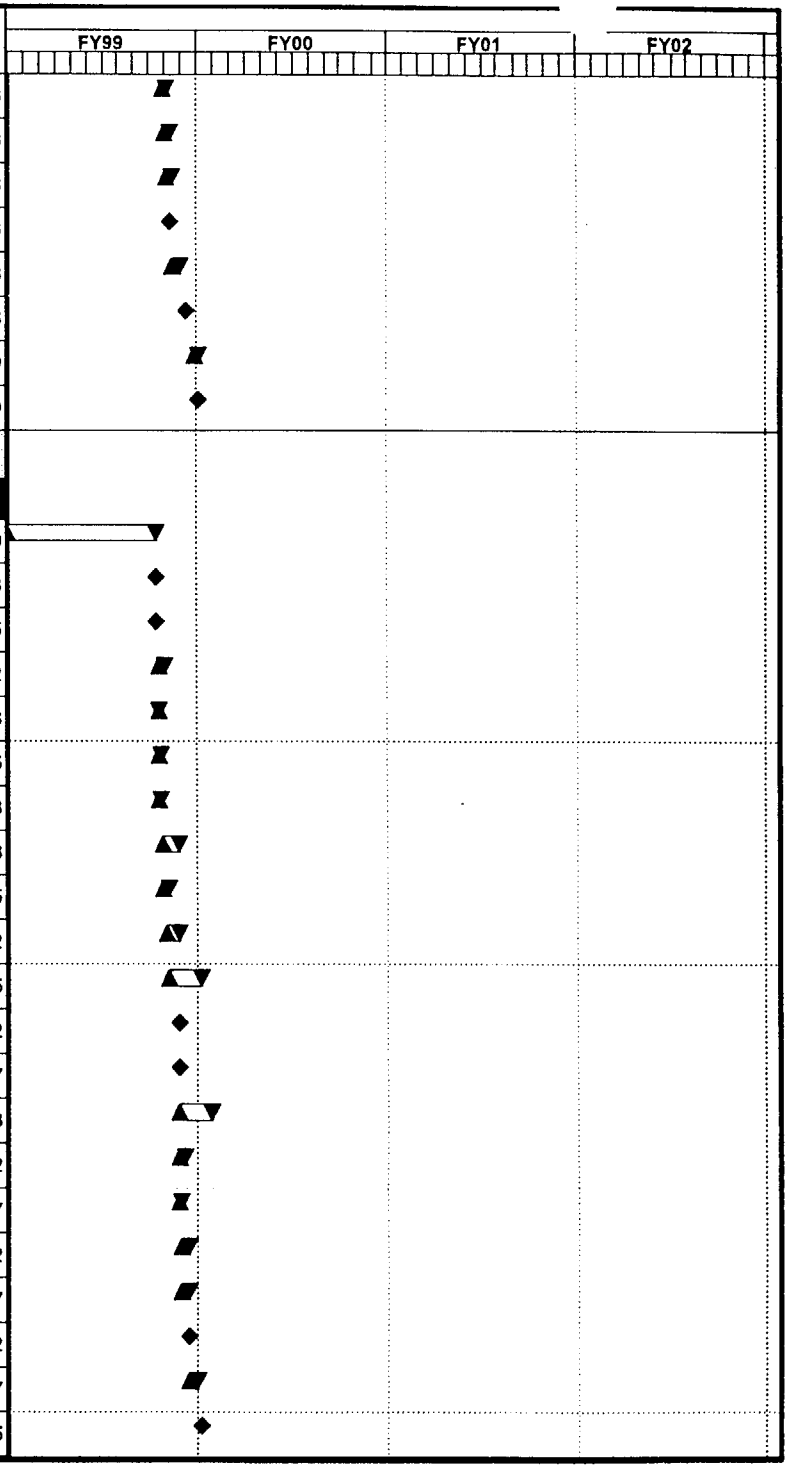
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU038	Climate Model-Models and Codes Identified		0		17MAY99	367
SPP5012	Prep Draft AP3.10Q-Climate Model		10	18MAY99	01JUN99	94
SPU040	Climate Model-Determine DTN Assignment		2	18MAY99	19MAY99	350
SPU064	Climate Model-Determine if Model-Rel SW is Under		5	18MAY99	24MAY99	367
SPU042	Climate Model-Determine if Data/DTN in TDMS		3	20MAY99	24MAY99	350
SPU044	Climate Model-Submit Data/DTN to TDMS as Necessa		22	25MAY99	24JUN99	350
SPU066	Climate Model-Place Model-Related SW Under SMS C		10	25MAY99	08JUN99	367
SPP5014	AP3.10Q Chckng/Rev-Climate Model		20	02JUN99	29JUN99	94
SPU068	Climate Model-Verify Model-Related Software		44	09JUN99	10AUG99	367
SPU048	Climate Model-Procurement Related Issues ID'd to		0		24JUN99	384
SPU056	Climate Model-Data Related Software Issues Ident		0		24JUN99	369
SPU046	Climate Model-Verify/Trace Data		44	25JUN99	26AUG99	350
SPU050	Climate Model-Rxesolve Procurement Related Data		10	25JUN99	09JUL99	384
SPU058	Climate Model-Determine if Data Rel SW is Under		5	25JUN99	01JUL99	369
SPP5016	Prep Final AP3.10Q Rpt-Climate Model		10	30JUN99	14JUL99	94
SPU060	Climate Model-Place Under SMS Control as Necessa		10	02JUL99	16JUL99	369
SPP203M4	Compl AP3.10Q Climate Report	M4	0		14JUL99	94
SPU062	Climate Model-Verify Data-Related Software		10	19JUL99	30JUL99	369
SPU052	Climate Model-Update TDMS		5	27AUG99	02SEP99	350
SPU054	Climate Model-Qualified/Verified Data Available		0		02SEP99	350
U1030						
140 Natural Environment Program Operations						
SPP5020	AP3.10Q Data-Infiltration Model		119	01OCT98*	01APR99	96
SPU072	Infiltration Model-Input Parameters and Data Ide		0		01APR99	382
SPU074	Infiltration Model-Models and Codes Identified		0		01APR99	399
SPP5022	Prep Draft AP3.10Q-Infiltration Model		40	02APR99	27MAY99	96
SPU076	Infiltration Model-Determine DTN Assignment		2	02APR99	05APR99	382
SPU100	Infiltration Model-Determine if Model-Rel SW is		5	02APR99	08APR99	399
SPU078	Infiltration Model-Determine if Data/DTN in TDMS		3	06APR99	08APR99	382
SPU080	Infiltration Model-Submit Data/DTN to TDMS as Ne		22	09APR99	10MAY99	382
SPU102	Infiltration Model-Place Model-Related SW Under		10	09APR99	22APR99	399



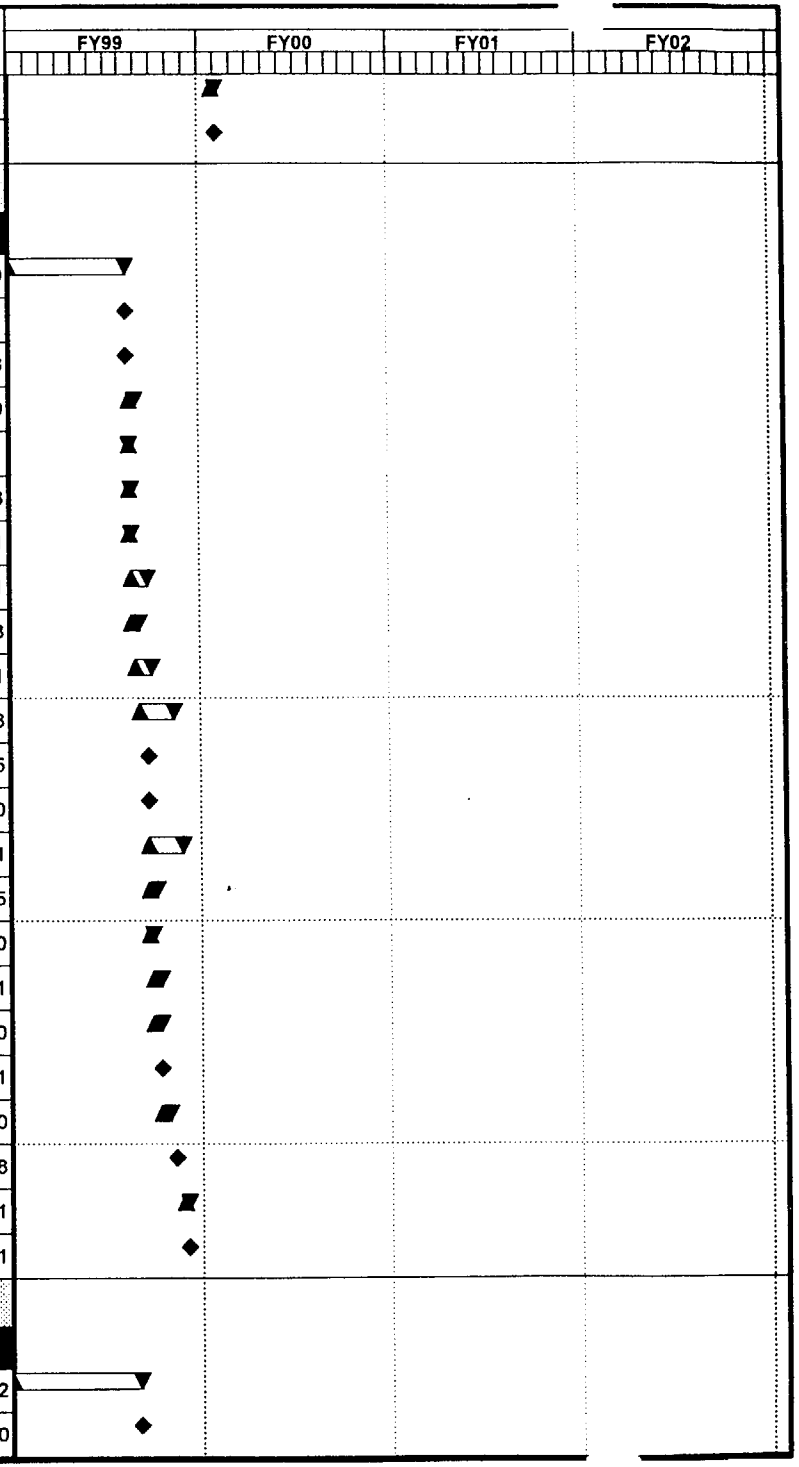
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU104	Infiltration Model-Verify Model-Related Software		44	23APR99	24JUN99	399
SPU084	Infiltration Model-Procurement Related Issues ID		0		10MAY99	416
SPU092	Infiltration Model-Data Related Software Issues		0		10MAY99	401
SPU082	Infiltration Model-Verify/Trace Data		44	11MAY99	13JUL99	382
SPU086	Infiltration Model-Rxesolve Procurement Related		10	11MAY99	24MAY99	416
SPU094	Infiltration Model-Determine if Data Rel SW is U		5	11MAY99	17MAY99	401
SPU096	Infiltration Model-Place Under SMS Control as Ne		10	18MAY99	01JUN99	401
SPP5024	AP3.10Q Chckng/Rev-Infiltration Model		20	28MAY99	25JUN99	96
SPU098	Infiltration Model-Verify Data-Related Software		10	02JUN99	15JUN99	401
SPU106	Infiltration Model-Qualified/Verified SW Availab		0		24JUN99	399
SPP5026	Prep Final AP3.10Q Rpt-Infiltration Model		10	28JUN99	12JUL99	96
SPP206M4	Compl AP3.10Q Infiltration Model	M4	0		12JUL99	96
SPU088	Infiltration Model-Update TDMS		5	14JUL99	20JUL99	382
SPU090	Infiltration Model-Qualified/Verified Data Avail		0		20JUL99	382
U1040						
140 Natural Environment Program Operations						
SPP5030	AP3.10Q Data-Hydrol Prop Insitu Field Testing		172	01OCT98*	16JUN99	32
SPU108	Hydrol Prop Insitu-Input Parameters and Data Ide		0		16JUN99	329
SPU110	Hydrol Prop Insitu-Models and Codes Identified		0		16JUN99	346
SPP5032	Prep Draft AP3.10Q-Hydrol Prop Insitu Field Test		10	17JUN99	30JUN99	32
SPU112	Hydrol Prop Insitu-Determine DTN Assignment		2	17JUN99	18JUN99	329
SPU136	Hydrol Prop Insitu-Determine if Model-Rel SW is		5	17JUN99	23JUN99	346
SPU114	Hydrol Prop Insitu-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99	329
SPU116	Hydrol Prop Insitu-Submit Data/DTN to TDMS as Ne		22	24JUN99	26JUL99	329
SPU138	Hydrol Prop Insitu-Place Model-Related SW Under		10	24JUN99	08JUL99	346
SPP5034	AP3.10Q Chckng/Rev-Hydrol Prop Insitu Field Test		20	01JUL99	29JUL99	73
SPU140	Hydrol Prop Insitu-Verify Model-Related Software		44	09JUL99	09SEP99	346
SPU120	Hydrol Prop Insitu-Procurement Related Issues ID		0		26JUL99	363
SPU128	Hydrol Prop Insitu-Data Related Software Issues		0		26JUL99	348
SPU118	Hydrol Prop Insitu-Verify/Trace Data		44	27JUL99	27SEP99	329
SPU122	Hydrol Prop Insitu-Rxesolve Procurement Related		10	27JUL99	09AUG99	363



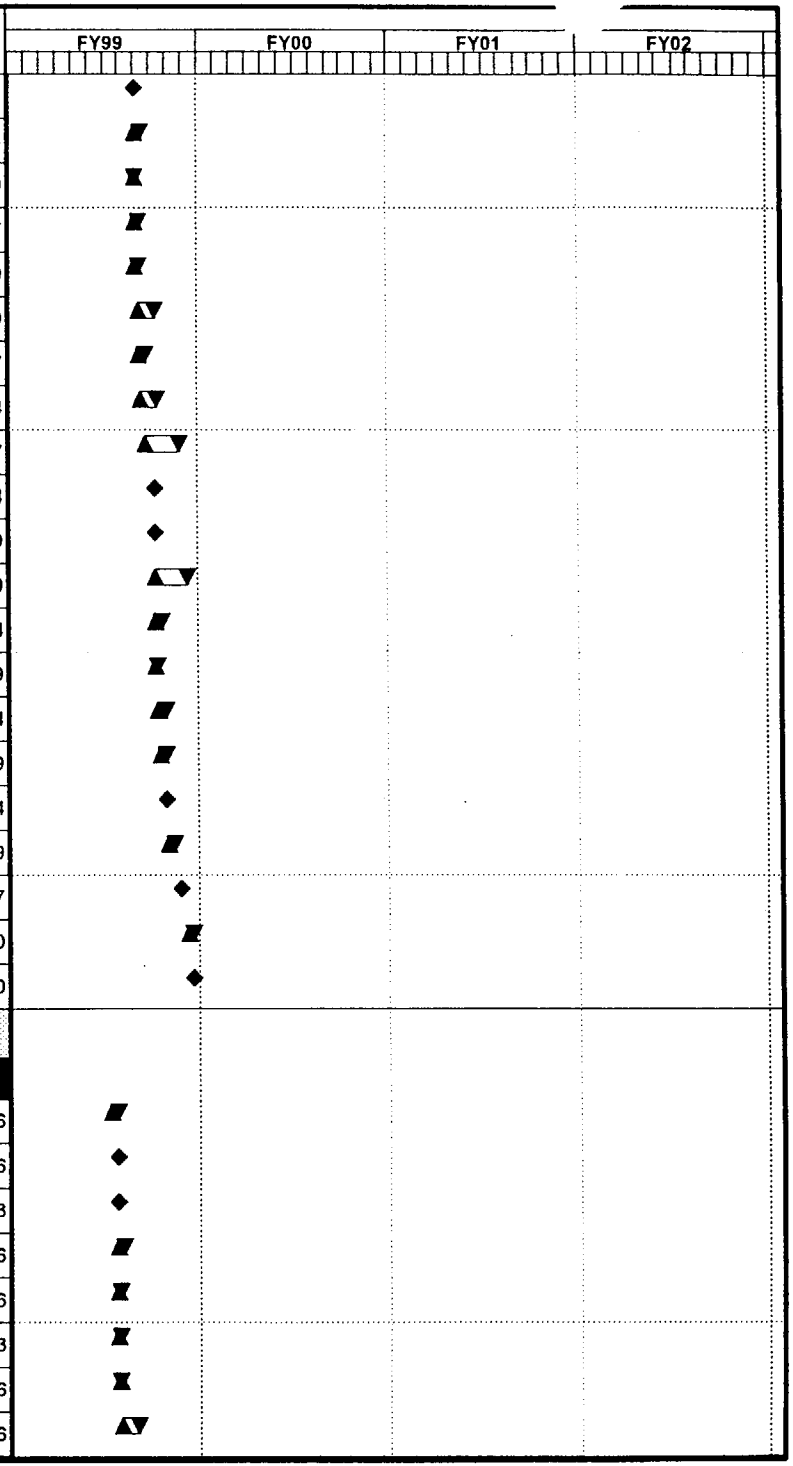
Activity ID	Activity Description	MILE	Orig dur	Earl Start	Early Finish	Total Float
SPU130	Hydrol Prop Insitu-Determine if Data Rel SW is U		5	27JUL99	02AUG99	348
SPP5036	Prep Final AP3.10Q Rpt-Hydrol Prop Insitu Field		10	30JUL99	12AUG99	73
SPU132	Hydrol Prop Insitu-Place Under SMS Control as Ne		10	03AUG99	16AUG99	348
SPP209M4	Compl AP3.10Q Hydro Properties Insitu Field Test	M4	0		12AUG99	73
SPU134	Hydrol Prop Insitu-Verify Data-Related Software		10	17AUG99	30AUG99	348
SPU142	Hydrol Prop Insitu-Qualified/Verified SW Availab		0		09SEP99	346
SPU124	Hydrol Prop Insitu-Update TDMS		5	28SEP99	04OCT99	329
SPU126	Hydrol Prop Insitu-Qualified/Verified Data Avail		0		04OCT99	329
U1060						
140 Natural Environment Program Operations						
SPP5050	AP3.10Q Data-Trsnp Prop from Busted Butte UZTT		193	01OCT98*	16JUL99	10
SPU180	Trsnp Prop B/B UZTT-Input Parameters and Data Id		0		16JUL99	308
SPU182	Trsnp Prop B/B UZTT-Models and Codes Identified		0		16JUL99	325
SPP5052	Prep Draft AP3.10Q-Trsnp Prop Busted Butte UZTT		10	19JUL99	30JUL99	52
SPU184	Trsnp Prop B/B UZTT-Determine DTN Assignment		2	19JUL99	20JUL99	308
SPU208	Trsnp Prop B/B UZTT-Determine if Model-Rel SW is		5	19JUL99	23JUL99	325
SPU186	Trsnp Prop B/B UZTT-Determine if Data/DTN in TDM		3	21JUL99	23JUL99	308
SPU188	Trsnp Prop B/B UZTT-Submit Data/DTN to TDMS as N		22	26JUL99	24AUG99	308
SPU210	Trsnp Prop B/B UZTT-Place Model-Related SW Under		10	26JUL99	06AUG99	325
SPP5054	AP3.10Q Chckng/Rev-Trsnp Prop Busted Butte UZTT		20	02AUG99	27AUG99	52
SPU212	Trsnp Prop B/B UZTT-Verify Model-Related Softwar		44	09AUG99	08OCT99	325
SPU192	Trsnp Prop B/B UZTT-Procurement Related Issues I		0		24AUG99	342
SPU200	Trsnp Prop B/B UZTT-Data Related Software Issues		0		24AUG99	327
SPU190	Trsnp Prop B/B UZTT-Verify/Trace Data		44	25AUG99	27OCT99	308
SPU194	Trsnp Prop B/B UZTT-Rxesolve Procurement Related		10	25AUG99	08SEP99	342
SPU202	Trsnp Prop B/B UZTT-Determine if Data Rel SW is		5	25AUG99	31AUG99	327
SPP5056	Prep Final AP3.10Q Rpt-Trsnp Prop B/B UZTT		10	30AUG99	13SEP99	52
SPU204	Trsnp Prop B/B UZTT-Place Under SMS Control as N		10	01SEP99	15SEP99	327
SPP215M4	Compl AP3.10Q Trsnport Prop B/B UZTT	M4	0		13SEP99	52
SPU206	Trsnp Prop B/B UZTT-Verify Data-Related Software		10	16SEP99	29SEP99	327
SPU214	Trsnp Prop B/B UZTT-Qualified/Verified SW Availa		0		08OCT99	325



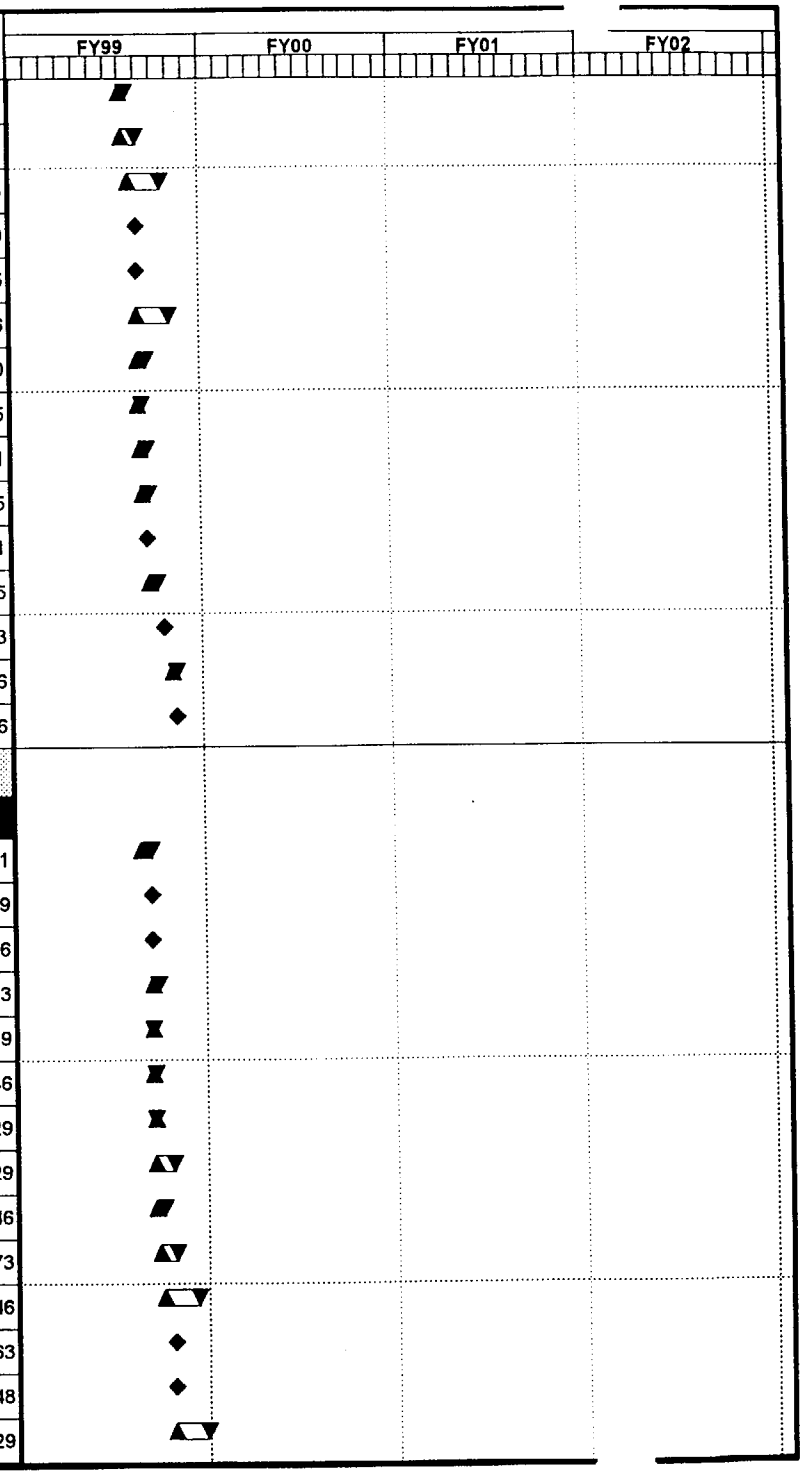
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU196	Trsnp Prop B/B UZTT-Update TDMS		5	28OCT99	03NOV99	308
SPU198	Trsnp Prop B/B UZTT-Qualified/Verified Data Avai		0		03NOV99	308
U1070						
140 Natural Environment Program Operations						
SPP5060	AP3.10Q Data-Fract Prop Vert B/hole & Alc Tstng		150	01OCT98*	14MAY99	0
SPU216	Vert BH/Alc Tst-Input Parameters and Data Identi		0		14MAY99	351
SPU218	Vert BH/Alc Tst-Models and Codes Identified		0		14MAY99	368
SPP5062	Prep Draft AP3.10Q-Frac Prop Vert Bhole/ Alc Tst		10	17MAY99	28MAY99	0
SPU220	Vert BH/Alc Tst-Determine DTN Assignment		2	17MAY99	18MAY99	351
SPU244	Vert BH/Alc Tst-Determine if Model-Rel SW is Und		5	17MAY99	21MAY99	368
SPU222	Vert BH/Alc Tst-Determine if Data/DTN in TDMS		3	19MAY99	21MAY99	351
SPU224	Vert BH/Alc Tst-Submit Data/DTN to TDMS as Neces		22	24MAY99	23JUN99	351
SPU246	Vert BH/Alc Tst-Place Model-Related SW Under SMS		10	24MAY99	07JUN99	368
SPP5064	AP3.10Q Chckng/Rev-Frac Prop Vert Bhole/Alc Tst		20	01JUN99	28JUN99	111
SPU248	Vert BH/Alc Tst-Verify Model-Related Software		44	08JUN99	09AUG99	368
SPU228	Vert BH/Alc Tst-Procurement Related Issues IDd		0		23JUN99	385
SPU236	Vert BH/Alc Tst-Data Related Software Issues Ide		0		23JUN99	370
SPU226	Vert BH/Alc Tst-Verify/Trace Data		44	24JUN99	25AUG99	351
SPU230	Vert BH/Alc Tst-Rxesolve Procurement Related Dat		10	24JUN99	08JUL99	385
SPU238	Vert BH/Alc Tst-Determine if Data Rel SW is Unde		5	24JUN99	30JUN99	370
SPP5066	Prep Final AP3.10Q Rpt-Frac Prop Vert BH/Alc Tst		10	29JUN99	13JUL99	111
SPU240	Vert BH/Alc Tst-Place Under SMS Control as Neces		10	01JUL99	15JUL99	370
SPP218M4	Compl AP3.10Q Frac Prop Vert Bhole/Alc Tstng	M4	0		13JUL99	111
SPU242	Vert BH/Alc Tst-Verify Data-Related Software		10	16JUL99	29JUL99	370
SPU250	Vert BH/Alc Tst-Qualified/Verified SW Available		0		09AUG99	368
SPU232	Vert BH/Alc Tst-Update TDMS		5	26AUG99	01SEP99	351
SPU234	Vert BH/Alc Tst-Qualified/Verified Data Availabl		0		01SEP99	351
U1090						
140 Natural Environment Program Operations						
SPP5080	AP3.10Q Data-Concept/Numeric Model UZ F&T		161	01OCT98*	01JUN99	12
SPU288	Concept/Num UZ-Input Parameters and Data Identif		0		01JUN99	340



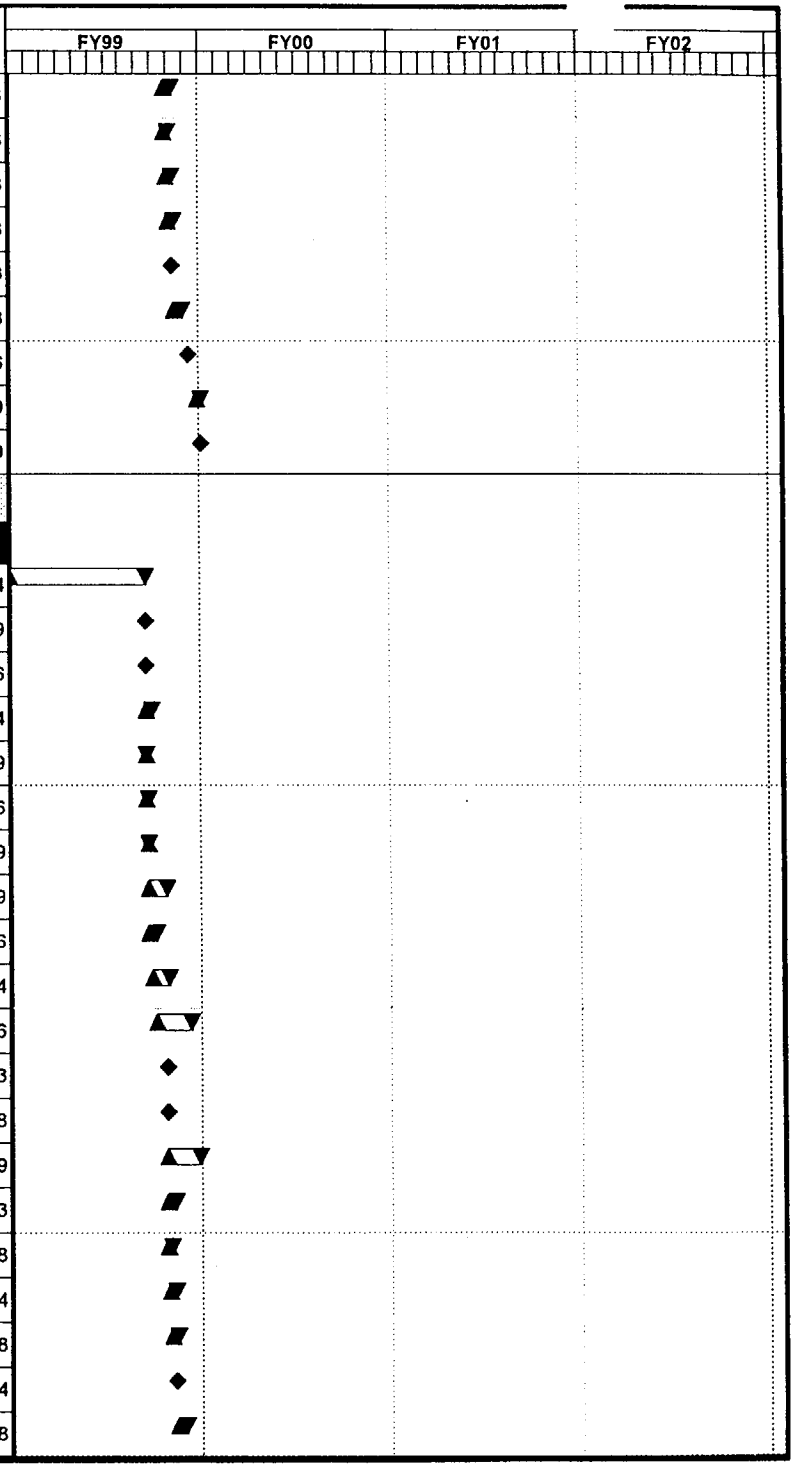
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU290	Concept/Num UZ-Models and Codes Identified		0		01JUN99	357
SPP5082	Prep Draft AP3.10Q-Concept/Numeric Mdl UZ F&T		10	02JUN99	15JUN99	84
SPU292	Concept/Num UZ-Determine DTN Assignment		2	02JUN99	03JUN99	340
SPU316	Concept/Num UZ-Determine if Model-Rel SW is Unde		5	02JUN99	08JUN99	357
SPU294	Concept/Num UZ-Determine if Data/DTN in TDMS		3	04JUN99	08JUN99	340
SPU296	Concept/Num UZ-Submit Data/DTN to TDMS as Necess		22	09JUN99	09JUL99	340
SPU318	Concept/Num UZ-Place Model-Related SW Under SMS		10	09JUN99	22JUN99	357
SPP5084	AP3.10Q Chckng/Rev-Concept/Numeric Mdl UZ F&T		20	16JUN99	14JUL99	84
SPU320	Concept/Num UZ-Verify Model-Related Software		44	23JUN99	24AUG99	357
SPU300	Concept/Num UZ-Procurement Related Issues ID'd t		0		09JUL99	374
SPU308	Concept/Num UZ-Data Related Software Issues Iden		0		09JUL99	359
SPU298	Concept/Num UZ-Verify/Trace Data		44	12JUL99	10SEP99	340
SPU302	Concept/Num UZ-Rxesolve Procurement Related Data		10	12JUL99	23JUL99	374
SPU310	Concept/Num UZ-Determine if Data Rel SW is Under		5	12JUL99	16JUL99	359
SPP5086	Prep Final AP3.10Q Rpt-Concept/Num Model UZ F&T		10	15JUL99	28JUL99	84
SPU312	Concept/Num UZ-Place Under SMS Control as Necess		10	19JUL99	30JUL99	359
SPP224M4	Compl AP3.10Q Concept & Numeric Model for F&T	M4	0		28JUL99	84
SPU314	Concept/Num UZ-Verify Data-Related Software		10	02AUG99	13AUG99	359
SPU322	Concept/Num UZ-Qualified/Verified SW Available		0		24AUG99	357
SPU304	Concept/Num UZ-Update TDMS		5	13SEP99	17SEP99	340
SPU306	Concept/Num UZ-Qualified/Verified Data Available		0		17SEP99	340
U2000						
140 Natural Environment Program Operations						
SPP5090	AP3.10Q Data-1D Inv Calibr Prop Model		6	16APR99	23APR99	16
SPU324	1D Inv Calibr Prop-Input Parameters and Data Ide		0		23APR99	366
SPU326	1D Inv Calibr Prop-Models and Codes Identified		0		23APR99	383
SPP5092	Prep Draft AP3.10Q-1D Inv Calibr Prop Model		9	26APR99	06MAY99	16
SPU328	1D Inv Calibr Prop-Determine DTN Assignment		2	26APR99	27APR99	366
SPU352	1D Inv Calibr Prop-Determine if Model-Rel SW is		5	26APR99	30APR99	383
SPU330	1D Inv Calibr Prop-Determine if Data/DTN in TDMS		3	28APR99	30APR99	366
SPU332	1D Inv Calibr Prop-Submit Data/DTN to TDMS as Ne		22	03MAY99	02JUN99	366



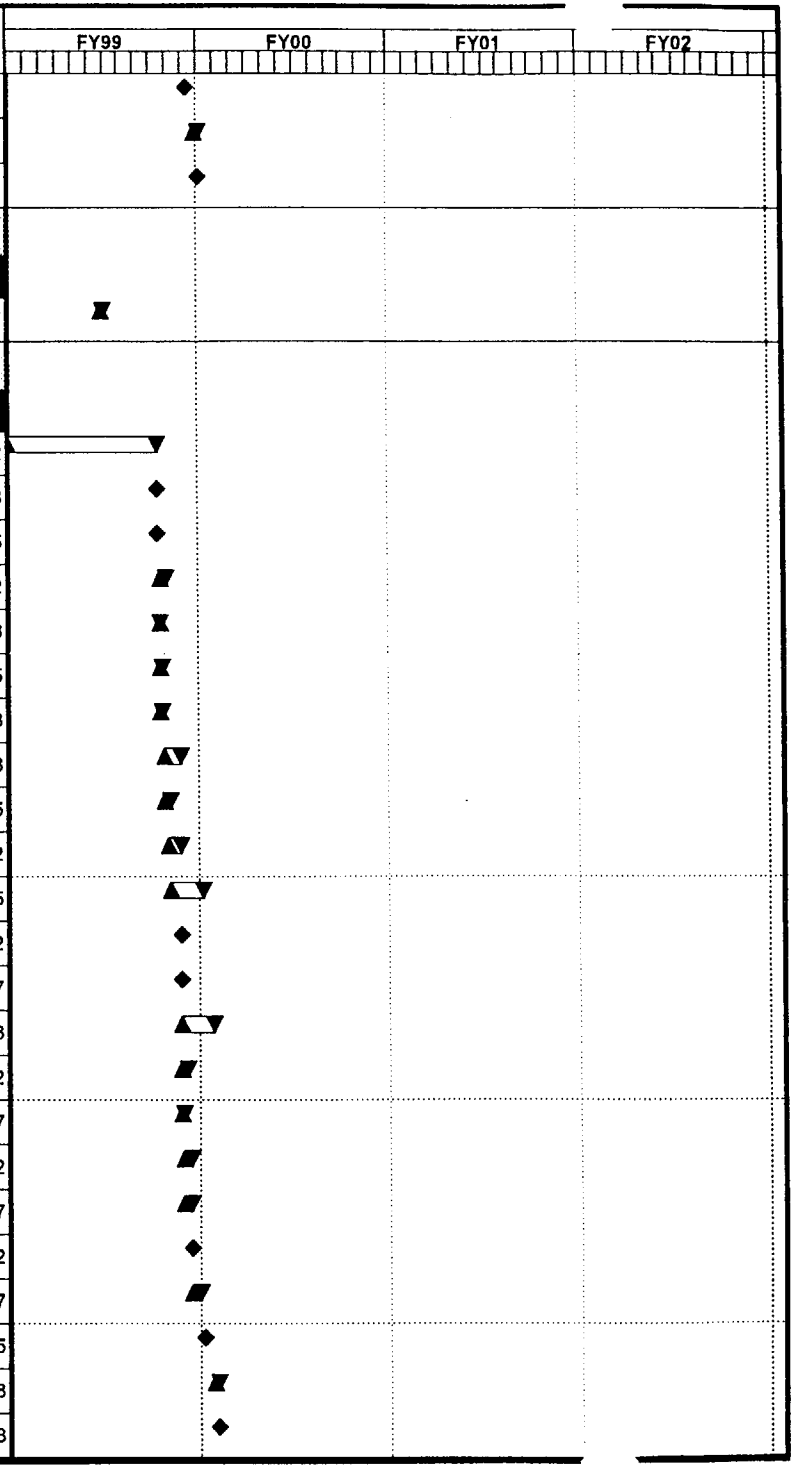
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU354	1D Inv Calibr Prop-Place Model-Related SW Under		10	03MAY99	14MAY99	383
SPP5094	AP3.10Q Chckng/Rev-1D Inv Calibr Prop Model		20	07MAY99	04JUN99	111
SPU356	1D Inv Calibr Prop-Verify Model-Related Software		44	17MAY99	19JUL99	383
SPU336	1D Inv Calibr Prop-Procurement Related Issues ID		0		02JUN99	400
SPU344	1D Inv Calibr Prop-Data Related Software Issues		0		02JUN99	385
SPU334	1D Inv Calibr Prop-Verify/Trace Data		44	03JUN99	04AUG99	366
SPU338	1D Inv Calibr Prop-Rxesolve Procurement Related		10	03JUN99	16JUN99	400
SPU346	1D Inv Calibr Prop-Determine if Data Rel SW is U		5	03JUN99	09JUN99	385
SPP5096	Prep Final AP3.10Q Rpt-1D Inv Calibr Prop Model		10	07JUN99	18JUN99	111
SPU348	1D Inv Calibr Prop-Place Under SMS Control as Ne		10	10JUN99	23JUN99	385
SPP227M4	Compl AP3.10Q 1-D Inv Calibration Prop Model	M4	0		18JUN99	111
SPU350	1D Inv Calibr Prop-Verify Data-Related Software		10	24JUN99	08JUL99	385
SPU358	1D Inv Calibr Prop-Qualified/Verified SW Availab		0		19JUL99	383
SPU340	1D Inv Calibr Prop-Update TDMS		5	05AUG99	11AUG99	366
SPU342	1D Inv Calibr Prop-Qualified/Verified Data Avail		0		11AUG99	366
U2010						
140 Natural Environment Program Operations						
SPP5100	AP3.10Q Data-Calibrated Properties Model		12	01JUN99*	16JUN99	1
SPU360	Calibrated Prop.-Input Parameters and Data Ident		0		16JUN99	329
SPU362	Calibrated Prop.-Models and Codes Identified		0		16JUN99	346
SPP5102	Prep Draft AP3.10Q-Calibrated Properties Model		10	17JUN99	30JUN99	73
SPU364	Calibrated Prop.-Determine DTN Assignment		2	17JUN99	18JUN99	329
SPU388	Calibrated Prop.-Determine if Model-Rel SW is Un		5	17JUN99	23JUN99	346
SPU366	Calibrated Prop.-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99	329
SPU368	Calibrated Prop.-Submit Data/DTN to TDMS as Nece		22	24JUN99	26JUL99	329
SPU390	Calibrated Prop.-Place Model-Related SW Under SM		10	24JUN99	08JUL99	346
SPP5104	AP3.10Q Chckng/Rev-Calibrated Properties Model		20	01JUL99	29JUL99	73
SPU392	Calibrated Prop.-Verify Model-Related Software		44	09JUL99	09SEP99	346
SPU372	Calibrated Prop.-Procurement Related Issues ID'd		0		26JUL99	363
SPU380	Calibrated Prop.-Data Related Software Issues Id		0		26JUL99	348
SPU370	Calibrated Prop.-Verify/Trace Data		44	27JUL99	27SEP99	329



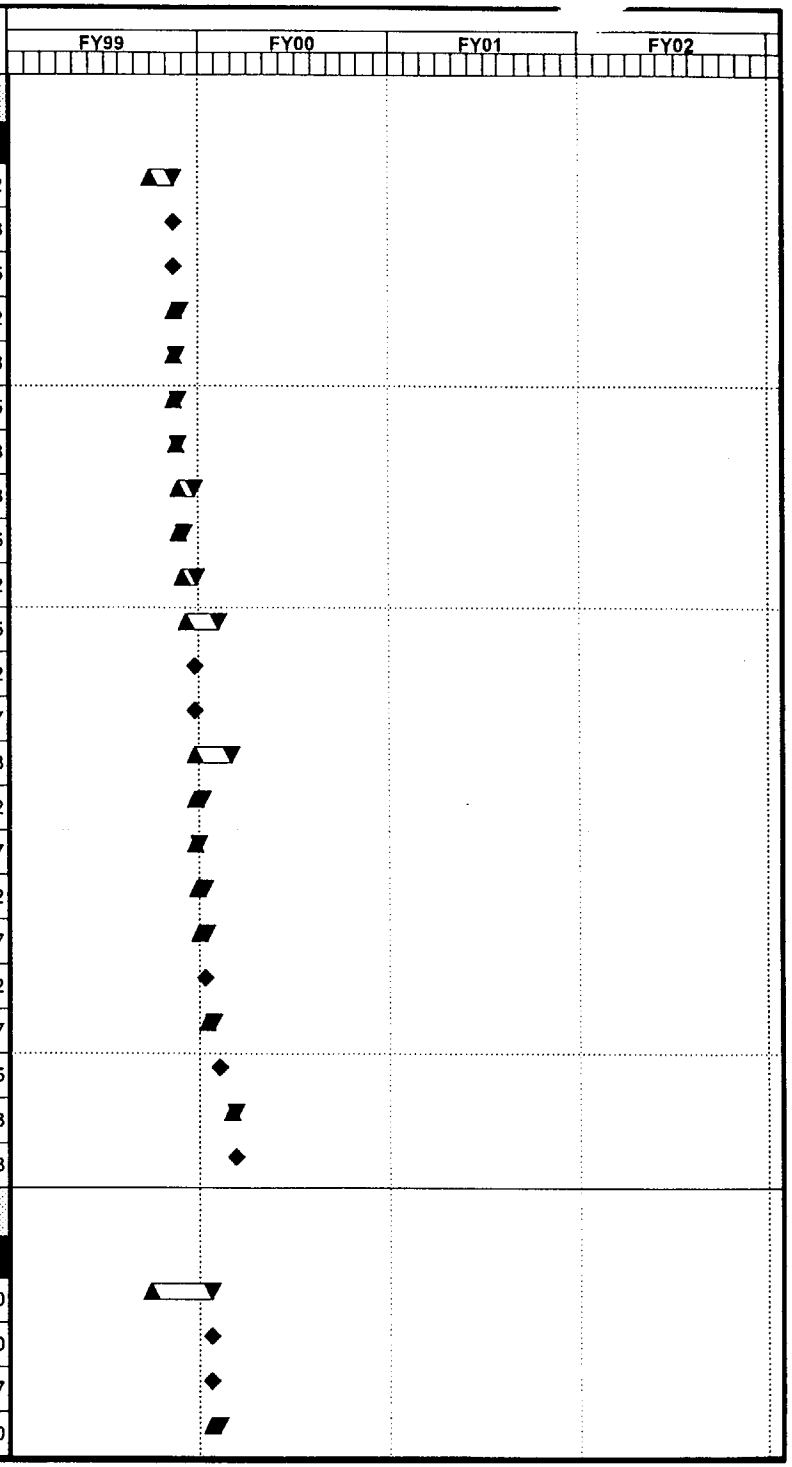
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU374	Calibrated Prop.-Rxesolve Procurement Related Da		10	27JUL99	09AUG99	363
SPU382	Calibrated Prop.-Determine if Data Rel SW is Und		5	27JUL99	02AUG99	348
SPP5106	Prep Final AP3.10Q Rpt-Calibrated Properties Mod		10	30JUL99	12AUG99	73
SPU384	Calibrated Prop.-Place Under SMS Control as Nece		10	03AUG99	16AUG99	348
SPP230M4	Compl AP3.10Q Calibrated Properties Model	M4	0		12AUG99	73
SPU386	Calibrated Prop.-Verify Data-Related Software		10	17AUG99	30AUG99	348
SPU394	Calibrated Prop.-Qualified/Verified SW Available		0		09SEP99	346
SPU376	Calibrated Prop.-Update TDMS		5	28SEP99	04OCT99	329
SPU378	Calibrated Prop.-Qualified/Verified Data Availab		0		04OCT99	329
U2030						
140 Natural Environment Program Operations						
SPP5120	AP3.10Q Data-Geochemistry Data - USGS		172	01OCT98*	16JUN99	74
SPU432	Geochem Data USGS-Input Parameters and Data Iden		0		16JUN99	329
SPU434	Geochem Data USGS-Models and Codes Identified		0		16JUN99	346
SPP5122	Prep Draft AP3.10Q-Geochemistry Data - USGS		10	17JUN99	29JUN99	74
SPU436	Geochem Data USGS-Determine DTN Assignment		2	17JUN99	18JUN99	329
SPU460	Geochem Data USGS-Determine if Model-Rel SW is U		5	17JUN99	23JUN99	346
SPU438	Geochem Data USGS-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99	329
SPU440	Geochem Data USGS-Submit Data/DTN to TDMS as Nec		22	24JUN99	26JUL99	329
SPU462	Geochem Data USGS-Place Model-Related SW Under S		10	24JUN99	08JUL99	346
SPP5124	AP3.10Q Chckng/Rev-Geochemistry Data - USGS		20	30JUN99	28JUL99	74
SPU464	Geochem Data USGS-Verify Model-Related Software		44	09JUL99	09SEP99	346
SPU444	Geochem Data USGS-Procurement Related Issues ID'		0		26JUL99	363
SPU452	Geochem Data USGS-Data Related Software Issues I		0		26JUL99	348
SPU442	Geochem Data USGS-Verify/Trace Data		44	27JUL99	27SEP99	329
SPU446	Geochem Data USGS-Rxesolve Procurement Related D		10	27JUL99	09AUG99	363
SPU454	Geochem Data USGS-Determine if Data Rel SW is Un		5	27JUL99	02AUG99	348
SPP5126	Prep Final AP3.10Q Rpt-Geochemistry Data - USGS		10	29JUL99	11AUG99	74
SPU456	Geochem Data USGS-Place Under SMS Control as Nec		10	03AUG99	16AUG99	348
SPP236M4	Compl AP3.10Q Geochemistry Data - USGS	M4	0		11AUG99	74
SPU458	Geochem Data USGS-Verify Data-Related Software		10	17AUG99	30AUG99	348



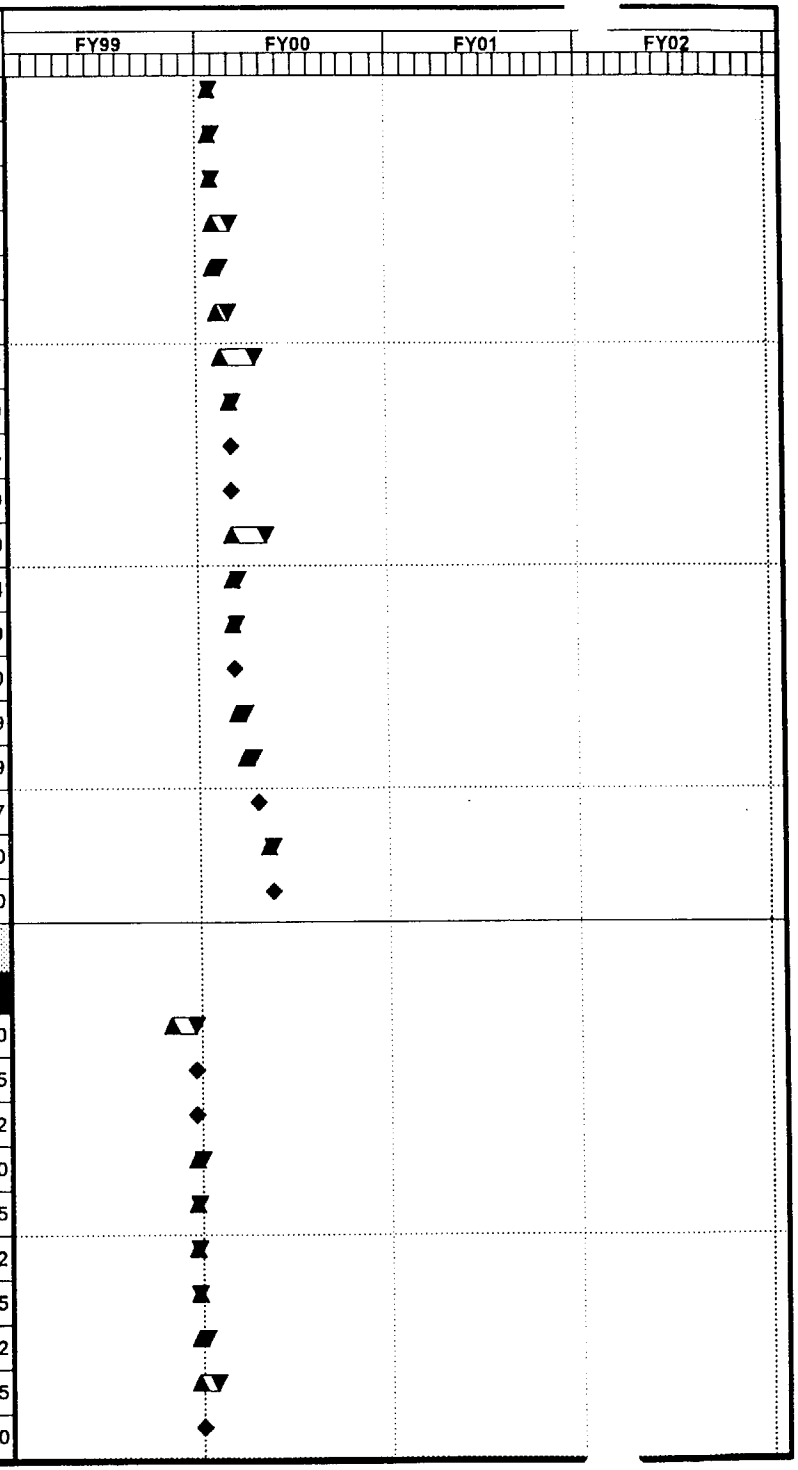
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU466	Geochem Data USGS-Qualified/Verified SW Availabl		0		09SEP99	346
SPU448	Geochem Data USGS-Update TDMS		5	28SEP99	04OCT99	329
SPU450	Geochem Data USGS-Qualified/Verified Data Availa		0		04OCT99	329
U2037						
140 Natural Environment Program Operations						
U2037	Thermal Testing Results		1	31MAR99	31MAR99*	167
U3000						
140 Natural Environment Program Operations						
SPP5140	AP3.10Q Data-UZ Submodel Hydrogeol Units		193	01OCT98*	16JUL99	52
SPU504	UZ Submdl Hydrogeol-Input Parameters and Data Id		0		16JUL99	308
SPU506	UZ Submdl Hydrogeol-Models and Codes Identified		0		16JUL99	325
SPP5142	Prep Draft AP3.10Q-UZ Submodel Hydrogeol Units		10	19JUL99	30JUL99	52
SPU508	UZ Submdl Hydrogeol-Determine DTN Assignment		2	19JUL99	20JUL99	308
SPU532	UZ Submdl Hydrogeol-Determine if Model-Rel SW is		5	19JUL99	23JUL99	325
SPU510	UZ Submdl Hydrogeol-Determine if Data/DTN in TDM		3	21JUL99	UL99	308
SPU512	UZ Submdl Hydrogeol-Submit Data/DTN to TDMS as N		22	26JUL99	24AUG99	308
SPU534	UZ Submdl Hydrogeol-Place Model-Related SW Under		10	26JUL99	06AUG99	325
SPP5144	AP3.10Q Chckng/Rev-UZ Submodel Hydrogeol Units		20	02AUG99	27AUG99	52
SPU536	UZ Submdl Hydrogeol-Verify Model-Related Softwar		44	09AUG99	08OCT99	325
SPU516	UZ Submdl Hydrogeol-Procurement Related Issues I		0		24AUG99	342
SPU524	UZ Submdl Hydrogeol-Data Related Software Issues		0		24AUG99	327
SPU514	UZ Submdl Hydrogeol-Verify/Trace Data		44	25AUG99	27OCT99	308
SPU518	UZ Submdl Hydrogeol-Rxesolve Procurement Related		10	25AUG99	08SEP99	342
SPU526	UZ Submdl Hydrogeol-Determine if Data Rel SW is		5	25AUG99	31AUG99	327
SPP5146	Prep Final AP3.10Q Rpt-UZ Submdl Hydrogeol Units		10	30AUG99	13SEP99	52
SPU528	UZ Submdl Hydrogeol-Place Under SMS Control as N		10	01SEP99	15SEP99	327
SPP242M4	Compl AP3.10Q UZ Submodel Hydrogeologic Units	M4	0		13SEP99	52
SPU530	UZ Submdl Hydrogeol-Verify Data-Related Software		10	16SEP99	29SEP99	327
SPU538	UZ Submdl Hydrogeol-Qualified/Verified SW Availa		0		08OCT99	325
SPU520	UZ Submdl Hydrogeol-Update TDMS		5	28OCT99	03NOV99	308
SPU522	UZ Submdl Hydrogeol-Qualified/Verified Data Avai		0		03NOV99	308



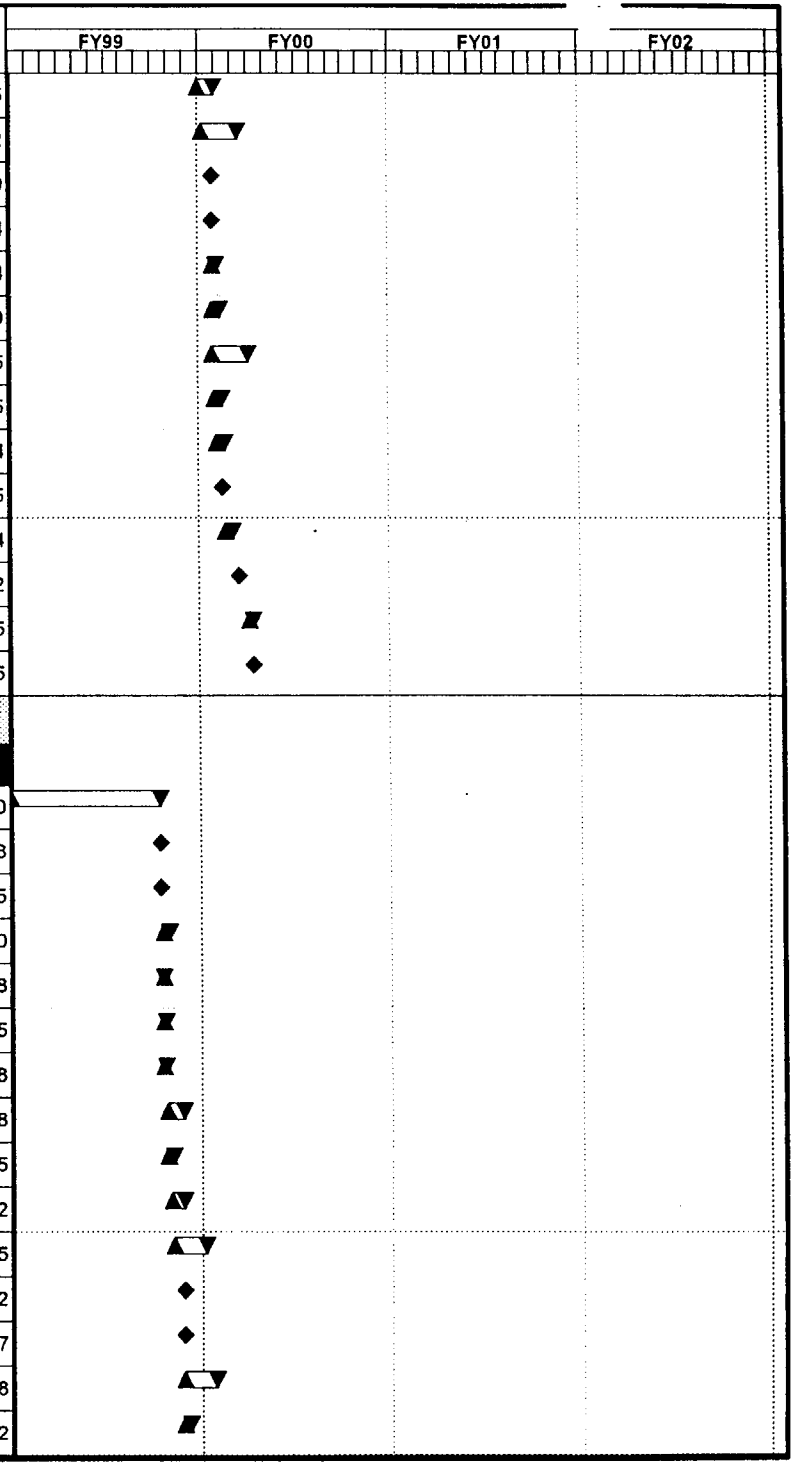
Activity ID	Activity Description	MILE	Orig dur	Earl, Start	Early Finish	Total Float
U3030						
140 Natural Environment Program Operations						
SPP5170	AP3.10Q Data-UZ Submodel for Flow Process		31	01JUL99*	13AUG99	32
SPU612	UZ Submodel Flow-Input Parameters and Data Ident		0		13AUG99	288
SPU614	UZ Submodel Flow-Models and Codes Identified		0		13AUG99	305
SPP5172	Prep Draft AP3.10Q-UZ Submodel Flow Process		10	16AUG99	27AUG99	32
SPU616	UZ Submodel Flow-Determine DTN Assignment		2	16AUG99	17AUG99	288
SPU640	UZ Submodel Flow-Determine if Model-Rel SW is Un		5	16AUG99	20AUG99	305
SPU618	UZ Submodel Flow-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99	288
SPU620	UZ Submodel Flow-Submit Data/DTN to TDMS as Nece		22	23AUG99	22SEP99	288
SPU642	UZ Submodel Flow-Place Model-Related SW Under SM		10	23AUG99	03SEP99	305
SPP5174	AP3.10Q Chckng/Rev-UZ Submodel Flow Process		20	30AUG99	27SEP99	32
SPU644	UZ Submodel Flow-Verify Model-Related Software		44	07SEP99	08NOV99	305
SPU624	UZ Submodel Flow-Procurement Related Issues ID'd		0		22SEP99	322
SPU632	UZ Submodel Flow-Data Related Software Issues Id		0		22SEP99	307
SPU622	UZ Submodel Flow-Verify/Trace Data		44	23SEP99	29NOV99	288
SPU626	UZ Submodel Flow-Rxesolve Procurement Related Da		10	23SEP99	06OCT99	322
SPU634	UZ Submodel Flow-Determine if Data Rel SW is Und		5	23SEP99	29SEP99	307
SPP5176	Prep Final AP3.10Q Rpt-UZ Submodel Flow Process		10	28SEP99	12OCT99	32
SPU636	UZ Submodel Flow-Place Under SMS Control as Nece		10	30SEP99	14OCT99	307
SPP251M4	Compl AP3.10Q UZ Submodel Flow Process	M4	0		12OCT99	32
SPU638	UZ Submodel Flow-Verify Data-Related Software		10	15OCT99	28OCT99	307
SPU646	UZ Submodel Flow-Qualified/Verified SW Available		0		08NOV99	305
SPU628	UZ Submodel Flow-Update TDMS		5	30NOV99	06DEC99	288
SPU630	UZ Submodel Flow-Qualified/Verified Data Availab		0		06DEC99	288
U3040						
140 Natural Environment Program Operations						
SPP5180	AP3.10Q Data-Radionuclide Transport Model		79	01JUL99*	22OCT99	10
SPU648	Radionucl Trsnprt-Input Parameters and Data Iden		0		22OCT99	240
SPU650	Radionucl Trsnprt-Models and Codes Identified		0		22OCT99	257
SPP5182	Prep Draft AP3.10Q-Radionuclide Transport Model		10	25OCT99	05NOV99	10



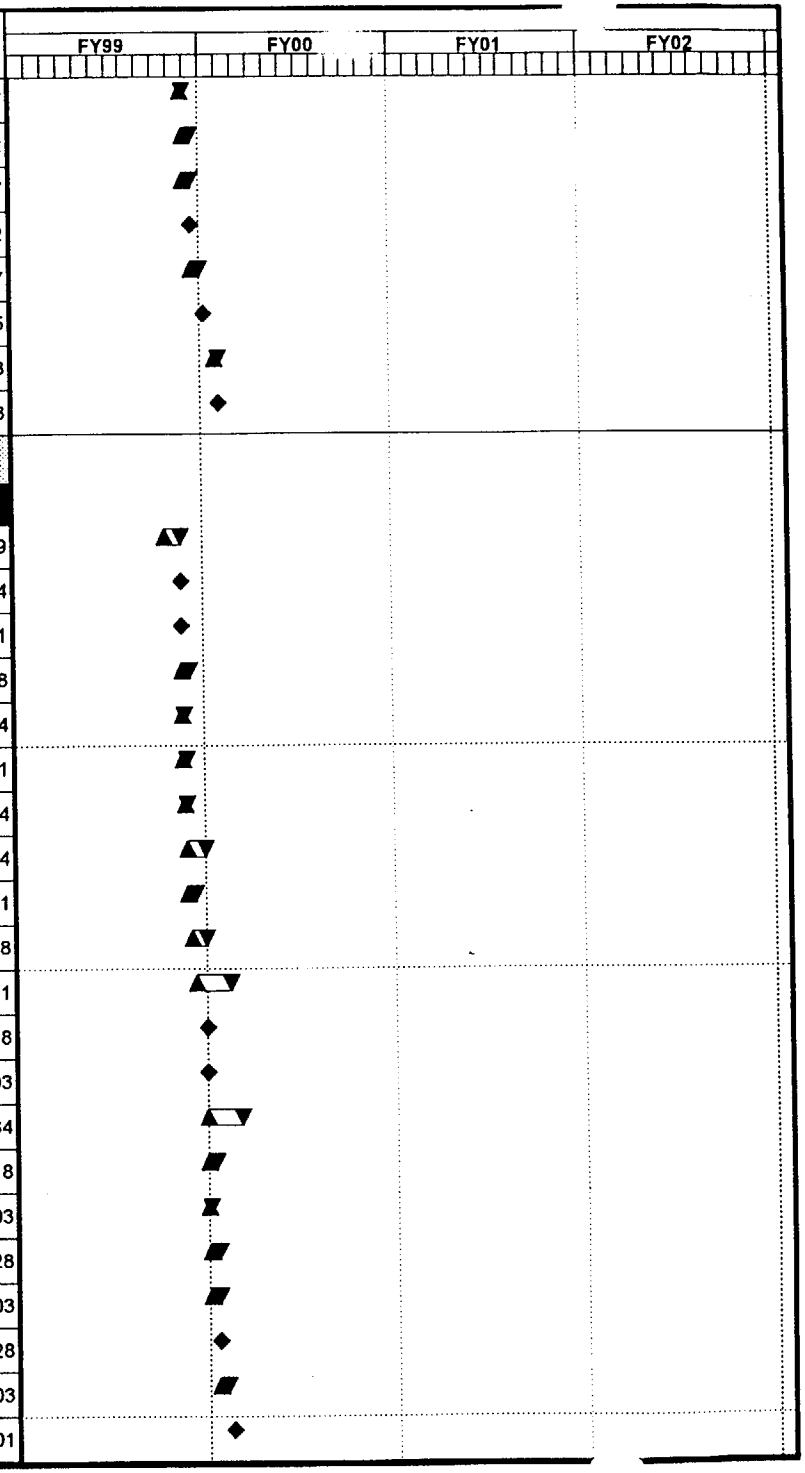
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU652	Radionucl Trsnprt-Determine DTN Assignment		2	25OCT99	26OCT99	240
SPU676	Radionucl Trsnprt-Determine if Model-Rel SW is U		5	25OCT99	29OCT99	257
SPU654	Radionucl Trsnprt-Determine if Data/DTN in TDMS		3	27OCT99	29OCT99	240
SPU656	Radionucl Trsnprt-Submit Data/DTN to TDMS as Nec		22	01NOV99	03DEC99	240
SPU678	Radionucl Trsnprt-Place Model-Related SW Under S		10	01NOV99	15NOV99	257
SPP5184	AP3.10Q Chckng/Rev-Radionuclide Transport Model		15	08NOV99	01DEC99	10
SPU680	Radionucl Trsnprt-Verify Model-Related Software		44	16NOV99	20JAN00	257
SPP5186	Prep Final AP3.10Q Rpt-Radionucl Trsnprt Model		5	02DEC99	08DEC99	10
SPU660	Radionucl Trsnprt-Procurement Related Issues ID'		0		03DEC99	274
SPU668	Radionucl Trsnprt-Data Related Software Issues I		0		03DEC99	259
SPU658	Radionucl Trsnprt-Verify/Trace Data		44	06DEC99	07FEB00	240
SPU662	Radionucl Trsnprt-Rxesolve Procurement Related D		10	06DEC99	17DEC99	274
SPU670	Radionucl Trsnprt-Determine if Data Rel SW is Un		5	06DEC99	10DEC99	259
SPP254M4	Compl AP3.10Q Radionuclide Transport Model	M4	0		08DEC99	10
SPU672	Radionucl Trsnprt-Place Under SMS Control as Nec		10	13DEC99	27DEC99	259
SPU674	Radionucl Trsnprt-Verify Data-Related Software		10	28DEC99	11JAN00	259
SPU682	Radionucl Trsnprt-Qualified/Verified SW Availabl		0		20JAN00	257
SPU664	Radionucl Trsnprt-Update TDMS		5	08FEB00	14FEB00	240
SPU666	Radionucl Trsnprt-Qualified/Verified Data Availa		0		14FEB00	240
U3050						
130 Performance Assessment Operations						
SLPA2500	AP3.10Q Data-Part Trckng Model & Abst of Trsnprt		33	02AUG99*	16SEP99	0
SLPA2512	Part Trckng Abstr-Input Parameters and Data Iden		0		16SEP99	265
SLPA2514	Part Trckng Abstr-Models and Codes Identified		0		16SEP99	282
SLPA2502	Prep Draft AP3.10Q-Part Trckng Mdl & Abst Trsnp		10	17SEP99	30SEP99	0
SLPA2516	Part Trckng Abstr-Determine DTN Assignment		2	17SEP99	20SEP99	265
SLPA2518	Part Trckng Abstr-Determine if Model-Rel SW is U		5	17SEP99	23SEP99	282
SLPA2520	Part Trckng Abstr-Determine if Data/DTN in TDMS		3	21SEP99	23SEP99	265
SLPA2522	Part Trckng Abstr-Place Model-Related SW Under S		10	24SEP99	07OCT99	282
SLPA2524	Part Trckng Abstr-Submit Data/DTN to TDMS as Nec		22	24SEP99	26OCT99	265
SLPA2504	Receive Part Trckng Mdl & Abstr Trsnpr - AP3.10Q	M4	0		30SEP99	0



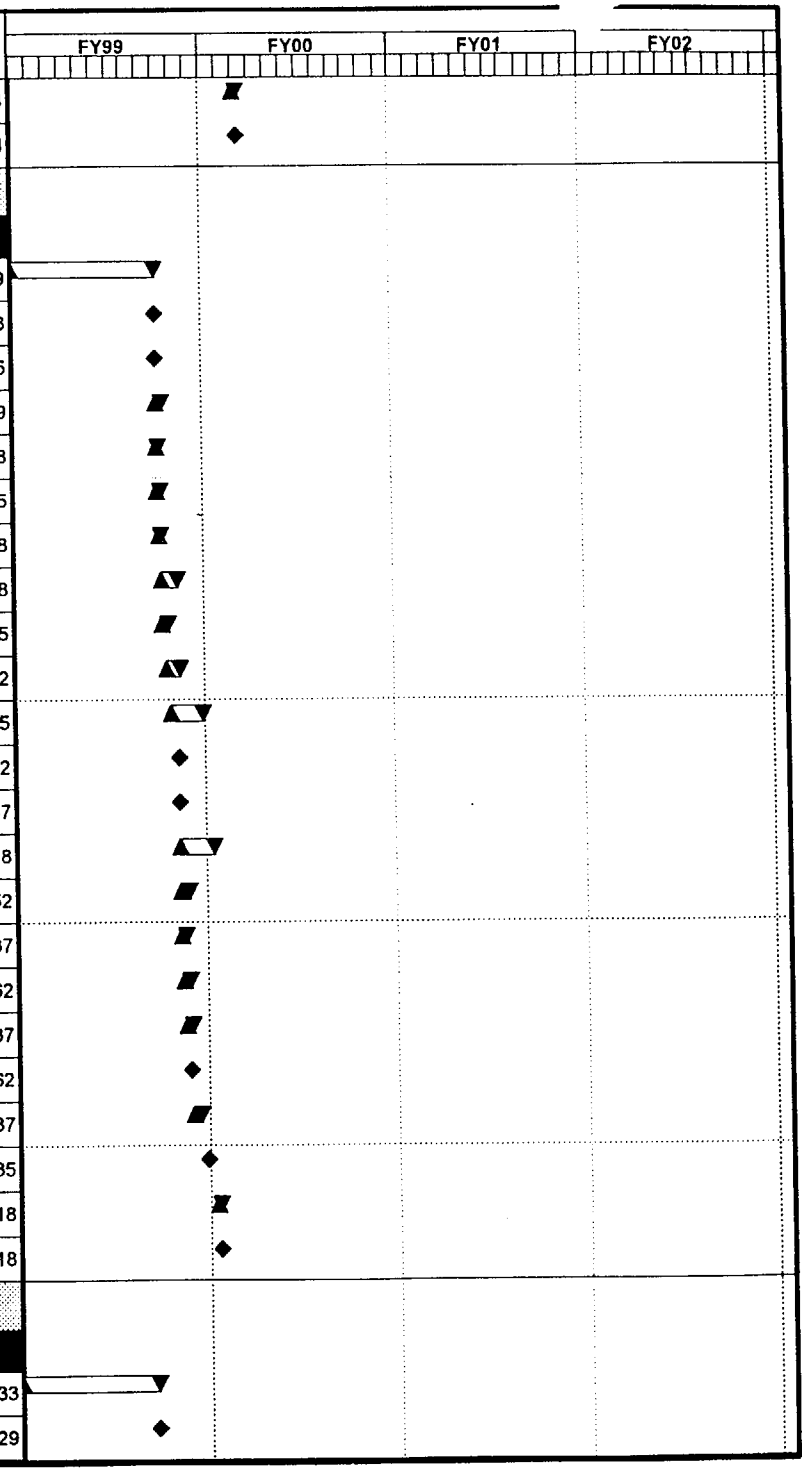
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2506	AP3.10Q Chckng/Rev-Part Trckng Mdl/Abst Trsnp		20	01OCT99	29OCT99	25
SLPA2526	Part Trckng Abstr-Verify Model-Related Software		44	08OCT99	14DEC99	282
SLPA2528	Part Trckng Abstr-Procurement Related Issues ID'		0		26OCT99	299
SLPA2530	Part Trckng Abstr-Data Related Software Issues I		0		26OCT99	284
SLPA2532	Part Trckng Abstr-Determine if Data Rel SW is Un		5	27OCT99	02NOV99	284
SLPA2534	Part Trckng Abstr-Rxesolve Procurement Related D		10	27OCT99	09NOV99	299
SLPA2536	Part Trckng Abstr-Verify/Trace Data		44	27OCT99	03JAN00	265
SLPA2508	Prep Final AP3.10Q Rpt-Part Trckng Mdl/Abstr Trs		10	01NOV99	15NOV99	25
SLPA2538	Part Trckng Abstr-Place Under SMS Control as Nec		10	03NOV99	17NOV99	284
SLPA2510	Compl AP3.10Q Part Trckng Mdl & Abstr Trsnprt	M4	0		15NOV99	25
SLPA2540	Part Trckng Abstr-Verify Data-Related Software		10	18NOV99	03DEC99	284
SLPA2542	Part Trckng Abstr-Qualified/Verified SW Availabl		0		14DEC99	282
SLPA2544	Part Trckng Abstr-Update TDMS		5	04JAN00	10JAN00	265
SLPA2546	Part Trckng Abstr-Qualified/Verified Data Availa		0		10JAN00	265
U3060						
140 Natural Environment Program Operations						
SPP5200	AP3.10Q Data-Enhanced Colloid Trsnprt		193	01OCT98*	16JUL99	0
SPU720	Enhanced Colloid Trns-Input Parameters and Data		0		16JUL99	308
SPU722	Enhanced Colloid Trns-Models and Codes Identifie		0		16JUL99	325
SPP5202	Prep Draft AP3.10Q-Enhanced Colloid Trsnprt		10	19JUL99	30JUL99	0
SPU724	Enhanced Colloid Trns-Determine DTN Assignment		2	19JUL99	20JUL99	308
SPU748	Enhanced Colloid Trns-Determine if Model-Rel SW		5	19JUL99	23JUL99	325
SPU726	Enhanced Colloid Trns-Determine if Data/DTN in T		3	21JUL99	23JUL99	308
SPU728	Enhanced Colloid Trns-Submit Data/DTN to TDMS as		22	26JUL99	24AUG99	308
SPU750	Enhanced Colloid Trns-Place Model-Related SW Und		10	26JUL99	06AUG99	325
SPP5204	AP3.10Q Chckng/Rev-Enhanced Colloid Trsnprt		20	02AUG99	27AUG99	52
SPU752	Enhanced Colloid Trns-Verify Model-Related Softw		44	09AUG99	08OCT99	325
SPU732	Enhanced Colloid Trns-Procurement Related Issues		0		24AUG99	342
SPU740	Enhanced Colloid Trns-Data Related Software Issu		0		24AUG99	327
SPU730	Enhanced Colloid Trns-Verify/Trace Data		44	25AUG99	27OCT99	308
SPU734	Enhanced Colloid Trns-Rxesolve Procurement Relat		10	25AUG99	08SEP99	342



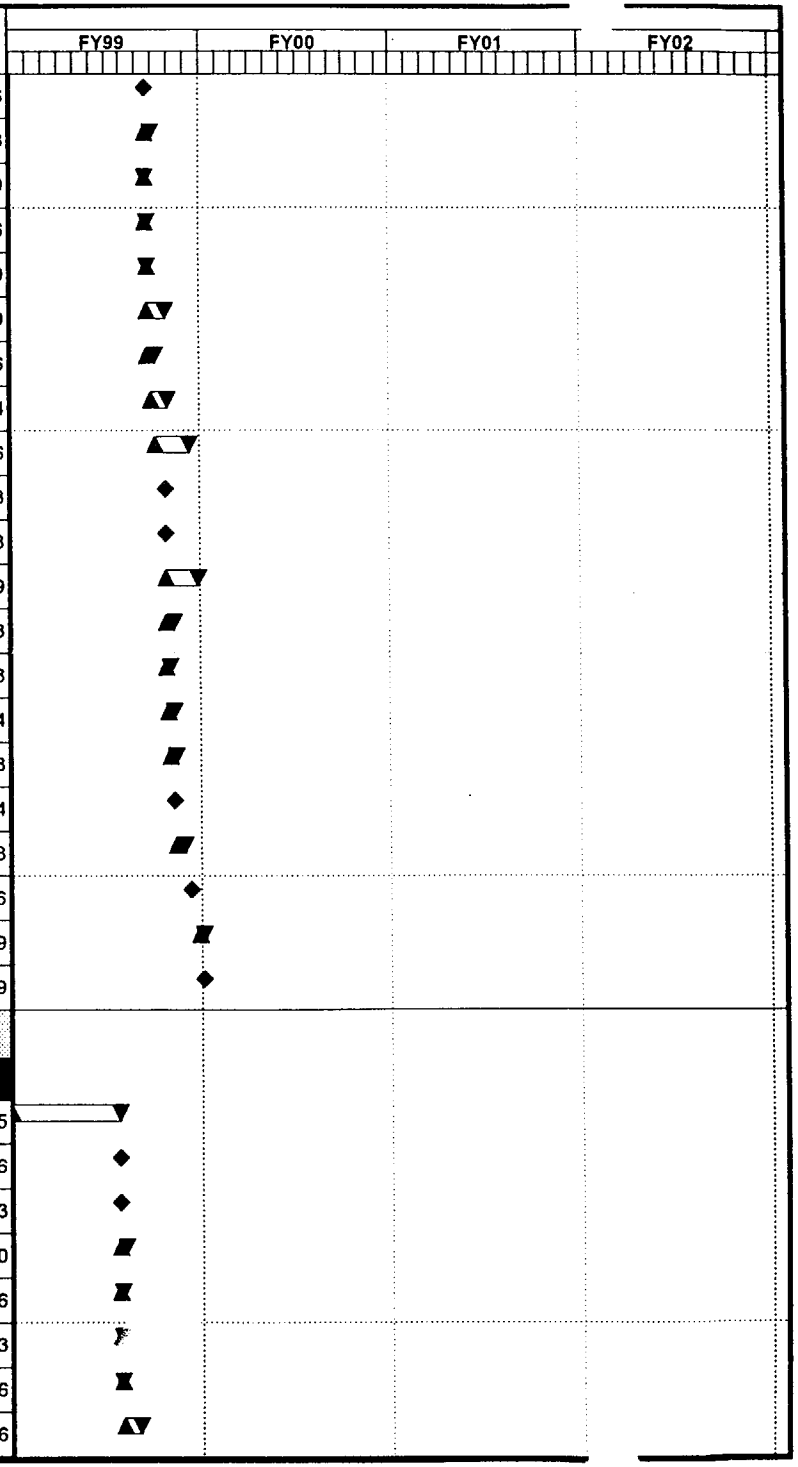
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU742	Enhanced Colloid Trns-Determine if Data Rel SW i		5	25AUG99	31AUG99	327
SPP5206	Prep Final AP3.10Q Rpt-Enhanced Colloid Trsnprt		10	30AUG99	13SEP99	52
SPU744	Enhanced Colloid Trns-Place Under SMS Control as		10	01SEP99	15SEP99	327
SPP260M4	Compl AP3.10Q Enhanced Colloid Transport	M4	0		13SEP99	52
SPU746	Enhanced Colloid Trns-Verify Data-Related Softwa		10	16SEP99	29SEP99	327
SPU754	Enhanced Colloid Trns-Qualified/Verified SW Avai		0		08OCT99	325
SPU736	Enhanced Colloid Trns-Update TDMS		5	28OCT99	03NOV99	308
SPU738	Enhanced Colloid Trns-Qualified/Verified Data Av		0		03NOV99	308
U4000						
140 Natural Environment Program Operations						
SPP5210	AP3.10Q Data-Seepage Models for PA		24	19JUL99*	19AUG99	19
SPU756	Seepage Models-Input Parameters and Data Identif		0		19AUG99	284
SPU758	Seepage Models-Models and Codes Identified		0		19AUG99	301
SPP5212	Prep Draft AP3.10Q-Seepage Models for PA		10	20AUG99	02SEP99	28
SPU760	Seepage Models-Determine DTN Assignment		2	20AUG99	23AUG99	284
[illegible]84	Seepage Models-Determine if Model-Rel SW is Unde		5	20AUG99	26AUG99	301
SPU762	Seepage Models-Determine if Data/DTN in TDMS		3	24AUG99	26AUG99	284
SPU764	Seepage Models-Submit Data/DTN to TDMS as Necess		22	27AUG99	28SEP99	284
SPU786	Seepage Models-Place Model-Related SW Under SMS		10	27AUG99	10SEP99	301
SPP5214	pAP3.10Q Chckng/Rev-Seepage Models for PA		20	03SEP99	01OCT99	28
SPU788	Seepage Models-Verify Model-Related Software		44	13SEP99	15NOV99	301
SPU768	Seepage Models-Procurement Related Issues ID'd t		0		28SEP99	318
SPU776	Seepage Models-Data Related Software Issues Iden		0		28SEP99	303
SPU766	Seepage Models-Verify/Trace Data		44	29SEP99	03DEC99	284
SPU770	Seepage Models-Rxesolve Procurement Related Data		10	29SEP99	13OCT99	318
SPU778	Seepage Models-Determine if Data Rel SW is Under		5	29SEP99	05OCT99	303
SPP5216	Prep Final AP3.10Q Rpt-Seepage Models for PA		10	04OCT99	18OCT99	28
SPU780	Seepage Models-Place Under SMS Control as Necess		10	06OCT99	20OCT99	303
SPP263M4	Compl AP3.10Q Seepage Models for PA	M4	0		18OCT99	28
SPU782	Seepage Models-Verify Data-Related Software		10	21OCT99	03NOV99	303
SPU790	Seepage Models-Qualified/Verified SW Available		0		15NOV99	301



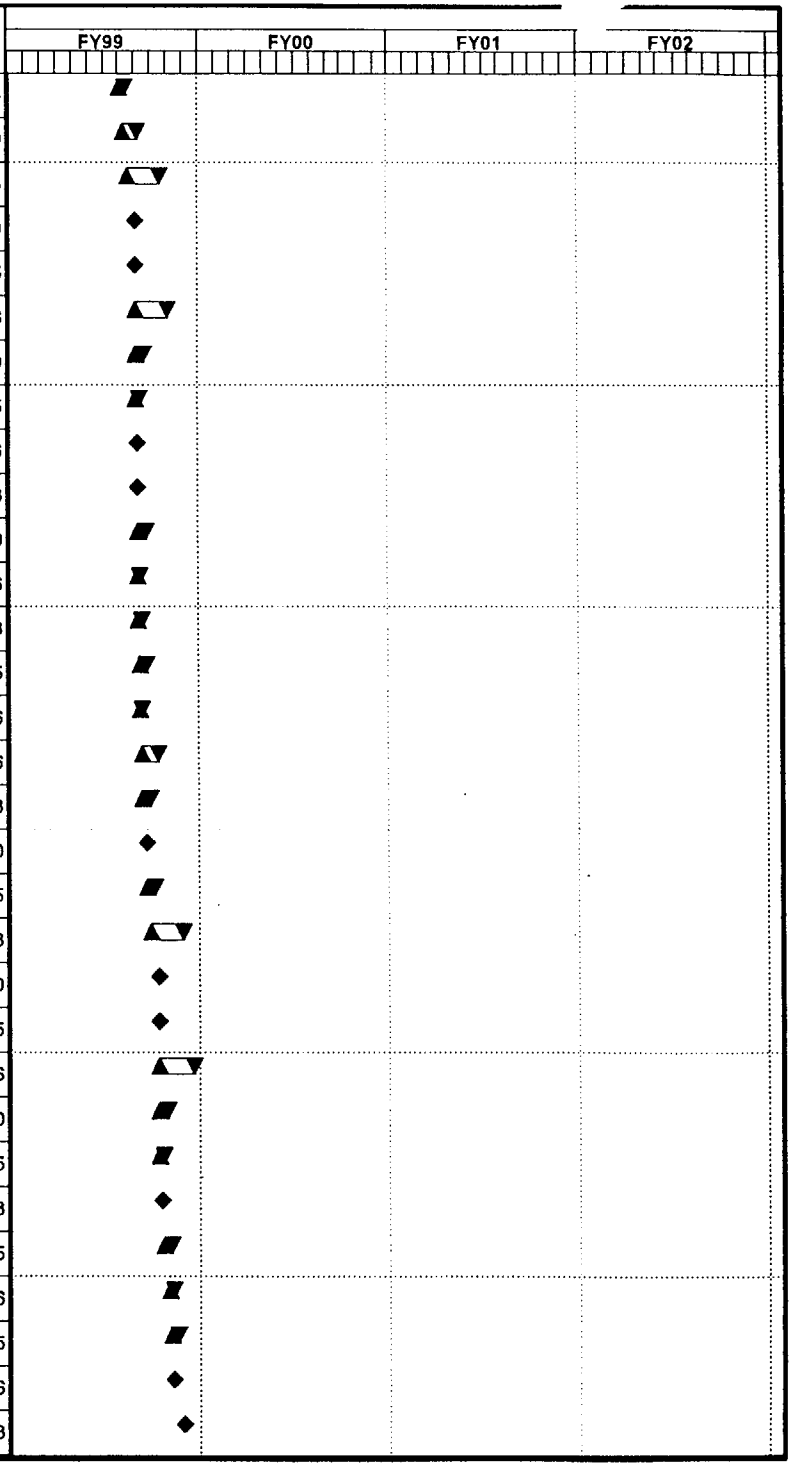
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU772	Seepage Models-Update TDMS		5	06DEC99	10DEC99	284
SPU774	Seepage Models-Qualified/Verified Data Available		0		10DEC99	284
U4010						
140 Natural Environment Program Operations						
SPP5220	AP3.10Q Data-Seepg Calib Model & Test Data		183	01OCT98*	01JUL99	19
SPU792	Seepg Calib Mdl & Tst-Input Parameters and Data		0		01JUL99	318
SPU794	Seepg Calib Mdl & Tst-Models and Codes Identifie		0		01JUL99	335
SPP5222	Prep Draft AP3.10Q-Seepg Calib Mdl & Test Data		10	02JUL99	16JUL99	19
SPU796	Seepg Calib Mdl & Tst-Determine DTN Assignment		2	02JUL99	06JUL99	318
SPU820	Seepg Calib Mdl & Tst-Determine if Model-Rel SW		5	02JUL99	09JUL99	335
SPU798	Seepg Calib Mdl & Tst-Determine if Data/DTN in T		3	07JUL99	09JUL99	318
SPU800	Seepg Calib Mdl & Tst-Submit Data/DTN to TDMS as		22	12JUL99	10AUG99	318
SPU822	Seepg Calib Mdl & Tst-Place Model-Related SW Und		10	12JUL99	23JUL99	335
SPP5224	AP3.10Q Chckng/Rev-Seepg Calibr Model & Tst Data		20	19JUL99	13AUG99	62
SPU824	Seepg Calib Mdl & Tst-Verify Model-Related Softw		44	26JUL99	24SEP99	335
SPU804	Seepg Calib Mdl & Tst-Procurement Related Issues		0		10AUG99	352
SPU812	Seepg Calib Mdl & Tst-Data Related Software Issu		0		10AUG99	337
SPU802	Seepg Calib Mdl & Tst-Verify/Trace Data		44	11AUG99	13OCT99	318
SPU806	Seepg Calib Mdl & Tst-Rxesolve Procurement Relat		10	11AUG99	24AUG99	352
SPU814	Seepg Calib Mdl & Tst-Determine if Data Rel SW i		5	11AUG99	17AUG99	337
SPP5226	Prep Final AP3.10Q Rpt-Seepg Calib Mdl & Tst Dat		10	16AUG99	27AUG99	62
SPU816	Seepg Calib Mdl & Tst-Place Under SMS Control as		10	18AUG99	31AUG99	337
SPP266M4	Compl AP3.10Q Seepage Calibr Mdl & Test Data	M4	0		27AUG99	62
SPU818	Seepg Calib Mdl & Tst-Verify Data-Related Softwa		10	01SEP99	15SEP99	337
SPU826	Seepg Calib Mdl & Tst-Qualified/Verified SW Avai		0		24SEP99	335
SPU808	Seepg Calib Mdl & Tst-Update TDMS		5	14OCT99	20OCT99	318
SPU810	Seepg Calib Mdl & Tst-Qualified/Verified Data Av		0		20OCT99	318
U4030						
140 Natural Environment Program Operations						
SPP5400	AP3.10Q Data-Geochemistry Data - LANL		172	01OCT98*	16JUN99	33
SPV440	Geochem Data LANL-Input Parameters and Data Iden		0		16JUN99	329



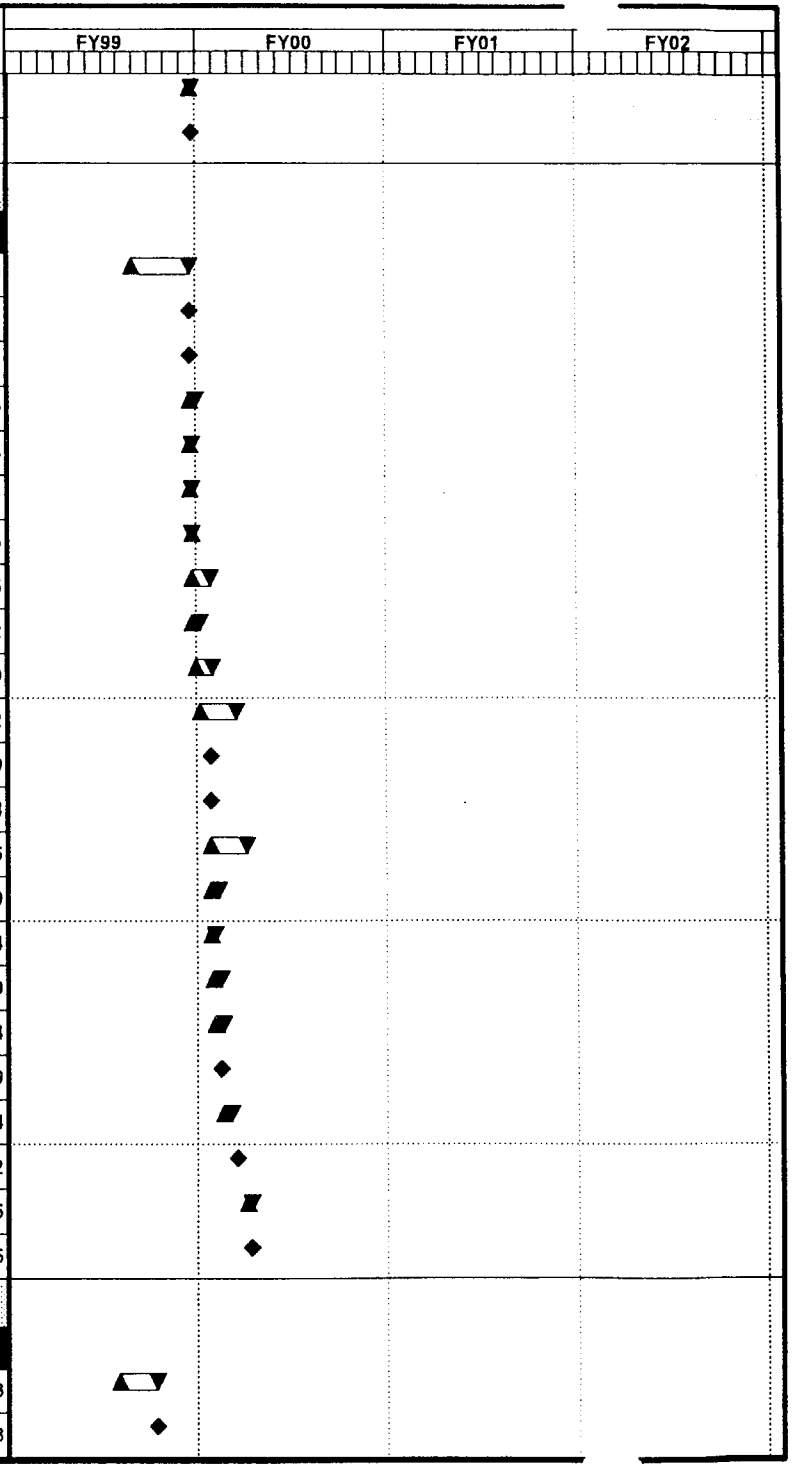
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPV442	Geochem Data LANL-Models and Codes Identified		0		16JUN99	346
SPP5402	Prep Draft AP3.10Q-Geochemistry Data - LANL		10	17JUN99	29JUN99	33
SPV444	Geochem Data LANL-Determine DTN Assignment		2	17JUN99	18JUN99	329
SPV468	Geochem Data LANL-Determine if Model-Rel SW is U		5	17JUN99	23JUN99	346
SPV446	Geochem Data LANL-Determine if Data/DTN in TDMS		3	21JUN99	23JUN99	329
SPV448	Geochem Data LANL-Submit Data/DTN to TDMS as Nec		22	24JUN99	26JUL99	329
SPV470	Geochem Data LANL-Place Model-Related SW Under S		10	24JUN99	08JUL99	346
SPP5404	AP3.10Q Chckng/Rev-Geochemistry Data - LANL		20	30JUN99	28JUL99	74
SPV472	Geochem Data LANL-Verify Model-Related Software		44	09JUL99	09SEP99	346
SPV452	Geochem Data LANL-Procurement Related Issues ID'		0		26JUL99	363
SPV460	Geochem Data LANL-Data Related Software Issues I		0		26JUL99	348
SPV450	Geochem Data LANL-Verify/Trace Data		44	27JUL99	27SEP99	329
SPV454	Geochem Data LANL-Rxesolve Procurement Related D		10	27JUL99	09AUG99	363
SPV462	Geochem Data LANL-Determine if Data Rel SW is Un		5	27JUL99	02AUG99	348
SPP5406	Prep Final AP3.10Q Rpt-Geochemistry Data - LANL		10	29JUL99	11AUG99	74
SPV464	Geochem Data LANL-Place Under SMS Control as Nec		10	03AUG99	16AUG99	348
SPP272M4	Compl AP3.10Q Geochemistry Data - LANL	M4	0		11AUG99	74
SPV466	Geochem Data LANL-Verify Data-Related Software		10	17AUG99	30AUG99	348
SPV474	Geochem Data LANL-Qualified/Verified SW Availabl		0		09SEP99	346
SPV456	Geochem Data LANL-Update TDMS		5	28SEP99	04OCT99	329
SPV458	Geochem Data LANL-Qualified/Verified Data Availa		0		04OCT99	329
U4040						
140 Natural Environment Program Operations						
SPP5410	AP3.10Q Data-Analy Fract/Matrix Prop Data		135	01OCT98*	23APR99	25
SPV476	Analy Fract Prop-Input Parameters and Data Ident		0		23APR99	366
SPV478	Analy Fract Prop-Models and Codes Identified		0		23APR99	383
SPP5412	Prep Draft AP3.10Q-Analy Fract/Matrix Prop Data		10	26APR99	07MAY99	110
SPV480	Analy Fract Prop-Determine DTN Assignment		2	26APR99	27APR99	366
504	Analy Fract Prop-Determine if Model-Rel SW is Un		5	26APR99	30APR99	383
	Analy Fract Prop-Determine if Data/DTN in TDMS		3	28APR99	30APR99	366
	Analy Fract Prop-Submit Data/DTN to TDMS as Nece		22	03MAY99	02JUN99	366



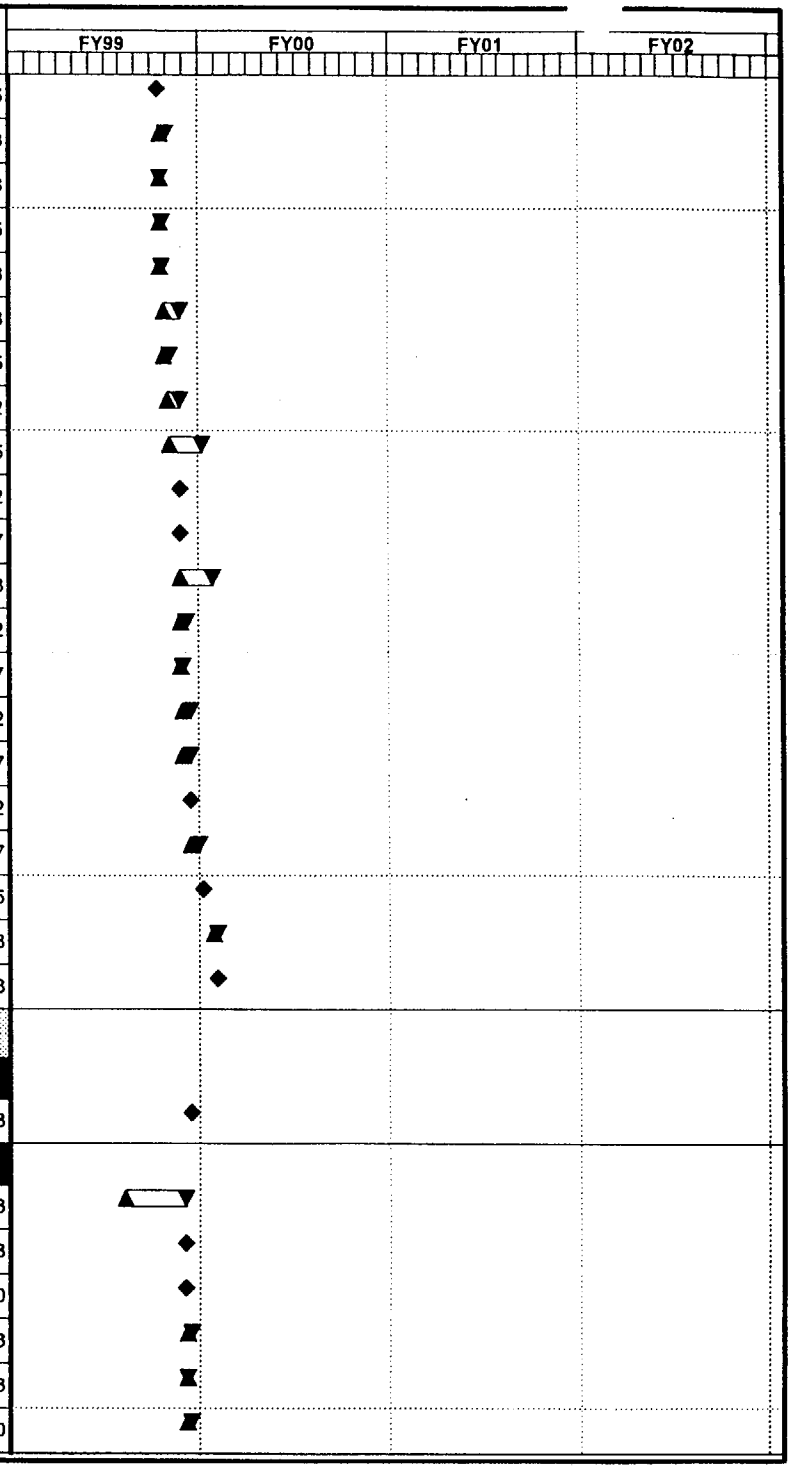
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPV506	Analy Fract Prop-Place Model-Related SW Under SM		10	03MAY99	14MAY99	383
SPP5414	AP3.10Q Chckng/Rev-Analy Fract Prop Data		20	10MAY99	07JUN99	110
SPV508	Analy Fract Prop-Verify Model-Related Software		44	17MAY99	19JUL99	383
SPV488	Analy Fract Prop-Procurement Related Issues ID'd		0		02JUN99	400
SPV496	Analy Fract Prop-Data Related Software Issues Id		0		02JUN99	385
SPV486	Analy Fract Prop-Verify/Trace Data		44	03JUN99	04AUG99	366
SPV490	Analy Fract Prop-Rxesolve Procurement Related Da		10	03JUN99	16JUN99	400
SPV498	Analy Fract Prop-Determine if Data Rel SW is Und		5	03JUN99	09JUN99	385
SPV512	Analy Fract Prop-Input Parameters and Data Ident		0		07JUN99	336
SPV514	Analy Fract Prop-Models and Codes Identified		0		07JUN99	353
SPP5416	Prep Final AP3.10Q Rpt-Analy Fract Prop Data		10	08JUN99	21JUN99	110
SPV516	Analy Fract Prop-Determine DTN Assignment		2	08JUN99	09JUN99	336
SPV540	Analy Fract Prop-Determine if Model-Rel SW is Un		5	08JUN99	14JUN99	353
SPV500	Analy Fract Prop-Place Under SMS Control as Nece		10	10JUN99	23JUN99	385
SPV518	Analy Fract Prop-Determine if Data/DTN in TDMS		3	10JUN99	14JUN99	336
SPV520	Analy Fract Prop-Submit Data/DTN to TDMS as Nece		22	15JUN99	15JUL99	336
SPV542	Analy Fract Prop-Place Model-Related SW Under SM		10	15JUN99	28JUN99	353
SPP275M4	Compl AP3.10Q Analy Fracture Properties Data	M4	0		21JUN99	110
SPV502	Analy Fract Prop-Verify Data-Related Software		10	24JUN99	08JUL99	385
SPV544	Analy Fract Prop-Verify Model-Related Software		44	29JUN99	30AUG99	353
SPV524	Analy Fract Prop-Procurement Related Issues ID'd		0		15JUL99	370
SPV532	Analy Fract Prop-Data Related Software Issues Id		0		15JUL99	355
SPV522	Analy Fract Prop-Verify/Trace Data		44	16JUL99	16SEP99	336
SPV526	Analy Fract Prop-Rxesolve Procurement Related Da		10	16JUL99	29JUL99	370
SPV534	Analy Fract Prop-Determine if Data Rel SW is Und		5	16JUL99	22JUL99	355
SPV510	Analy Fract Prop-Qualified/Verified SW Available		0		19JUL99	383
SPV536	Analy Fract Prop-Place Under SMS Control as Nece		10	23JUL99	05AUG99	355
SPV492	Analy Fract Prop-Update TDMS		5	05AUG99	11AUG99	366
SPV538	Analy Fract Prop-Verify Data-Related Software		10	06AUG99	19AUG99	355
SPV494	Analy Fract Prop-Qualified/Verified Data Availab		0		11AUG99	366
SPV546	Analy Fract Prop-Qualified/Verified SW Available		0		30AUG99	353



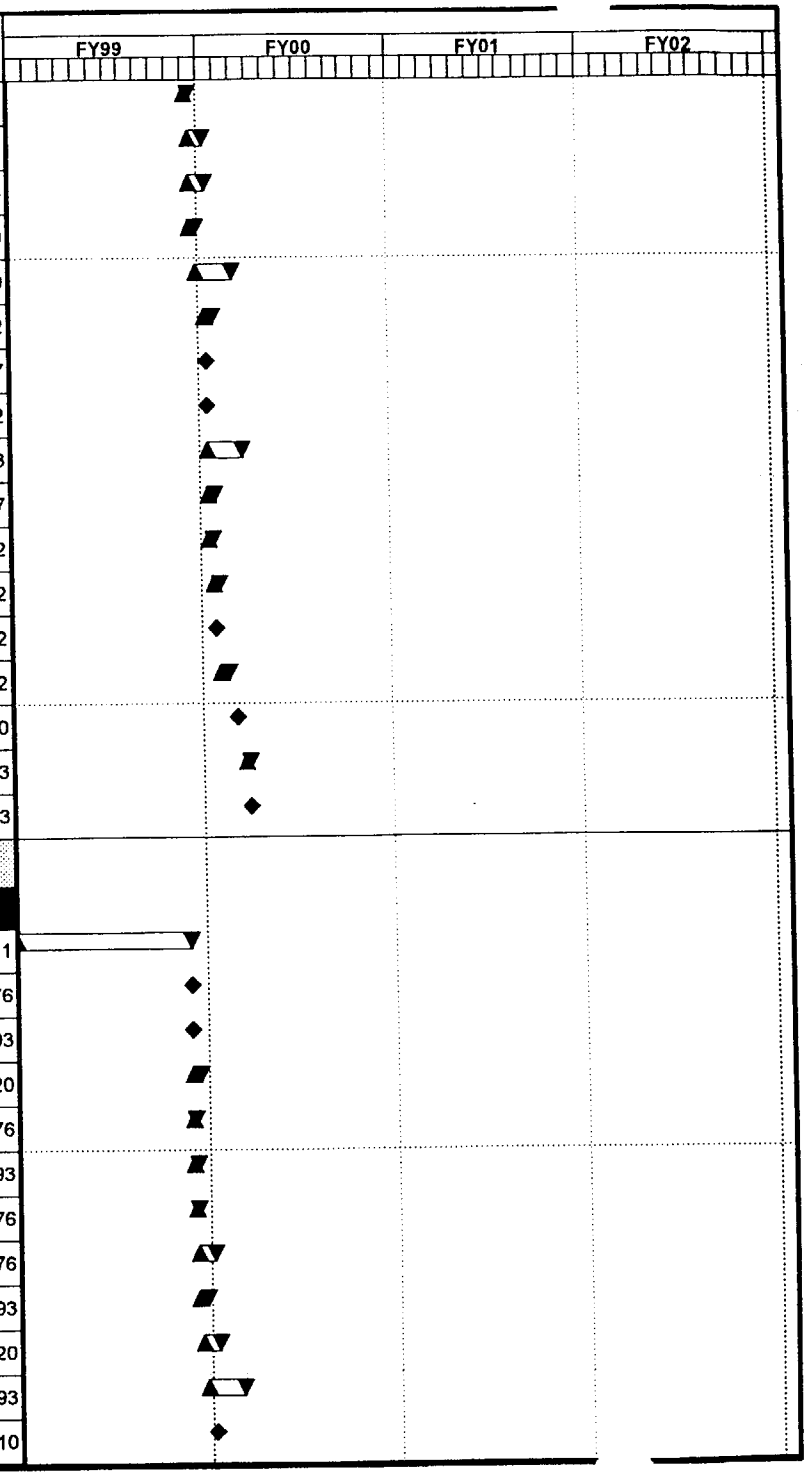
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPV528	Analy Fract Prop-Update TDMS		5	17SEP99	23SEP99	336
SPV530	Analy Fract Prop-Qualified/Verified Data Availab		0		23SEP99	336
U4060						
140 Natural Environment Program Operations						
SPP5440	AP3.10Q Data-Analy Infiltr Uncertainty		76	01JUN99*	16SEP99	0
SPV620	Infiltr Uncertainty-Input Parameters and Data Id		0		16SEP99	265
SPV622	Infiltr Uncertainty-Models and Codes Identified		0		16SEP99	282
SPP5442	Prep Draft AP3.10Q-Analy Infiltr Uncertainty		10	17SEP99	30SEP99	0
SPV624	Infiltr Uncertainty-Determine DTN Assignment		2	17SEP99	20SEP99	265
SPV648	Infiltr Uncertainty-Determine if Model-Rel SW is		5	17SEP99	23SEP99	282
SPV626	Infiltr Uncertainty-Determine if Data/DTN in TDM		3	21SEP99	23SEP99	265
SPV628	Infiltr Uncertainty-Submit Data/DTN to TDMS as N		22	24SEP99	26OCT99	265
SPV650	Infiltr Uncertainty-Place Model-Related SW Under		10	24SEP99	07OCT99	282
SPP5444	AP3.10Q Chckng/Rev-Analy Infiltr Uncertainty		20	01OCT99	29OCT99	9
SPV652	Infiltr Uncertainty-Verify Model-Related Softwar		44	08OCT99	14DEC99	282
SPV632	Infiltr Uncertainty-Procurement Related Issues		0		26OCT99	299
SPV640	Infiltr Uncertainty-Data Related Software Issues		0		26OCT99	284
SPV630	Infiltr Uncertainty-Verify/Trace Data		44	27OCT99	03JAN00	265
SPV634	Infiltr Uncertainty-Rxesolve Procurement Related		10	27OCT99	09NOV99	299
SPV642	Infiltr Uncertainty-Determine if Data Rel SW is		5	27OCT99	02NOV99	284
SPP5446	Prep Final AP3.10Q Rpt-Analy Infiltr Uncertainty		10	01NOV99	15NOV99	9
SPV644	Infiltr Uncertainty-Place Under SMS Control as N		10	03NOV99	17NOV99	284
SPP281M4	Compl AP3.10Q Analyze Infiltration Uncertainty	M4	0		15NOV99	9
SPV646	Infiltr Uncertainty-Verify Data-Related Software		10	18NOV99	03DEC99	284
SPV654	Infiltr Uncertainty-Qualified/Verified SW Availa		0		14DEC99	282
SPV636	Infiltr Uncertainty-Update TDMS		5	04JAN00	10JAN00	265
SPV638	Infiltr Uncertainty-Qualified/Verified Data Avai		0		10JAN00	265
U4070						
140 Natural Environment Program Operations						
SPP5450	AP3.10Q Data-Transport Properties		53	03MAY99*	16JUL99	33
SPV655	Transport Properties-Input Parameters and Data I		0		16JUL99	308



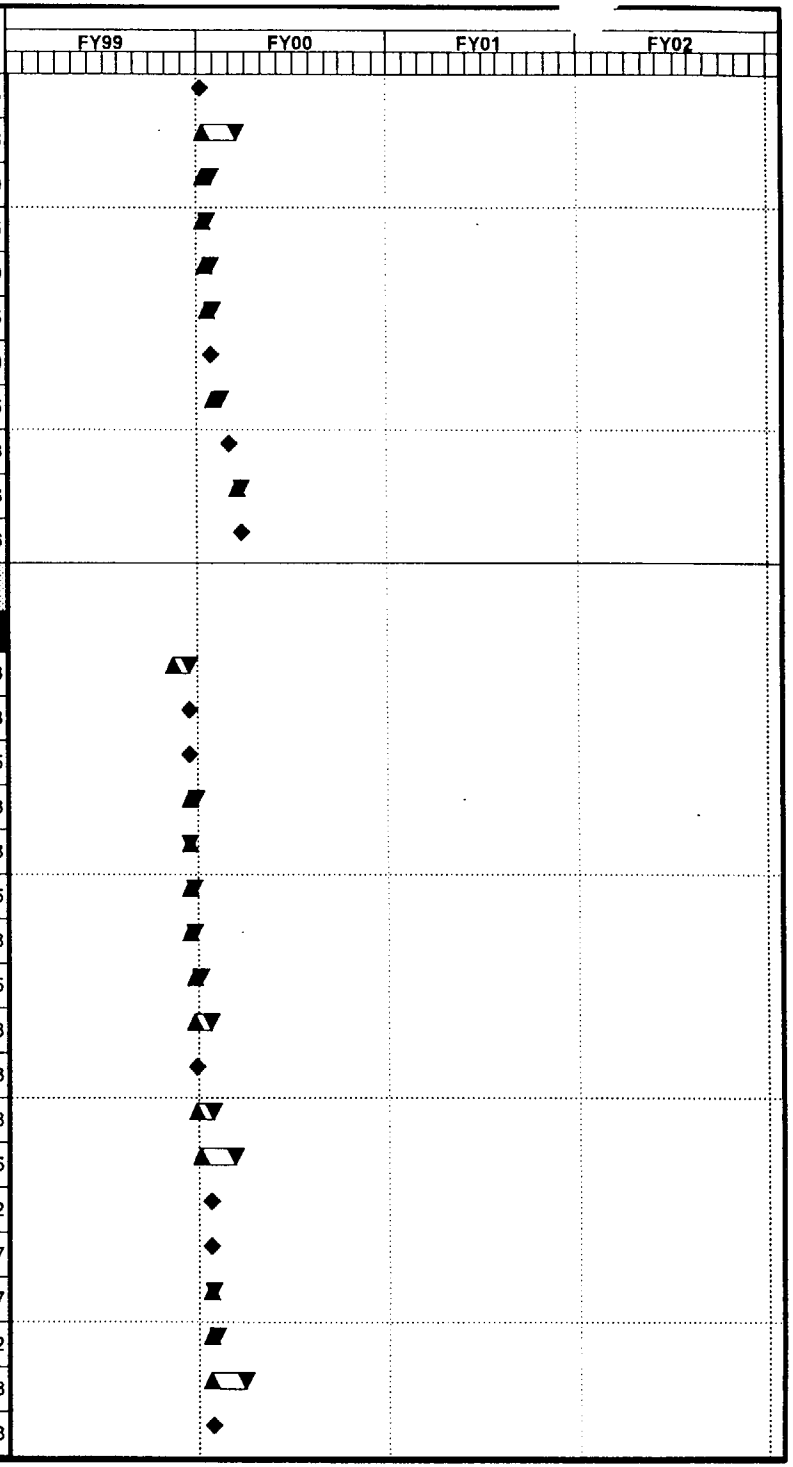
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPV656	Transport Properties-Models and Codes Identified		0		16JUL99	325
SPP5452	Prep Draft AP3.10Q-Transport Properties		10	19JUL99	30JUL99	33
SPV657	Transport Properties-Determine DTN Assignment		2	19JUL99	20JUL99	308
SPV669	Transport Properties-Determine if Model-Rel SW i		5	19JUL99	23JUL99	325
SPV658	Transport Properties-Determine if Data/DTN in TD		3	21JUL99	23JUL99	308
SPV659	Transport Properties-Submit Data/DTN to TDMS as		22	26JUL99	24AUG99	308
SPV670	Transport Properties-Place Model-Related SW Unde		10	26JUL99	06AUG99	325
SPP5454	AP3.10Q Chckng/Rev-Transport Properties		20	02AUG99	27AUG99	52
SPV671	Transport Properties-Verify Model-Related Softwa		44	09AUG99	08OCT99	325
SPV661	Transport Properties-Procurement Related Issues		0		24AUG99	342
SPV665	Transport Properties-Data Related Software Issue		0		24AUG99	327
SPV660	Transport Properties-Verify/Trace Data		44	25AUG99	27OCT99	308
SPV662	Transport Properties-Rxesolve Procurement Relate		10	25AUG99	08SEP99	342
SPV666	Transport Properties-Determine if Data Rel SW is		5	25AUG99	31AUG99	327
SPP5456	Prep Final AP3.10Q Rpt-Transport Properties		10	30AUG99	13SEP99	52
SPV667	Transport Properties-Place Under SMS Control as		10	01SEP99	15SEP99	327
SPP284M4	Compl AP3.10Q Transport Properties	M4	0		13SEP99	52
SPV668	Transport Properties-Verify Data-Related Softwar		10	16SEP99	29SEP99	327
SPV672	Transport Properties-Qualified/Verified SW Avail		0		08OCT99	325
SPV663	Transport Properties-Update TDMS		5	28OCT99	03NOV99	308
SPV664	Transport Properties-Qualified/Verified Data Ava		0		03NOV99	308
U5000						
130 Performance Assessment Operations						
SLPA2548	Receive Mount-Scale Coupled Process Models	M4	0		13SEP99	3
140 Natural Environment Program Operations						
SPP5230	AP3.10Q Data-Mtn-Scale Cpld Proc Models		83	10MAY99*	03SEP99	3
SPU828	Mtn-Scale Cpld-Input Parameters and Data Identif		0		03SEP99	273
SPU830	Mtn-Scale Cpld-Models and Codes Identified		0		03SEP99	290
SPP5232	Prep Draft AP3.10Q-Mtn-Scale Coupled Proc Models		5	07SEP99	13SEP99	3
SPU832	Mtn-Scale Cpld-Determine DTN Assignment		2	07SEP99	08SEP99	273
SPU856	Mtn-Scale Cpld-Determine if Model-Rel SW is Unde		5	07SEP99	13SEP99	290



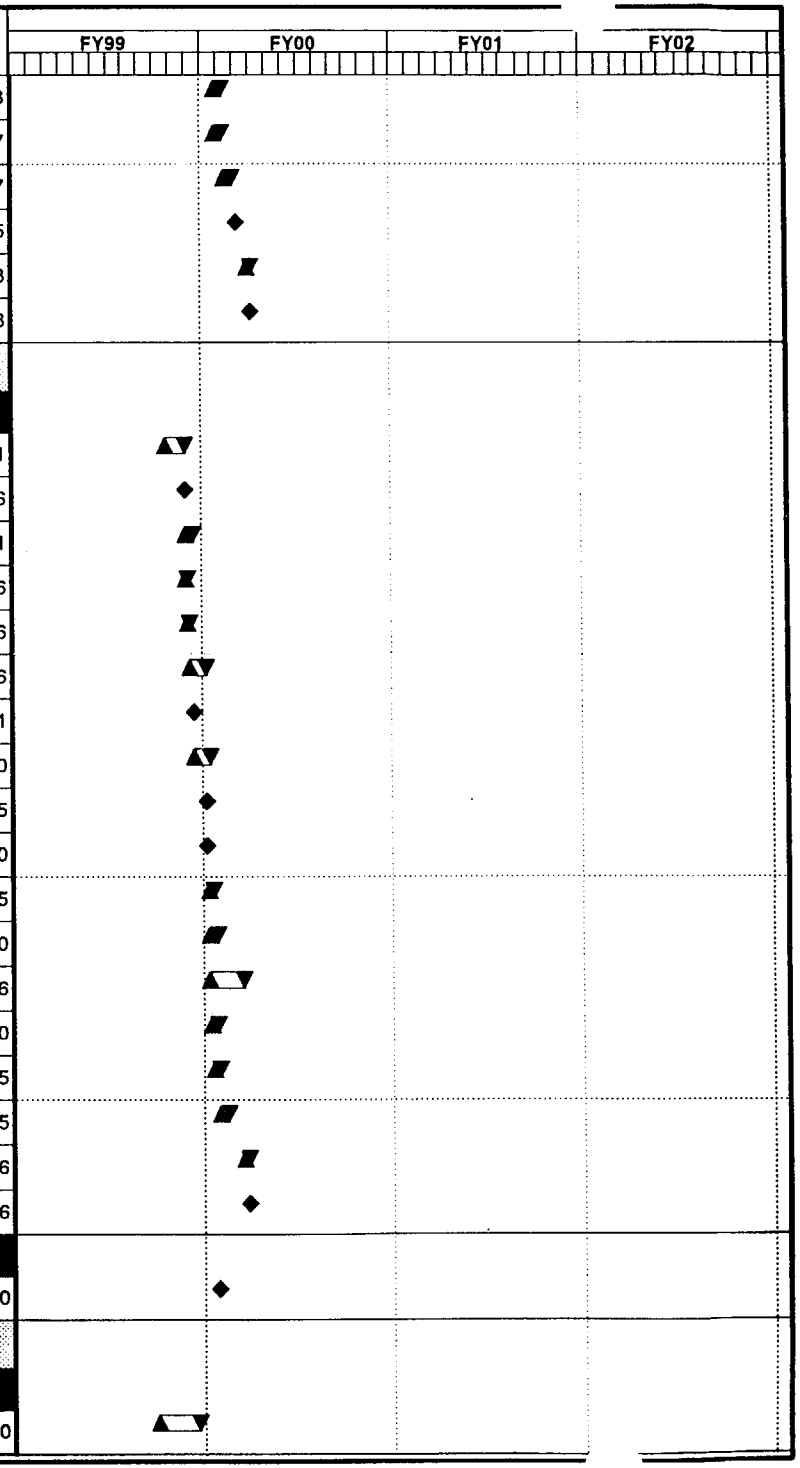
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPU834	Mtn-Scale Cpld-Determine if Data/DTN in TDMS		3	09SEP99	13SEP99	273
SPP5234	AP3.10Q Chckng/Rev-Mtn Scale Cpld Proc Models		20	14SEP99	12OCT99	22
SPU836	Mtn-S[illegible]Submit Data/DTN to TDMS as Necess		22	14SEP99	14OCT99	273
SPU858	Mtn-Scale Cpld-Place Model-Related SW Under SMS		10	14SEP99	27SEP99	290
SPU860	Mtn-Scale Cpld-Verify Model-Related Software		44	28SEP99	02DEC99	290
SPP5236	Prep Final AP3.10Q Rpt-Mtn-Scale Cpld Proc Model		10	13OCT99	26OCT99	22
SPU840	Mtn-Scale Cpld-Procurement Related Issues ID'd t		0		14OCT99	307
SPU848	Mtn-Scale Cpld-Data Related Software Issues Iden		0		14OCT99	292
SPU838	Mtn-Scale Cpld-Verify/Trace Data		44	15OCT99	20DEC99	273
SPU842	Mtn-Scale Cpld-Rxesolve Procurement Related Data		10	15OCT99	28OCT99	307
SPU850	Mtn-Scale Cpld-Determine if Data Rel SW is Under		5	15OCT99	21OCT99	292
SPU852	Mtn-Scale Cpld-Place Under SMS Control as Necess		10	22OCT99	04NOV99	292
SPP293M4	Compl AP3.10Q Mtn-Scale Cpld Proc Models	M4	0		26OCT99	22
SPU854	Mtn-Scale Cpld-Verify Data-Related Software		10	05NOV99	19NOV99	292
SPU862	Mtn-Scale Cpld-Qualified/Verified SW Available		0		02DEC99	290
SPU844	Mtn-Scale Cpld-Update TDMS		5	21DEC99	28DEC99	273
SPU846	Mtn-Scale Cpld-Qualified/Verified Data Available		0		28DEC99	273
U5040						
140 Natural Environment Program Operations						
SPP5480	AP3.10Q Data-Drift Scale Coupled Proc Models		225	01OCT98*	31AUG99	11
SPV709	Drift Scale Cpld Proc-Input Parameters and Data		0		31AUG99	276
SPV710	Drift Scale Cpld Proc-Models and Codes Identifie		0		31AUG99	293
SPP5482	Prep Draft AP3.10Q-Drift Scale Cpld Proc Models		10	01SEP99	15SEP99	20
SPV711	Drift Scale Cpld Proc-Determine DTN Assignment		2	01SEP99	02SEP99	276
SPV723	Drift Scale Cpld Proc-Determine if Model-Rel SW		5	01SEP99	08SEP99	293
SPV712	Drift Scale Cpld Proc-Determine if Data/DTN in T		3	03SEP99	08SEP99	276
SPV713	Drift Scale Cpld Proc-Submit Data/DTN to TDMS as		22	09SEP99	08OCT99	276
SPV724	Drift Scale Cpld Proc-Place Model-Related SW Und		10	09SEP99	22SEP99	293
SPP5484	AP3.10Q Chckng/Rev-Drift Scale Cpld Proc Models		20	16SEP99	14OCT99	20
SPV725	Drift Scale Cpld Proc-Verify Model-Related Softw		44	23SEP99	29NOV99	293
SPV715	Drift Scale Cpld Proc-Procurement Related Issues		0		08OCT99	310



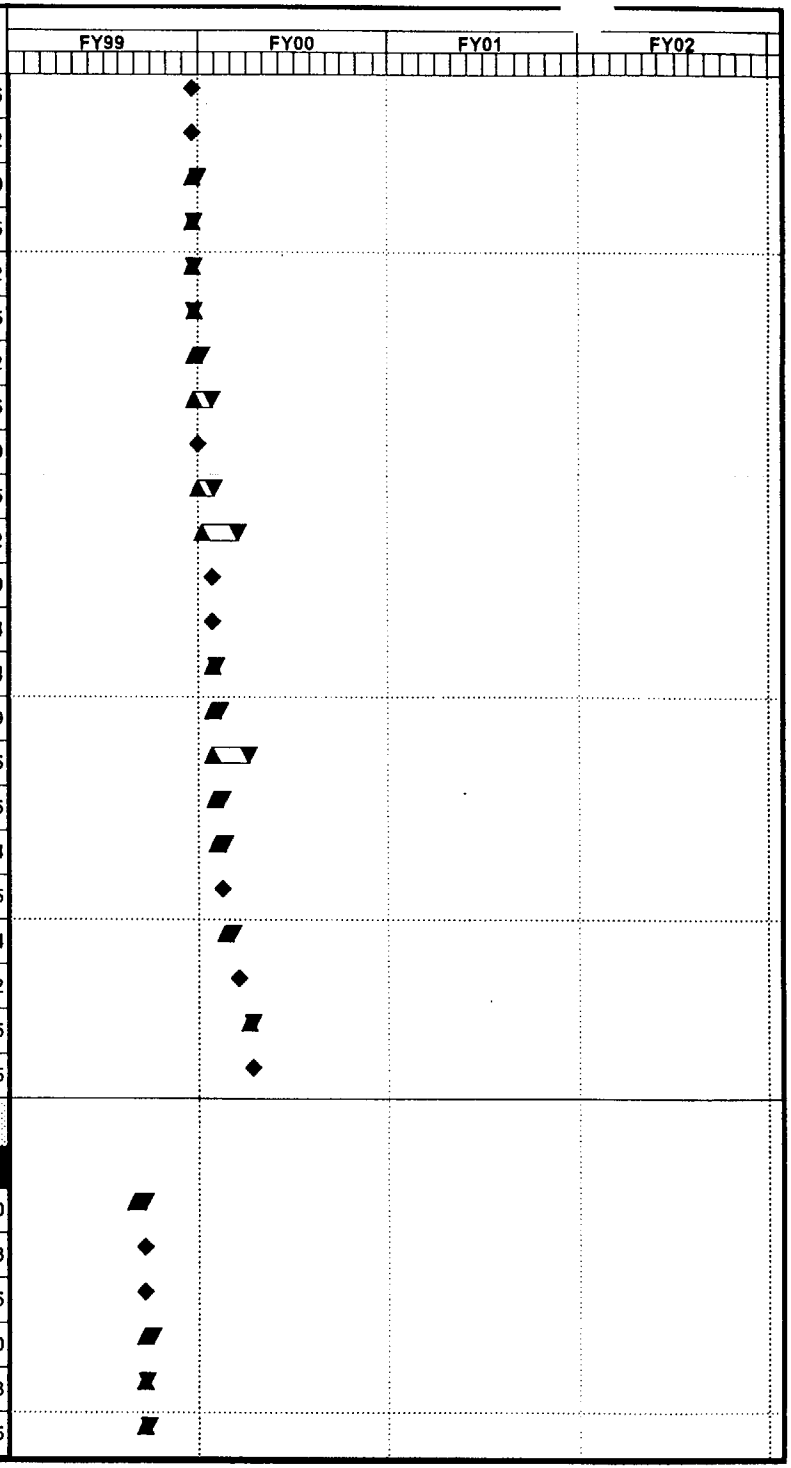
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPV719	Drift Scale Cpld Proc-Data Related Software Issu		0		08OCT99	295
SPV714	Drift Scale Cpld Proc-Verify/Trace Data		44	12OCT99	15DEC99	276
SPV716	Drift Scale Cpld Proc-Rxesolve Procurement Relat		10	12OCT99	25OCT99	310
SPV720	Drift Scale Cpld Proc-Determine if Data Rel SW i		5	12OCT99	18OCT99	295
SPP5486	Prep Final AP3.10Q Rpt-Drift Scale Cpld Proc Mdl		10	15OCT99	28OCT99	20
SPV721	Drift Scale Cpld Proc-Place Under SMS Control as		10	19OCT99	01NOV99	295
SPP305M4	Compl AP3.10Q Drift Scale Coupled Proc Models	M4	0		28OCT99	20
SPV722	Drift Scale Cpld Proc-Verify Data-Related Softwa		10	02NOV99	16NOV99	295
SPV726	Drift Scale Cpld Proc-Qualified/Verified SW Avai		0		29NOV99	293
SPV717	Drift Scale Cpld Proc-Update TDMS		5	16DEC99	22DEC99	276
SPV718	Drift Scale Cpld Proc-Qualified/Verified Data Av		0		22DEC99	276
U6010						
130 Performance Assessment Operations						
SLPA2550	AP3.10Q Data-Abstr Coupl Proc into Flow Fields		20	16AUG99*	13SEP99	3
SLPA2560	Abst Cpld Proc-Input Parameters and Data Identif		0		13SEP99	268
SLPA2562	Abst Cpld Proc-Models and Codes Identified		0		13SEP99	285
SLPA2552	Prep Draft AP3.10Q-Abstr Coupl Proc Flow Fields		10	14SEP99	27SEP99	3
SLPA2564	Abst Cpld Proc-Determine DTN Assignment		2	14SEP99	15SEP99	268
SLPA2566	Abst Cpld Proc-Determine if Model-Rel SW is Unde		5	14SEP99	20SEP99	285
SLPA2568	Abst Cpld Proc-Determine if Data/DTN in TDMS		3	16SEP99	20SEP99	268
SLPA2570	Abst Cpld Proc-Place Model-Related SW Under SMS		10	21SEP99	04OCT99	285
SLPA2572	Abst Cpld Proc-Submit Data/DTN to TDMS as Necess		22	21SEP99	21OCT99	268
SLPA2554	Receive Abstr Coupled Process into Flow Fields-A	M4	0		27SEP99	3
SLPA2556	AP3.10Q Chckng/Rev-Abstr Coupl Proc Flow Field		20	28SEP99	26OCT99	28
SLPA2574	Abst Cpld Proc-Verify Model-Related Software		44	05OCT99	09DEC99	285
SLPA2576	Abst Cpld Proc-Procurement Related Issues ID'd t		0		21OCT99	302
SLPA2578	Abst Cpld Proc-Data Related Software Issues Iden		0		21OCT99	287
SLPA2580	Abst Cpld Proc-Determine if Data Rel SW is Under		5	22OCT99	28OCT99	287
SLPA2582	Abst Cpld Proc-Rxesolve Procurement Related Data		10	22OCT99	04NOV99	302
SLPA2584	Abst Cpld Proc-Verify/Trace Data		44	22OCT99	28DEC99	268
SPP326M4	Compl AP3.10Q Abstr Coupl Process in Flow Field	M4	0		26OCT99	38



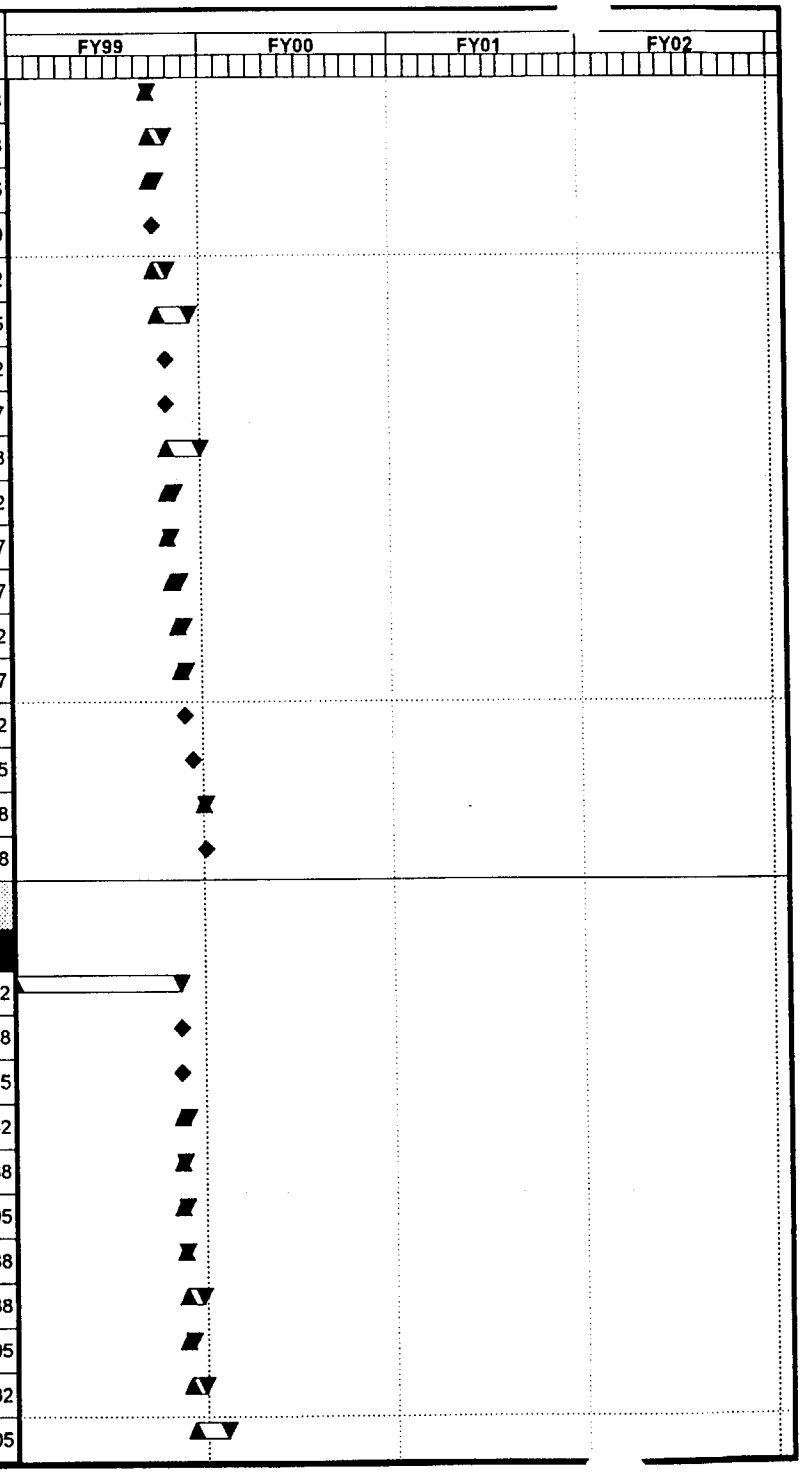
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2558	Prep Final AP3.10Q Rpt-Abst Cpld Proc Flow Field		10	27OCT99	09NOV99	28
SLPA2586	Abst Cpld Proc-Place Under SMS Control as Necess		10	29OCT99	12NOV99	287
SLPA2588	Abst Cpld Proc-Verify Data-Related Software		10	15NOV99	30NOV99	287
SLPA2590	Abst Cpld Proc-Qualified/Verified SW Available		0		09DEC99	285
SLPA2592	Abst Cpld Proc-Update TDMS		5	29DEC99	05JAN00	268
SLPA2594	Abst Cpld Proc-Qualified/Verified Data Available		0		05JAN00	268
U6020						
130 Performance Assessment Operations						
SLPA2596	AP3.10Q Data-Abst Cpld Proc Seepg Mdl		28	23JUL99	31AUG99	11
SLPA2606	Cpld Proc Seepg-Input Parameters and Data Identi		0		31AUG99	276
SLPA2598	Prep Draft AP3.10Q-Abstr Cpld Proc Seepg Mdl		10	01SEP99	15SEP99	11
SLPA2610	Cpld Proc Seepg-Determine DTN Assignment		2	01SEP99	02SEP99	276
SLPA2614	Cpld Proc Seepg-Determine if Data/DTN in TDMS		3	03SEP99	08SEP99	276
SLPA2618	Cpld Proc Seepg-Submit Data/DTN to TDMS as Neces		22	09SEP99	08OCT99	276
SLPA2600	Receive Abstr Coupled Process into Seepage Mdls-	M4	0		15SEP99	11
SLPA2602	AP3.10Q Chckng/Rev-Abstr Cpld Proc Seepg Mdl		20	16SEP99	14OCT99	20
SLPA2622	Cpld Proc Seepg-Data Related Software Issues Ide		0		08OCT99	295
SLPA2624	Cpld Proc Seepg-Procurement Related Issues ID'd		0		08OCT99	310
SLPA2626	Cpld Proc Seepg-Determine if Data Rel SW is Unde		5	12OCT99	18OCT99	295
SLPA2628	Cpld Proc Seepg-Rxesolve Procurement Related Dat		10	12OCT99	25OCT99	310
SLPA2630	Cpld Proc Seepg-Verify/Trace Data		44	12OCT99	15DEC99	276
SLPA2604	Prep Final AP3.10Q Rpt-Abstr Cpld Proc Seepg Mdl		10	15OCT99	28OCT99	20
SLPA2632	Cpld Proc Seepg-Place Under SMS Control as Neces		10	19OCT99	01NOV99	295
SLPA2634	Cpld Proc Seepg-Verify Data-Related Software		10	02NOV99	16NOV99	295
SLPA2636	Cpld Proc Seepg-Update TDMS		5	16DEC99	22DEC99	276
SLPA2638	Cpld Proc Seepg-Qualified/Verified Data Availabl		0		22DEC99	276
140 Natural Environment Program Operations						
SPP329M4	Compl AP3.10Q Abstr Coupl Process Seepg Model	M4	0		28OCT99	20
U6030						
130 Performance Assessment Operations						
SLPA2640	AP3.10Q Data-Abstr of Flow Fields for RIP		53	02JUL99*	16SEP99	0



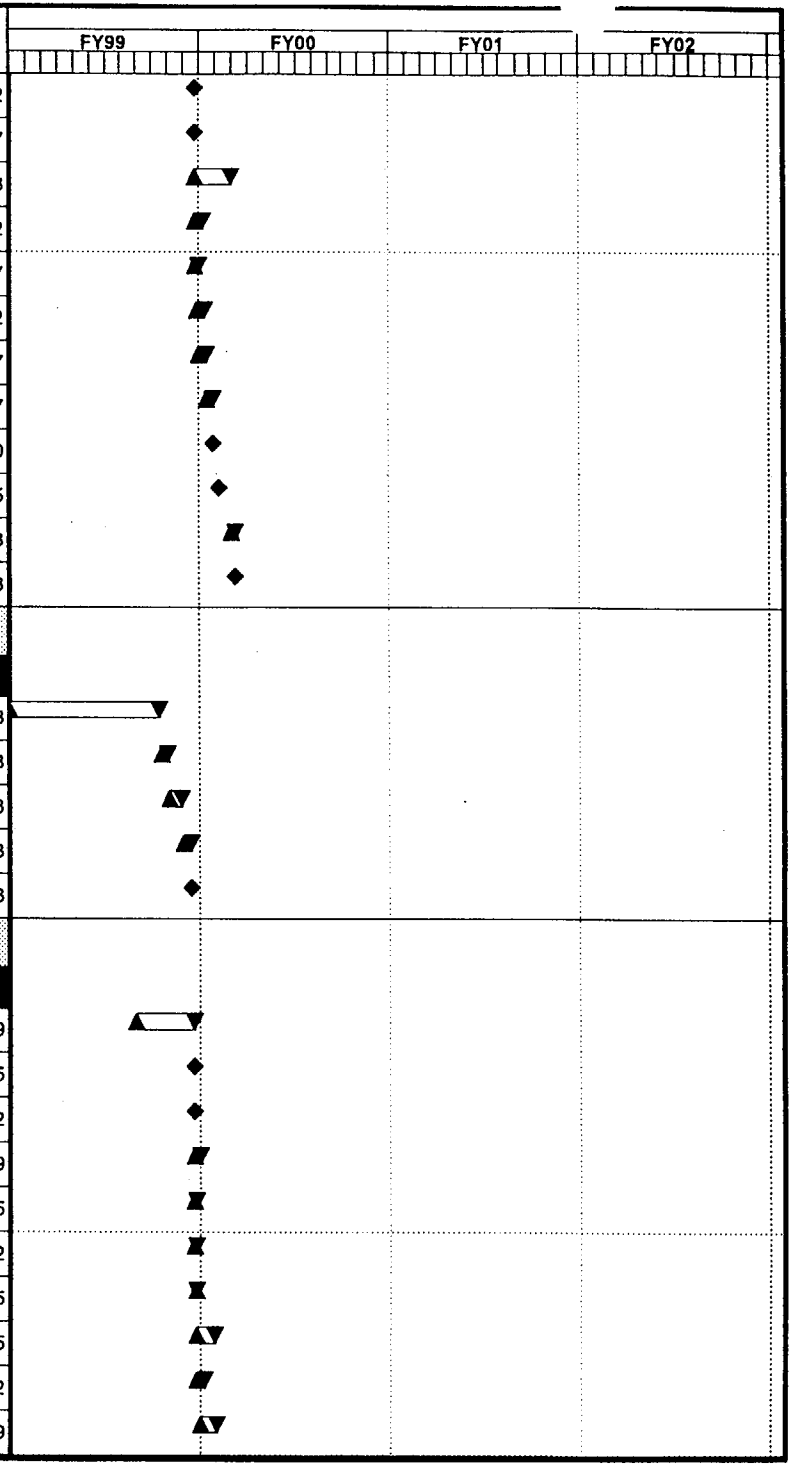
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2650	Astr Flow Fields-Input Parameters and Data Ident		0		16SEP99	265
SLPA2652	Astr Flow Fields-Models and Codes Identified		0		16SEP99	282
SLPA2642	Prep Draft AP3.10Q-Abstr of Flow Fields for RIP		10	17SEP99	30SEP99	0
SLPA2654	Astr Flow Fields-Determine DTN Assignment		2	17SEP99	20SEP99	265
SLPA2656	Astr Flow Fields-Determine if Model-Rel SW is Un		5	17SEP99	23SEP99	282
SLPA2658	Astr Flow Fields-Determine if Data/DTN in TDMS		3	21SEP99	23SEP99	265
SLPA2660	Astr Flow Fields-Place Model-Related SW Under SM		10	24SEP99	07OCT99	282
SLPA2662	Astr Flow Fields-Submit Data/DTN to TDMS as Nece		22	24SEP99	26OCT99	265
SLPA2644	Receive Astr of Flow Fields for RIP-AP3.10Q	M4	0		30SEP99	0
SLPA2646	AP3.10Q Chckng/Rev-Astr of Flow Fields for RIP		20	01OCT99	29OCT99	25
SLPA2664	Astr Flow Fields-Verify Model-Related Software		44	08OCT99	14DEC99	282
SLPA2666	Astr Flow Fields-Procurement Related Issues ID'd		0		26OCT99	299
SLPA2668	Astr Flow Fields-Data Related Software Issues Id		0		26OCT99	284
SLPA2670	Astr Flow Fields-Determine if Data Rel SW is Und		5	27OCT99	02NOV99	284
SLPA2672	Astr Flow Fields-Rxesolve Procurement Related Da		10	27OCT99	09NOV99	299
SLPA2674	Astr Flow Fields-Verify/Trace Data		44	27OCT99	03JAN00	265
SLPA2648	Prep Final AP3.10Q Rpt-Astr Flow Fields for RIP		10	01NOV99	15NOV99	25
SLPA2676	Astr Flow Fields-Place Under SMS Control as Nece		10	03NOV99	17NOV99	284
SPP332M4	Compl AP3.10Q Astr of Flow Fields for RIP	M4	0		15NOV99	25
SLPA2678	Astr Flow Fields-Verify Data-Related Software		10	18NOV99	03DEC99	284
SLPA2680	Astr Flow Fields-Qualified/Verified SW Available		0		14DEC99	282
SLPA2682	Astr Flow Fields-Update TDMS		5	04JAN00	10JAN00	265
SLPA2684	Astr Flow Fields-Qualified/Verified Data Availab		0		10JAN00	265
U7000						
130 Performance Assessment Operations						
SPP5320	AP3.10Q Data-Base Case Flow Fields for UZ		13	01JUN99	17JUN99	0
SPV152	BC Flow Fields-UZ-Input Parameters and Data Iden		0		17JUN99	328
SPV154	BC Flow Fields-UZ-Models and Codes Identified		0		17JUN99	345
SPP5322	Prep Draft AP3.10Q-Base Case Flow Fields for UZ		10	18JUN99	01JUL99	0
SPV156	BC Flow Fields-UZ-Determine DTN Assignment		2	18JUN99	21JUN99	328
SPV180	BC Flow Fields-UZ-Determine if Model-Rel SW is U		5	18JUN99	24JUN99	345



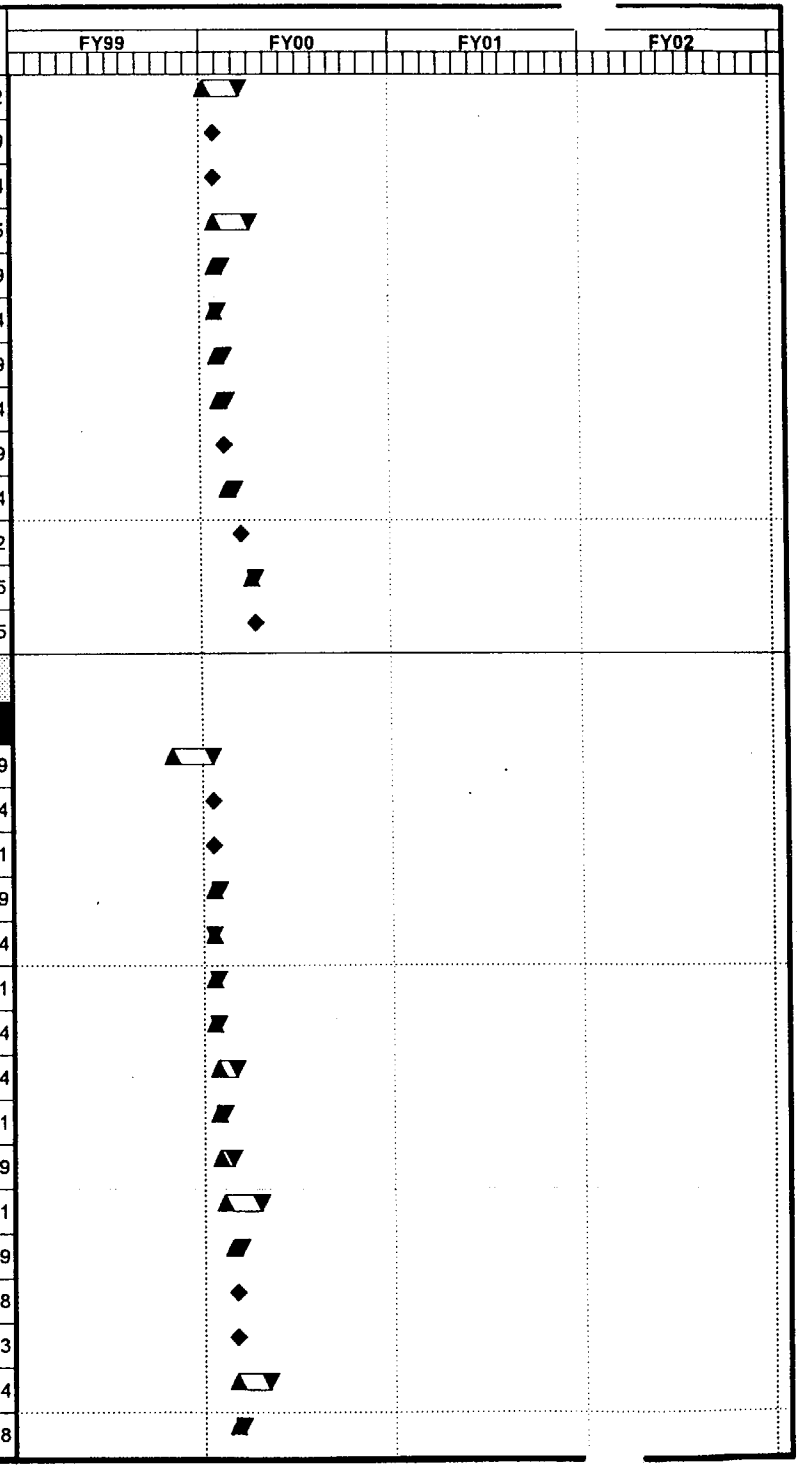
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPV158	BC Flow Fields-UZ-Determine if Data/DTN in TDMS		3	22JUN99	24JUN99	328
SPV160	BC Flow Fields-UZ-Submit Data/DTN to TDMS as Nec		22	25JUN99	27JUL99	328
SPV182	BC Flow Fields-UZ-Place Model-Related SW Under S		10	25JUN99	09JUL99	345
SLPA2686	Receive Base Case Flow Fields for UZ - AP3.10Q	M4	0		01JUL99	0
SPP5324	AP3.10Q Chckng/Rev-Base Case Flow Fields for UZ		20	02JUL99	30JUL99	72
SPV184	BC Flow Fields-UZ-Verify Model-Related Software		44	12JUL99	10SEP99	345
SPV164	BC Flow Fields-UZ-Procurement Related Issues ID'		0		27JUL99	362
SPV172	BC Flow Fields-UZ-Data Related Software Issues I		0		27JUL99	347
SPV162	BC Flow Fields-UZ-Verify/Trace Data		44	28JUL99	28SEP99	328
SPV166	BC Flow Fields-UZ-Rxesolve Procurement Related D		10	28JUL99	10AUG99	362
SPV174	BC Flow Fields-UZ-Determine if Data Rel SW is Un		5	28JUL99	03AUG99	347
SPV176	BC Flow Fields-UZ-Place Under SMS Control as Nec		10	04AUG99	17AUG99	347
SPP5326	Prep Final AP3.10Q Rpt-Base Case Flow Fields-UZ		10	16AUG99	27AUG99	62
SPV178	BC Flow Fields-UZ-Verify Data-Related Software		10	18AUG99	31AUG99	347
SPP341M4	Compl AP3.10Q Base Case Flow Fields for UZ	M4	0		27AUG99	62
SPV186	BC Flow Fields-UZ-Qualified/Verified SW Availabl		0		10SEP99	345
SPV168	BC Flow Fields-UZ-Update TDMS		5	29SEP99	05OCT99	328
SPV170	BC Flow Fields-UZ-Qualified/Verified Data Availa		0		05OCT99	328
U7020						
140 Natural Environment Program Operations						
SPP5340	AP3.10Q Data-Natural Analogues		213	01OCT98*	13AUG99	32
SPV224	Natural Analogues-Input Parameters and Data Iden		0		13AUG99	288
SPV226	Natural Analogues-Models and Codes Identified		0		13AUG99	305
SPP5342	Prep Draft AP3.10Q-Natural Analogues		10	16AUG99	27AUG99	32
SPV228	Natural Analogues-Determine DTN Assignment		2	16AUG99	17AUG99	288
SPV252	Natural Analogues-Determine if Model-Rel SW is U		5	16AUG99	20AUG99	305
SPV230	Natural Analogues-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99	288
SPV232	Natural Analogues-Submit Data/DTN to TDMS as Nec		22	23AUG99	22SEP99	288
SPV254	Natural Analogues-Place Model-Related SW Under S		10	23AUG99	03SEP99	305
SPP5344	AP3.10Q Chckng/Rev-Natural Analogues		20	30AUG99	27SEP99	32
SPV256	Natural Analogues-Verify Model-Related Software		44	07SEP99	08NOV99	305



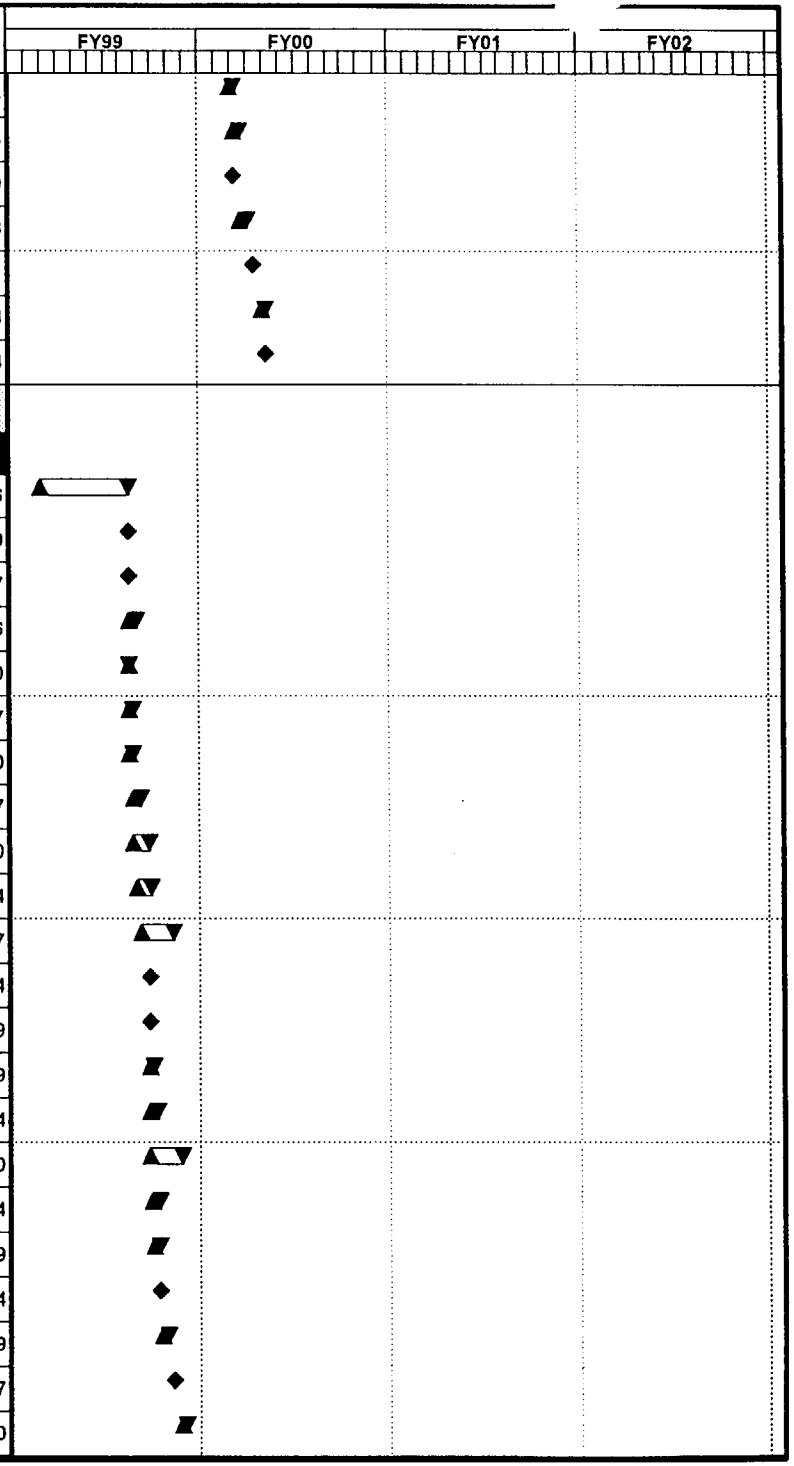
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPV236	Natural Analogues-Procurement Related Issues ID'		0		22SEP99	322
SPV244	Natural Analogues-Data Related Software Issues I		0		22SEP99	307
SPV234	Natural Analogues-Verify/Trace Data		44	23SEP99	29NOV99	288
SPV238	Natural Analogues-Rxesolve Procurement Related D		10	23SEP99	06OCT99	322
SPV246	Natural Analogues-Determine if Data Rel SW is Un		5	23SEP99	29SEP99	307
SPP5346	Prep Final AP3.10Q Rpt-Natural Analogues		10	28SEP99	12OCT99	32
SPV248	Natural Analogues-Place Under SMS Control as Nec		10	30SEP99	14OCT99	307
SPV250	Natural Analogues-Verify Data-Related Software		10	15OCT99	28OCT99	307
SPP347M4	Compl AP3.10Q Natural Analogues	M4	0		28OCT99	20
SPV258	Natural Analogues-Qualified/Verified SW Availabl		0		08NOV99	305
SPV240	Natural Analogues-Update TDMS		5	30NOV99	06DEC99	288
SPV242	Natural Analogues-Qualified/Verified Data Availa		0		06DEC99	288
U7025						
140 Natural Environment Program Operations						
SPP5600	AP3.10Q Data-Alcove Moisture & Trcr Studies		193	01OCT98*	16JUL99	68
SPP5602	Prep Draft AP3.10Q-Alcove Moisture & Trcr Studie		10	19JUL99	30JUL99	68
SPP5604	AP3.10Q Chckng/Rev-Alcove Moist & Trcr Studies		20	02AUG99	27AUG99	68
SPP5606	Prep Final AP3.10Q Rpt-Alcove Moist & Trcr Study		10	30AUG99	13SEP99	68
SPP600M4	Compl AP3.10Q Alcove moisture & Trcr Studies	M4	0		13SEP99	68
U7030						
140 Natural Environment Program Operations						
SPP5350	AP3.10Q Data-Geostat Represent CHn Formation		76	01JUN99*	16SEP99	9
SPV260	Geostat CHn-Input Parameters and Data Identified		0		16SEP99	265
SPV262	Geostat CHn-Models and Codes Identified		0		16SEP99	282
SPP5352	Prep Draft AP3.10Q-Geostat Represent CHn Form		10	17SEP99	30SEP99	9
SPV264	Geostat CHn-Determine DTN Assignment		2	17SEP99	20SEP99	265
SPV288	Geostat CHn-Determine if Model-Rel SW is Under S		5	17SEP99	23SEP99	282
SPV266	Geostat CHn-Determine if Data/DTN in TDMS		3	21SEP99	23SEP99	265
SPV268	Geostat CHn-Submit Data/DTN to TDMS as Necessary		22	24SEP99	26OCT99	265
SPV290	Geostat CHn-Place Model-Related SW Under SMS Con		10	24SEP99	07OCT99	282
SPP5354	AP3.10Q Chckng/Rev-Geostat Repres CHn Formation		20	01OCT99	29OCT99	9



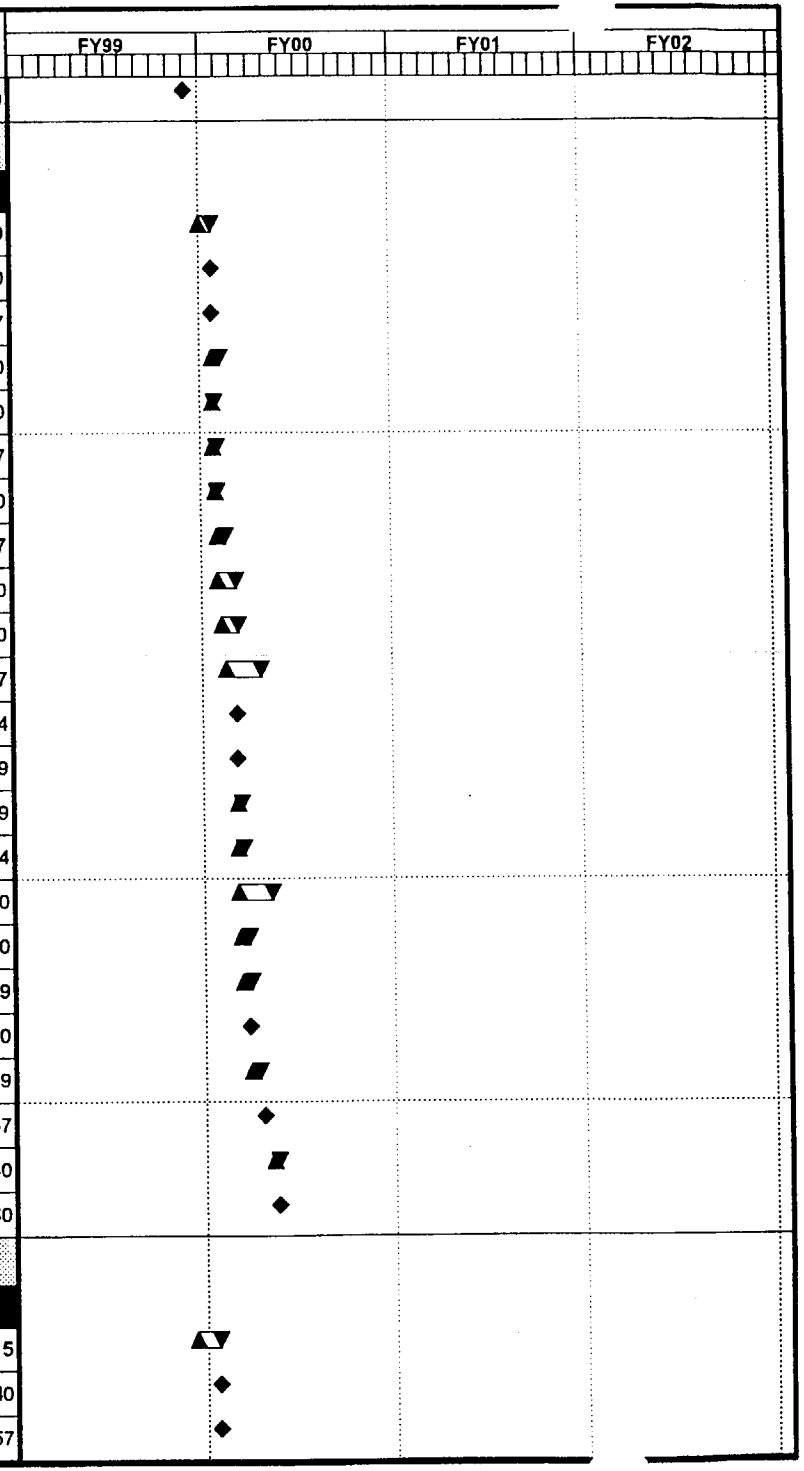
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPV292	Geostat CHn-Verify Model-Related Software		44	08OCT99	14DEC99	282
SPV272	Geostat CHn-Procurement Related Issues ID'd to C		0		26OCT99	299
SPV280	Geostat CHn-Data Related Software Issues Identif		0		26OCT99	284
SPV270	Geostat CHn-Verify/Trace Data		44	27OCT99	03JAN00	265
SPV274	Geostat CHn-Rxesolve Procurement Related Data Is		10	27OCT99	09NOV99	299
SPV282	Geostat CHn-Determine if Data Rel SW is Under SM		5	27OCT99	02NOV99	284
SPP5356	Prep Final AP3.10Q Rpt-Geostat Repres CHn Format		10	01NOV99	15NOV99	9
SPV284	Geostat CHn-Place Under SMS Control as Necessary		10	03NOV99	17NOV99	284
SPP350M4	Compl AP3.10Q Geostat Representation CHn Format	M4	0		15NOV99	9
SPV286	Geostat CHn-Verify Data-Related Software		10	18NOV99	03DEC99	284
SPV294	Geostat CHn-Qualified/Verified SW Available		0		14DEC99	282
SPV276	Geostat CHn-Update TDMS		5	04JAN00	10JAN00	265
SPV278	Geostat CHn-Qualified/Verified Data Available		0		10JAN00	265
U7040						
140 Natural Environment Program Operations						
SPP5360	AP3.10Q Data-UZ Model Validation Activities		54	02AUG99*	18OCT99	9
SPV296	UZ Mdl Valid-Input Parameters and Data Identifie		0		18OCT99	244
SPV298	UZ Mdl Valid-Models and Codes Identified		0		18OCT99	261
SPP5362	Prep Draft AP3.10Q-UZ Mdl Validation Activities		10	19OCT99	01NOV99	9
SPV300	UZ Mdl Valid-Determine DTN Assignment		2	19OCT99	20OCT99	244
SPV324	UZ Mdl Valid-Determine if Model-Rel SW is Under		5	19OCT99	25OCT99	261
SPV302	UZ Mdl Valid-Determine if Data/DTN in TDMS		3	21OCT99	25OCT99	244
SPV304	UZ Mdl Valid-Submit Data/DTN to TDMS as Necessar		22	26OCT99	29NOV99	244
SPV326	UZ Mdl Valid-Place Model-Related SW Under SMS Co		10	26OCT99	08NOV99	261
SPP5364	AP3.10Q Chckng/Rev-UZ Mdl Valid Activities		15	02NOV99	23NOV99	9
SPV328	UZ Mdl Valid-Verify Model-Related Software		44	09NOV99	14JAN00	261
SPP5366	Prep Final AP3.10Q Rpt-UZ Mdl Valid Activities		10	24NOV99	09DEC99	9
SPV308	UZ Mdl Valid-Procurement Related Issues ID'd to		0		29NOV99	278
SPV316	UZ Mdl Valid-Data Related Software Issues Identi		0		29NOV99	263
SPV306	UZ Mdl Valid-Verify/Trace Data		44	30NOV99	01FEB00	244
SPV310	UZ Mdl Valid-Rxesolve Procurement Related Data I		10	30NOV99	13DEC99	278



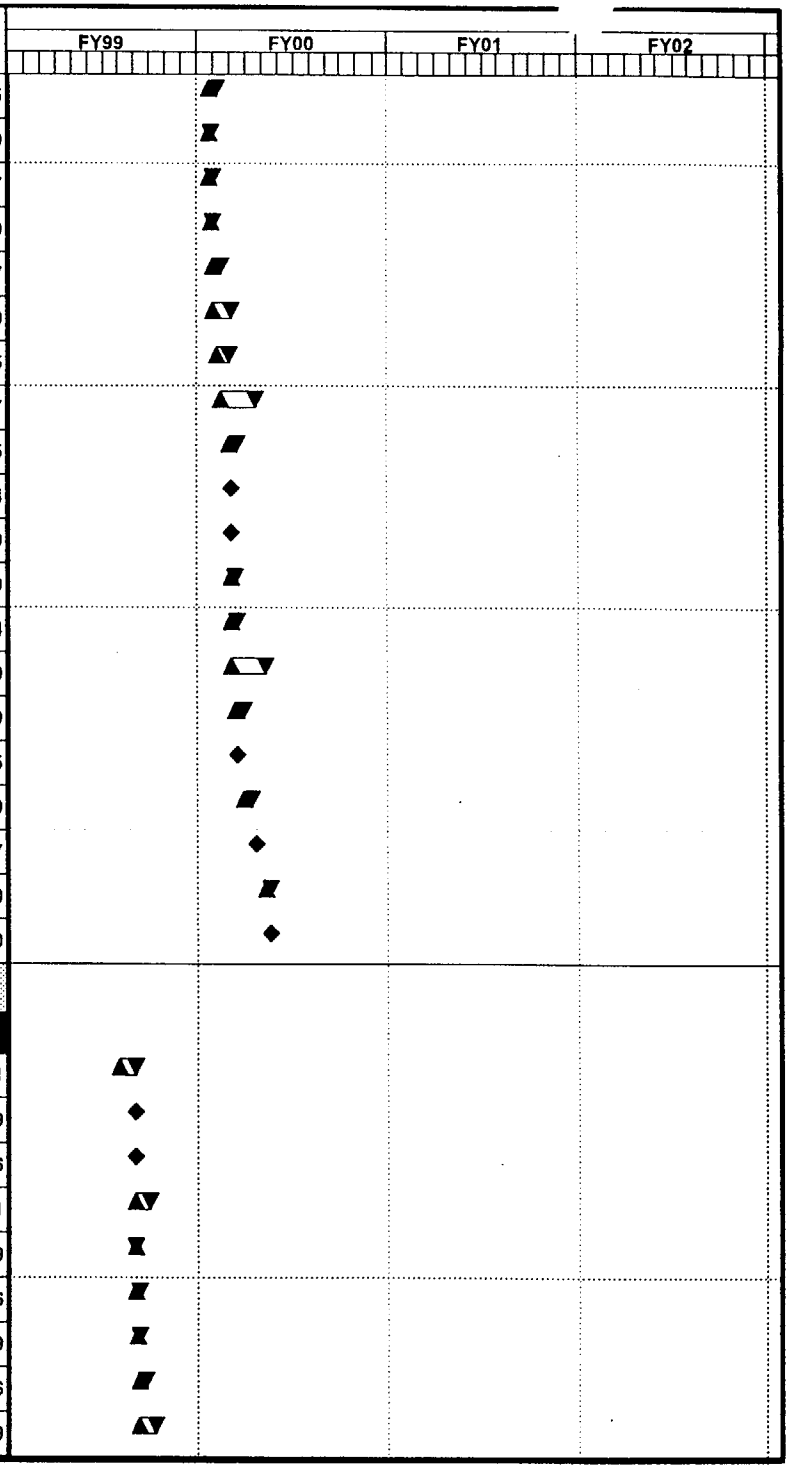
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPV318	UZ Mdl Valid-Determine if Data Rel SW is Under S		5	30NOV99	06DEC99	263
SPV320	UZ Mdl Valid-Place Under SMS Control as Necessar		10	07DEC99	20DEC99	263
SPP353M4	Compl AP3.10Q UZ Model Validation Activities	M4	0		09DEC99	9
SPV322	UZ Mdl Valid-Verify Data-Related Software		10	21DEC99	05JAN00	263
SPV330	UZ Mdl Valid-Qualified/Verified SW Available		0		14JAN00	261
SPV312	UZ Mdl Valid-Update TDMS		5	02FEB00	08FEB00	244
SPV314	UZ Mdl Valid-Qualified/Verified Data Available		0		08FEB00	244
U7050						
130 Performance Assessment Operations						
SLPA2688	AP3.10Q Data-Analy Comp Advect-Disp Trsnpt		112	01DEC98*	17MAY99	76
SLPA2696	Adv-Disp Trsnp-Input Parameters and Data Identif		0		17MAY99	350
SLPA2698	Adv-Disp Trsnp-Models and Codes Identified		0		17MAY99	367
SLPA2690	Prep Draft AP3.10Q-Analy Comp Advect Disp-Trsnpr		10	18MAY99	01JUN99	76
SLPA2700	Adv-Disp Trsnp-Determine DTN Assignment		2	18MAY99	19MAY99	350
SLPA2702	Adv-Disp Trsnp-Determine if Model-Rel SW is Unde		5	18MAY99	24MAY99	367
SLPA2704	Adv-Disp Trsnp-Determine if Data/DTN in TDMS		3	20MAY99	24MAY99	350
SLPA2706	Adv-Disp Trsnp-Place Model-Related SW Under SMS		10	25MAY99	08JUN99	367
SLPA2708	Adv-Disp Trsnp-Submit Data/DTN to TDMS as Necess		22	25MAY99	24JUN99	350
SLPA2692	AP3.10Q Chckng/Rev-Analy Comp Adv-Disp Trsnprt		20	02JUN99	29JUN99	94
SLPA2710	Adv-Disp Trsnp-Verify Model-Related Software		44	09JUN99	10AUG99	367
SLPA2712	Adv-Disp Trsnp-Procurement Related Issues ID'd t		0		24JUN99	384
SLPA2714	Adv-Disp Trsnp-Data Related Software Issues Iden		0		24JUN99	369
SLPA2716	Adv-Disp Trsnp-Determine if Data Rel SW is Under		5	25JUN99	01JUL99	369
SLPA2718	Adv-Disp Trsnp-Rxesolve Procurement Related Data		10	25JUN99	09JUL99	384
SLPA2720	Adv-Disp Trsnp-Verify/Trace Data		44	25JUN99	26AUG99	350
SLPA2694	Prep Final AP3.10Q Rpt-Analy Comp Adv-Disp Trsnp		10	30JUN99	14JUL99	94
SLPA2722	Adv-Disp Trsnp-Place Under SMS Control as Necess		10	02JUL99	16JUL99	369
SPP356M4	Compl AP3.10Q Analy Compar Advect-Disp Trsnprt	M4	0		14JUL99	94
SLPA2724	Adv-Disp Trsnp-Verify Data-Related Software		10	19JUL99	30JUL99	369
SLPA2726	Adv-Disp Trsnp-Qualified/Verified SW Available		0		10AUG99	367
SLPA2728	Adv-Disp Trsnp-Update TDMS		5	27AUG99	02SEP99	350



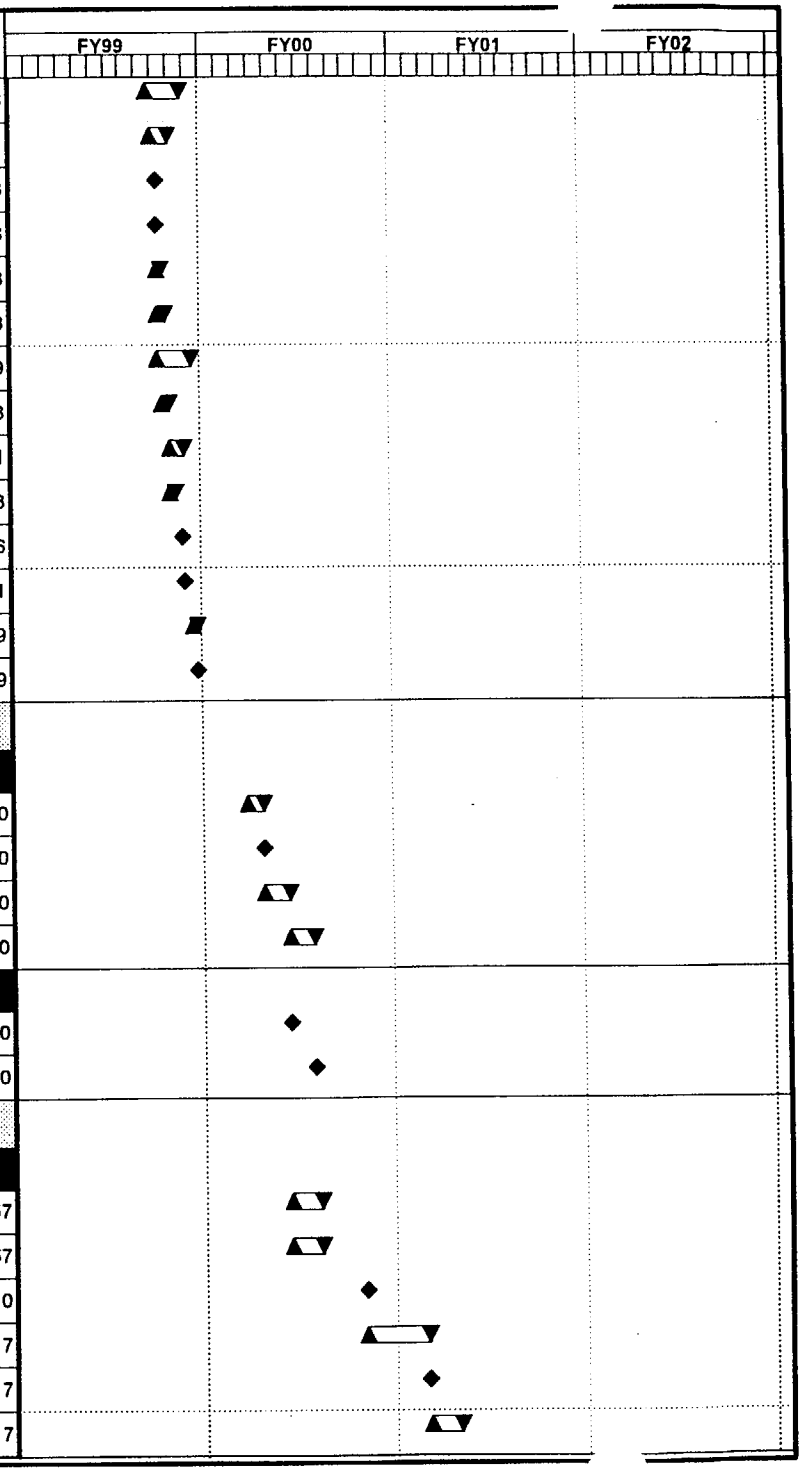
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2730	Adv-Disp Trsnp-Qualified/Verified Data Available		0		02SEP99	350
U7060						
130 Performance Assessment Operations						
SLPA2732	AP3.10Q Data-Analy B/Case Part Trkng Rslts		15	01OCT99	22OCT99	0
SLPA2740	Analy B/Case Trckng-Input Parameters and Data Id		0		22OCT99	240
SLPA2742	Analy B/Case Trckng-Models and Codes Identified		0		22OCT99	257
SLPA2734	Prep Draft AP3.10Q-Analy B/Case Part Trckng Rslt		10	25OCT99	05NOV99	0
SLPA2744	Analy B/Case Trckng-Determine DTN Assignment		2	25OCT99	26OCT99	240
SLPA2746	Analy B/Case Trckng-Determine if Model-Rel SW is		5	25OCT99	29OCT99	257
SLPA2748	Analy B/Case Trckng-Determine if Data/DTN in TDM		3	27OCT99	29OCT99	240
SLPA2750	Analy B/Case Trckng-Place Model-Related SW Under		10	01NOV99	15NOV99	257
SLPA2752	Analy B/Case Trckng-Submit Data/DTN to TDMS as N		22	01NOV99	03DEC99	240
SLPA2736	AP3.10Q Chckng/Rev-Analy B/Case Part Trckng Rslt		20	08NOV99	08DEC99	0
SLPA2754	Analy B/Case Trckng-Verify Model-Related Softwar		44	16NOV99	20JAN00	257
[illegible]2756	Analy B/Case Trckng-Procurement Related Issues I		0		03DEC99	274
SLPA2758	Analy B/Case Trckng-Data Related Software Issues		0		03DEC99	259
SLPA2760	Analy B/Case Trckng-Determine if Data Rel SW is		5	06DEC99	10DEC99	259
SLPA2762	Analy B/Case Trckng-Rxesolve Procurement Related		10	06DEC99	17DEC99	274
SLPA2764	Analy B/Case Trckng-Verify/Trace Data		44	06DEC99	07FEB00	240
SLPA2738	Prep Final AP3.10Q Rpt-Analy B/Case Part Trckng		10	09DEC99	22DEC99	0
SLPA2766	Analy B/Case Trckng-Place Under SMS Cont[illegible] N		10	13DEC99	[illegible]7DEC99	259
SPP359M4	Compl AP3.10Q B/Case Particl Trckng Rslts	M4	0		22DEC99	0
SLPA2768	Analy B/Case Trckng-Verify Data-Related Software		10	28DEC99	11JAN00	259
SLPA2770	Analy B/Case Trckng-Qualified/Verified SW Availa		0		20JAN00	257
SLPA2772	Analy B/Case Trckng-Update TDMS		5	08FEB00	14FEB00	240
SLPA2774	Analy B/Case Trckng-Qualified/Verified Data Avai		0		14FEB00	240
U7070						
130 Performance Assessment Operations						
SLPA2776	AP3.10Q Data-Sens Stdy S/S UZ F & T, Seepg		29	13SEP99*	22OCT99	5
SLPA2784	Sens Stdy Seepg-Input Parameters and Data Identi		0		22OCT99	240
SLPA2786	Sens Stdy Seepg-Models and Codes Identified		0		22OCT99	257



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2778	Prep Draft AP3.10Q-Sens Stdy S/S F&T, Seepg		10	25OCT99	05NOV99	5
SLPA2788	Sens Stdy Seepg-Determine DTN Assignment		2	25OCT99	26OCT99	240
SLPA2790	Sens Stdy Seepg-Determine if Model-Rel SW is Und		5	25OCT99	29OCT99	257
SLPA2792	Sens Stdy Seepg-Determine if Data/DTN in TDMS		3	27OCT99	29OCT99	240
SLPA2794	Sens Stdy Seepg-Place Model-Related SW Under SMS		10	01NOV99	15NOV99	257
SLPA2796	Sens Stdy Seepg-Submit Data/DTN to TDMS as Neces		22	01NOV99	03DEC99	240
SLPA2780	AP3.10Q Chckng/Rev-Sens Stdy UZ F&T, Seepg		15	08NOV99	01DEC99	5
SLPA2798	Sens Stdy Seepg-Verify Model-Related Software		44	16NOV99	20JAN00	257
SLPA2782	Prep Final AP3.10Q Rpt-Sens Stdy UZ F&T, Seepg		10	02DEC99	15DEC99	5
SLPA2800	Sens Stdy Seepg-Procurement Related Issues ID'd		0		03DEC99	274
SLPA2802	Sens Stdy Seepg-Data Related Software Issues Ide		0		03DEC99	259
SLPA2804	Sens Stdy Seepg-Determine if Data Rel SW is Unde		5	06DEC99	10DEC99	259
SLPA2806	Sens Stdy Seepg-Rxesolve Procurement Related Dat		10	06DEC99	17DEC99	274
SLPA2808	Sens Stdy Seepg-Verify/Trace Data		44	06DEC99	07FEB00	240
SLPA2810	Sens Stdy Seepg-Place Under SMS Control as Neces		10	13DEC99	27DEC99	259
SP362M4	Compl AP3.10Q Sens Study UZ F&T, Seepg	M4	0		15DEC99	5
SLPA2812	Sens Stdy Seepg-Verify Data-Related Software		10	28DEC99	11JAN00	259
SLPA2814	Sens Stdy Seepg-Qualified/Verified SW Available		0		20JAN00	257
SLPA2816	Sens Stdy Seepg-Update TDMS		5	08FEB00	14FEB00	240
SLPA2818	Sens Stdy Seepg-Qualified/Verified Data Availabl		0		14FEB00	240
U7080						
140 Natural Environment Program Operations						
SLPA2820	AP3.10Q Data-FEP's		22	03MAY99*	02JUN99	61
SLPA2830	Rpt-FEP's-Input Parameters and Data Identified		0		02JUN99	339
SLPA2832	Rpt-FEP's-Models and Codes Identified		0		02JUN99	356
SLPA2822	Prep Draft AP3.10Q-FEP's		18	03JUN99	28JUN99	61
SLPA2834	Rpt-FEP's-Determine DTN Assignment		2	03JUN99	04JUN99	339
SLPA2836	Rpt-FEP's-Determine if Model-Rel SW is Under SM		5	03JUN99	09JUN99	356
SLPA2838	Rpt-FEP's-Determine if Data/DTN in TDMS		3	07JUN99	09JUN99	339
SLPA2840	Rpt-FEP's-Place Model-Related SW Under SMS Cont		10	10JUN99	23JUN99	356
SLPA2842	Rpt-FEP's-Submit Data/DTN to TDMS as Necessary		22	10JUN99	12JUL99	339

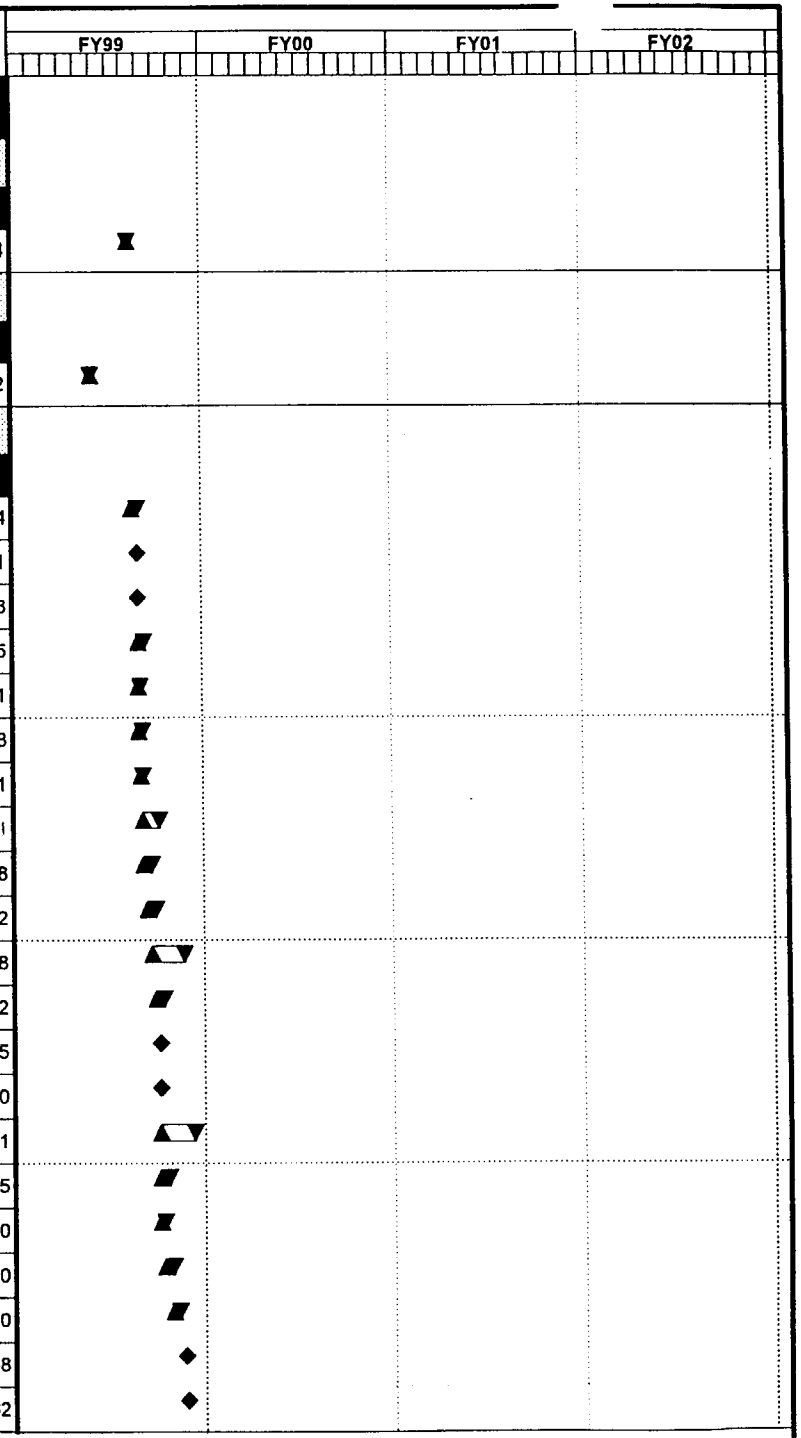


Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2844	Rpt-FEP's-Verify Model-Related Software		44	24JUN99	25AUG99	356
SLPA2824	AP3.10Q Chckng/Rev-FEP's		24	29JUN99	02AUG99	61
SLPA2846	Rpt-FEP's-Procurement Related Issues ID'd to Ca		0		12JUL99	373
SLPA2848	Rpt-FEP's-Data Related Software Issues Identifi		0		12JUL99	358
SLPA2850	Rpt-FEP's-Determine if Data Rel SW is Under SMS		5	13JUL99	19JUL99	358
SLPA2852	Rpt-FEP's-Rxesolve Procurement Related Data Iss		10	13JUL99	26JUL99	373
SLPA2854	Rpt-FEP's-Verify/Trace Data		44	13JUL99	13SEP99	339
SLPA2856	Rpt-FEP's-Place Under SMS Control as Necessary		10	20JUL99	02AUG99	358
SLPA2826	Prep Final AP3.10Q Rpt-FEP's		20	03AUG99	30AUG99	61
SLPA2858	Rpt-FEP's-Verify Data-Related Software		10	03AUG99	16AUG99	358
SLPA2860	Rpt-FEP's-Qualified/Verified SW Available		0		25AUG99	356
SLPA2828	Compl AP3.10Q FEP's	M4	0		30AUG99	61
SLPA2862	Rpt-FEP's-Update TDMS		5	14SEP99	20SEP99	339
SLPA2864	Rpt-FEP's-Qualified/Verified Data Available		0		20SEP99	339
U7100						
130 Performance Assessment Operations						
SLP5900	UZ Flow & Transport PMR Text Process		20	23DEC99	21JAN00	0
SLP59AM4	UZ Flow & Transport PMR Rev 00A	M4	0		21JAN00	0
SLP5905	M&O UZ Flow & Transport PMR Review		36	24JAN00	14MAR00	0
SLP5910	DOE UZ Flow & Transport PMR Review		33	15MAR00	28APR00	0
300 Regulatory & Licensing						
SLP59BM3	UZ Flow & Transport PMR Rev 00	M3	0		14MAR00	0
SLP59CM3	Rev 01 UZ Flow & Transport PMR	M3	0		28APR00	0
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SLU00A	Revise UZ PMR AP 3.10Q's for SR		41	15MAR00	10MAY00	57
SLU00B	Prepare UZ PMR REV-02A for SR		41	15MAR00	10MAY00	57
SLU00BM4	UZ PMR Rev-02A for SR	M4	0		01AUG00*	0
SLU00C	M&O Review UZ PMR Rev-02A for SR		83	02AUG00	01DEC00	17
SLU00CM3	UZ PMR Rev-02 for SR	M3	0		01DEC00	17
SLU00D	DOE Review UZ PMR 02 for SR		41	04DEC00	31JAN01	17

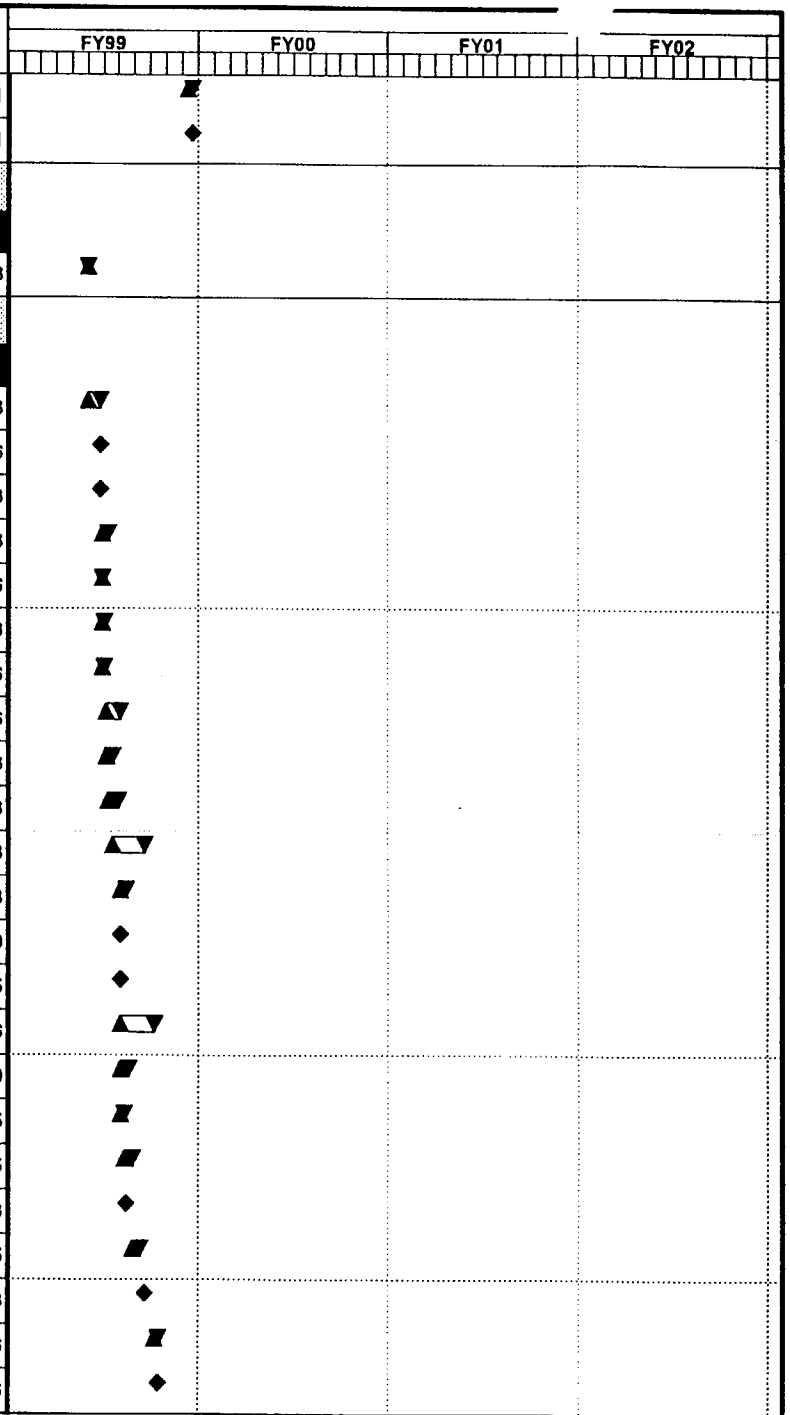


Activity ID	Activity Description	MILE	Orig dur	Earl Start	Early Finish	Total Float	FY99	FY00	FY01	FY02
SLU00EM3	Rev 03 UZ PMR for SR	M3	0		31JAN01	17			◆	

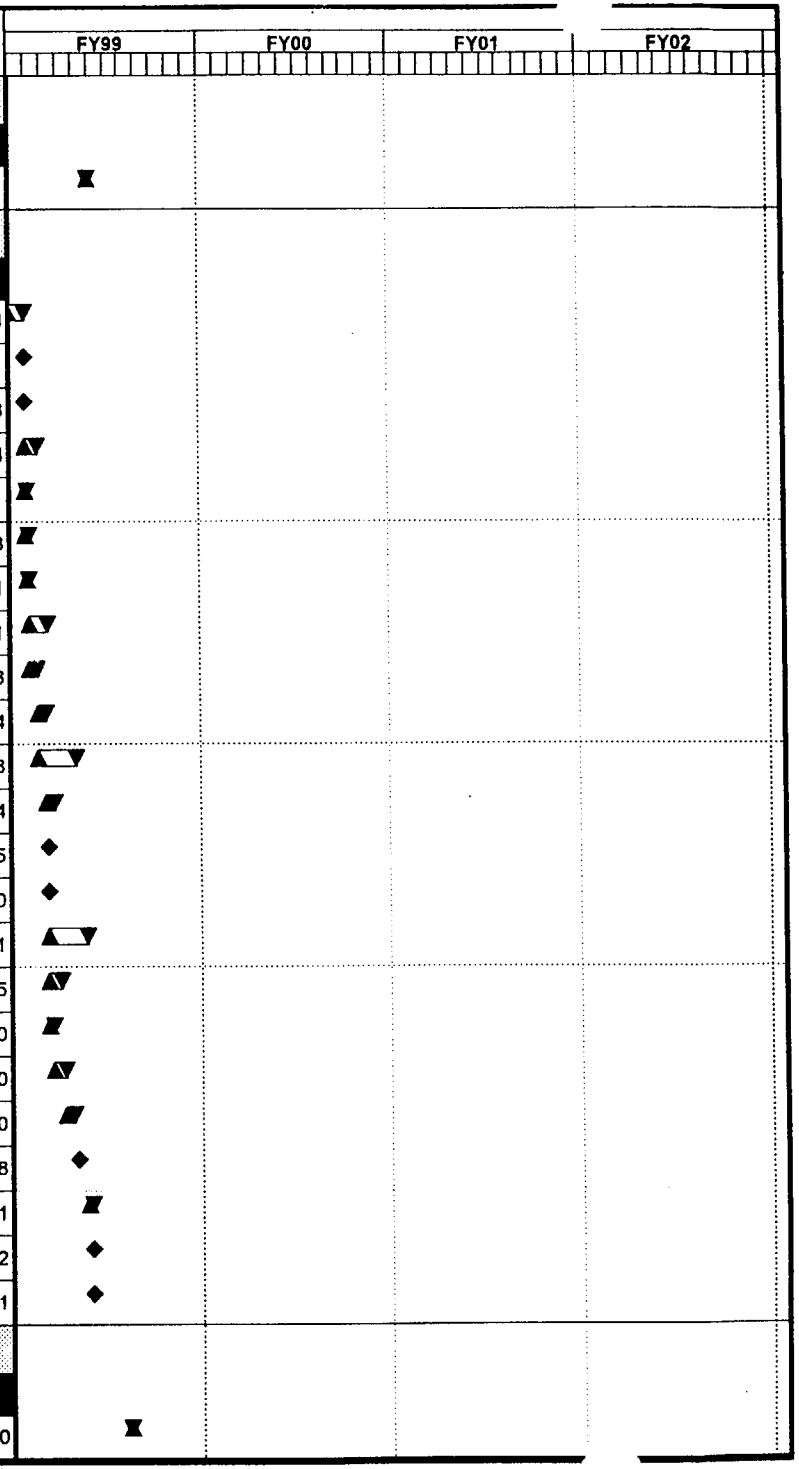
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
S SZ PMR						
B1000						
140 Natural Environment Program Operations						
B1000	Hydrogeologic Framework Data	M4	1	14MAY99*	14MAY99	4
B1008						
140 Natural Environment Program Operations						
B1008	Recharge Data		1	01MAR99*	01MAR99	82
B1010						
140 Natural Environment Program Operations						
SPP2025	AP3.10Q Data-Hydrogeologic Framework Model		10	17MAY99	28MAY99	4
SPS144	Hydrogeol Frmwork-Input Parameters and Data Iden		0		28MAY99	341
SPS146	Hydrogeol Frmwork-Models and Codes Identified		0		28MAY99	358
SPP2030	Prep Draft AP3.10Q-Hydrogeologic Framework Model		9	01JUN99	11JUN99	25
SPS148	Hydrogeol Frmwork-Determine DTN Assignment		2	01JUN99	02JUN99	341
SPS172	Hydrogeol Frmwork-Determine if Model-Rel SW is U		5	01JUN99	07JUN99	358
SPS150	Hydrogeol Frmwork-Determine if Data/DTN in TDMS		3	03JUN99	07JUN99	341
SPS152	Hydrogeol Frmwork-Submit Data/DTN to TDMS as Nec		22	08JUN99	08JUL99	341
SPS174	Hydrogeol Frmwork-Place Model-Related SW Under S		10	08JUN99	21JUN99	358
SPP2035	AP3.10Q Chckng/Rev-Hydrogeologic Framework Model		13	14JUN99	30JUN99	92
SPS176	Hydrogeol Frmwork-Verify Model-Related Software		44	22JUN99	23AUG99	358
SPP2040	Prep Final AP3.10Q Rpt-Hydrogeol Frmwork Model		10	01JUL99	15JUL99	92
SPS156	Hydrogeol Frmwork-Procurement Related Issues ID'		0		08JUL99	375
SPS164	Hydrogeol Frmwork-Data Related Software Issues I		0		08JUL99	360
SPS154	Hydrogeol Frmwork-Verify/Trace Data		44	09JUL99	09SEP99	341
SPS158	Hydrogeol Frmwork-Rxesolve Procurement Related D		10	09JUL99	22JUL99	375
SPS166	Hydrogeol Frmwork-Determine if Data Rel SW is Un		5	09JUL99	15JUL99	360
SPS168	Hydrogeol Frmwork-Place Under SMS Control as Nec		10	16JUL99	29JUL99	360
SPS170	Hydrogeol Frmwork-Verify Data-Related Software		10	30JUL99	12AUG99	360
SPS178	Hydrogeol Frmwork-Qualified/Verified SW Availabl		0		23AUG99	358
SPP100M4	Compl AP3.10Q Hydrogeologic Framework Model	M4	0		26AUG99	62



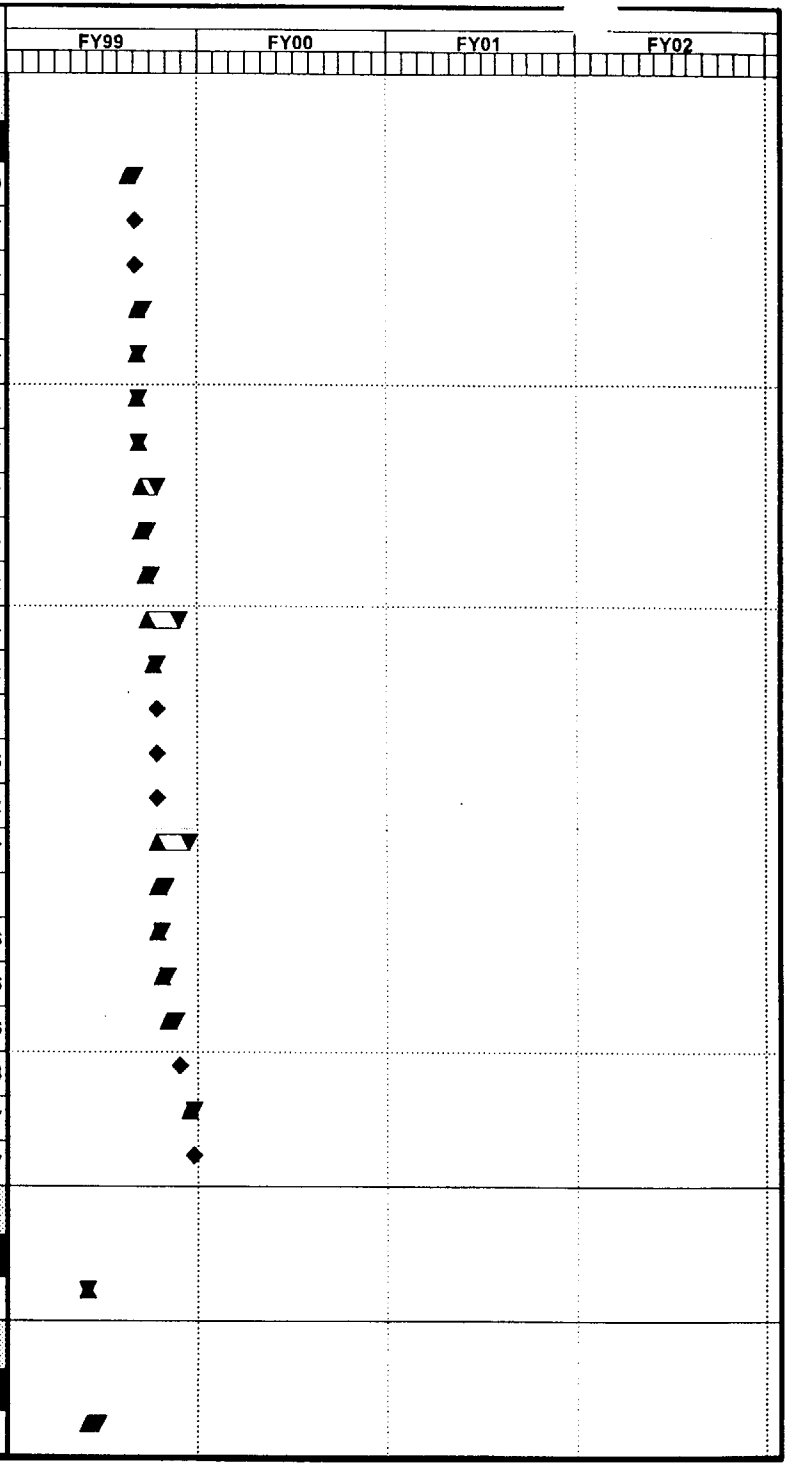
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPS160	Hydrogeol Frmwork-Update TDMS		5	10SEP99	16SEP99	341
SPS162	Hydrogeol Frmwork-Qualified/Verified Data Availa		0		16SEP99	341
B1020						
140 Natural Environment Program Operations						
B1020	Water Level Data	M4	1	01MAR99	01MAR99*	28
B1030						
140 Natural Environment Program Operations						
SPP1000	AP3.10Q Data-Water Level & Data Reliab Analy		19	02MAR99*	26MAR99	28
SPS000	Lev & Data Rel-Input Parameters and Data Identif		0		26MAR99	386
SPS002	Lev & Data Rel-Models and Codes Identified		0		26MAR99	403
SPP1005	Prep Draft AP3.10Q-Wtr Lev & Data Reliab Analy		10	29MAR99	09APR99	28
SPS004	Lev & Data Rel-Determine DTN Assignment		2	29MAR99	30MAR99	386
SPS028	Lev & Data Rel-Determine if Model-Rel SW is Unde		5	29MAR99	02APR99	403
SPS006	Lev & Data Rel-Determine if Data/DTN in TDMS		3	31MAR99	02APR99	386
SPS008	Lev & Data Rel-Submit Data/DTN to TDMS as Necess		22	05APR99	04MAY99	386
SPS030	Lev & Data Rel-Place Model-Related SW Under SMS		10	05APR99	16APR99	403
SPP1010	AP3.10Q Chckng/Rev-Wtr Level & Data Rel Analy		15	12APR99	30APR99	28
SPS032	Lev & Data Rel-Verify Model-Related Software		44	19APR99	18JUN99	403
SPP1015	Prep Final AP3.10Q Rpt-Wtr Lev & Data Rel Analy		10	03MAY99	14MAY99	28
SPS012	Lev & Data Rel-Procurement Related Issues ID'd t		0		04MAY99	420
SPS020	Lev & Data Rel-Data Related Software Issues Iden		0		04MAY99	405
SPS010	Lev & Data Rel-Verify/Trace Data		44	05MAY99	07JUL99	386
SPS014	Lev & Data Rel-Rxesolve Procurement Related Data		10	05MAY99	18MAY99	420
SPS022	Lev & Data Rel-Determine if Data Rel SW is Under		5	05MAY99	11MAY99	405
SPS024	Lev & Data Rel-Place Under SMS Control as Necess		10	12MAY99	25MAY99	405
SPP103M4	Compl AP3.10Q Water Lvl & Data Reliab Analysis	M4	0		14MAY99	28
SPS026	Lev & Data Rel-Verify Data-Related Software		10	26MAY99	09JUN99	405
SPS034	Lev & Data Rel-Qualified/Verified SW Available		0		18JUN99	403
SPS016	Lev & Data Rel-Update TDMS		5	08JUL99	14JUL99	386
SPS018	Lev & Data Rel-Qualified/Verified Data Available		0		14JUL99	386



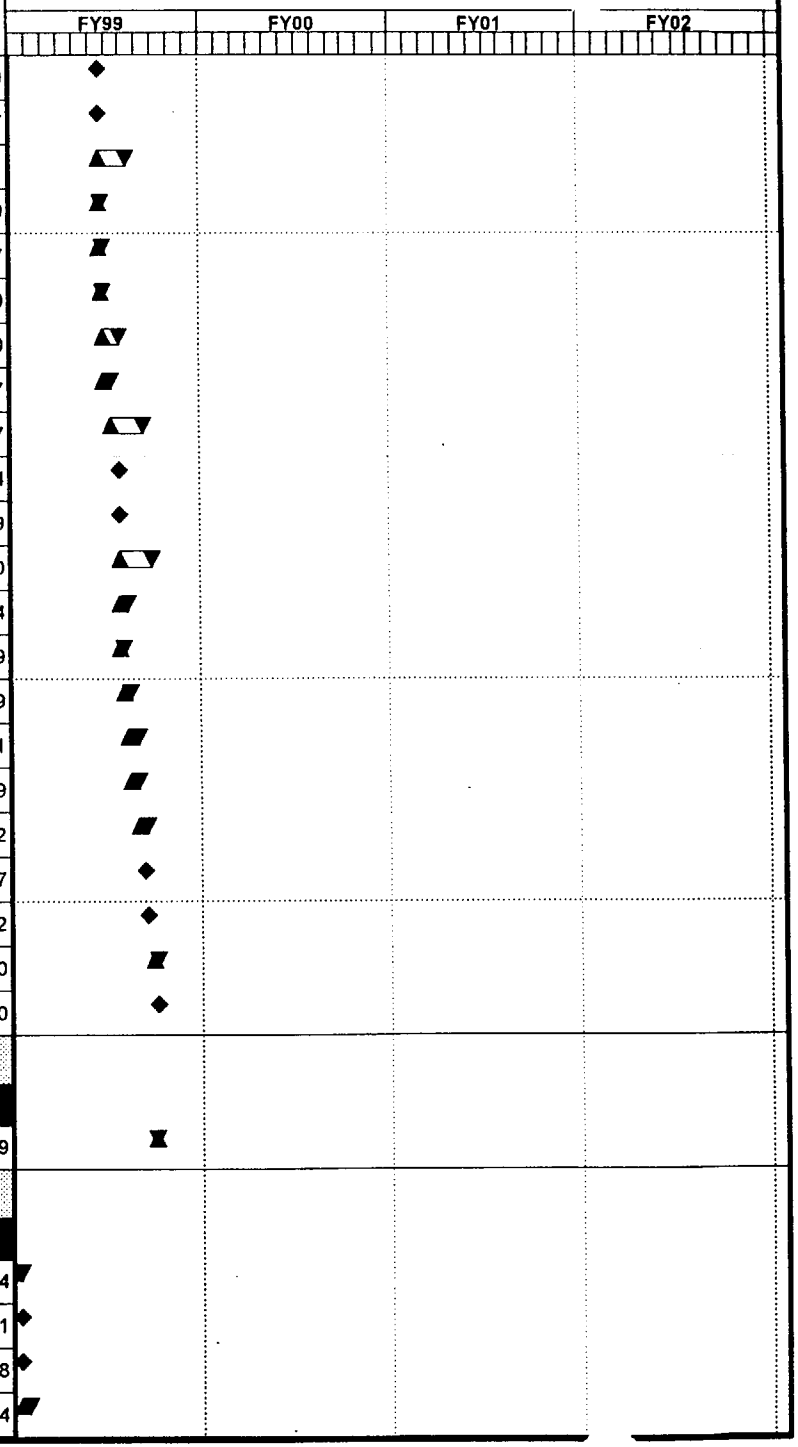
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
B1035						
140 Natural Environment Program Operations						
B1035	Lateral Boundary Conditions Data	M4	1	01MAR99	01MAR99*	82
B1040						
140 Natural Environment Program Operations						
SPP1040	AP3.10Q Data-Flow Boundary Condition		20	01OCT98	29OCT98	124
SPS036	Flow Bnd Cond-Input Parameters and Data Identifi		0		29OCT98	481
SPS038	Flow Bnd Cond-Models and Codes Identified		0		29OCT98	498
SPP1045	Prep AP3.10Q-Flow Boundary Condition		15	30OCT98	20NOV98	124
SPS040	Flow Bnd Cond-Determine DTN Assignment		2	30OCT98	02NOV98	481
SPS064	Flow Bnd Cond-Determine if Model-Rel SW is Under		5	30OCT98	05NOV98	498
SPS042	Flow Bnd Cond-Determine if Data/DTN in TDMS		3	03NOV98	05NOV98	481
SPS044	Flow Bnd Cond-Submit Data/DTN to TDMS as Necessa		22	06NOV98	10DEC98	481
SPS066	Flow Bnd Cond-Place Model-Related SW Under SMS C		10	06NOV98	20NOV98	498
SPP1050	AP3.10Q Chckng/Rev-Flow Boundary Condition		9	23NOV98	07DEC98	124
SPS068	Flow Bnd Cond-Verify Model-Related Software		44	23NOV98	03FEB99	498
SPP1055	Prep Final AP3.10Q Rpt-Flow Boundary Conditions		10	08DEC98	21DEC98	124
SPS048	Flow Bnd Cond-Procurement Related Issues ID'd to		0		10DEC98	515
SPS056	Flow Bnd Cond-Data Related Software Issues Ident		0		10DEC98	500
SPS046	Flow Bnd Cond-Verify/Trace Data		44	11DEC98	22FEB99	481
SPS050	Flow Bnd Cond-Rxesolve Procurement Related Data		10	11DEC98	04JAN99	515
SPS058	Flow Bnd Cond-Determine if Data Rel SW is Under		5	11DEC98	17DEC98	500
SPS060	Flow Bnd Cond-Place Under SMS Control as Necessa		10	18DEC98	11JAN99	500
SPS062	Flow Bnd Cond-Verify Data-Related Software		10	12JAN99	25JAN99	500
SPS070	Flow Bnd Cond-Qualified/Verified SW Available		0		03FEB99	498
SPS052	Flow Bnd Cond-Update TDMS		5	23FEB99	01MAR99	481
SPP106M4	Compl AP3.10Q Flow Boundary Conditions	M4	0		01MAR99	82
SPS054	Flow Bnd Cond-Qualified/Verified Data Available		0		01MAR99	481
B1050						
140 Natural Environment Program Operations						
B1050	Develop Geostatistical/Hetero Methodology	M4	1	14MAY99*	14MAY99	0



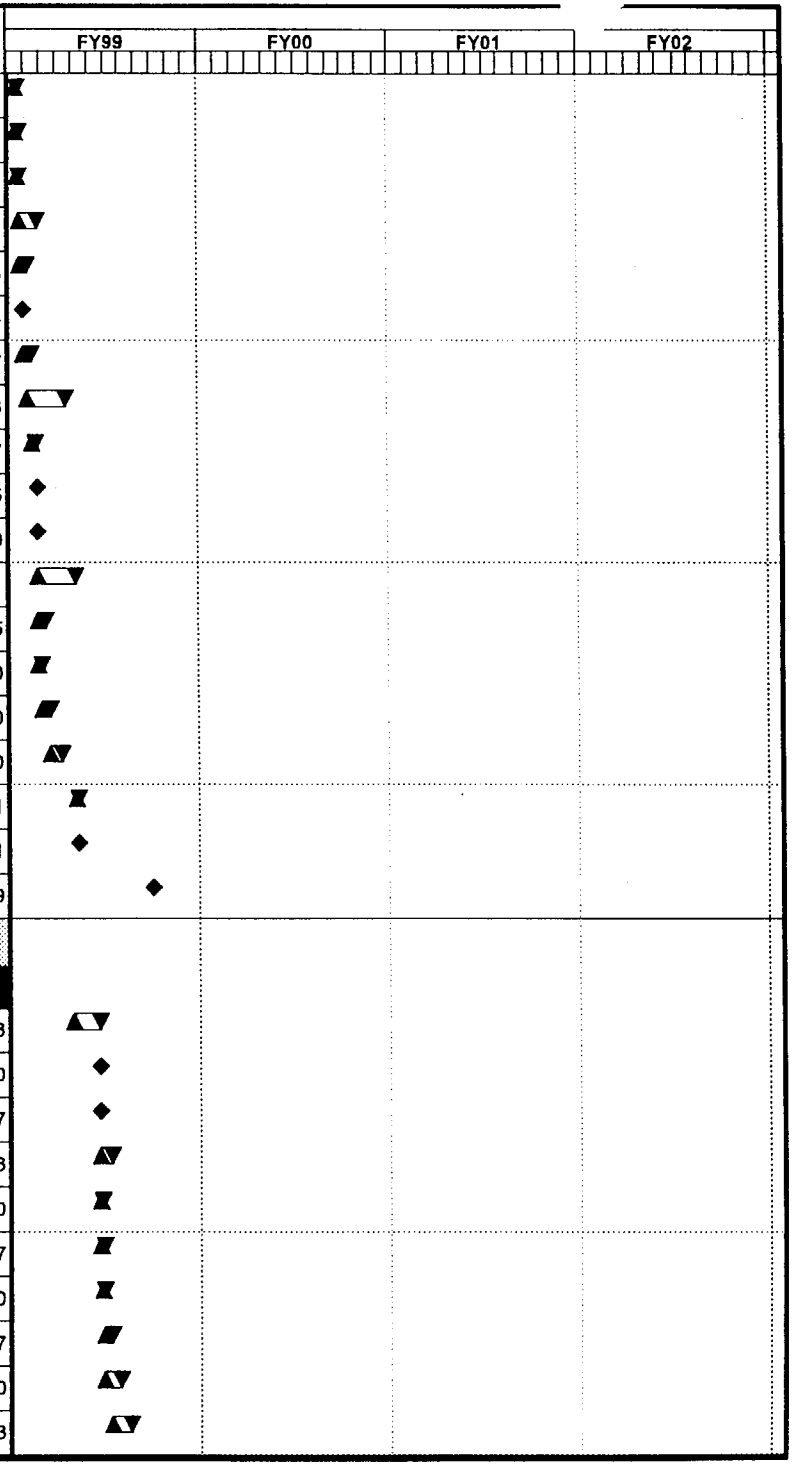
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
B1060						
140 Natural Environment Program Operations						
SPP3000	AP3.10Q Data-Geostat/Herero Methodology		14	17MAY99*	04JUN99	0
SPS252	Geostat/Hetero Meth-Input Parameters and Data Id		0		04JUN99	337
SPS254	Geostat/Hetero Meth-Models and Codes Identified		0		04JUN99	354
SPP3005	Prep Draft AP3.10Q-Geostat/Hetero Methodology		10	07JUN99	18JUN99	92
SPS256	Geostat/Hetero Meth-Determine DTN Assignment		2	07JUN99	08JUN99	337
SPS280	Geostat/Hetero Meth-Determine if Model-Rel SW is		5	07JUN99	11JUN99	354
SPS258	Geostat/Hetero Meth-Determine if Data/DTN in TDM		3	09JUN99	11JUN99	337
SPS260	Geostat/Hetero Meth-Submit Data/DTN to TDMS as N		22	14JUN99	14JUL99	337
SPS282	Geostat/Hetero Meth-Place Model-Related SW Under		10	14JUN99	25JUN99	354
SPP3010	AP3.10Q Chckng/Rev-Geostat/Hetero Methodology		10	21JUN99	02JUL99	92
SPS284	Geostat/Hetero Meth-Verify Model-Related Softwar		44	28JUN99	27AUG99	354
SPP3015	Prep Final AP3.10Q Rpt-Geostat/Hetero Methodol		8	06JUL99	15JUL99	92
SPS264	Geostat/Hetero Meth-Procurement Related Issues I		0		14JUL99	371
SPS272	Geostat/Hetero Meth-Data Related Software Issues		0		14JUL99	356
SPP109M4	Compl AP3.10Q Geostat/Hetero Methodology	M4	0		15JUL99	92
SPS262	Geostat/Hetero Meth-Verify/Trace Data		44	15JUL99	15SEP99	337
SPS266	Geostat/Hetero Meth-Rxesolve Procurement Related		10	15JUL99	28JUL99	371
SPS274	Geostat/Hetero Meth-Determine if Data Rel SW is		5	15JUL99	21JUL99	356
SPS276	Geostat/Hetero Meth-Place Under SMS Control as N		10	22JUL99	04AUG99	356
SPS278	Geostat/Hetero Meth-Verify Data-Related Software		10	05AUG99	18AUG99	356
SPS286	Geostat/Hetero Meth-Qualified/Verified SW Availa		0		27AUG99	354
SPS268	Geostat/Hetero Meth-Update TDMS		5	16SEP99	22SEP99	337
SPS270	Geostat/Hetero Meth-Qualified/Verified Data Avai		0		22SEP99	337
B1064						
140 Natural Environment Program Operations						
B1064	Transport Input Data	M4	1	01MAR99*	01MAR99	1
B1068						
140 Natural Environment Program Operations						
SPP2000	AP3.10Q Data-Summ & Synth of Transprt Data		15	02MAR99*	22MAR99	1



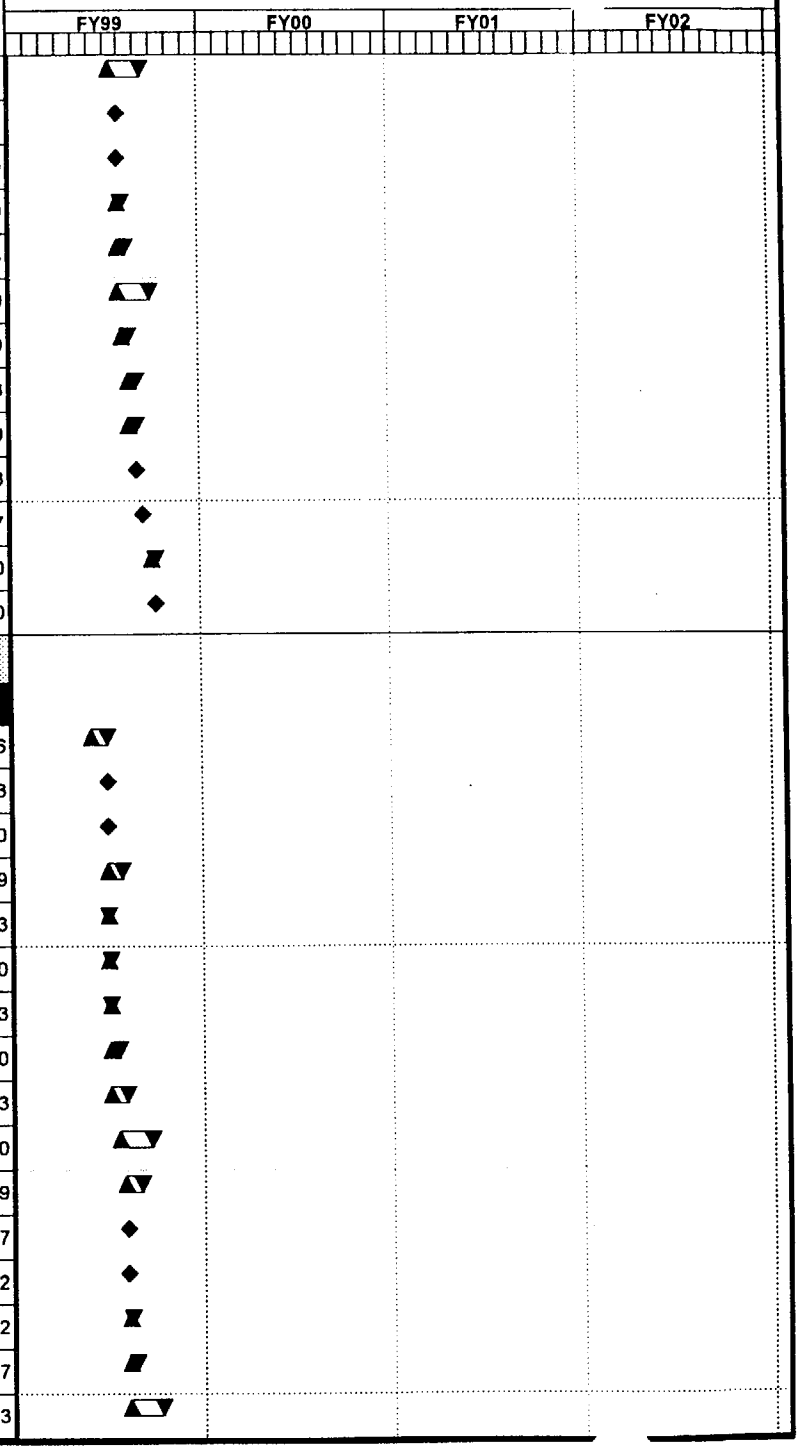
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPS108	Trsnprt Data-Input Parameters and Data Identifie		0		22MAR99	390
SPS110	Trsnprt Data-Models and Codes Identified		0		22MAR99	407
SPP2005	Prep Draft AP3.10Q-Summ & Synth of Trnsprt Data		37	23MAR99	12MAY99	1
SPS112	Trsnprt Data-Determine DTN Assignment		2	23MAR99	24MAR99	390
SPS136	Trsnprt Data-Determine if Model-Rel SW is Under		5	23MAR99	29MAR99	407
SPS114	Trsnprt Data-Determine if Data/DTN in TDMS		3	25MAR99	29MAR99	390
SPS116	Trsnprt Data-Submit Data/DTN to TDMS as Necessar		22	30MAR99	28APR99	390
SPS138	Trsnprt Data-Place Model-Related SW Under SMS Co		10	30MAR99	12APR99	407
SPS140	Trsnprt Data-Verify Model-Related Software		44	13APR99	14JUN99	407
SPS120	Trsnprt Data-Procurement Related Issues ID'd to		0		28APR99	424
SPS128	Trsnprt Data-Data Related Software Issues Identi		0		28APR99	409
SPS118	Trsnprt Data-Verify/Trace Data		44	29APR99	30JUN99	390
SPS122	Trsnprt Data-Rxesolve Procurement Related Data I		10	29APR99	12MAY99	424
SPS130	Trsnprt Data-Determine if Data Rel SW is Under S		5	29APR99	05MAY99	409
SPS132	Trsnprt Data-Place Under SMS Control as Necessar		10	06MAY99	19MAY99	409
SPP2010	AP3.10Q Chckng/Rev- Summ & Synth of Trsnprt Data		15	13MAY99	03JUN99	1
SPS134	Trsnprt Data-Verify Data-Related Software		10	20MAY99	03JUN99	409
SPP2015	Prep Final AP3.10Q Rpt-Summ & Synth Trsnprt Data		9	04JUN99	16JUN99	112
SPS142	Trsnprt Data-Qualified/Verified SW Available		0		14JUN99	407
SPP112M4	Compl AP3.10Q Summ & Synth Trsnprt Data	M4	0		16JUN99	112
SPS124	Trsnprt Data-Update TDMS		5	01JUL99	08JUL99	390
SPS126	Trsnprt Data-Qualified/Verified Data Available		0		08JUL99	390
B1070						
140 Natural Environment Program Operations						
B1070	Transport Methodology Data Input	M4	1	02JUL99	02JUL99	99
B1080						
140 Natural Environment Program Operations						
SPP3025	AP3.10Q Data-Trsnprt Method Compnt Model		10	01OCT98*	15OCT98	184
SPS288	Trsnprt Method-Input Parameters and Data Identif		0		15OCT98	491
SPS290	Trsnprt Method-Models and Codes Identified		0		15OCT98	508
SPP3030	Prep Draft AP3.10Q-Trsnprt Method Compnt of Mdl		10	16OCT98	29OCT98	184



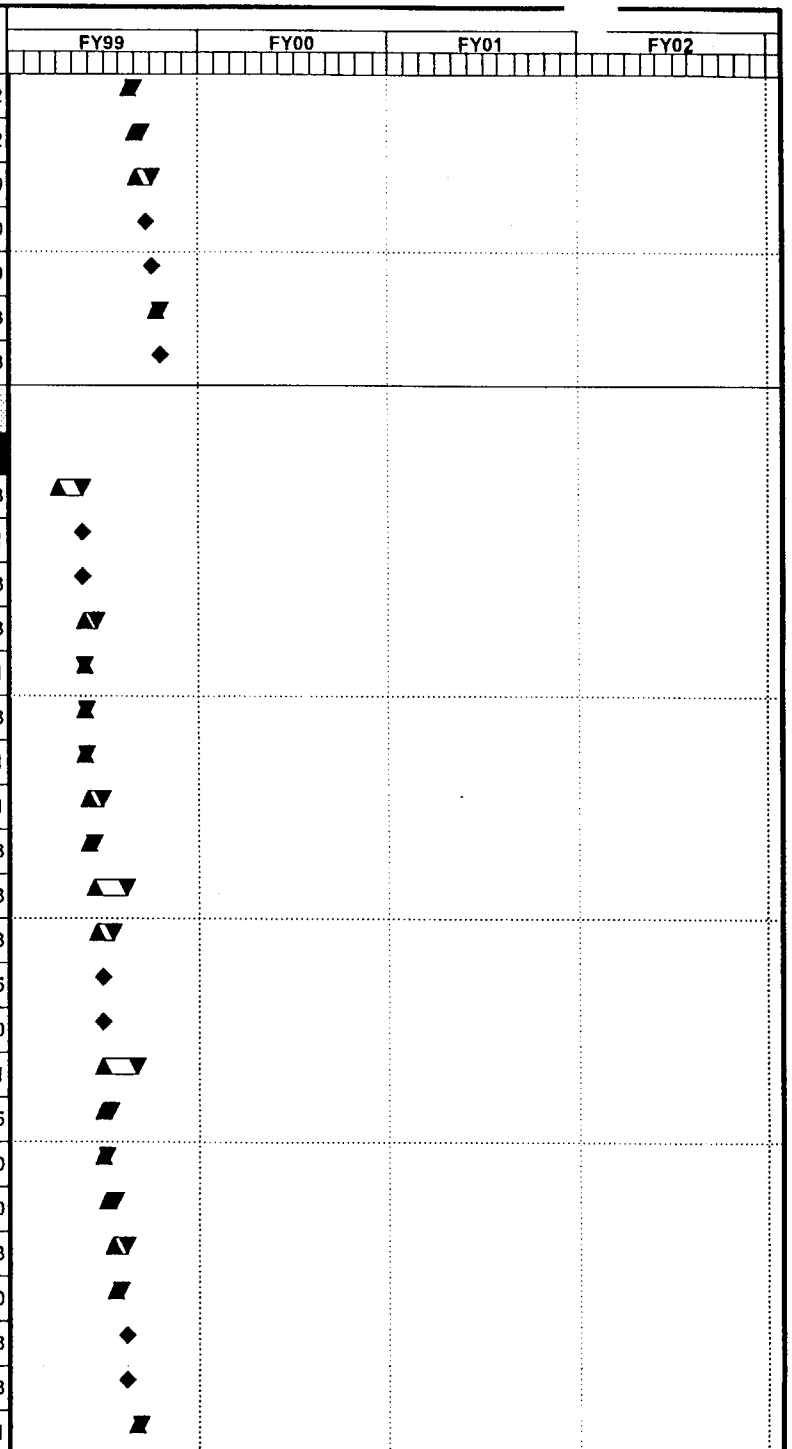
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPS292	Trsnprt Method-Determine DTN Assignment		2	16OCT98	19OCT98	491
SPS316	Trsnprt Method-Determine if Model-Rel SW is Unde		5	16OCT98	22OCT98	508
SPS294	Trsnprt Method-Determine if Data/DTN in TDMS		3	20OCT98	22OCT98	491
SPS296	Trsnprt Method-Submit Data/DTN to TDMS as Necess		22	23OCT98	24NOV98	491
SPS318	Trsnprt Method-Place Model-Related SW Under SMS		10	23OCT98	05NOV98	508
SLPA2866	Transport Method Component of Model-AP-3.10Q	M4	0		29OCT98	184
SPP3035	AP3.10Q Chckng/Rev-Trsnprt Method Compnt of Mdl		10	30OCT98	13NOV98	247
SPS320	Trsnprt Method-Verify Model-Related Software		44	06NOV98	20JAN99	508
SPP3040	Prep Final AP3.10Q Rpt-Trsnprt Method Compnt Mdl		6	16NOV98	23NOV98	247
SPS300	Trsnprt Method-Procurement Related Issues ID'd t		0		24NOV98	525
SPS308	Trsnprt Method-Data Related Software Issues Iden		0		24NOV98	510
SPS298	Trsnprt Method-Verify/Trace Data		44	25NOV98	05FEB99	491
SPS302	Trsnprt Method-Rxesolve Procurement Related Data		10	25NOV98	10DEC98	525
SPS310	Trsnprt Method-Determine if Data Rel SW is Under		5	25NOV98	03DEC98	510
SPS312	Trsnprt Method-Place Under SMS Control as Necess		10	04DEC98	17DEC98	510
SPS314	Trsnprt Method-Verify Data-Related Software		10	18DEC98	11JAN99	510
SPS304	Trsnprt Method-Update TDMS		5	08FEB99	12FEB99	491
SPS306	Trsnprt Method-Qualified/Verified Data Available		0		12FEB99	491
SPP115M4	Compl AP3.10Q Trsnprt Method Compnt Model	M4	0		02JUL99	99
B1095						
140 Natural Environment Program Operations						
SLPA2868	AP3.10Q Data-Prob Distr Flowng Interv Spcng		35	01FEB99*	22MAR99	3
SLPA2878	Prob Distr Flwng-Input Parameters and Data Ident		0		22MAR99	390
SLPA2880	Prob Distr Flwng-Models and Codes Identified		0		22MAR99	407
SLPA2870	Prep Draft AP3.10Q-Prob Distr Flwng Intervl Spcn		15	23MAR99	12APR99	3
SLPA2882	Prob Distr Flwng-Determine DTN Assignment		2	23MAR99	24MAR99	390
SLPA2884	Prob Distr Flwng-Determine if Model-Rel SW is Un		5	23MAR99	29MAR99	407
SLPA2886	Prob Distr Flwng-Determine if Data/DTN in TDMS		3	25MAR99	29MAR99	390
SLPA2888	Prob Distr Flwng-Place Model-Related SW Under SM		10	30MAR99	12APR99	407
SLPA2890	Prob Distr Flwng-Submit Data/DTN to TDMS as Nece		22	30MAR99	28APR99	390
SLPA2872	AP3.10Q Chckng/Rev-Prob Distr Flwng Intervl Spcn		25	13APR99	17MAY99	3



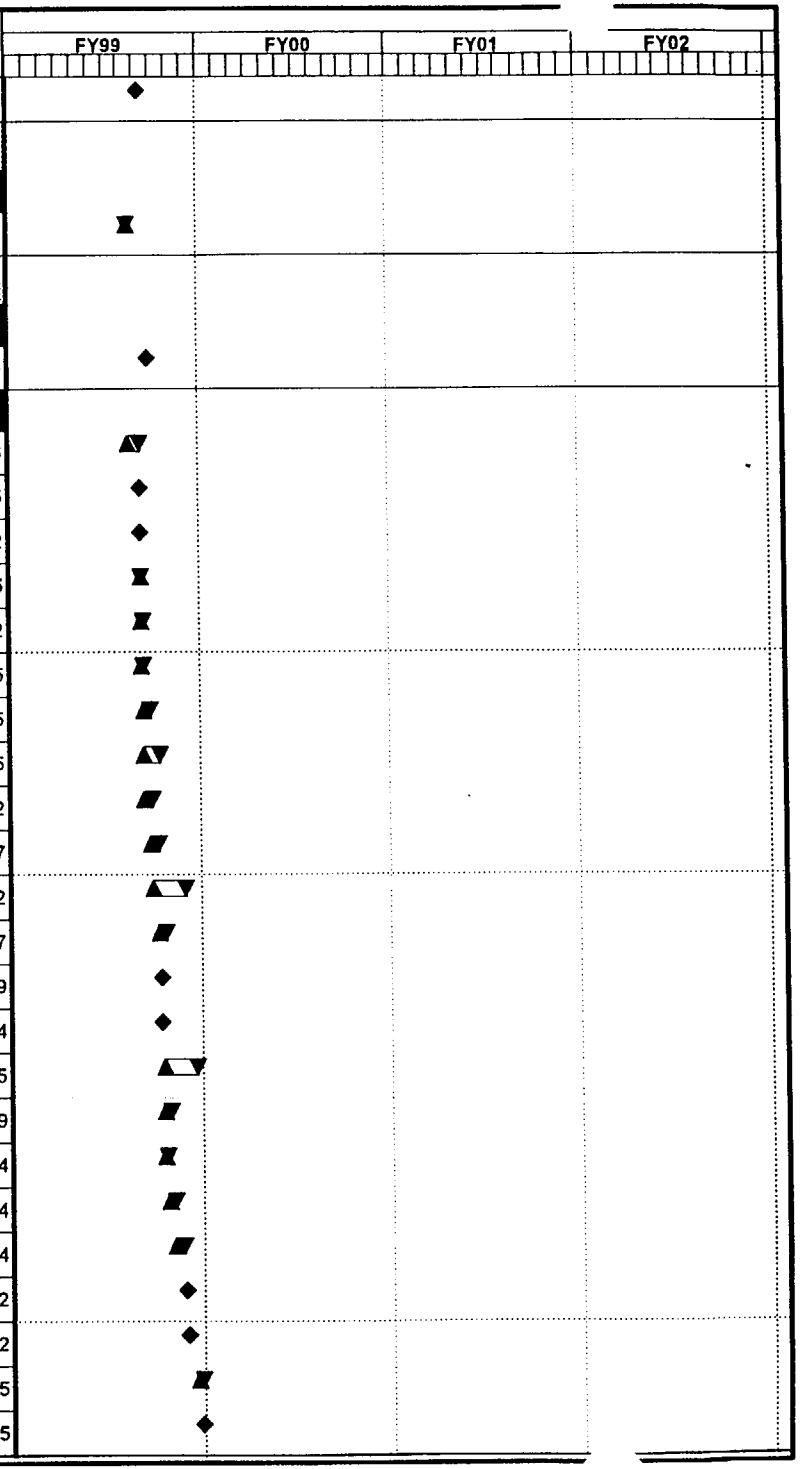
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2892	Prob Distr Flwng-Verify Model-Related Software		44	13APR99	14JUN99	407
SLPA2894	Prob Distr Flwng-Procurement Related Issues ID'd		0		28APR99	424
SLPA2896	Prob Distr Flwng-Data Related Software Issues Id		0		28APR99	409
SLPA2898	Prob Distr Flwng-Determine if Data Rel SW is Und		5	29APR99	05MAY99	409
SLPA2900	Prob Distr Flwng-Rxesolve Procurement Related Da		10	29APR99	12MAY99	424
SLPA2902	Prob Distr Flwng-Verify/Trace Data		44	29APR99	30JUN99	390
SLPA2904	Prob Distr Flwng-Place Under SMS Control as Nece		10	06MAY99	19MAY99	409
SLPA2874	Prep Final AP3.10Q Rpt-Prob Distr Flwng Intervl		10	18MAY99*	01JUN99	3
SLPA2906	Prob Distr Flwng-Verify Data-Related Software		10	20MAY99	03JUN99	409
SLPA2876	Compl AP3.10Q Prob Distr Flowing Interv Spacing	M4	0		01JUN99	123
SLPA2908	Prob Distr Flwng-Qualified/Verified SW Available		0		14JUN99	407
SLPA2910	Prob Distr Flwng-Update TDMS		5	01JUL99	08JUL99	390
SLPA2912	Prob Distr Flwng-Qualified/Verified Data Availab		0		08JUL99	390
B2005						
140 Natural Environment Program Operations						
SLPA2914	AP3.10Q Data-1D Model Colloid-Facil Pu Trsnprt		23	01MAR99*	31MAR99	46
SLPA2924	1d Mdl Coll-Facil-Input Parameters and Data Iden		0		31MAR99	383
SLPA2926	1d Mdl Coll-Facil-Models and Codes Identified		0		31MAR99	400
SLPA2916	Prep Draft AP3.10Q-1D Mdl Coll-Facil Pu Trsnprt		22	01APR99	30APR99	99
SLPA2928	1d Mdl Coll-Facil-Determine DTN Assignment		2	01APR99	02APR99	383
SLPA2930	1d Mdl Coll-Facil-Determine if Model-Rel SW is U		5	01APR99	07APR99	400
SLPA2932	1d Mdl Coll-Facil-Determine if Data/DTN in TDMS		3	05APR99	07APR99	383
SLPA2934	1d Mdl Coll-Facil-Place Model-Related SW Under S		10	08APR99	21APR99	400
SLPA2936	1d Mdl Coll-Facil-Submit Data/DTN to TDMS as Nec		22	08APR99	07MAY99	383
SLPA2938	1d Mdl Coll-Facil-Verify Model-Related Software		44	22APR99	23JUN99	400
SLPA2918	AP3.10Q Ckckng/Rev-1D Mdl Coll-Facil Pu Trsnprt		23	03MAY99	03JUN99	99
SLPA2940	1d Mdl Coll-Facil-Procurement Related Issues ID'		0		07MAY99	417
SLPA2942	1d Mdl Coll-Facil-Data Related Software Issues I		0		07MAY99	402
SLPA2944	1d Mdl Coll-Facil-Determine if Data Rel SW is Un		5	10MAY99	14MAY99	402
SLPA2946	1d Mdl Coll-Facil-Rxesolve Procurement Related D		10	10MAY99	21MAY99	417
SLPA2948	1d Mdl Coll-Facil-Verify/Trace Data		44	10MAY99	12JUL99	383



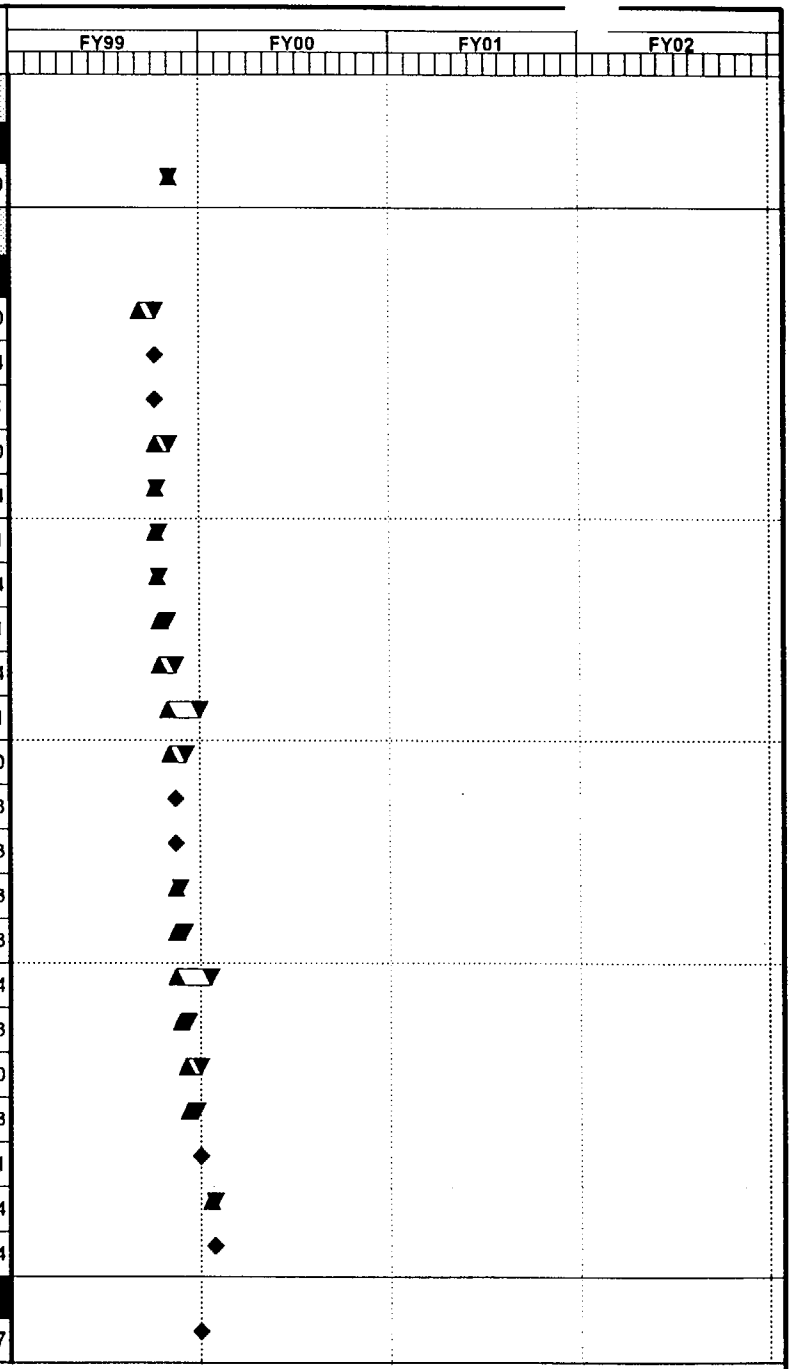
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA2950	1d Mdl Coll-Facil-Place Under SMS Control as Nec		10	17MAY99	28MAY99	402
SLPA2952	1d Mdl Coll-Facil-Verify Data-Related Software		10	01JUN99	14JUN99	402
SLPA2920	Prep Final AP3.10Q Rpt-1d Mdl Coll-Facil Pu Trsn		20	04JUN99	01JUL99	99
SLPA2954	1d Mdl Coll-Facil-Qualified/Verified SW Availabl		0		23JUN99	400
SLPA2922	Compl AP3.10Q 1-D Model Colloid-Facil Pu Trsnprt	M4	0		01JUL99	99
SLPA2956	1d Mdl Coll-Facil-Update TDMS		5	13JUL99	19JUL99	383
SLPA2958	1d Mdl Coll-Facil-Qualified/Verified Data Availa		0		19JUL99	383
B2010						
140 Natural Environment Program Operations						
SPP2060	AP3.10Q Data Hydrochemical Analy & Calibration		34	04JAN99*	19FEB99	28
SPS180	Hydrochem Analy-Input Parameters and Data Identi		0		19FEB99	411
SPS182	Hydrochem Analy-Models and Codes Identified		0		19FEB99	428
SPP2065	Prep Draft AP3.10Q-Hydrochem Analy & Calibr		18	22FEB99	17MAR99	28
SPS184	Hydrochem Analy-Determine DTN Assignment		2	22FEB99	23FEB99	411
SPS208	Hydrochem Analy-Determine if Model-Rel SW is Und		5	22FEB99	26FEB99	428
SPS186	Hydrochem Analy-Determine if Data/DTN in TDMS		3	24FEB99	26FEB99	411
SPS188	Hydrochem Analy-Submit Data/DTN to TDMS as Neces		22	01MAR99	30MAR99	411
SPS210	Hydrochem Analy-Place Model-Related SW Under SMS		10	01MAR99	12MAR99	428
SPS212	Hydrochem Analy-Verify Model-Related Software		44	15MAR99	13MAY99	428
SPP2070	AP3.10Q Chkng/Rev-Hydrochem Analy & Calibr		22	18MAR99	16APR99	28
SPS192	Hydrochem Analy-Procurement Related Issues ID'd		0		30MAR99	445
SPS200	Hydrochem Analy-Data Related Software Issues Ide		0		30MAR99	430
SPS190	Hydrochem Analy-Verify/Trace Data		44	31MAR99	01JUN99	411
SPS194	Hydrochem Analy-Rxesolve Procurement Related Dat		10	31MAR99	13APR99	445
SPS202	Hydrochem Analy-Determine if Data Rel SW is Unde		5	31MAR99	06APR99	430
SPS204	Hydrochem Analy-Place Under SMS Control as Neces		10	07APR99	20APR99	430
SPP2075	Prep Final AP3.10Q Rpt-Hydrochem Analy & Calibr		20	19APR99	14MAY99	28
SPS206	Hydrochem Analy-Verify Data-Related Software		10	21APR99	04MAY99	430
SPS214	Hydrochem Analy-Qualified/Verified SW Available		0		13MAY99	428
SPP124M4	Compl AP3.10Q Hydrochem Analy & Calibration	M4	0		14MAY99	28
SPS196	Hydrochem Analy-Update TDMS		5	02JUN99	08JUN99	411



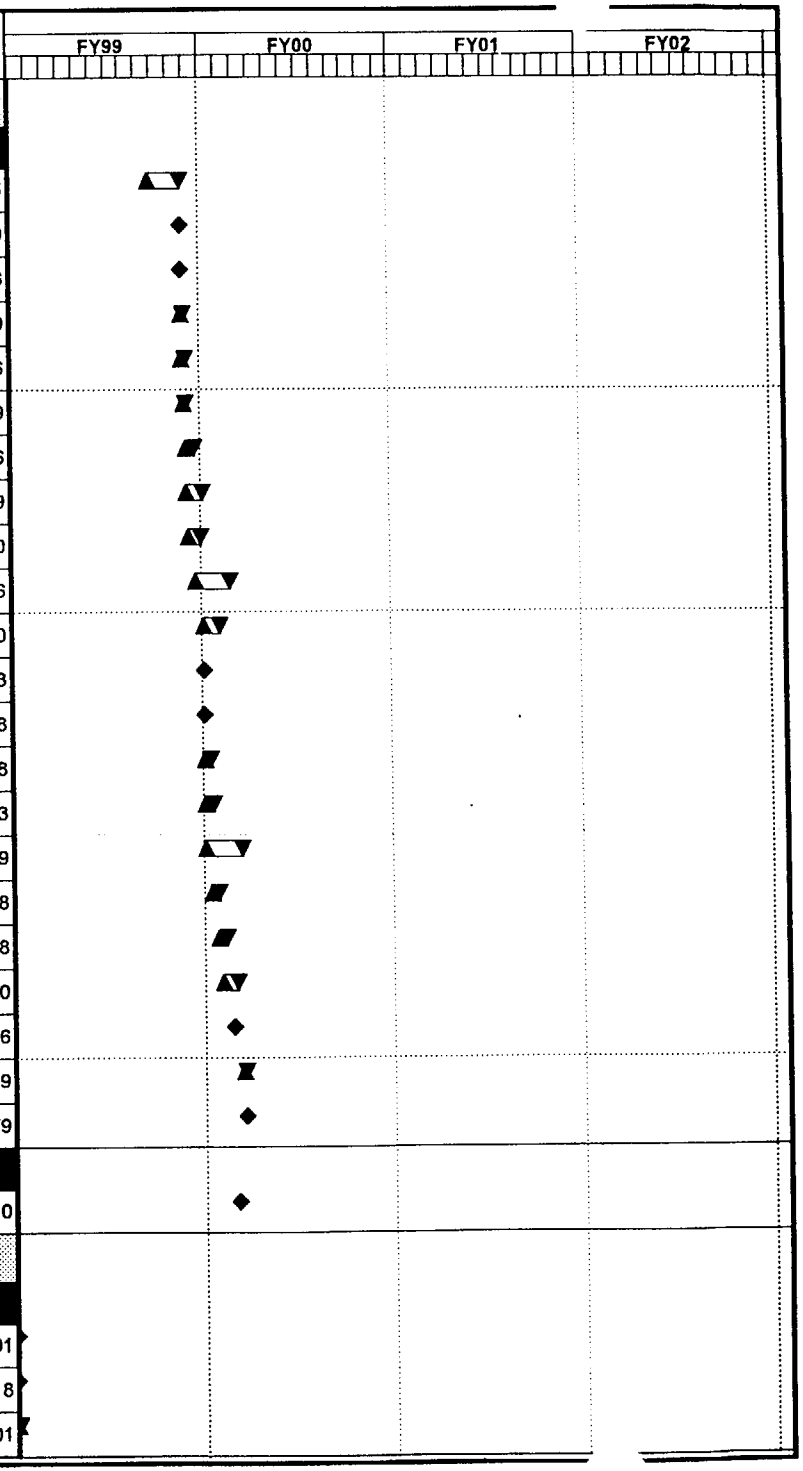
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPS198	Hydrochem Analy-Qualified/Verified Data Availabl		0		08JUN99	411
B2020						
140 Natural Environment Program Operations						
B2020	Final Calibrated Flow Model	M4	1	17MAY99	17MAY99	28
B2030						
130 Performance Assessment Operations						
SLPA2960	Receive Final Calibrated Flow Model-AP3.10Q	M4	0		25JUN99	25
140 Natural Environment Program Operations						
SPP3070	AP3.10Q Data-Final Calibrated Flow Model		15	18MAY99	08JUN99	28
SPS360	Calib. Flow Model-Input Parameters and Data Iden		0		08JUN99	335
SPS362	Calib. Flow Model-Models and Codes Identified		0		08JUN99	352
SPS364	Calib. Flow Model-Determine DTN Assignment		2	09JUN99	10JUN99	335
SPS388	Flow Model-Determine if Model-Rel SW is U		5	09JUN99	15JUN99	352
SPS366	Calib. Flow Model-Determine if Data/DTN in TDMS		3	11JUN99	15JUN99	335
SPP3075	Prep Draft AP3.10Q-Final Calibrated Flow Model		10	14JUN99	25JUN99	25
SPS368	Calib. Flow Model-Submit Data/DTN to TDMS as Nec		22	16JUN99	16JUL99	335
SPS390	Calib. Flow Model-Place Model-Related SW Under S		10	16JUN99	29JUN99	352
SPP3080	AP3.10Q Chckng/Rev-Final Calibrated Flow Model		10	28JUN99	12JUL99	87
SPS392	Calib. Flow Model-Verify Model-Related Software		44	30JUN99	31AUG99	352
SPP3085	Prep Final AP3.10Q Rpt-Final Calibrated Flow Mdl		8	13JUL99	22JUL99	87
SPS372	Calib. Flow Model-Procurement Related Issues ID'		0		16JUL99	369
SPS380	Calib. Flow Model-Data Related Software Issues I		0		16JUL99	354
SPS370	Calib. Flow Model-Verify/Trace Data		44	19JUL99	17SEP99	335
SPS374	Calib. Flow Model-Rxesolve Procurement Related D		10	19JUL99	30JUL99	369
SPS382	Calib. Flow Model-Determine if Data Rel SW is Un		5	19JUL99	23JUL99	354
SPS384	Calib. Flow Model-Place Under SMS Control as Nec		10	26JUL99	06AUG99	354
SPS386	Calib. Flow Model-Verify Data-Related Software		10	09AUG99	20AUG99	354
SPP127M4	Compl AP3.10Q Final Calibrated Flow Model	M4	0		26AUG99	62
SPS394	Calib. Flow Model-Qualified/Verified SW Availabl		0		31AUG99	352
SPS376	Calib. Flow Model-Update TDMS		5	20SEP99	24SEP99	335
SPS378	Calib. Flow Model-Qualified/Verified Data Availa		0		24SEP99	335



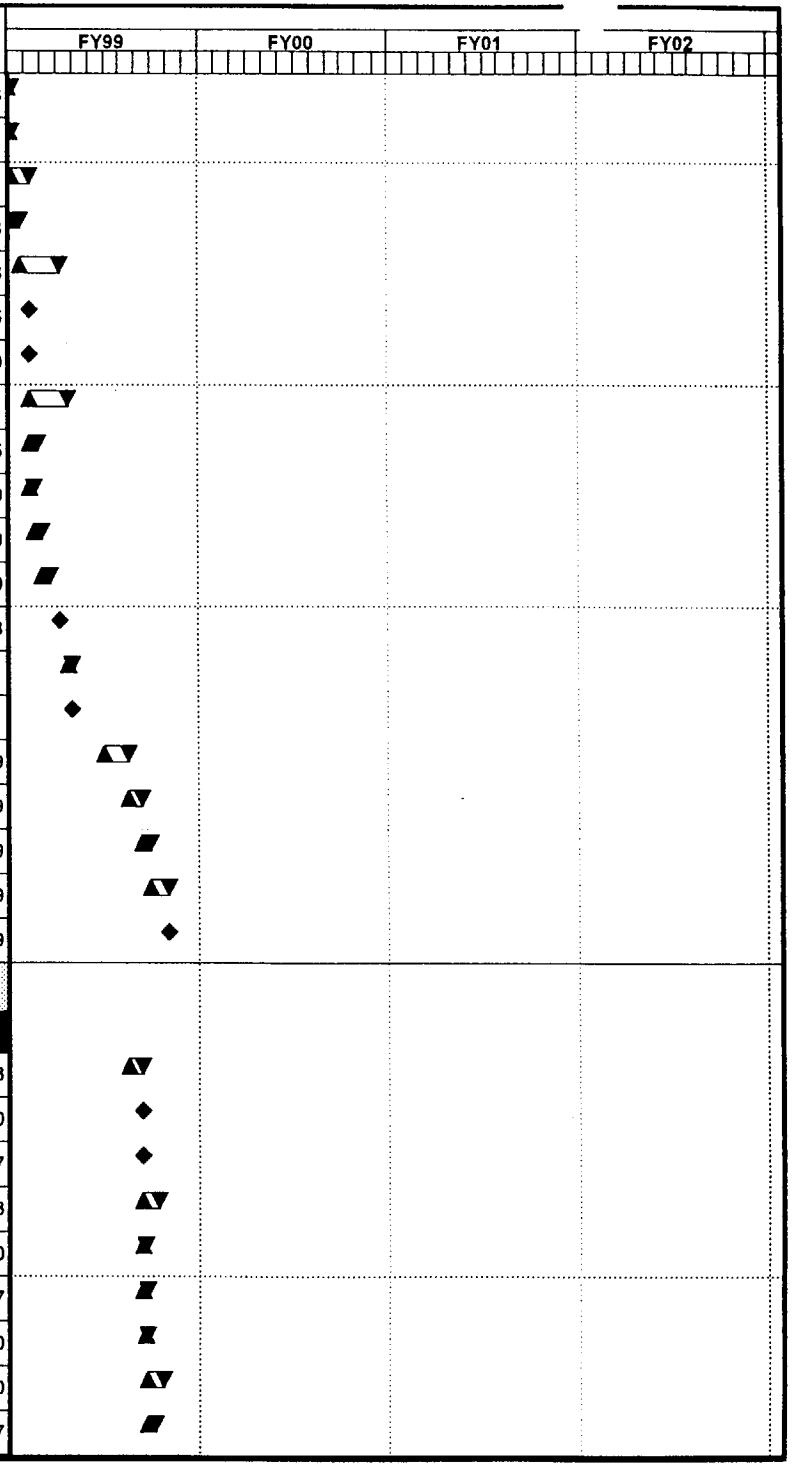
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
B2033						
140 Natural Environment Program Operations						
B2033	Deliver Calibrated SZ F&T Transport Model	M4	1	03AUG99	03AUG99	79
B2035						
130 Performance Assessment Operations						
SLPA2962	AP3.10Q Data-Uncert Distr for Stochastic Param		23	07JUN99*	08JUL99	0
SLPA2972	Uncert Distr Stoch-Input Parameters and Data Ide		0		08JUL99	314
SLPA2974	Uncert Distr Stoch-Models and Codes Identified		0		08JUL99	331
SLPA2964	Prep Draft AP3.10Q-Uncert Distr for Stochast Par		18	09JUL99	03AUG99	0
SLPA2976	Uncert Distr Stoch-Determine DTN Assignment		2	09JUL99	12JUL99	314
SLPA2978	Uncert Distr Stoch-Determine if Model-Rel SW is		5	09JUL99	15JUL99	331
SLPA2980	Uncert Distr Stoch-Determine if Data/DTN in TDMS		3	13JUL99	15JUL99	314
SLPA2982	Uncert Distr Stoch-Place Model-Related SW Under		10	16JUL99	29JUL99	331
SLPA2984	Uncert Distr Stoch-Submit Data/DTN to TDMS as Ne		22	16JUL99	16AUG99	314
SLPA2986	Uncert Distr Stoch-Verify Model-Related Software		44	30JUL99	30SEP99	331
SLPA2966	AP3.10Q Chckng/Rev-Uncert Distr for Stoch Param		22	04AUG99	02SEP99	0
SLPA2988	Uncert Distr Stoch-Procurement Related Issues ID		0		16AUG99	348
SLPA2990	Uncert Distr Stoch-Data Related Software Issues		0		16AUG99	333
SLPA2992	Uncert Distr Stoch-Determine if Data Rel SW is U		5	17AUG99	23AUG99	333
SLPA2994	Uncert Distr Stoch-Rxesolve Procurement Related		10	17AUG99	30AUG99	348
SLPA2996	Uncert Distr Stoch-Verify/Trace Data		44	17AUG99	19OCT99	314
SLPA2998	Uncert Distr Stoch-Place Under SMS Control as Ne		10	24AUG99	07SEP99	333
SLPA2968	Prep Final AP3.10Q Rpt-Uncert Distr Stoch Param		20	03SEP99	01OCT99	0
SLPA3000	Uncert Distr Stoch-Verify Data-Related Software		10	08SEP99	21SEP99	333
SLPA3002	Uncert Distr Stoch-Qualified/Verified SW Availab		0		30SEP99	331
SLPA3004	Uncert Distr Stoch-Update TDMS		5	20OCT99	26OCT99	314
SLPA3006	Uncert Distr Stoch-Qualified/Verified Data Avail		0		26OCT99	314
140 Natural Environment Program Operations						
SLPA2970	Compl AP3.10Q Uncert Distr Stoch Parameter	M4	0		01OCT99	37



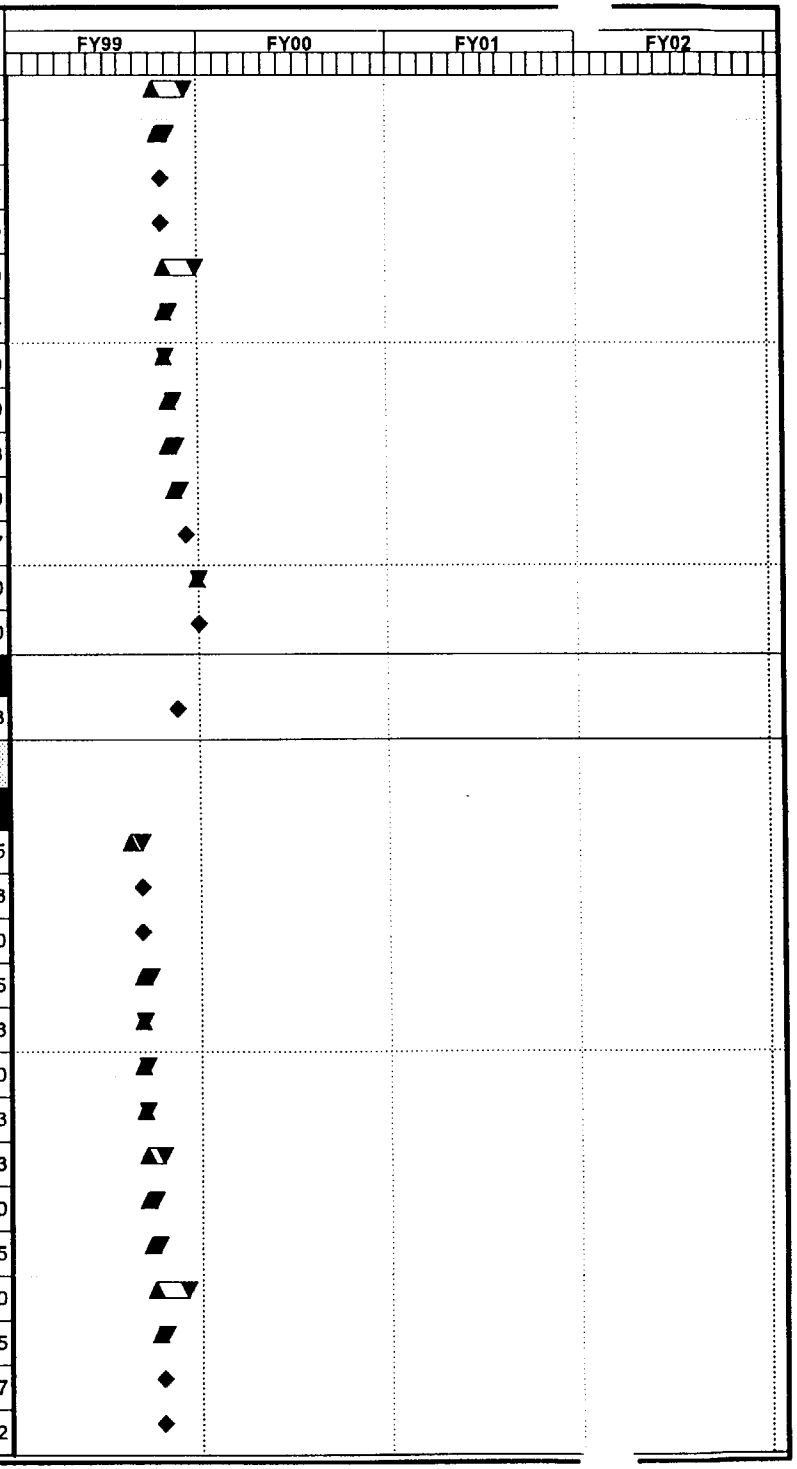
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
B2040						
130 Performance Assessment Operations						
SLPA3008	AP3.10Q Data-Inp/Rslt B/Case SZ F&T Mdl Run		43	28JUN99	26AUG99	25
SLPA3016	Inp/Rslt B/Case SZ-Input Parameters and Data Ide		0		26AUG99	279
SLPA3018	Inp/Rslt B/Case SZ-Models and Codes Identified		0		26AUG99	296
SLPA3020	Inp/Rslt B/Case SZ-Determine DTN Assignment		2	27AUG99	30AUG99	279
SLPA3022	Inp/Rslt B/Case SZ-Determine if Model-Rel SW is		5	27AUG99	02SEP99	296
SLPA3024	Inp/Rslt B/Case SZ-Determine if Data/DTN in TDMS		3	31AUG99	02SEP99	279
SLPA3026	Inp/Rslt B/Case SZ-Place Model-Related SW Under		10	03SEP99	17SEP99	296
SLPA3028	Inp/Rslt B/Case SZ-Submit Data/DTN to TDMS as Ne		22	03SEP99	05OCT99	279
SLPA3010	Prep Draft AP3.10Q-Inp/Rslt B/Case SZ F&T Mdl Rn		15	08SEP99	01OCT99	0
SLPA3030	Inp/Rslt B/Case SZ-Verify Model-Related Software		44	20SEP99	22NOV99	296
SLPA3012	AP3.10Q Chckng/Rev-Inp/Rslt B/Case SZ F&T Mdl Rn		20	04OCT99	03NOV99	0
SLPA3032	Inp/Rslt B/Case SZ-Procurement Related Issues ID		0		05OCT99	313
SLPA3034	Inp/Rslt B/Case SZ-Data Related Software Issues		0		05OCT99	298
SLPA3036	Inp/Rslt B/Case SZ-Determine if Data Rel SW is U		5	06OCT99	13OCT99	298
SLPA3038	Inp/Rslt B/Case SZ-Rxesolve Procurement Related		10	06OCT99	20OCT99	313
SLPA3040	Inp/Rslt B/Case SZ-Verify/Trace Data		44	06OCT99	10DEC99	279
SLPA3042	Inp/Rslt B/Case SZ-Place Under SMS Control as Ne		10	14OCT99	27OCT99	298
SLPA3044	Inp/Rslt B/Case SZ-Verify Data-Related Software		10	28OCT99	10NOV99	298
SLPA3014	Prep Final AP3.10Q Rpt-Inp/Rslt B/Case SZ F&T Md		15	04NOV99	29NOV99	0
SLPA3046	Inp/Rslt B/Case SZ-Qualified/Verified SW Availab		0		22NOV99	296
SLPA3048	Inp/Rslt B/Case SZ-Update TDMS		5	13DEC99	17DEC99	279
SLPA3050	Inp/Rslt B/Case SZ-Qualified/Verified Data Avail		0		17DEC99	279
140 Natural Environment Program Operations						
SPP133M4	Compl AP3.10Q Input/Rslts B/Case SZ F&T Model	M4	0		29NOV99	0
B2065						
140 Natural Environment Program Operations						
SPS216	Natural Analogues-Input Parameters and Data Iden		0		30SEP98	501
SPS218	Natural Analogues-Models and Codes Identified		0		30SEP98	518
SPS220	Natural Analogues-Determine DTN Assignment		2	01OCT98*	02OCT98	501



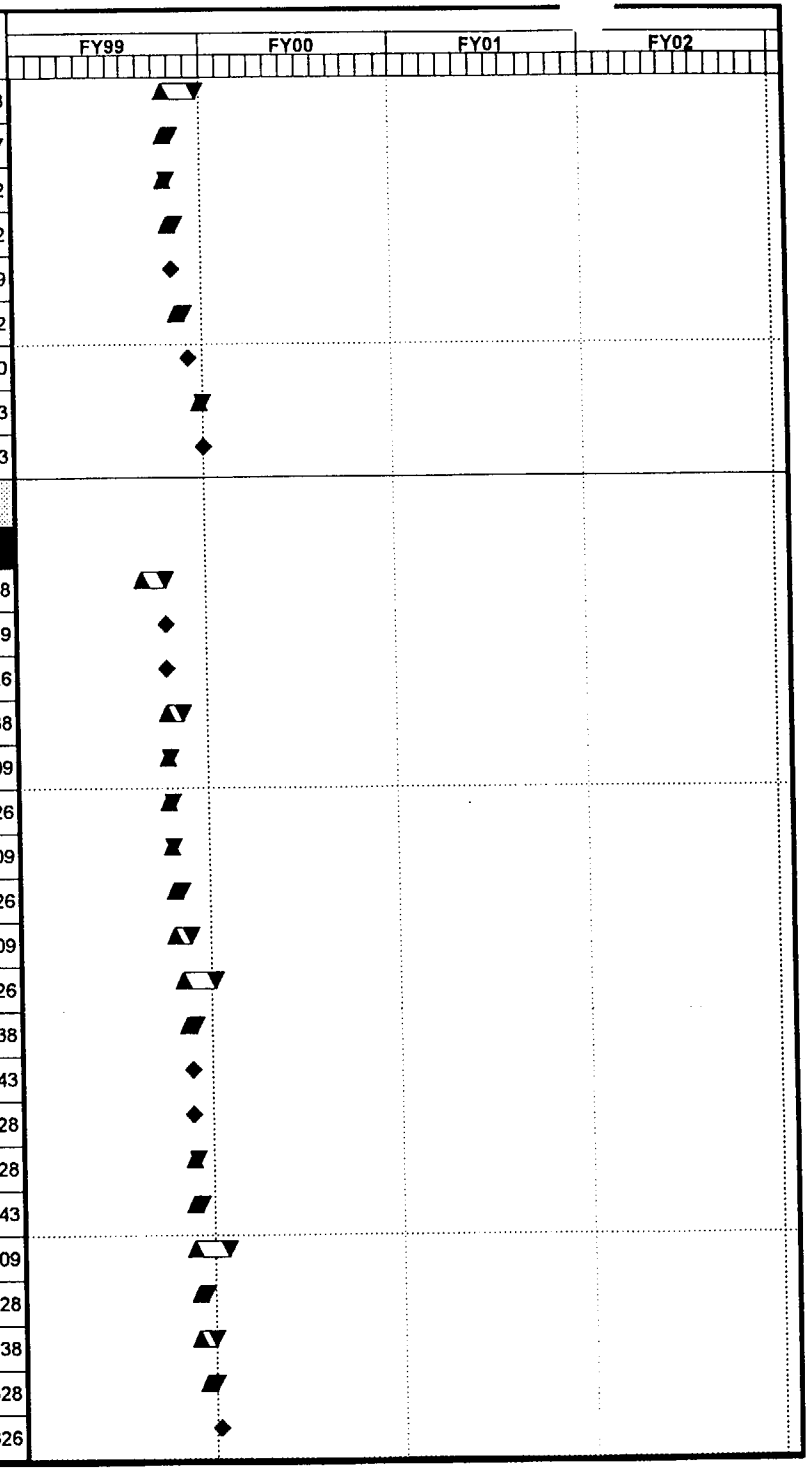
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPS244	Natural Analogues-Determine if Model-Rel SW is U		5	01OCT98*	07OCT98	518
SPS222	Natural Analogues-Determine if Data/DTN in TDMS		3	05OCT98	07OCT98	501
SPS224	Natural Analogues-Submit Data/DTN to TDMS as Nec		22	08OCT98	09NOV98	501
SPS246	Natural Analogues-Place Model-Related SW Under S		10	08OCT98	22OCT98	518
SPS248	Natural Analogues-Verify Model-Related Software		44	23OCT98	06JAN99	518
SPS228	Natural Analogues-Procurement Related Issues ID'		0		09NOV98	535
SPS236	Natural Analogues-Data Related Software Issues I		0		09NOV98	520
SPS226	Natural Analogues-Verify/Trace Data		44	10NOV98	22JAN99	501
SPS230	Natural Analogues-Rxesolve Procurement Related D		10	10NOV98	24NOV98	535
SPS238	Natural Analogues-Determine if Data Rel SW is Un		5	10NOV98	17NOV98	520
SPS240	Natural Analogues-Place Under SMS Control as Nec		10	18NOV98	03DEC98	520
SPS242	Natural Analogues-Verify Data-Related Software		10	04DEC98	17DEC98	520
SPS250	Natural Analogues-Qualified/Verified SW Availabl		0		06JAN99	518
SPS232	Natural Analogues-Update TDMS		5	25JAN99	29JAN99	501
SPS234	Natural Analogues-Qualified/Verified Data Availa		0		29JAN99	501
SPP2080	AP3.10Q Data-Natural Analogues		35	01APR99*	19MAY99	79
SPP2085	Prep Draft AP3.10Q-Natural Analogues		18	20MAY99	15JUN99	79
SPP2090	AP3.10Q Chckng/Rev-Natural Analogues		10	16JUN99	29JUN99	79
SPP2095	Prep Final AP3.10Q Rpt-Natural Analogues		23	30JUN99	02AUG99	79
SPP136M4	Compl AP3.10Q Natural Analogues	M4	0		02AUG99	79
B2070						
130 Performance Assessment Operations						
SPP4010	AP3.10Q Data-Proc Model Uncertainty Analy		20	18MAY99	15JUN99	53
SPS432	Proc Model Uncert-Input Parameters and Data Iden		0		15JUN99	330
SPS434	Proc Model Uncert-Models and Codes Identified		0		15JUN99	347
SPP4015	Prep Draft AP3.10Q-Proc Model Uncertainty Analy		20	16JUN99	14JUL99	53
SPS436	Proc Model Uncert-Determine DTN Assignment		2	16JUN99	17JUN99	330
SPS460	Proc Model Uncert-Determine if Model-Rel SW is U		5	16JUN99	22JUN99	347
SPS438	Proc Model Uncert-Determine if Data/DTN in TDMS		3	18JUN99	22JUN99	330
SPS440	Proc Model Uncert-Submit Data/DTN to TDMS as Nec		22	23JUN99	23JUL99	330
SPS462	Proc Model Uncert-Place Model-Related SW Under S		10	23JUN99	07JUL99	347



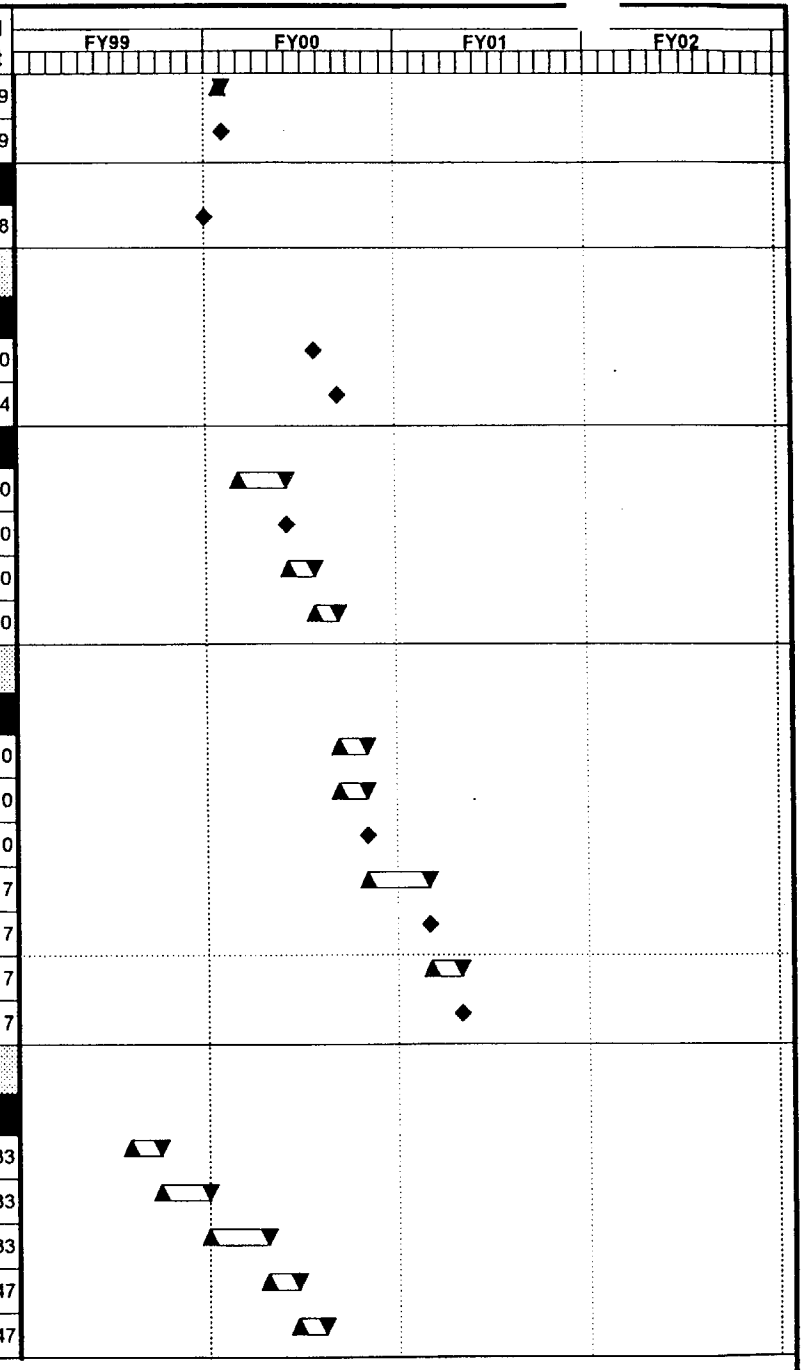
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPS464	Proc Model Uncert-Verify Model-Related Software		44	08JUL99	08SEP99	347
SPP4020	AP3.10Q Chckng/Rev-Proc Model Uncertainty Analy		15	15JUL99	04AUG99	53
SPS444	Proc Model Uncert-Procurement Related Issues ID'		0		23JUL99	364
SPS452	Proc Model Uncert-Data Related Software Issues I		0		23JUL99	349
SPS442	Proc Model Uncert-Verify/Trace Data		44	26JUL99	24SEP99	330
SPS446	Proc Model Uncert-Rxesolve Procurement Related D		10	26JUL99	06AUG99	364
SPS454	Proc Model Uncert-Determine if Data Rel SW is Un		5	26JUL99	30JUL99	349
SPS456	Proc Model Uncert-Place Under SMS Control as Nec		10	02AUG99	13AUG99	349
SPP4025	Prep Final AP3.10Q Rpt-Proc Model Uncert Analy		10	05AUG99	18AUG99	53
SPS458	Proc Model Uncert-Verify Data-Related Software		10	16AUG99	27AUG99	349
SPS466	Proc Model Uncert-Qualified/Verified SW Availabl		0		08SEP99	347
SPS448	Proc Model Uncert-Update TDMS		5	27SEP99	01OCT99	330
SPS450	Proc Model Uncert-Qualified/Verified Data Availa		0		01OCT99	330
140 Natural Environment Program Operations						
SPP139M4	Compl AP3.10Q Process Model Uncertainty Analysis	M4	0		18AUG99	53
B2075						
140 Natural Environment Program Operations						
SPP4030	AP3.10Q Data-Model Validation		15	20MAY99	10JUN99	85
SPS468	Model Validation-Input Parameters and Data Ident		0		10JUN99	333
SPS470	Model Validation-Models and Codes Identified		0		10JUN99	350
SPP4035	Prep Draft AP3.10Q-Model Validation		10	11JUN99	24JUN99	85
SPS472	Model Validation-Determine DTN Assignment		2	11JUN99	14JUN99	333
SPS496	Model Validation-Determine if Model-Rel SW is Un		5	11JUN99	17JUN99	350
SPS474	Model Validation-Determine if Data/DTN in TDMS		3	15JUN99	17JUN99	333
SPS476	Model Validation-Submit Data/DTN to TDMS as Nece		22	18JUN99	20JUL99	333
SPS498	Model Validation-Place Model-Related SW Under SM		10	18JUN99	01JUL99	350
SPP4040	AP3.10Q Chckng/Rev-Model Validation		10	25JUN99	09JUL99	85
SPS500	Model Validation-Verify Model-Related Software		44	02JUL99	02SEP99	350
SPP4045	Prep Final AP3.10Q Rpt-Model Validation		10	12JUL99	23JUL99	85
SPS480	Model Validation-Procurement Related Issues ID'd		0		20JUL99	367
SPS488	Model Validation-Data Related Software Issues Id		0		20JUL99	352



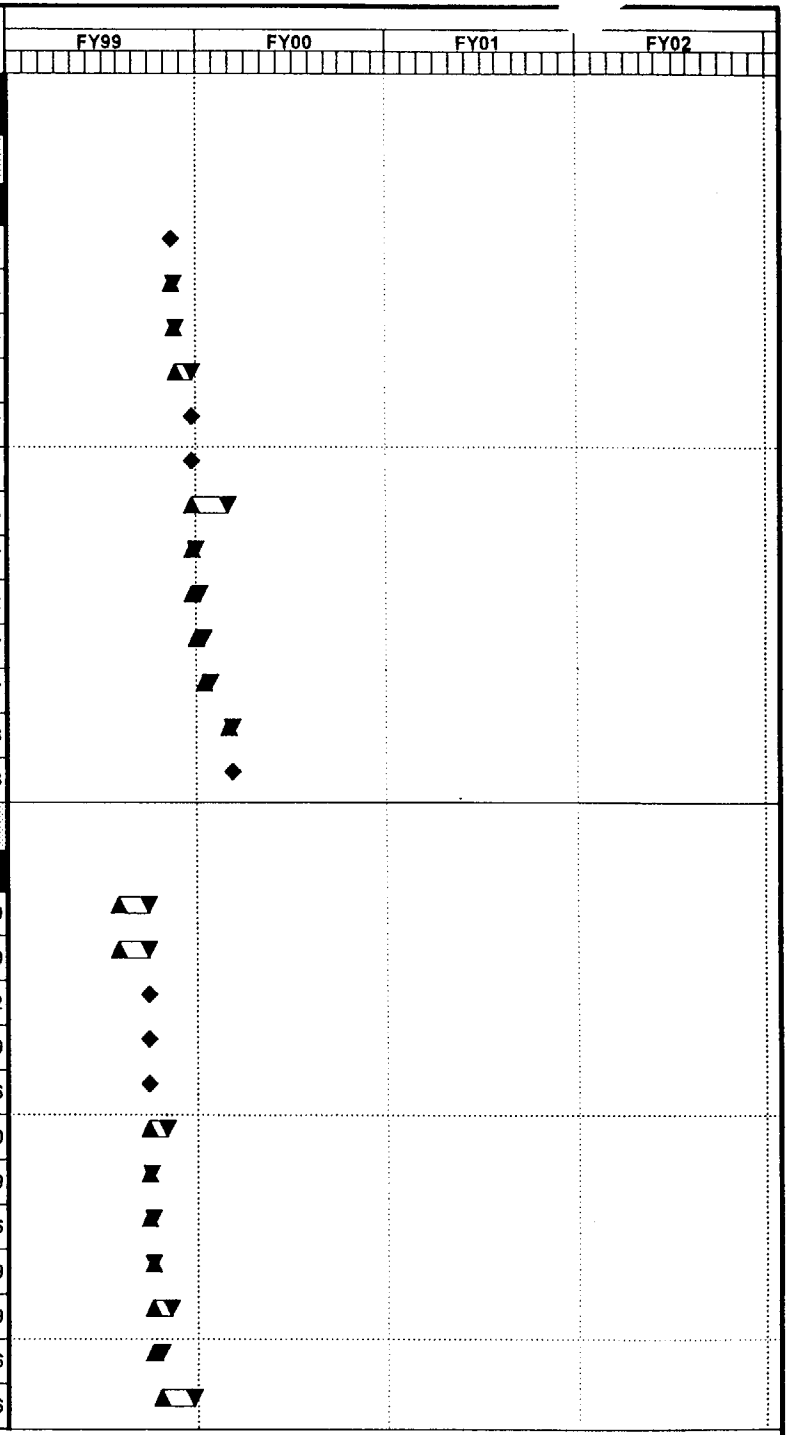
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SPS478	Model Validation-Verify/Trace Data		44	21JUL99	21SEP99	333
SPS482	Model Validation-Rxesolve Procurement Related Da		10	21JUL99	03AUG99	367
SPS490	Model Validation-Determine if Data Rel SW is Und		5	21JUL99	27JUL99	352
SPS492	Model Validation-Place Under SMS Control as Nece		10	28JUL99	10AUG99	352
SPP142M4	Compl AP3.10Q Model Validation	M4	0		02AUG99	79
SPS494	Model Validation-Verify Data-Related Software		10	11AUG99	24AUG99	352
SPS502	Model Validation-Qualified/Verified SW Available		0		02SEP99	350
SPS484	Model Validation-Update TDMS		5	22SEP99	28SEP99	333
SPS486	Model Validation-Qualified/Verified Data Availab		0		28SEP99	333
B2078						
130 Performance Assessment Operations						
SLPA3052	AP3.10Q Data-FEP's		32	01JUN99*	15JUL99	38
SLPA3060	FEP's-Input Parameters and Data Identified		0		15JUL99	309
SLPA3062	FEP's-Models and Codes Identified		0		15JUL99	326
SLPA3054	Prep Draft AP3.10Q-Fep's		21	16JUL99	13AUG99	38
SLPA3064	FEP's-Determine DTN Assignment		2	16JUL99	19JUL99	309
SLPA3066	FEP's-Determine if Model-Rel SW is Under SMS Con		5	16JUL99	22JUL99	326
SLPA3068	FEP's-Determine if Data/DTN in TDMS		3	20JUL99	22JUL99	309
SLPA3070	FEP's-Place Model-Related SW Under SMS Control		10	23JUL99	05AUG99	326
SLPA3072	FEP's-Submit Data/DTN to TDMS as Necessary		22	23JUL99	23AUG99	309
SLPA3074	FEP's-Verify Model-Related Software		44	06AUG99	07OCT99	326
SLPA3056	AP3.10Q Chckng/Rev-FEP's		12	16AUG99	31AUG99	38
SLPA3076	FEP's-Procurement Related Issues ID'd to Car Man		0		23AUG99	343
SLPA3078	FEP's-Data Related Software Issues Identified		0		23AUG99	328
SLPA3080	FEP's-Determine if Data Rel SW is Under SMS Cont		5	24AUG99	30AUG99	328
SLPA3082	FEP's-Rxesolve Procurement Related Data Issues		10	24AUG99	07SEP99	343
SLPA3084	FEP's-Verify/Trace Data		44	24AUG99	26OCT99	309
SLPA3086	FEP's-Place Under SMS Control as Necessary		10	31AUG99	14SEP99	328
SLPA3058	Prep Final AP3.10Q Rpt-FEP's		21	01SEP99	30SEP99	38
SLPA3088	FEP's-Verify Data-Related Software		10	15SEP99	28SEP99	328
SLPA3090	FEP's-Qualified/Verified SW Available		0		07OCT99	326



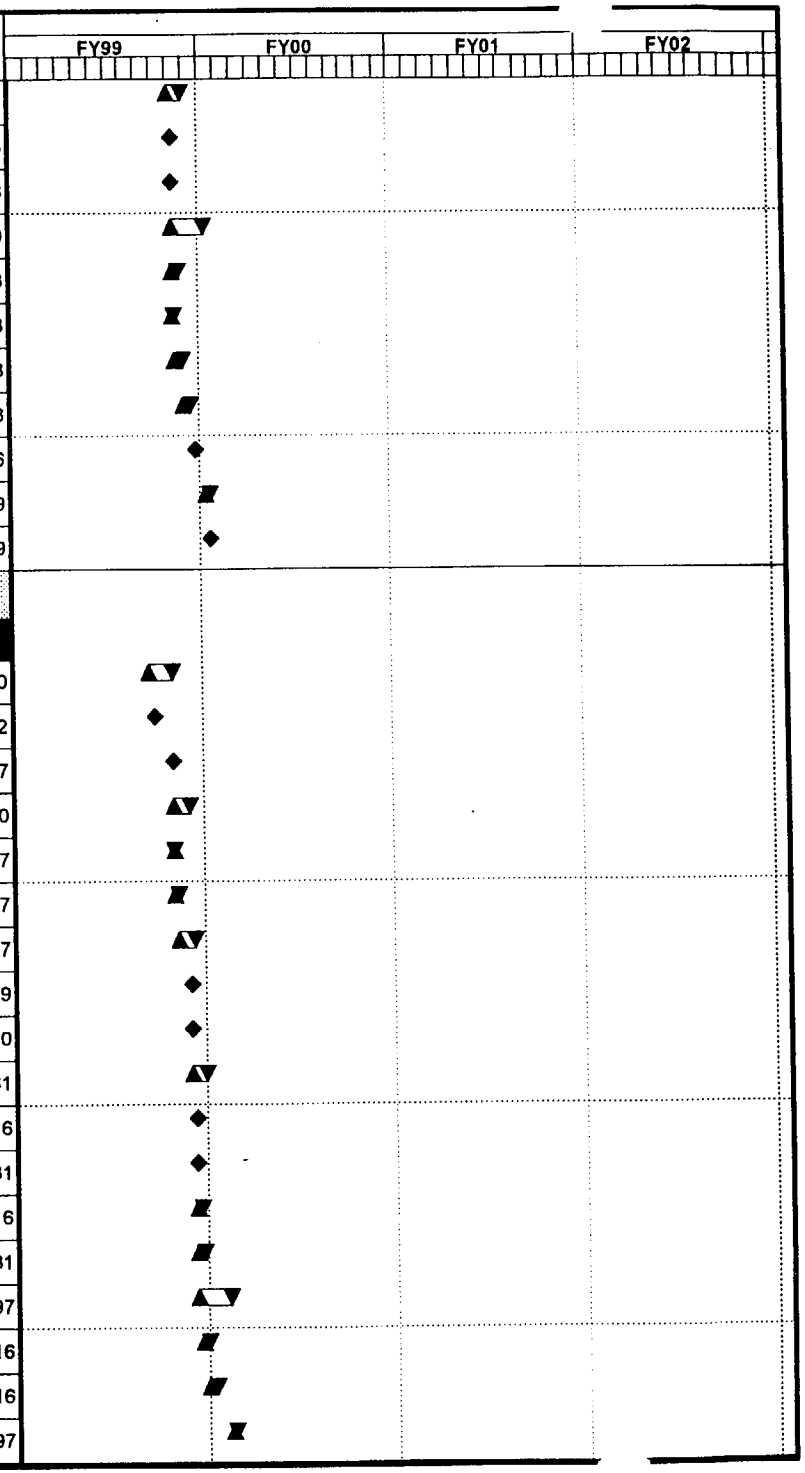
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA3092	FEP's Update TDMS		5	27OCT99	02NOV99	309
SLPA3094	FEP's Qualified/Verified Data Available		0		02NOV99	309
140 Natural Environment Program Operations						
SPP145M4	Compl AP3.10Q FEP's	M4	0		30SEP99	38
B2100						
300 Regulatory & Licensing						
SLP608M3	SZ Flow & Transport PMR Rev 00	M3	0		24APR00	0
SLP60CM3	Rev 01 SZ Flow & Transport PMR	M3	0		09JUN00	24
SLP600	SZ Flow & Transport PMR Text Process		66	30NOV99*	03MAR00	0
SLP60AM4	SZ Flow & Transport PMR Rev 00A	M4	0		03MAR00	0
SLP6005	M&O SZ Flow & Transport PMR Review		36	06MAR00	24APR00	0
SLP6010	DOE SZ Flow & Transport PMR Review		33	25APR00	09JUN00	0
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
SPS00A	Revise SZ PMR AP 3.10Q's for SR		36	12JUN00	01AUG00	0
SPS00B	Prepare SZ PMR REV-02A for SR		36	12JUN00	01AUG00	0
SPS00BM4	SZ PMR Rev-02A for SR	M4	0		01AUG00*	0
SPS00C	M&O Review SZ PMR Rev-02A for SR		83	02AUG00	01DEC00	17
SPS00CM3	SZ PMR Rev-02 for SR	M3	0		01DEC00	17
SPS00D	DOE Review SZ PMR 02 for SR		41	04DEC00	31JAN01	17
SPS00EM3	Rev 03 SZ PMR for SR	M3	0		31JAN01	17
150 Support Operations						
BMP200	PIM 3.10Q/PMR Planning & Text Support (SZ)		42	03MAY99*	30JUN99	33
BMP201	PIM Text & M&O Review Prep Support (SZ)		64	01JUL99	30SEP99	33
BMP202	Cont PIM Text & M&O Review Prep Support (SZ)		71	01OCT99	17JAN00	33
BMP203	PIM M&O Rev. & DOE Rev. Prep Support (SZ)		42	18JAN00	16MAR00	47
BMP204	PIM DOE Rev. & Final Accept. Support (SZ)		37	17MAR00	08MAY00	47



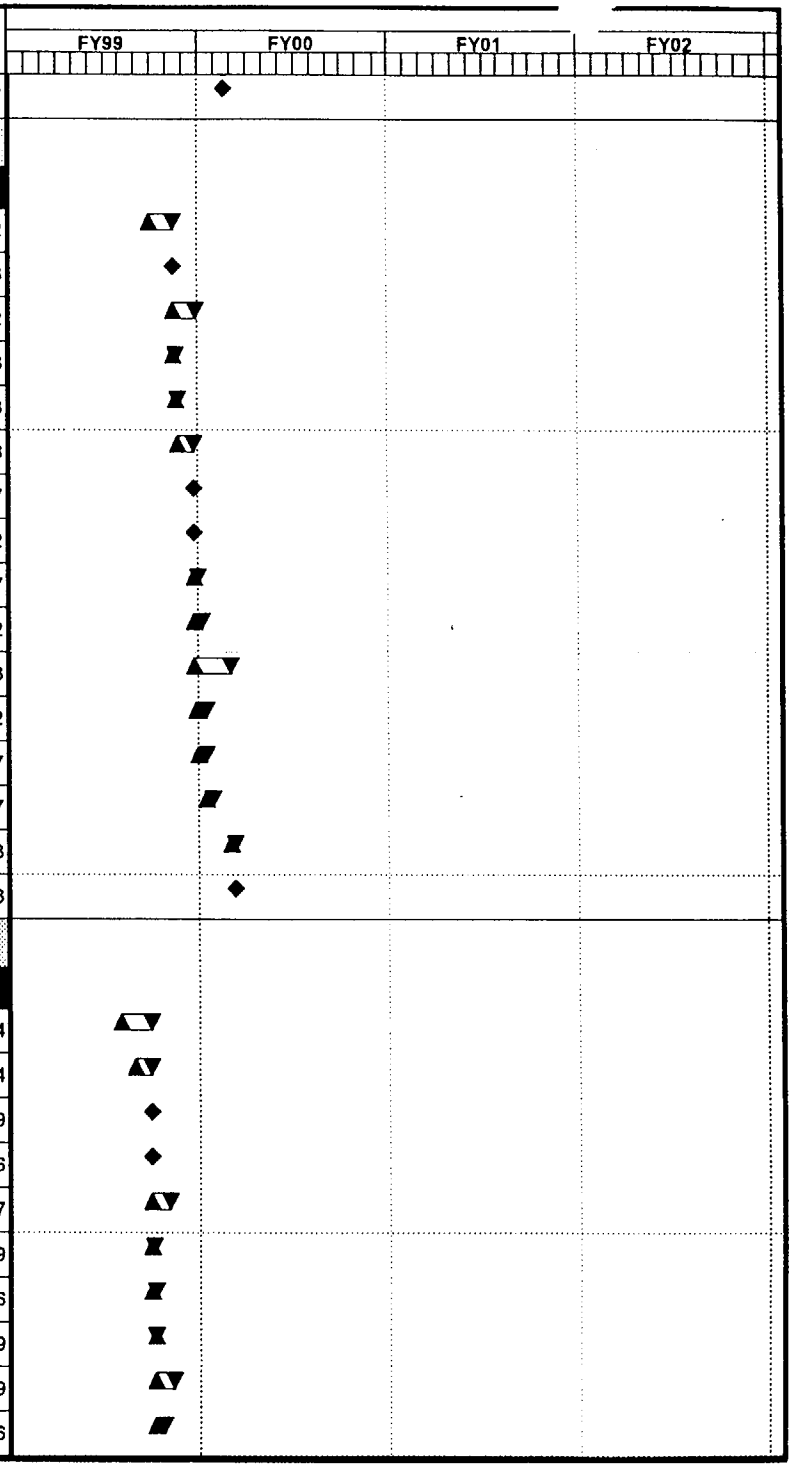
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
W WP PMR						
NEWJ						
130 Performance Assessment Operations						
WPQ1400	Abstraction of Water-Input Parameters and Data I		0		13AUG99	288
WPQ1404	Abstraction of Water-Determine DTN Assignment		2	16AUG99	17AUG99	288
WPQ1408	Abstraction of Water-Determine if Data/DTN in TD		3	18AUG99	20AUG99	288
WPQ1410	Abstraction of Water-Submit Data/DTN to TDMS as		22	23AUG99	22SEP99	288
WPQ1416	Abstraction of Water-Data Related Software Issue		0		22SEP99	307
WPQ1418	Abstraction of Water-Procurement Related Issues		0		22SEP99	322
WPQ1420	Abstraction of Water-Verify/Trace Data		44	23SEP99	29NOV99	288
WPQ1422	Abstraction of Water-Determine if Data Rel SW is		5	23SEP99	29SEP99	307
WPQ1424	Abstraction of Water-Rxesolve Procurement Relate		10	23SEP99	06OCT99	322
WPQ1426	Abstraction of Water-Place Under SMS Control as		10	30SEP99	14OCT99	307
WPQ1428	Abstraction of Water-Verify Data-Related Softwar		10	15OCT99	28OCT99	307
WPQ1430	Abstraction of Water-Update TDMS		5	30NOV99	06DEC99	288
WPQ1432	Abstraction of Water-Qualified/Verified Data Ava		0		06DEC99	288
W1020						
110 Waste Package Operations						
WPPMR180	3.10Q data (General Corrosion of WP Barrier)		42	03MAY99*	30JUN99	0
WPPMR185	Prepare Draft 3.10Q Gen Corr. Rev 00A		42	03MAY99*	30JUN99	0
WPP460M4	Provide Draft 3.10Q Gen Corr. Rev 00A	M4	0		30JUN99	22
WPW072	General Corr.-Input Parameters and Data Identifi		0		30JUN99	319
WPW073	General Corr.-Models and Codes Identified		0		30JUN99	336
WPPMR190	3.10Q Checking/Review General Corr.		22	01JUL99	02AUG99	0
WPW074	General Corr.-Determine DTN Assignment		2	01JUL99	02JUL99	319
WPW086	General Corr.-Determine if Model-Rel SW is Under		5	01JUL99	08JUL99	336
WPW075	General Corr.-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99	319
WPW076	General Corr.-Submit Data/DTN to TDMS as Necessa		22	09JUL99	09AUG99	319
WPW087	General Corr.-Place Model-Related SW Under SMS C		10	09JUL99	22JUL99	336
WPW088	General Corr.-Verify Model-Related Software		44	23JUL99	23SEP99	336



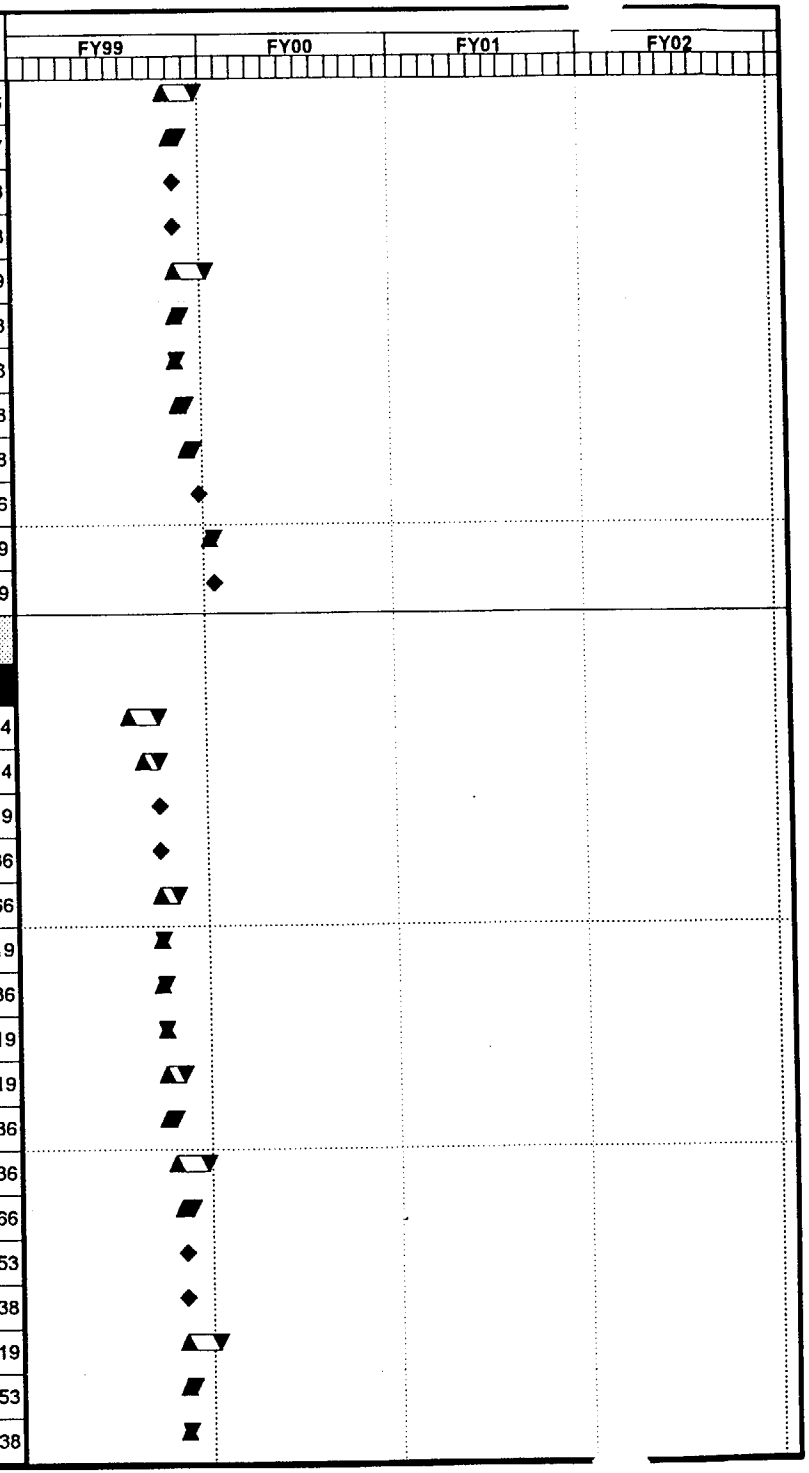
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPPMR195	Prepare Final 3.10Q Report General Corr.		20	03AUG99	30AUG99	61
WPW078	General Corr.-Procurement Related Issues ID'd to		0		09AUG99	353
WPW082	General Corr.-Data Related Software Issues Ident		0		09AUG99	338
WPW077	General Corr.-Verify/Trace Data		44	10AUG99	12OCT99	319
WPW079	General Corr.-Rxesolve Procurement Related Data		10	10AUG99	23AUG99	353
WPW083	General Corr.-Determine if Data Rel SW is Under		5	10AUG99	16AUG99	338
WPW084	General Corr.-Place Under SMS Control as Necessa		10	17AUG99	30AUG99	338
WPW085	General Corr.-Verify Data-Related Software		10	31AUG99	14SEP99	338
WPW089	General Corr.-Qualified/Verified SW Available		0		23SEP99	336
WPW080	General Corr.-Update TDMS		5	13OCT99	19OCT99	319
WPW081	General Corr.-Qualified/Verified Data Available		0		19OCT99	319
W1025						
130 Performance Assessment Operations						
SLPA3098	Prepare Draft Gen Corr. Alloy 22 3.10Q Rev 00A		31	18JUN99*	02AUG99	0
SLPA3096	Receive General Corrosion of Alloy 22 - AP3.10Q	M4	0		30JUN99	22
SLPA3108	Rpt Gen Corr. Alloy 22-Input Parameters and Data		0		02AUG99	297
SLPA3104	3.10Q Checking/Review		22	03AUG99	01SEP99	0
SLPA3112	Rpt Gen Corr. Alloy 22-Determine DTN Assignment		2	03AUG99	04AUG99	297
SLPA3116	Rpt Gen Corr. Alloy 22-Determine if Data/DTN in		3	05AUG99	09AUG99	297
SLPA3120	Rpt Gen Corr. Alloy 22-Submit Data/DTN to TDMS a		22	10AUG99	09SEP99	297
SLPA3100	Receive Model Abstraction-PAO - AP3.10Q	M4	0		01SEP99	9
SLPA3102	Provide Model Abstraction-PAO - AP3.10Q	M4	0		01SEP99*	0
SLPA3106	Prepare Final 3.10Q Report		20	02SEP99	30SEP99	81
SLPA3124	Rpt Gen Corr. Alloy 22-Data Related Software Iss		0		09SEP99	316
SLPA3126	Rpt Gen Corr. Alloy 22-Procurement Related Issue		0		09SEP99	331
SLPA3128	Rpt Gen Corr. Alloy 22-Determine if Data Rel SW		5	10SEP99	16SEP99	316
SLPA3130	Rpt Gen Corr. Alloy 22-Rxesolve Procurement Rela		10	10SEP99	23SEP99	331
SLPA3132	Rpt Gen Corr. Alloy 22-Verify/Trace Data		44	10SEP99	12NOV99	297
SLPA3134	Rpt Gen Corr. Alloy 22-Place Under SMS Control a		10	17SEP99	30SEP99	316
SLPA3136	Rpt Gen Corr. Alloy 22-Verify Data-Related Softw		10	01OCT99	15OCT99	316
SLPA3138	Rpt Gen Corr. Alloy 22-Update TDMS		5	15NOV99	19NOV99	297



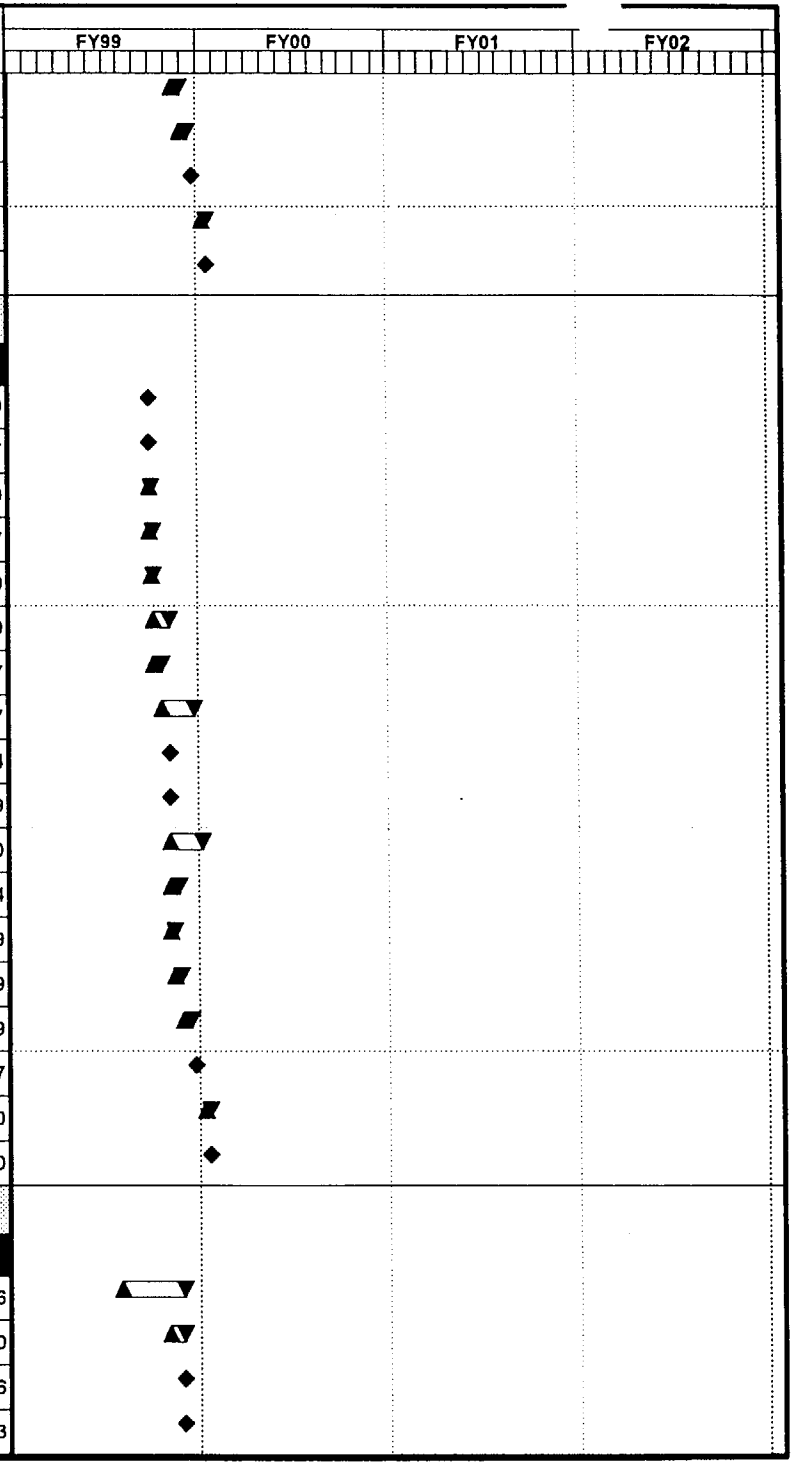
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA3140	Rpt Gen Corr. Alloy 22-Qualified/Verified Data A		0		19NOV99	297
W1030						
130 Performance Assessment Operations						
SLPA3142	Prepare Draft WP Surface Chem 3.10Q Rev 00A		31	01JUL99*	13AUG99	22
SLPA3148	WP Surf Chem-Input Parameters and Data Identifie		0		13AUG99	288
SLPA3144	3.10Q Checking/Review WP Surface Chem		30	16AUG99	27SEP99	72
SLPA3152	WP Surf Chem-Determine DTN Assignment		2	16AUG99	17AUG99	288
SLPA3156	WP Surf Chem-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99	288
SLPA3160	WP Surf Chem-Submit Data/DTN to TDMS as Necessar		22	23AUG99	22SEP99	288
SLPA3164	WP Surf Chem-Data Related Software Issues Identi		0		22SEP99	307
SLPA3166	WP Surf Chem-Procurement Related Issues ID'd to		0		22SEP99	322
SLPA3168	WP Surf Chem-Determine if Data Rel SW is Under S		5	23SEP99	29SEP99	307
SLPA3170	WP Surf Chem-Rxesolve Procurement Related Data I		10	23SEP99	06OCT99	322
SLPA3172	WP Surf Chem-Verify/Trace Data		44	23SEP99	29NOV99	288
SLPA3146	Prepare Final 3.10Q Report WP Surface Chem		12	28SEP99	14OCT99	72
SLPA3174	WP Surf Chem-Place Under SMS Control as Necessar		10	30SEP99	14OCT99	307
SLPA3176	WP Surf Chem-Verify Data-Related Software		10	15OCT99	28OCT99	307
SLPA3178	WP Surf Chem-Update TDMS		5	30NOV99	06DEC99	288
SLPA3180	WP Surf Chem-Qualified/Verified Data Available		0		06DEC99	288
W1045						
110 Waste Package Operations						
WPPMR100	3.10Q data (Enviro - Surf Drip Shield & WP Barr)		42	03MAY99*	30JUN99	24
WPPMR105	Prepare Draft 3.10Q Enviro-Surf Drip Shld Rv 00A		22	01JUN99*	30JUN99	24
WPW000	Surf Drip Sh-Input Parameters and Data Identifi		0		30JUN99	319
WPW001	Surf Drip Sh-Models and Codes Identified		0		30JUN99	336
WPPMR110	3.10Q Checking/Review Enviro - Surf Drip Shield		22	01JUL99	02AUG99	97
WPW002	Surf Drip Sh-Determine DTN Assignment		2	01JUL99	02JUL99	319
WPW014	Surf Drip Sh-Determine if Model-Rel SW is Under		5	01JUL99	08JUL99	336
WPW003	Surf Drip Sh-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99	319
WPW004	Surf Drip Sh-Submit Data/DTN to TDMS as Necessa		22	09JUL99	09AUG99	319
WPW015	Surf Drip Sh-Place Model-Related SW Under SMS C		10	09JUL99	22JUL99	336



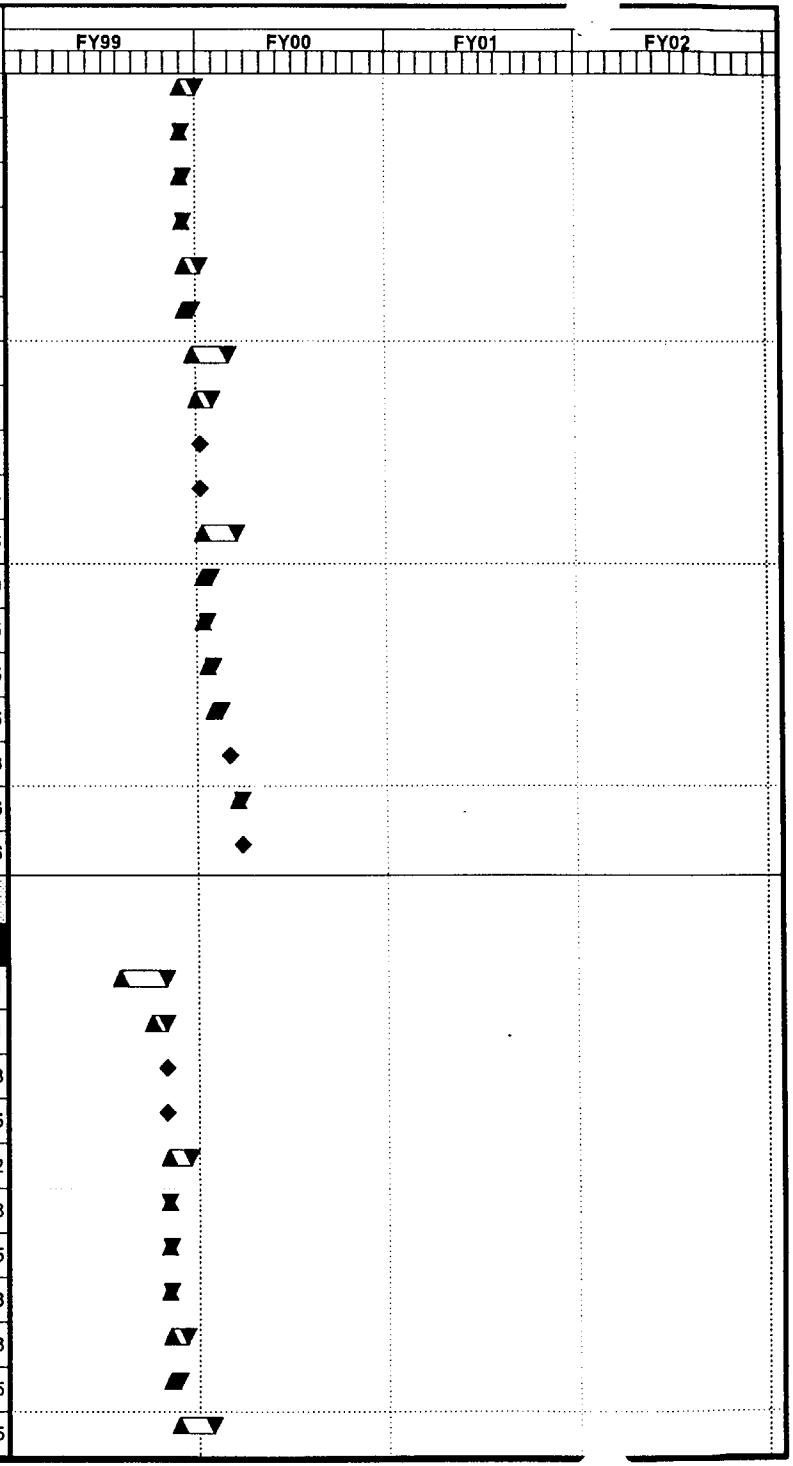
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW016	Surf Drip Sh-Verify Model-Related Software		44	23JUL99	23SEP99	336
WPPMR115	Prepare Final 3.10Q Report Enviro - Surf Drip Sh		15	03AUG99	23AUG99	97
WPW006	Surf Drip Sh-Procurement Related Issues ID'd to		0		09AUG99	353
WPW010	Surf Drip Sh-Data Related Software Issues Ident		0		09AUG99	338
WPW005	Surf Drip Sh-Verify/Trace Data		44	10AUG99	12OCT99	319
WPW007	Surf Drip Sh-Rxesolve Procurement Related Data		10	10AUG99	23AUG99	353
WPW011	Surf Drip Sh-Determine if Data Rel SW is Under		5	10AUG99	16AUG99	338
WPW012	Surf Drip Sh-Place Under SMS Control as Necessa		10	17AUG99	30AUG99	338
WPW013	Surf Drip Sh-Verify Data-Related Software		10	31AUG99	14SEP99	338
WPW017	Surf Drip Sh-Qualified/Verified SW Available		0		23SEP99	336
WPW008	Surf Drip Sh-Update TDMS		5	13OCT99	19OCT99	319
WPW009	Surf Drip Sh-Qualified/Verified Data Available		0		19OCT99	319
W1060						
110 Waste Package Operations						
WPPMR140	3.10Q data (Phase Stability & Aging)		42	03MAY99*	30JUN99	24
WPPMR145	Prepare Draft 3.10Q Phase Stability & Ag Rev 00A		22	01JUN99*	30JUN99	24
WPW036	Stability & Ag-Input Parameters and Data Identif		0		30JUN99	319
WPW037	Stability & Ag-Models and Codes Identified		0		30JUN99	336
WPPMR150	3.10Q Checking/Review Phase Stability & Aging		22	01JUL99	02AUG99	66
WPW038	Stability & Ag-Determine DTN Assignment		2	01JUL99	02JUL99	319
WPW050	Stability & Ag-Determine if Model-Rel SW is Unde		5	01JUL99	08JUL99	336
WPW039	Stability & Ag-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99	319
WPW040	Stability & Ag-Submit Data/DTN to TDMS as Necess		22	09JUL99	09AUG99	319
WPW051	Stability & Ag-Place Model-Related SW Under SMS		10	09JUL99	22JUL99	336
WPW052	Stability & Ag-Verify Model-Related Software		44	23JUL99	23SEP99	336
WPPMR155	Prepare Final 3.10Q Report Phase Stability & Ag		15	03AUG99	23AUG99	66
WPW042	Stability & Ag-Procurement Related Issues ID'd t		0		09AUG99	353
WPW046	Stability & Ag-Data Related Software Issues Iden		0		09AUG99	338
WPW041	Stability & Ag-Verify/Trace Data		44	10AUG99	12OCT99	319
WPW043	Stability & Ag-Rxesolve Procurement Related Data		10	10AUG99	23AUG99	353
WPW047	Stability & Ag-Determine if Data Rel SW is Under		5	10AUG99	16AUG99	338



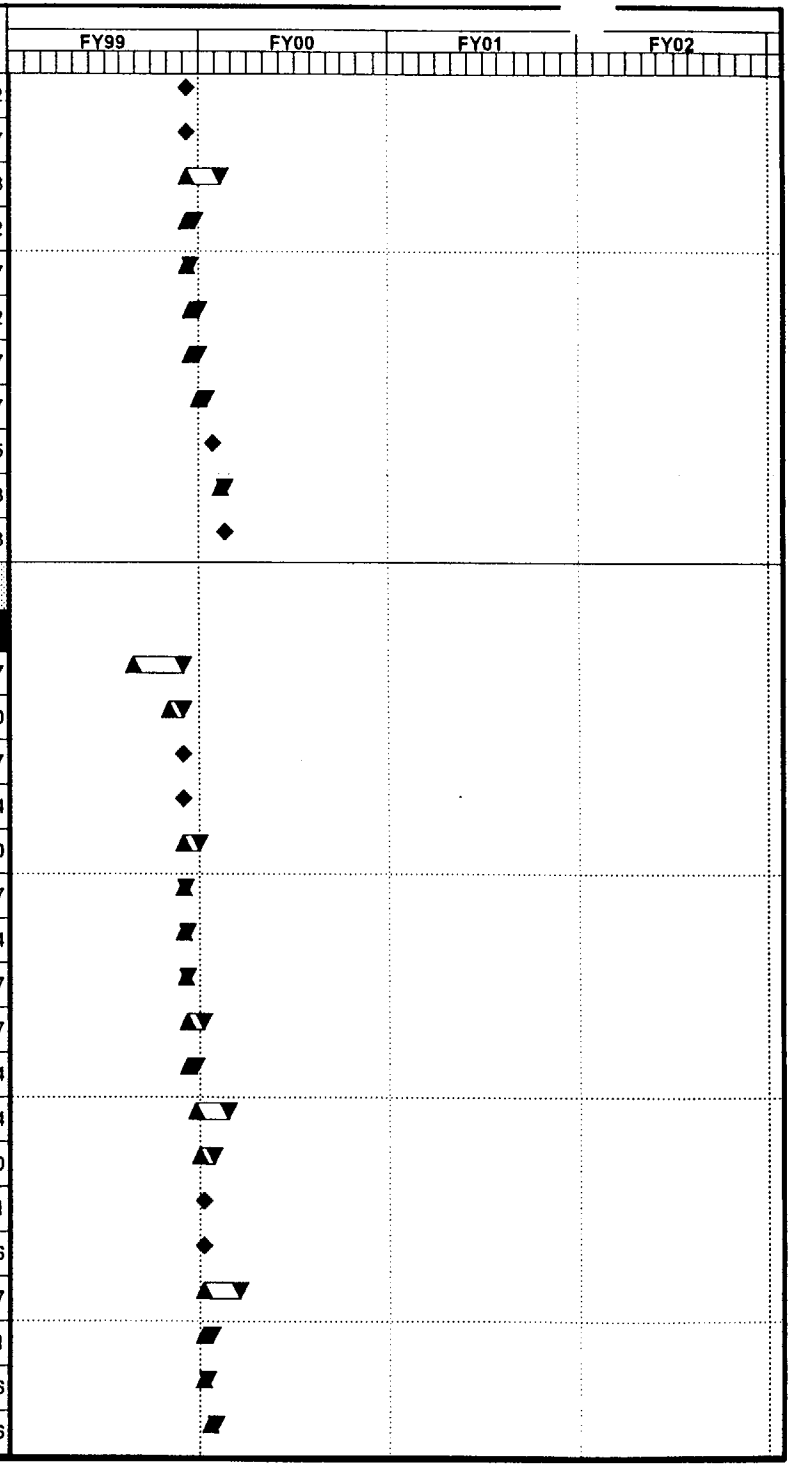
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW048	Stability & Ag-Place Under SMS Control as Necess		10	17AUG99	30AUG99	338
WPW049	Stability & Ag-Verify Data-Related Software		10	31AUG99	14SEP99	338
WPW053	Stability & Ag-Qualified/Verified SW Available		0		23SEP99	336
WPW044	Stability & Ag-Update TDMS		5	13OCT99	19OCT99	319
WPW045	Stability & Ag-Qualified/Verified Data Available		0		19OCT99	319
W1065						
110 Waste Package Operations						
WPW018	Juvenile Failures-Input Parameters and Data Iden		0		29JUN99	320
WPW019	Juvenile Failures-Models and Codes Identified		0		29JUN99	337
WPW020	Juvenile Failures-Determine DTN Assignment		2	30JUN99	01JUL99	320
WPW032	Juvenile Failures-Determine if Model-Rel SW is U		5	30JUN99	07JUL99	337
WPW021	Juvenile Failures-Determine if Data/DTN in TDMS		3	02JUL99	07JUL99	320
WPW022	Juvenile Failures-Submit Data/DTN to TDMS as Nec		22	08JUL99	06AUG99	320
WPW033	Juvenile Failures-Place Model-Related SW Under S		10	08JUL99	21JUL99	337
WPW034	Juvenile Failures-Verify Model-Related Software		44	22JUL99	22SEP99	337
WPW024	Juvenile Failures-Procurement Related Issues D'		0		06AUG99	354
WPW028	Juvenile Failures-Data Related Software Issues I		0		06AUG99	339
WPW023	Juvenile Failures-Verify/Trace Data		44	09AUG99	08OCT99	320
WPW025	Juvenile Failures-Rxesolve Procurement Related D		10	09AUG99	20AUG99	354
WPW029	Juvenile Failures-Determine if Data Rel SW is Un		5	09AUG99	13AUG99	339
WPW030	Juvenile Failures-Place Under SMS Control as Nec		10	16AUG99	27AUG99	339
WPW031	Juvenile Failures-Verify Data-Related Software		10	30AUG99	13SEP99	339
WPW035	Juvenile Failures-Qualified/Verified SW Availabl		0		22SEP99	337
WPW026	Juvenile Failures-Update TDMS		5	12OCT99	18OCT99	320
WPW027	Juvenile Failures-Qualified/Verified Data Availa		0		18OCT99	320
W1075						
110 Waste Package Operations						
WPPMR320	3.10Q data(Stress Corrosion Cracking WP Barrier)		85	03MAY99*	31AUG99	276
WPPMR325	Prepare Draft 3.10Q Stress Corrosion Cra Rev 00A		19	05AUG99*	31AUG99	0
WPW198	Stress Corrosion-Input Parameters and Data Ident		0		31AUG99	276
WPW199	Stress Corrosion-Models and Codes Identified		0		31AUG99	293



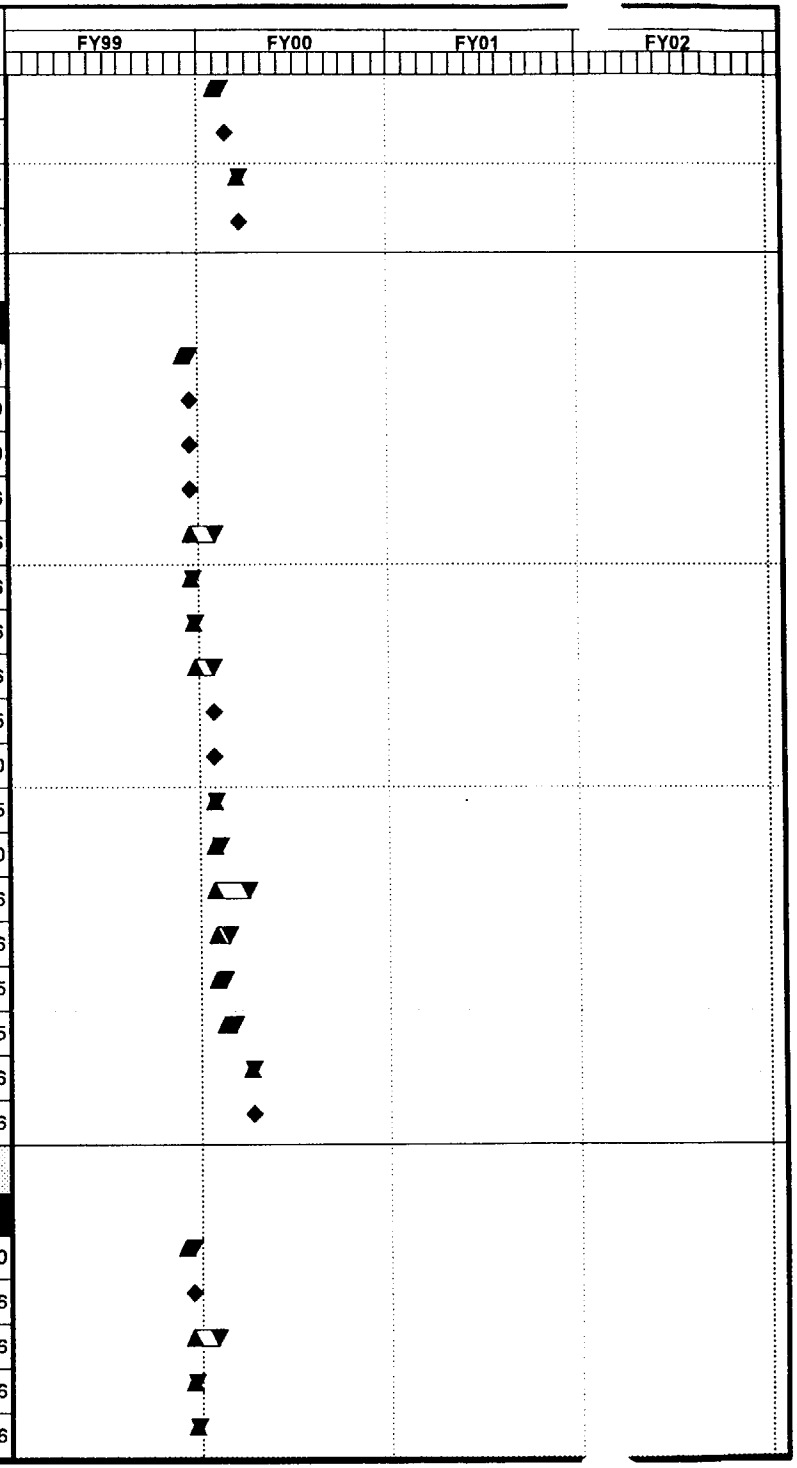
Activity ID	Activity Description	Orig dur	Early Start	Early Finish	Total Float
WPPMR330	3.10Q Checking/Review Stress Corrosion Cracking	21	01SEP99	30SEP99	19
WPW200	Stress Corrosion-Determine DTN Assignment	2	01SEP99	02SEP99	276
WPW212	Stress Corrosion-Determine if Model-Rel SW is Un	5	01SEP99	08SEP99	293
WPW201	Stress Corrosion-Determine if Data/DTN in TDMS	3	03SEP99	08SEP99	276
WPW202	Stress Corrosion-Submit Data/DTN to TDMS as Nece	22	09SEP99	08OCT99	276
WPW213	Stress Corrosion-Place Model-Related SW Under SM	10	09SEP99	22SEP99	293
WPW214	Stress Corrosion-Verify Model-Related Software	44	23SEP99	29NOV99	293
WPPMR335	Prepare Final 3.10Q Report Stress Corrosion Crac	20	01OCT99	29OCT99	19
WPW204	Stress Corrosion-Procurement Related Issues ID'd	0		08OCT99	310
WPW208	Stress Corrosion-Data Related Software Issues Id	0		08OCT99	295
WPW203	Stress Corrosion-Verify/Trace Data	44	12OCT99	15DEC99	276
WPW205	Stress Corrosion-Rxesolve Procurement Related Da	10	12OCT99	25OCT99	310
WPW209	Stress Corrosion-Determine if Data Rel SW is Und	5	12OCT99	18OCT99	295
WPW210	Stress Corrosion-Place Under SMS Control as Nece	10	19OCT99	01NOV99	295
WPW211	Stress Corrosion-Verify Data-Related Software	10	02NOV99	16NOV99	295
WPW215	Stress Corrosion-Qualified/Verified SW Available	0		29NOV99	293
WPW206	Stress Corrosion-Update TDMS	5	16DEC99	22DEC99	276
WPW207	Stress Corrosion-Qualified/Verified Data Availab	0		22DEC99	276
W1080					
110 Waste Package Operations					
WPPMR160	3.10Q data (Mechanical Failures Due to Rockfall)	63	03MAY99*	30JUL99	1
WPPMR165	Prepare Draft 3.10Q Failures Due to Rock Rev 00A	20	02JUL99*	30JUL99	1
WPW054	Failures / Roc99-Input Parameters and Data Ident	0		30JUL99	298
WPW055	Failures / Roc99-Models and Codes Identified	0		30JUL99	315
WPPMR170	3.10Q Checking/Review Failures Due to Rockfall	31	02AUG99	14SEP99	82
WPW056	Failures / Roc99-Determine DTN Assignment	2	02AUG99	03AUG99	298
WPW068	Failures / Roc99-Determine if Model-Rel SW is Un	5	02AUG99	06AUG99	315
WPW057	Failures / Roc99-Determine if Data/DTN in TDMS	3	04AUG99	06AUG99	298
WPW058	Failures / Roc99-Submit Data/DTN to TDMS as Nece	22	09AUG99	08SEP99	298
WPW069	Failures / Roc99-Place Model-Related SW Under SM	10	09AUG99	20AUG99	315
WPW070	Failures / Roc99-Verify Model-Related Software	44	23AUG99	25OCT99	315



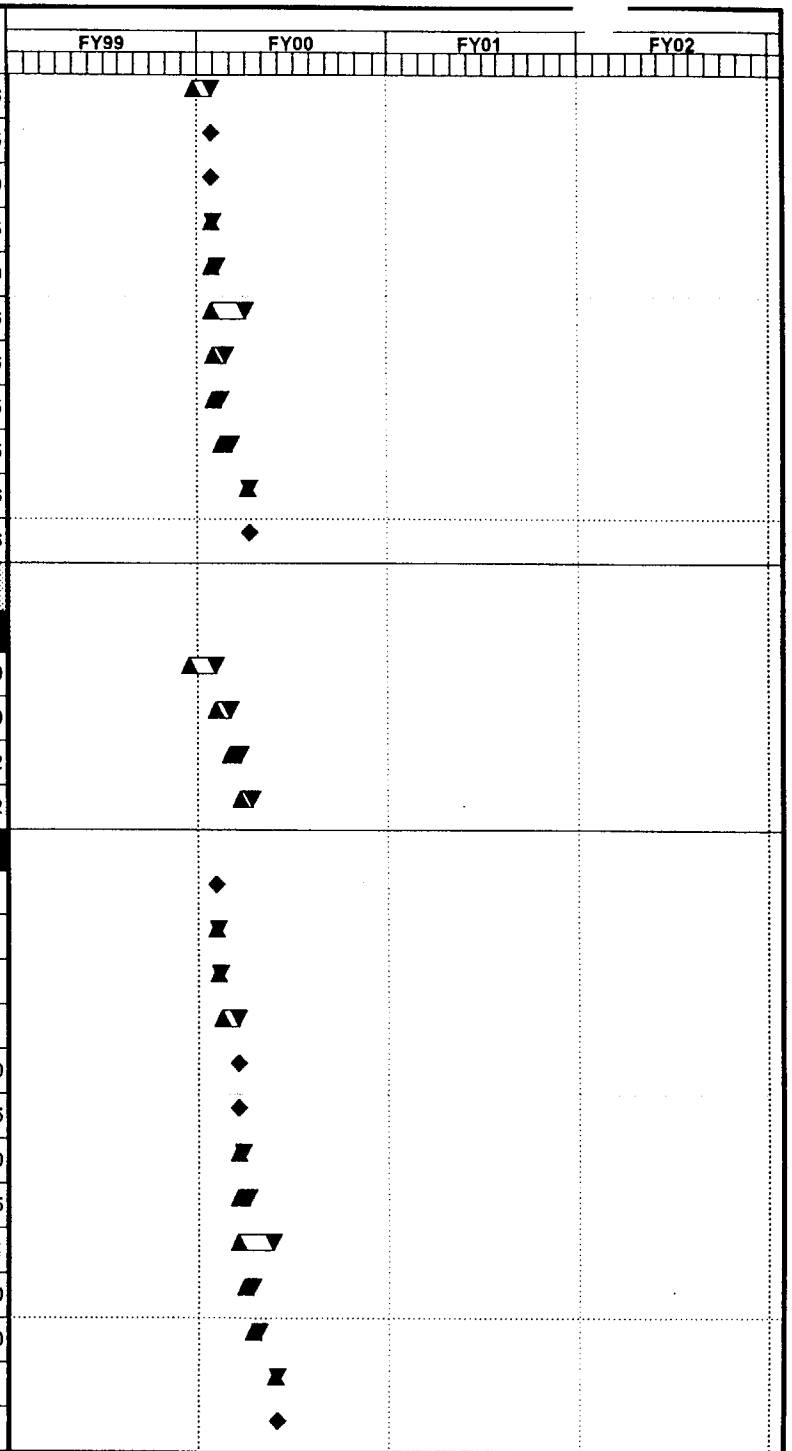
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW060	Failures / Roc99-Procurement Related Issues ID'd		0		08SEP99	332
WPW064	Failures / Roc99-Data Related Software Issues Id		0		08SEP99	317
WPW059	Failures / Roc99-Verify/Trace Data		44	09SEP99	10NOV99	298
WPW061	Failures / Roc99-Rxesolve Procurement Related Da		10	09SEP99	22SEP99	332
WPW065	Failures / Roc99-Determine if Data Rel SW is Und		5	09SEP99	15SEP99	317
WPPMR175	Prepare Final 3.10Q Report Failures Due to Roc99		11	15SEP99	29SEP99	82
WPW066	Failures / Roc99-Place Under SMS Control as Nece		10	16SEP99	29SEP99	317
WPW067	Failures / Roc99-Verify Data-Related Software		10	30SEP99	14OCT99	317
WPW071	Failures / Roc99-Qualified/Verified SW Available		0		25OCT99	315
WPW062	Failures / Roc99-Update TDMS		5	12NOV99	18NOV99	298
WPW063	Failures / Roc99-Qualified/Verified Data Availab		0		18NOV99	298
W1085						
110 Waste Package Operations						
WPPMR220	3.10Q data (Localizied Corrosion Mdl WP Barrier)		65	28MAY99*	30AUG99	277
WPPMR225	Prepare Draft 3.10Q Localizied Corrosion Rev 00A		18	05AUG99	30AUG99*	0
WPW108	Localizied Corrosion-Input Parameters and Data I		0		30AUG99	277
WPW109	Localizied Corrosion-Models and Codes Identified		0		30AUG99	294
WPPMR230	3.10Q Checking/Review Localizied Corrosion		22	31AUG99	30SEP99	20
WPW110	Localizied Corrosion-Determine DTN Assignment		2	31AUG99	01SEP99	277
WPW122	Localizied Corrosion-Determine if Model-Rel SW i		5	31AUG99	07SEP99	294
WPW111	Localizied Corrosion-Determine if Data/DTN in TD		3	02SEP99	07SEP99	277
WPW112	Localizied Corrosion-Submit Data/DTN to TDMS as		22	08SEP99	07OCT99	277
WPW123	Localizied Corrosion-Place Model-Related SW Unde		10	08SEP99	21SEP99	294
WPW124	Localizied Corrosion-Verify Model-Related Softwa		44	22SEP99	24NOV99	294
WPPMR235	Prepare Final 3.10Q Report Localizied Corrosion		19	01OCT99	28OCT99	20
WPW114	Localizied Corrosion-Procurement Related Issues		0		07OCT99	311
WPW118	Localizied Corrosion-Data Related Software Issue		0		07OCT99	296
WPW113	Localizied Corrosion-Verify/Trace Data		44	08OCT99	14DEC99	277
WPW115	Localizied Corrosion-Rxesolve Procurement Relate		10	08OCT99	22OCT99	311
WPW119	Localizied Corrosion-Determine if Data Rel SW is		5	08OCT99	15OCT99	296
WPW120	Localizied Corrosion-Place Under SMS Control as		10	18OCT99	29OCT99	296



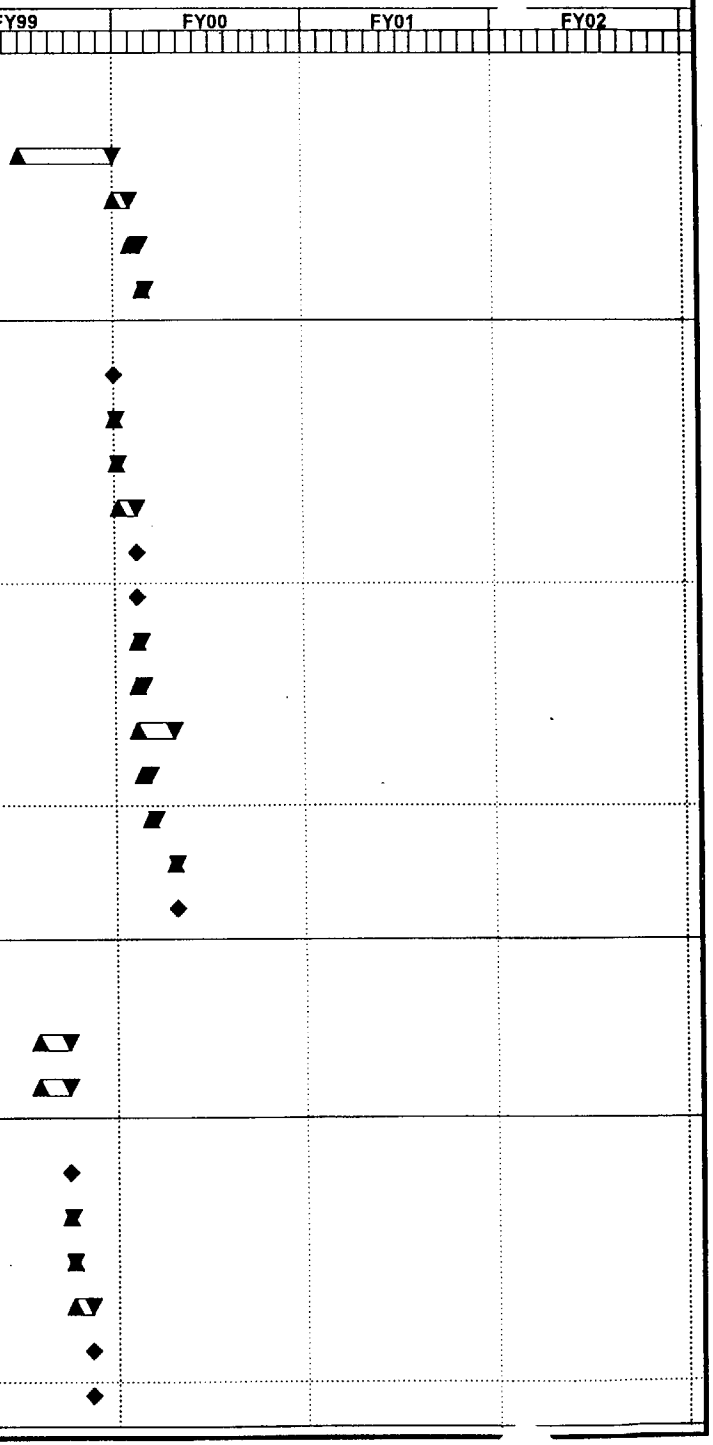
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW121	Localizied Corrosion-Verify Data-Related Softwar		10	01NOV99	15NOV99	296
WPW125	Localizied Corrosion-Qualified/Verified SW Avail		0		24NOV99	294
WPW116	Localizied Corrosion-Update TDMS		5	15DEC99	21DEC99	277
WPW117	Localizied Corrosion-Qualified/Verified Data Ava		0		21DEC99	277
W1090						
130 Performance Assessment Operations						
SLPA3182	Prepare Draft Coor Alloy 22 Abs 3.10Q Rev 00A 99		11	31AUG99*	15SEP99	0
SLPA3184	Receive Model Abstraction - PAO - AP3.10Q	M4	0		15SEP99	0
SLPA3186	Provide Model Abstraction - PAO - AP3.10Q	M4	0		15SEP99	0
SLPA3192	Report-Input Parameters and Data Identified		0		15SEP99	266
SLPA3188	3.10Q Checking/Review		31	16SEP99	29OCT99	46
SLPA3196	Report-Determine DTN Assignment		2	16SEP99	17SEP99	266
SLPA3200	Report-Determine if Data/DTN in TDMS		3	20SEP99	22SEP99	266
SLPA3204	Report-Submit Data/DTN to TDMS as Necessary		22	23SEP99	25OCT99	266
SLPA3208	Report-Data Related Software Issues Identified		0		25OCT99	285
SLPA3210	Report-Procurement Related Issues ID'd to Car Ma		0		25OCT99	300
SLPA3212	Report-Determine if Data Rel SW is Under SMS Con		5	26OCT99	01NOV99	285
SLPA3214	Report-Rxesolve Procurement Related Data Issues		10	26OCT99	08NOV99	300
SLPA3216	Report-Verify/Trace Data		44	26OCT99	30DEC99	266
SLPA3190	Prepare Final 3.10Q Report		15	01NOV99	22NOV99	46
SLPA3218	Report-Place Under SMS Control as Necessary		10	02NOV99	16NOV99	285
SLPA3220	Report-Verify Data-Related Software		10	17NOV99	02DEC99	285
SLPA3222	Report-Update TDMS		5	03JAN00	07JAN00	266
SLPA3224	Report-Qualified/Verified Data Available		0		07JAN00	266
W1095						
130 Performance Assessment Operations						
SLPA3226	Draft 3.10Q Alloy 22 Abs SCC Rev 00A		10	01SEP99	15SEP99	0
SLPA3232	Alloy 22 SCC-Input Parameters and Data Identifie		0		15SEP99	266
SLPA3228	Check3.10Q Alloy 22 SCC Rev 00A		31	16SEP99	29OCT99	46
SLPA3236	Alloy 22 SCC-Determine DTN Assignment		2	16SEP99	17SEP99	266
SLPA3240	Alloy 22 SCC-Determine if Data/DTN in TDMS		3	20SEP99	22SEP99	266



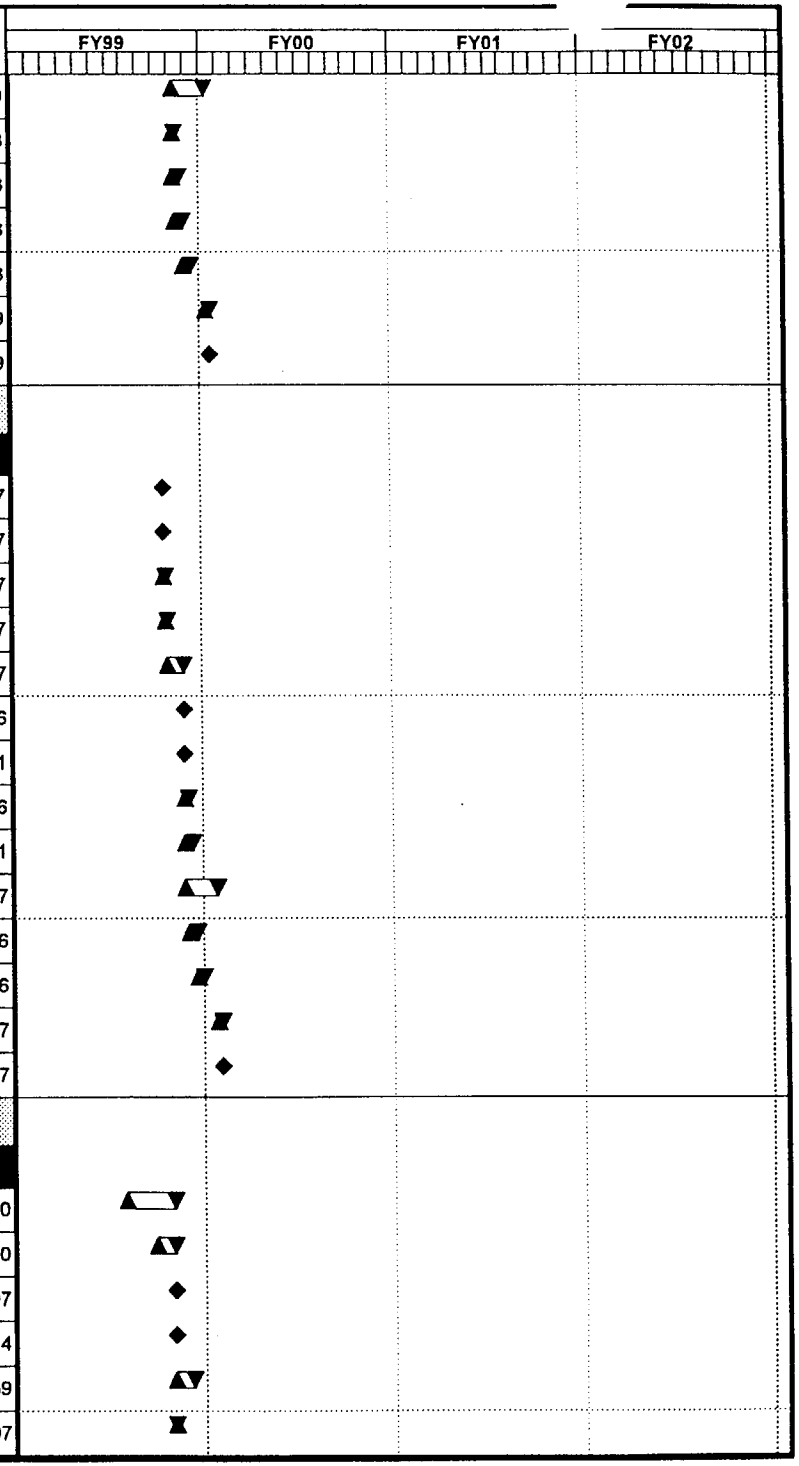
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA3244	Alloy 22 SCC-Submit Data/DTN to TDMS as Necessar		22	23SEP99	25OCT99	266
SLPA3248	Alloy 22 SCC-Data Related Software Issues Identi		0		25OCT99	285
SLPA3250	Alloy 22 SCC-Procurement Related Issues ID'd to		0		25OCT99	300
SLPA3252	Alloy 22 SCC-Determine if Data Rel SW is Under S		5	26OCT99	01NOV99	285
SLPA3254	Alloy 22 SCC-Rxesolve Procurement Related Data I		10	26OCT99	08NOV99	300
SLPA3256	Alloy 22 SCC-Verify/Trace Data		44	26OCT99	30DEC99	266
SLPA3230	Final 3.10Q Alloy 22 SCC Rev 00A		15	01NOV99	22NOV99	46
SLPA3258	Alloy 22 SCC-Place Under SMS Control as Necessar		10	02NOV99	16NOV99	285
SLPA3260	Alloy 22 SCC-Verify Data-Related Software		10	17NOV99	02DEC99	285
SLPA3262	Alloy 22 SCC-Update TDMS		5	03JAN00	07JAN00	266
SLPA3264	Alloy 22 SCC-Qualified/Verified Data Available		0		07JAN00	266
W2006						
110 Waste Package Operations						
SLPA3266	3.10Q data WAPDEG Analysis		35	16SEP99	04NOV99	0
SLPA3268	3.10Q draft WAPDEG Analysis		15	05NOV99	30NOV99	0
SLPA3270	3.10Q Check WAPDEG Analysis		15	01DEC99	21DEC99	12
SLPA3272	3.10Q Final WAPDEG Analysis		15	22DEC99	13JAN00	12
130 Performance Assessment Operations						
SLPA3274	WAPDEG Analy-Input Parameters and Data Identifie		0		04NOV99	231
SLPA3278	WAPDEG Analy-Determine DTN Assignment		2	05NOV99	08NOV99	231
SLPA3282	WAPDEG Analy-Determine if Data/DTN in TDMS		3	09NOV99	12NOV99	231
SLPA3286	WAPDEG Analy-Submit Data/DTN to TDMS as Necessar		22	15NOV99	16DEC99	231
SLPA3290	WAPDEG Analy-Data Related Software Issues Identi		0		16DEC99	250
SLPA3292	WAPDEG Analy-Procurement Related Issues ID'd to		0		16DEC99	265
SLPA3294	WAPDEG Analy-Determine if Data Rel SW is Under S		5	17DEC99	23DEC99	250
SLPA3296	WAPDEG Analy-Rxesolve Procurement Related Data I		10	17DEC99	03JAN00	265
SLPA3298	WAPDEG Analy-Verify/Trace Data		44	17DEC99	18FEB00	231
SLPA3300	WAPDEG Analy-Place Under SMS Control as Necessar		10	27DEC99	10JAN00	250
SLPA3302	WAPDEG Analy-Verify Data-Related Software		10	11JAN00	24JAN00	250
SLPA3304	WAPDEG Analy-Update TDMS		5	22FEB00	28FEB00	231
SLPA3306	WAPDEG Analy-Qualified/Verified Data Available		0		28FEB00	231



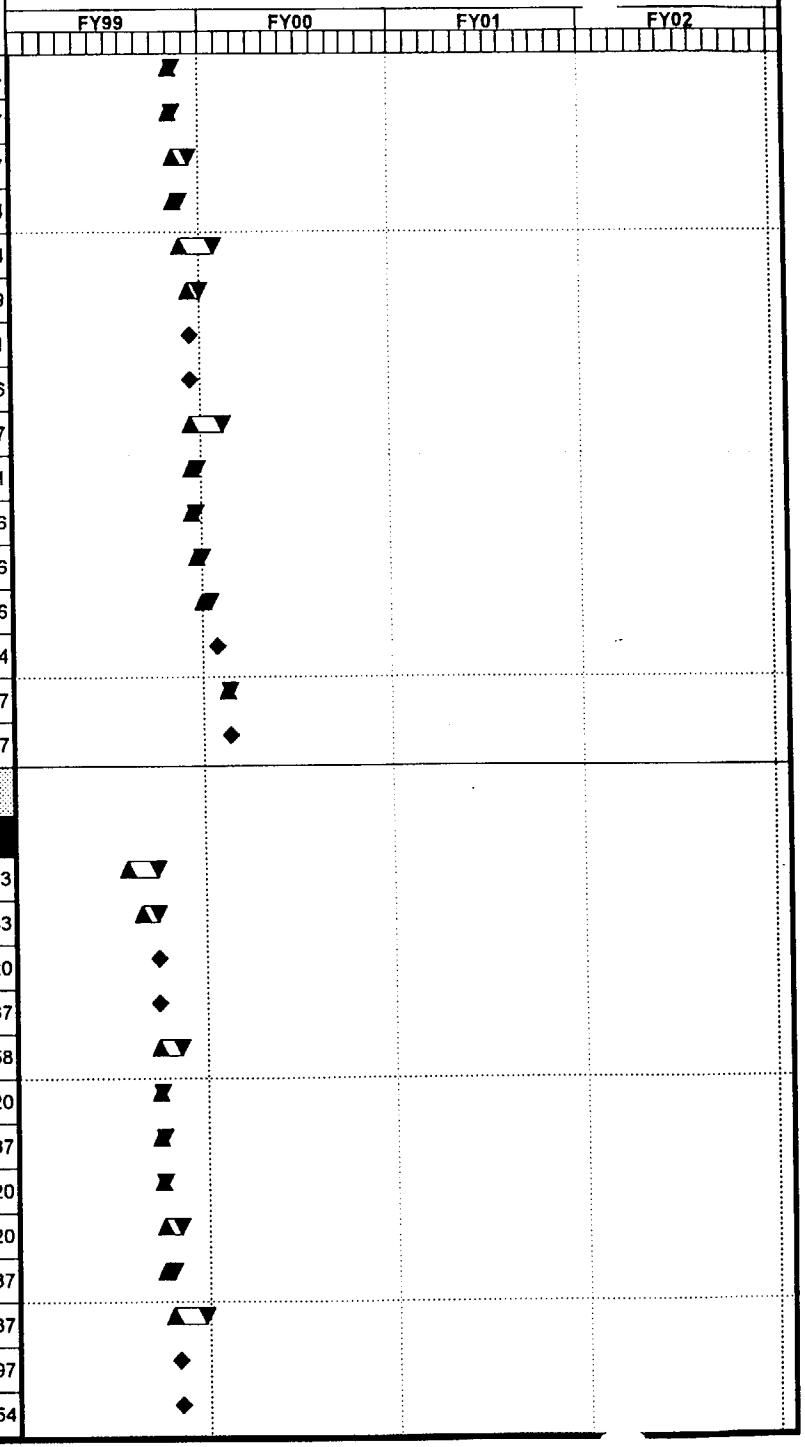
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
W2007						
110 Waste Package Operations						
SLPA3308	3.10Q data WP FEPs Screen FY99		128	01APR99*	30SEP99	24
SLPA3310	3.10Q Draft WP FEPs Screen		20	01OCT99	29OCT99	41
SLPA3312	3.10Q Check WP FEPs Screen		14	01NOV99	19NOV99	41
SLPA3314	3.10Q Final WP FEPs Screen		6	22NOV99	01DEC99	41
130 Performance Assessment Operations						
SLPA3316	WP FEPs-Input Parameters and Data Identified		0		30SEP99	255
SLPA3320	WP FEPs-Determine DTN Assignment		2	01OCT99	04OCT99	255
SLPA3324	WP FEPs-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99	255
SLPA3328	WP FEPs-Submit Data/DTN to TDMS as Necessary		22	08OCT99	09NOV99	255
SLPA3332	WP FEPs-Data Related Software Issues Identified		0		09NOV99	274
SLPA3334	WP FEPs-Procurement Related Issues ID'd to Car M		0		09NOV99	289
SLPA3336	WP FEPs-Determine if Data Rel SW is Under SMS Co		5	10NOV99	17NOV99	274
SLPA3338	WP FEPs-Rxesolve Procurement Related Data Issues		10	10NOV99	24NOV99	289
SLPA3340	WP FEPs-Verify/Trace Data		44	10NOV99	17JAN00	255
SLPA3342	WP FEPs-Place Under SMS Control as Necessary		10	18NOV99	03DEC99	274
SLPA3344	WP FEPs-Verify Data-Related Software		10	06DEC99	17DEC99	274
SLPA3346	WP FEPs-Update TDMS		5	18JAN00	24JAN00	255
SLPA3348	WP FEPs-Qualified/Verified Data Available		0		24JAN00	255
W2030						
110 Waste Package Operations						
WPPMR2A05	3.10Q data(General Corrosion of Drip Shield)		42	03MAY99*	30JUN99	319
WPPMR2A10	Prepare Draft 3.10Q General Corr of Drip Shield		42	03MAY99	30JUN99*	53
130 Performance Assessment Operations						
WPQ1000	General Corr/Drip-Input Parameters and Data Iden		0		30JUN99	319
WPQ1004	General Corr/Drip-Determine DTN Assignment		2	01JUL99	02JUL99	319
WPQ1008	General Corr/Drip-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99	319
WPQ1010	General Corr/Drip-Submit Data/DTN to TDMS as Nec		22	09JUL99	09AUG99	319
WPQ1016	General Corr/Drip-Data Related Software Issues I		0		09AUG99	338
WPQ1018	General Corr/Drip-Procurement Related Issues ID'		0		09AUG99	353



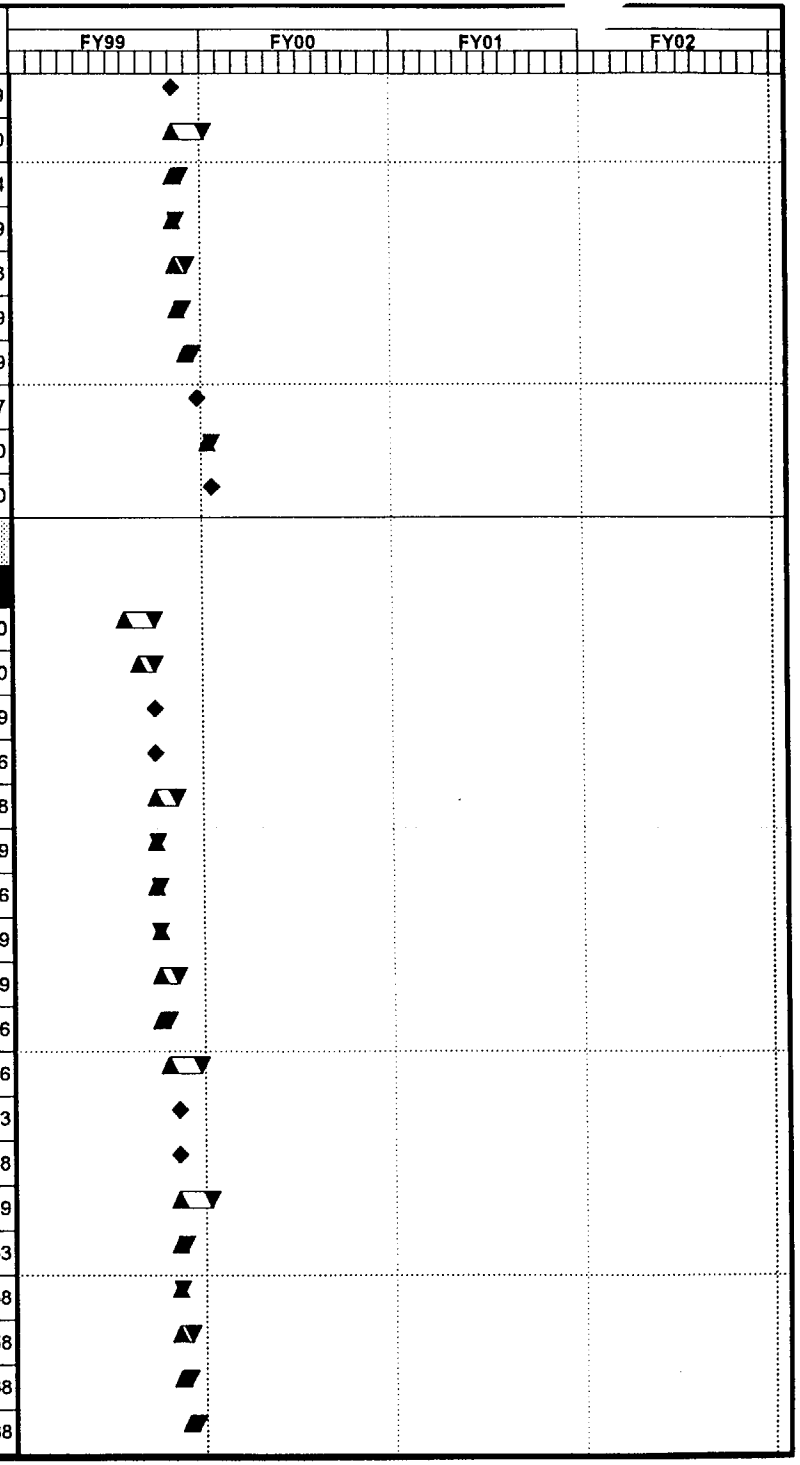
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPQ1020	General Corr/Drip-Verify/Trace Data		44	10AUG99	12OCT99	319
WPQ1022	General Corr/Drip-Determine if Data Rel SW is Un		5	10AUG99	16AUG99	338
WPQ1024	General Corr/Drip-Rxesolve Procurement Related D		10	10AUG99	23AUG99	353
WPQ1026	General Corr/Drip-Place Under SMS Control as Nec		10	17AUG99	30AUG99	338
WPQ1028	General Corr/Drip-Verify Data-Related Software		10	31AUG99	14SEP99	338
WPQ1030	General Corr/Drip-Update TDMS		5	13OCT99	19OCT99	319
WPQ1032	General Corr/Drip-Qualified/Verified Data Availa		0		19OCT99	319
W2040						
130 Performance Assessment Operations						
SLPA3350	Abstraction -of Generak Cor. of Drip Shield	M4	0		19JUL99	307
SLPA3356	Report-Input Parameters and Data Identified		0		19JUL99	307
SLPA3360	Report-Determine DTN Assignment		2	20JUL99	21JUL99	307
SLPA3364	Report-Determine if Data/DTN in TDMS		3	22JUL99	26JUL99	307
SLPA3368	Report-Submit Data/DTN to TDMS as Necessary		22	27JUL99	25AUG99	307
SLPA3372	Report-Data Related Software Issues Identified		0		25AUG99	326
SLPA3374	Report-Procurement Related Issues ID'd to Car Ma		0		25AUG99	341
SLPA3376	Report-Determine if Data Rel SW is Under SMS Con		5	26AUG99	01SEP99	326
SLPA3378	Report-Rxesolve Procurement Related Data Issues		10	26AUG99	09SEP99	341
SLPA3380	Report-Verify/Trace Data		44	26AUG99	28OCT99	307
SLPA3382	Report-Place Under SMS Control as Necessary		10	02SEP99	16SEP99	326
SLPA3384	Report-Verify Data-Related Software		10	17SEP99	30SEP99	326
SLPA3386	Report-Update TDMS		5	29OCT99	04NOV99	307
SLPA3388	Report-Qualified/Verified Data Available		0		04NOV99	307
W2055						
110 Waste Package Operations						
WPPMRAD0	3.10Q data (Environment on DS Surface - EBS/WPO)		64	03MAY99*	02AUG99	20
WPPMRAD5	Prepare Draft 3.10Q Environment on DS Su Rev 00A		22	01JUL99*	02AUG99	20
WPW216	Environment/DS Sur-Input Parameters and Data Ide		0		02AUG99	297
WPW218	Environment/DS Sur-Models and Codes Identified		0		02AUG99	314
WPPMRAE0	3.10Q Checking/Review Environment on DS Surface		25	03AUG99	07SEP99	39
WPW220	Environment/DS Sur-Determine DTN Assignment		2	03AUG99	04AUG99	297



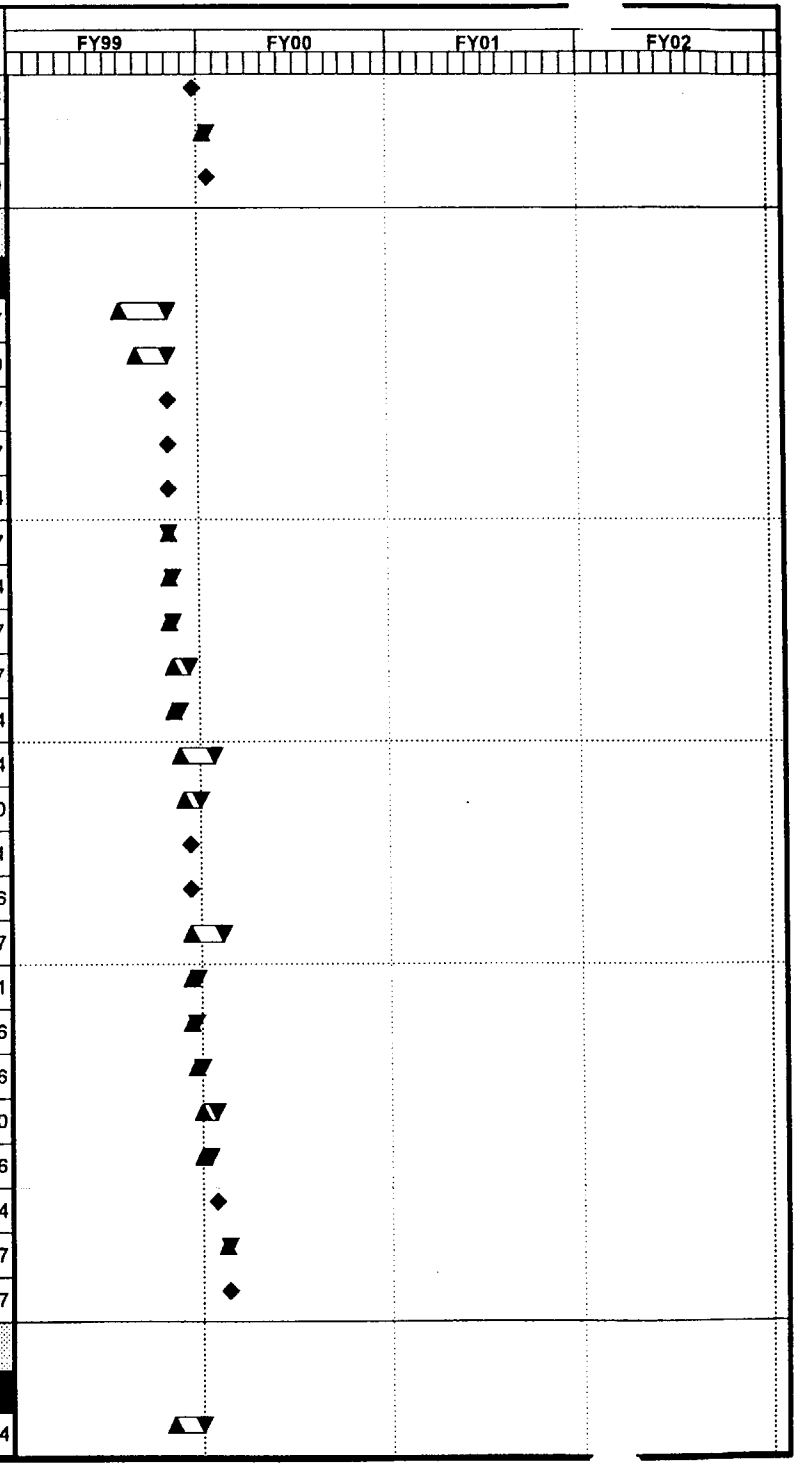
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW244	Environment/DS Sur-Determine if Model-Rel SW is		5	03AUG99	09AUG99	314
WPW222	Environment/DS Sur-Determine if Data/DTN in TDMS		3	05AUG99	09AUG99	297
WPW224	Environment/DS Sur-Submit Data/DTN to TDMS as Ne		22	10AUG99	09SEP99	297
WPW246	Environment/DS Sur-Place Model-Related SW Under		10	10AUG99	23AUG99	314
WPW248	Environment/DS Sur-Verify Model-Related Software		44	24AUG99	26OCT99	314
WPPMRAE5	Prepare Final 3.10Q Report Environment on DS Sur		17	08SEP99	30SEP99	39
WPW228	Environment/DS Sur-Procurement Related Issues ID		0		09SEP99	331
WPW236	Environment/DS Sur-Data Related Software Issues		0		09SEP99	316
WPW226	Environment/DS Sur-Verify/Trace Data		44	10SEP99	12NOV99	297
WPW230	Environment/DS Sur-Rxesolve Procurement Related		10	10SEP99	23SEP99	331
WPW238	Environment/DS Sur-Determine if Data Rel SW is U		5	10SEP99	16SEP99	316
WPW240	Environment/DS Sur-Place Under SMS Control as Ne		10	17SEP99	30SEP99	316
WPW242	Environment/DS Sur-Verify Data-Related Software		10	01OCT99	15OCT99	316
WPW250	Environment/DS Sur-Qualified/Verified SW Availab		0		26OCT99	314
WPW232	Environment/DS Sur-Update TDMS		5	15NOV99	19NOV99	297
WPW234	Environment/DS Sur-Qualified/Verified Data Avail		0		19NOV99	297
W2070						
110 Waste Package Operations						
WPPMRAD6	3.10Q data (Juvenile Failures of DS & WP)		41	03MAY99*	29JUN99	43
WPPMRAD9	Prepare Draft 3.10Q Juvenile Failures Rev 00A		21	01JUN99*	29JUN99	43
WPW251	Juvenile Failures-Input Parameters and Data Iden		0		29JUN99	320
WPW252	Juvenile Failures-Models and Codes Identified		0		29JUN99	337
WPPMRAD3	3.10Q Checking/Review Juvenile Failures		31	30JUN99	12AUG99	58
WPW253	Juvenile Failures-Determine DTN Assignment		2	30JUN99	01JUL99	320
WPW265	Juvenile Failures-Determine if Model-Rel SW is U		5	30JUN99	07JUL99	337
WPW254	Juvenile Failures-Determine if Data/DTN in TDMS		3	02JUL99	07JUL99	320
WPW255	Juvenile Failures-Submit Data/DTN to TDMS as Nec		22	08JUL99	06AUG99	320
WPW266	Juvenile Failures-Place Model-Related SW Under S		10	08JUL99	21JUL99	337
WPW267	Juvenile Failures-Verify Model-Related Software		44	22JUL99	22SEP99	337
WPW126	Juvenile Failures-Input Parameters and Data Iden		0		02AUG99	297
WPW257	Juvenile Failures-Procurement Related Issues ID'		0		06AUG99	354



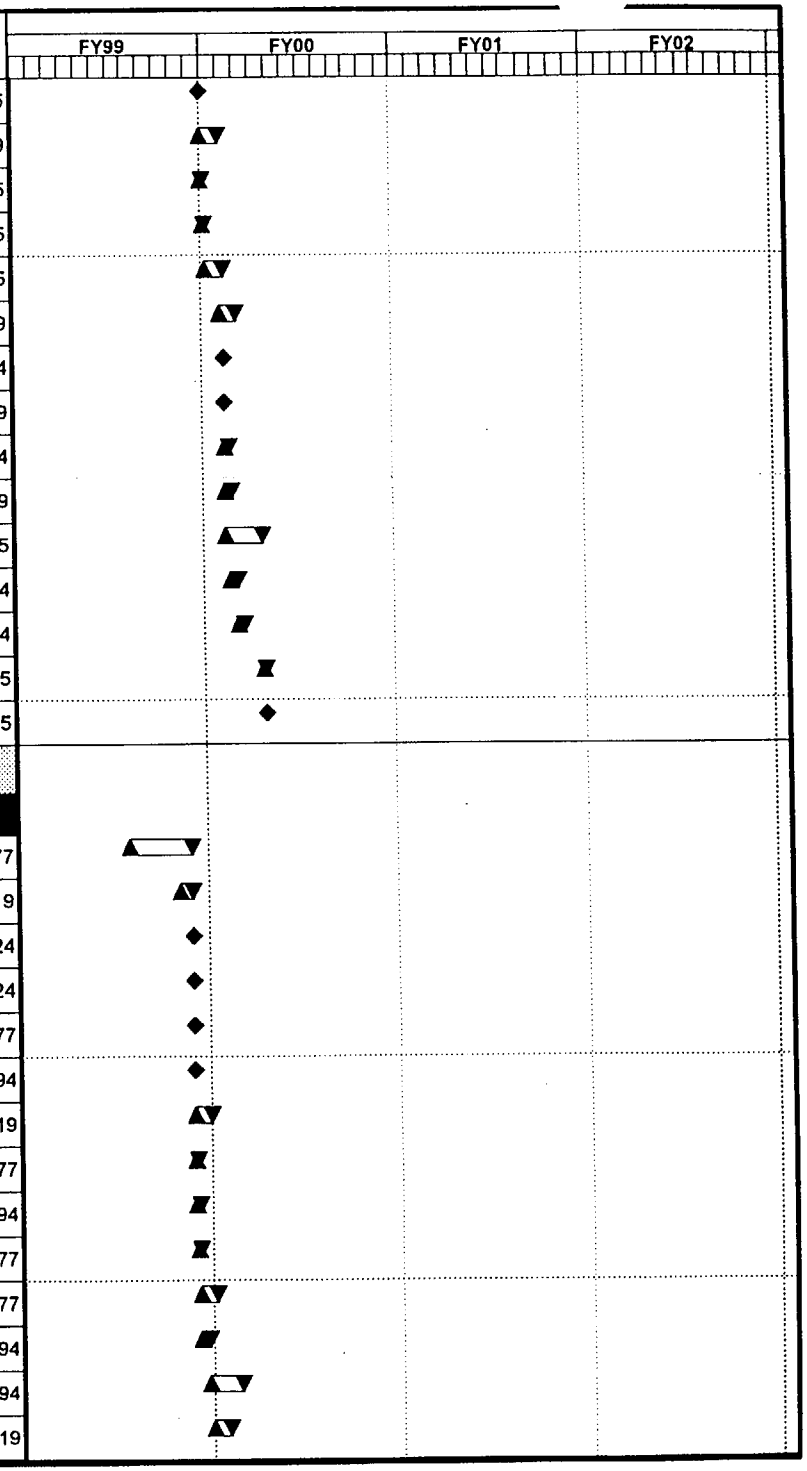
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW261	Juvenile Failures-Data Related Software Issues I		0		06AUG99	339
WPW256	Juvenile Failures-Verify/Trace Data		44	09AUG99	08OCT99	320
WPW258	Juvenile Failures-Rxesolve Procurement Related D		10	09AUG99	20AUG99	354
WPW262	Juvenile Failures-Determine if Data Rel SW is Un		5	09AUG99	13AUG99	339
WPPMRAE2	Prepare Final 3.10Q Report Juvenile Failures		15	13AUG99	02SEP99	58
WPW263	Juvenile Failures-Place Under SMS Control as Nec		10	16AUG99	27AUG99	339
WPW264	Juvenile Failures-Verify Data-Related Software		10	30AUG99	13SEP99	339
WPW268	Juvenile Failures-Qualified/Verified SW Availabl		0		22SEP99	337
WPW259	Juvenile Failures-Update TDMS		5	12OCT99	18OCT99	320
WPW260	Juvenile Failures-Qualified/Verified Data Availa		0		18OCT99	320
W2075						
110 Waste Package Operations						
WPPMR200	3.10Q data(NFE In-Drift T,H Analysis)		42	03MAY99*	30JUN99	0
WPPMR205	Prepare Draft 3.10Q NFE In-Drift T,H Ana Rev 00A		22	01JUN99	30JUN99	0
WPW090	NFE In-Drift T,H-Input Parameters and Data Ident		0		30JUN99	319
WPW091	NFE In-Drift T,H-Models and Codes Identified		0		30JUN99	336
WPPMR210	3.10Q Checking/Review NFE In-Drift T,H Analysis		30	01JUL99	12AUG99	58
WPW092	NFE In-Drift T,H-Determine DTN Assignment		2	01JUL99	02JUL99	319
WPW104	NFE In-Drift T,H-Determine if Model-Rel SW is Un		5	01JUL99	08JUL99	336
WPW093	NFE In-Drift T,H-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99	319
WPW094	NFE In-Drift T,H-Submit Data/DTN to TDMS as Nece		22	09JUL99	09AUG99	319
WPW105	NFE In-Drift T,H-Place Model-Related SW Under SM		10	09JUL99	22JUL99	336
WPW106	NFE In-Drift T,H-Verify Model-Related Software		44	23JUL99	23SEP99	336
WPW096	NFE In-Drift T,H-Procurement Related Issues ID'd		0		09AUG99	353
WPW100	NFE In-Drift T,H-Data Related Software Issues Id		0		09AUG99	338
WPW095	NFE In-Drift T,H-Verify/Trace Data		44	10AUG99	12OCT99	319
WPW097	NFE In-Drift T,H-Rxesolve Procurement Related Da		10	10AUG99	23AUG99	353
WPW101	NFE In-Drift T,H-Determine if Data Rel SW is Und		5	10AUG99	16AUG99	338
WPPMR215	Prepare Final 3.10Q Report NFE In-Drift T,H Anal		15	13AUG99	02SEP99	58
WPW102	NFE In-Drift T,H-Place Under SMS Control as Nece		10	17AUG99	30AUG99	338
WPW103	NFE In-Drift T,H-Verify Data-Related Software		10	31AUG99	14SEP99	338



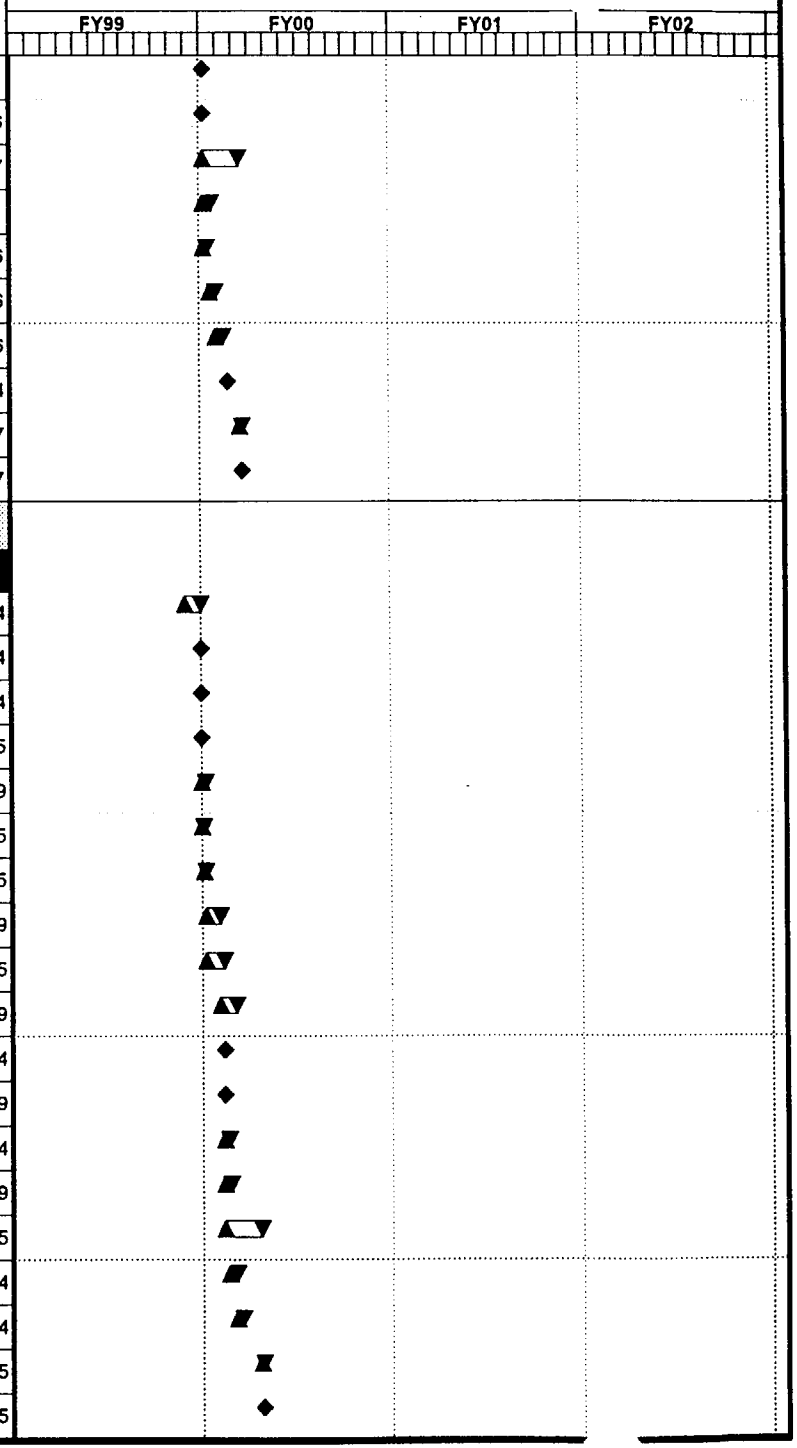
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW107	NFE In-Drift T,H-Qualified/Verified SW Available		0		23SEP99	336
WPW098	NFE In-Drift T,H-Update TDMS		5	13OCT99	19OCT99	319
WPW099	NFE In-Drift T,H-Qualified/Verified Data Availab		0		19OCT99	319
W2085						
110 Waste Package Operations						
WPPMR240	3.10Q data (Local Corros model for Drip Shield)		64	03MAY99*	02AUG99	297
WPPMR245	Prepare Draft 3.10Q Corros model for Drip Rv 00A		42	03JUN99	02AUG99	20
SLPA3392	Receive Locaalized Corrosion of Titanium Gr 7 -	M4	0		02AUG99	27
WPP510M4	Receive Locaalized Corrosion of Titanium Gr 7 -	M4	0		02AUG99	27
WPW127	Corros model for Drip-Models and Codes Identifie		0		02AUG99	314
WPW128	Corros model for Drip-Determine DTN Assignment		2	03AUG99	04AUG99	297
WPW140	Corros model for Drip-Determine if Model-Rel SW		5	03AUG99	09AUG99	314
WPW129	Corros model for Drip-Determine if Data/DTN in T		3	05AUG99	09AUG99	297
WPW130	Corros model for Drip-Submit Data/DTN to TDMS as		22	10AUG99	09SEP99	297
WPW141	Corros model for Drip-Place Model-Related SW Und		10	10AUG99	23AUG99	314
WPW142	Corros model for Drip-Verify Model-Related Softw		44	24AUG99	26OCT99	314
WPPMR250	3.10Q Checking/Review Corros model for Drip Shie		22	31AUG99*	30SEP99	0
WPW132	Corros model for Drip-Procurement Related Issues		0		09SEP99	331
WPW136	Corros model for Drip-Data Related Software Issu		0		09SEP99	316
WPW131	Corros model for Drip-Verify/Trace Data		44	10SEP99	12NOV99	297
WPW133	Corros model for Drip-Rxesolve Procurement Relat		10	10SEP99	23SEP99	331
WPW137	Corros model for Drip-Determine if Data Rel SW i		5	10SEP99	16SEP99	316
WPW138	Corros model for Drip-Place Under SMS Control as		10	17SEP99	30SEP99	316
WPPMR255	Prepare Final 3.10Q Report Corros model for Drip		19	01OCT99	28OCT99	20
WPW139	Corros model for Drip-Verify Data-Related Softwa		10	01OCT99	15OCT99	316
WPW143	Corros model for Drip-Qualified/Verified SW Avai		0		26OCT99	314
WPW134	Corros model for Drip-Update TDMS		5	15NOV99	19NOV99	297
WPW135	Corros model for Drip-Qualified/Verified Data Av		0		19NOV99	297
W2090						
130 Performance Assessment Operations						
SLPA3394	Abs localized Corr. Mdl for DS		39	06AUG99*	30SEP99	24



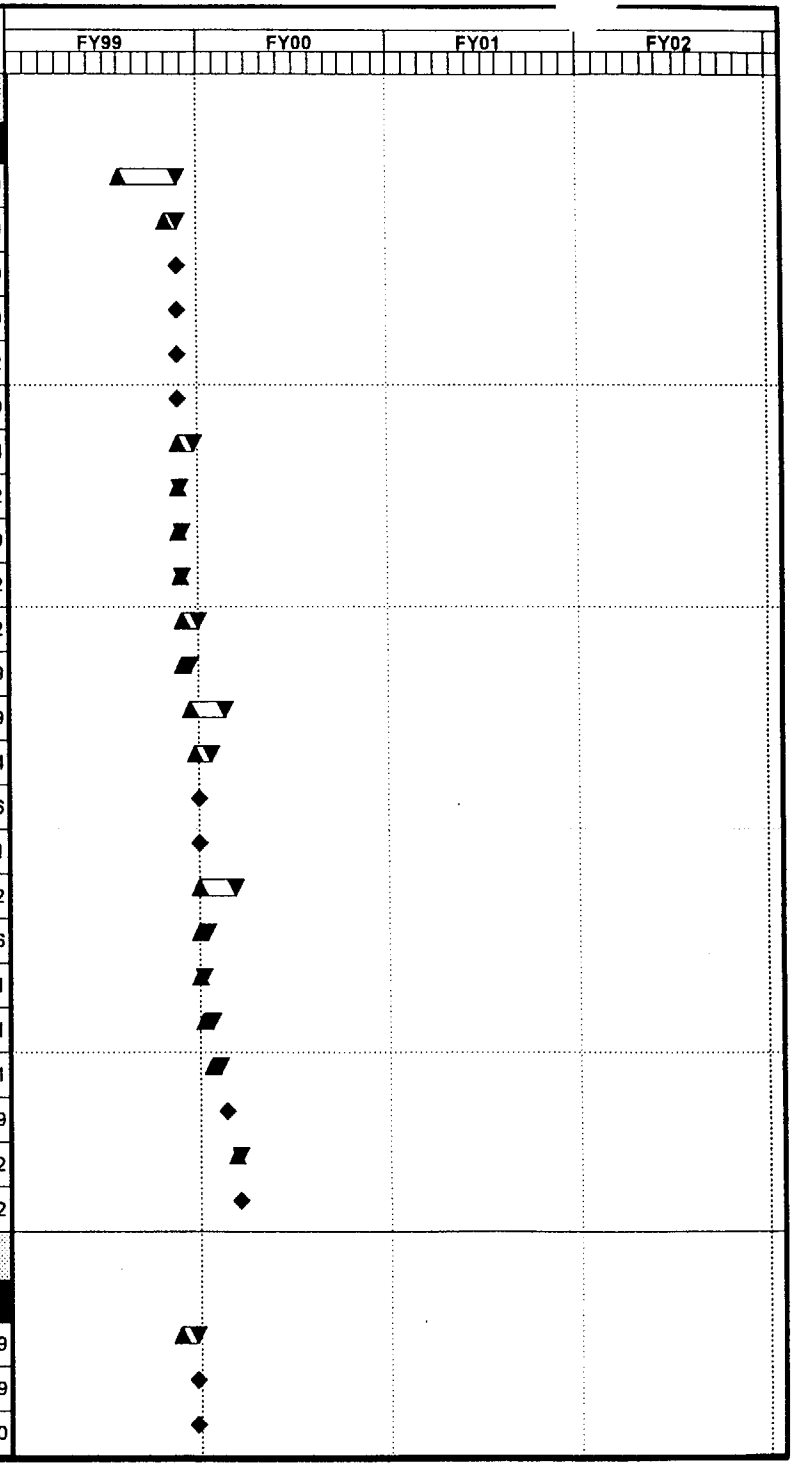
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA3400	Report Rev 00A-Input Parameters and Data Identif		0		30SEP99	255
SLPA3396	3.10Q Checking/Review		22	01OCT99	02NOV99	39
SLPA3404	Report Rev 00A-Determine DTN Assignment		2	01OCT99	04OCT99	255
SLPA3408	Report Rev 00A-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99	255
SLPA3412	Report Rev 00A-Submit Data/DTN to TDMS as Necess		22	08OCT99	09NOV99	255
SLPA3398	Prepare Final 3.10Q Report		20	03NOV99	03DEC99	39
SLPA3416	Report Rev 00A-Data Related Software Issues Iden		0		09NOV99	274
SLPA3418	Report Rev 00A-Procurement Related Issues ID'd t		0		09NOV99	289
SLPA3420	Report Rev 00A-Determine if Data Rel SW is Under		5	10NOV99	17NOV99	274
SLPA3422	Report Rev 00A-Rxesolve Procurement Related Data		10	10NOV99	24NOV99	289
SLPA3424	Report Rev 00A-Verify/Trace Data		44	10NOV99	17JAN00	255
SLPA3426	Report Rev 00A-Place Under SMS Control as Necess		10	18NOV99	03DEC99	274
SLPA3428	Report Rev 00A-Verify Data-Related Software		10	06DEC99	17DEC99	274
SLPA3430	Report Rev 00A-Update TDMS		5	18JAN00	24JAN00	255
SLPA3432	Report Rev 00A-Qualified/Verified Data Available		0		24JAN00	255
W3000						
110 Waste Package Operations						
WPPMR260	3.10Q data(Stress Corros Crack model Drip Shiel)		84	03MAY99*	30AUG99	277
WPPMR265	Prepare Draft 3.10Q Stress Corros Crack Rev 00A		17	06AUG99*	30AUG99	19
SLPA3434	Receive Ti SCC Model - AP3.10Q	M4	0		30AUG99	24
WPP520M4	Provide Ti SCC Model - AP3.10Q	M4	0		30AUG99	24
WPW144	Stress Corros Crack-Input Parameters and Data Id		0		30AUG99	277
WPW145	Stress Corros Crack-Models and Codes Identified		0		30AUG99	294
WPPMR270	3.10Q Checking/Review Stress Corros Crack model		22	31AUG99	30SEP99	19
WPW146	Stress Corros Crack-Determine DTN Assignment		2	31AUG99	01SEP99	277
WPW158	Stress Corros Crack-Determine if Model-Rel SW is		5	31AUG99	07SEP99	294
WPW147	Stress Corros Crack-Determine if Data/DTN in TDM		3	02SEP99	07SEP99	277
WPW148	Stress Corros Crack-Submit Data/DTN to TDMS as N		22	08SEP99	07OCT99	277
WPW159	Stress Corros Crack-Place Model-Related SW Under		10	08SEP99	21SEP99	294
WPW160	Stress Corros Crack-Verify Model-Related Softwar		44	22SEP99	24NOV99	294
WPPMR275	Prepare Final 3.10Q Report Stress Corros Crack m		20	01OCT99	29OCT99	19



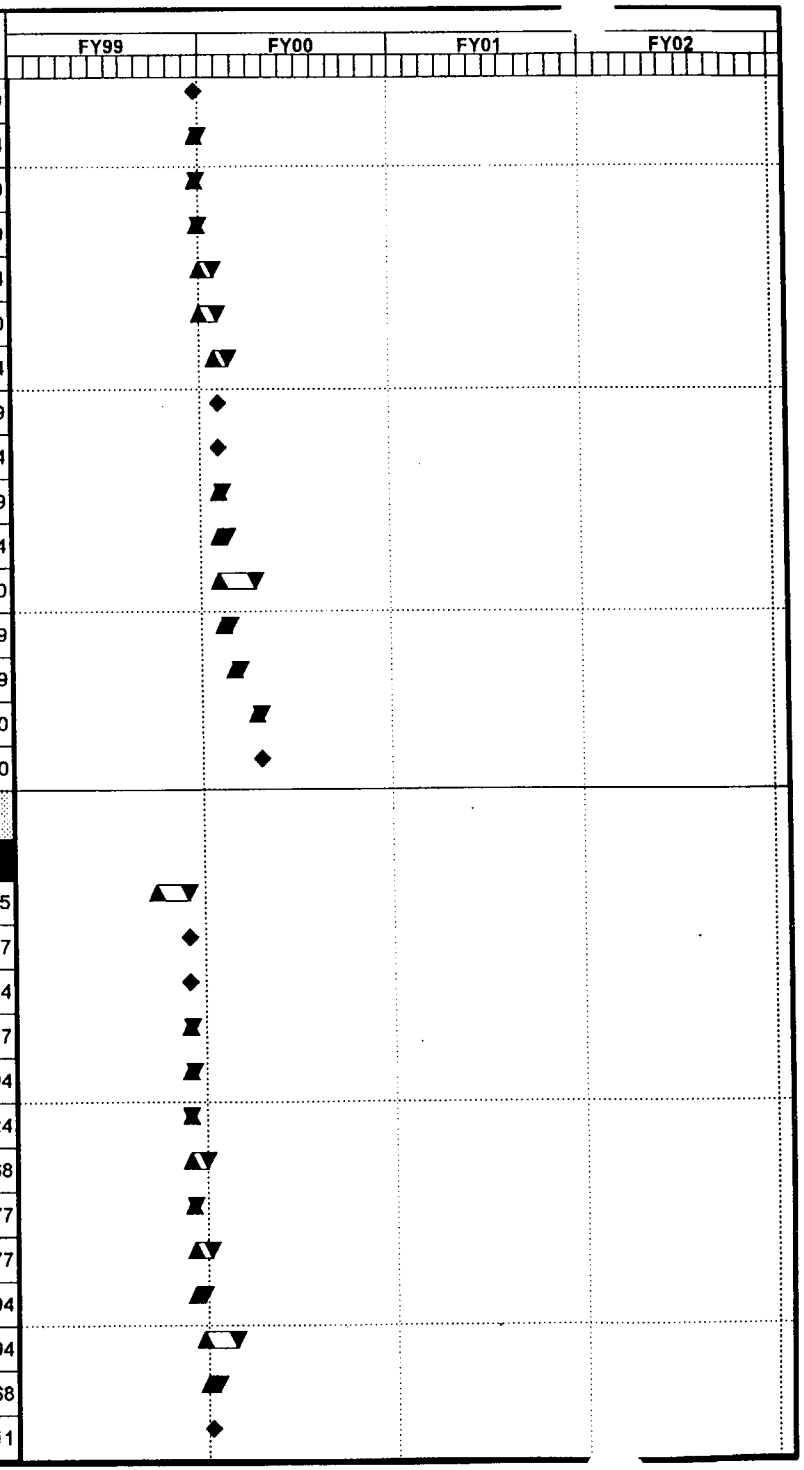
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW150	Stress Corros Crack-Procurement Related Issues I		0		07OCT99	311
WPW154	Stress Corros Crack-Data Related Software Issues		0		07OCT99	296
WPW149	Stress Corros Crack-Verify/Trace Data		44	08OCT99	14DEC99	277
WPW151	Stress Corros Crack-Rxesolve Procurement Related		10	08OCT99	22OCT99	311
WPW155	Stress Corros Crack-Determine if Data Rel SW is		5	08OCT99	15OCT99	296
WPW156	Stress Corros Crack-Place Under SMS Control as N		10	18OCT99	29OCT99	296
WPW157	Stress Corros Crack-Verify Data-Related Software		10	01NOV99	15NOV99	296
WPW161	Stress Corros Crack-Qualified/Verified SW Availa		0		24NOV99	294
WPW152	Stress Corros Crack-Update TDMS		5	15DEC99	21DEC99	277
WPW153	Stress Corros Crack-Qualified/Verified Data Avai		0		21DEC99	277
W3005						
130 Performance Assessment Operations						
SLPA3436	Prepare Draft DS SCC Abs		22	31AUG99	30SEP99	24
SLPA3438	Receive Model Abstraction PAO - AP3.10Q	M4	0		30SEP99	24
SLPA3440	Provide Model Abstraction PAO - AP3.10Q	M4	0		30SEP99	24
SLPA3448	Report Ti SCC Abs-Input Parameters and Data den		0		30SEP99	255
SLPA3442	3.10Q Checking/Review FY99		5	01OCT99	07OCT99	39
SLPA3452	Report Ti SCC Abs-Determine DTN Assignment		2	01OCT99	04OCT99	255
SLPA3456	Report Ti SCC Abs-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99	255
SLPA3444	3.10Q Checking/Review FY00		17	08OCT99	02NOV99	39
SLPA3460	Report Ti SCC Abs-Submit Data/DTN to TDMS as Nec		22	08OCT99	09NOV99	255
SLPA3446	Prepare Final 3.10Q Report		20	03NOV99	03DEC99	39
SLPA3464	Report Ti SCC Abs-Data Related Software Issues I		0		09NOV99	274
SLPA3466	Report Ti SCC Abs-Procurement Related Issues ID'		0		09NOV99	289
SLPA3468	Report Ti SCC Abs-Determine if Data Rel SW is Un		5	10NOV99	17NOV99	274
SLPA3470	Report Ti SCC Abs-Rxesolve Procurement Related D		10	10NOV99	24NOV99	289
SLPA3472	Report Ti SCC Abs-Verify/Trace Data		44	10NOV99	17JAN00	255
SLPA3474	Report Ti SCC Abs-Place Under SMS Control as Nec		10	18NOV99	03DEC99	274
SLPA3476	Report Ti SCC Abs-Verify Data-Related Software		10	06DEC99	17DEC99	274
SLPA3478	Report Ti SCC Abs-Update TDMS		5	18JAN00	24JAN00	255
SLPA3480	Report Ti SCC Abs-Qualified/Verified Data Availa		0		24JAN00	255



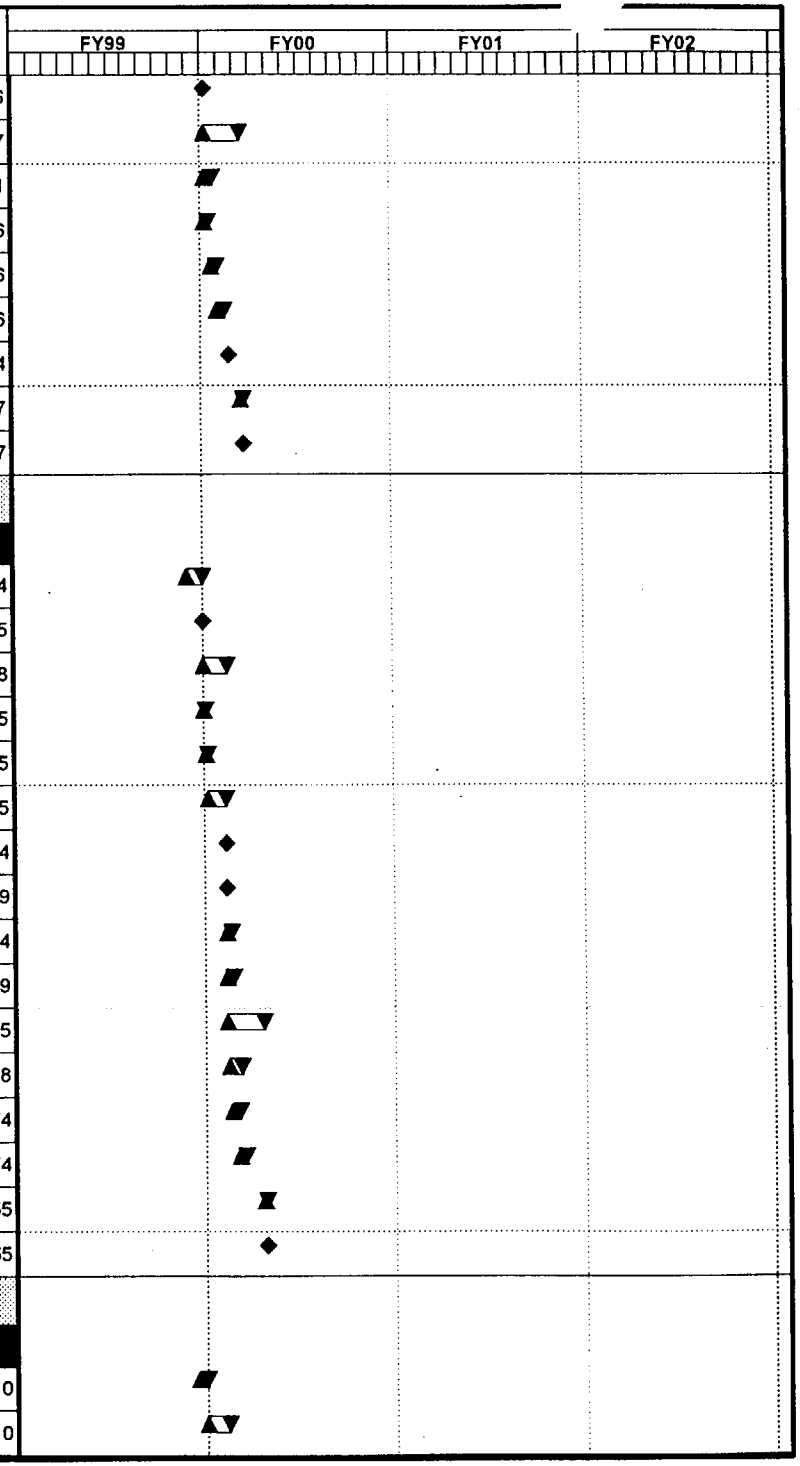
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
W3020						
110 Waste Package Operations						
WPPMR280	3.10Q data (Hydrog Induced Cracking in Titanium)		79	03MAY99*	23AUG99	0
WPPMR285	Prepare Draft 3.10Q Hydrog Induced Cracki Rv 00A		18	29JUL99*	23AUG99	0
SLPA3482	Receive Hydrogen Induced Cracking in Titanium -	M4	0		23AUG99*	0
WPP530M4	Receive Hydrogen Induced Cracking in Titanium -	M4	0		23AUG99	0
WPW162	Hydrog Induced Crack-Input Parameters and Data I		0		23AUG99	282
WPW163	Hydrog Induced Crack-Models and Codes Identified		0		23AUG99	299
WPPMR290	3.10Q Checking/Review Hydrog Induced Cracking		22	24AUG99	23SEP99	24
WPW164	Hydrog Induced Crack-Determine DTN Assignment		2	24AUG99	25AUG99	282
WPW176	Hydrog Induced Crack-Determine if Model-Rel SW i		5	24AUG99	30AUG99	299
WPW165	Hydrog Induced Crack-Determine if Data/DTN in TD		3	26AUG99	30AUG99	282
WPW166	Hydrog Induced Crack-Submit Data/DTN to TDMS as		22	31AUG99	30SEP99	282
WPW177	Hydrog Induced Crack-Place Model-Related SW Unde		10	31AUG99	14SEP99	299
WPW178	Hydrog Induced Crack-Verify Model-Related Softwa		44	15SEP99	17NOV99	299
WPPMR295	Prepare Final 3.10Q Report Hydrog Induced Cracki		20	24SEP99	22OCT99	24
WPW168	Hydrog Induced Crack-Procurement Related Issues		0		30SEP99	316
WPW172	Hydrog Induced Crack-Data Related Software Issue		0		30SEP99	301
WPW167	Hydrog Induced Crack-Verify/Trace Data		44	01OCT99	07DEC99	282
WPW169	Hydrog Induced Crack-Rxesolve Procurement Relate		10	01OCT99	15OCT99	316
WPW173	Hydrog Induced Crack-Determine if Data Rel SW is		5	01OCT99	07OCT99	301
WPW174	Hydrog Induced Crack-Place Under SMS Control as		10	08OCT99	22OCT99	301
WPW175	Hydrog Induced Crack-Verify Data-Related Softwar		10	25OCT99	05NOV99	301
WPW179	Hydrog Induced Crack-Qualified/Verified SW Avail		0		17NOV99	299
WPW170	Hydrog Induced Crack-Update TDMS		5	08DEC99	14DEC99	282
WPW171	Hydrog Induced Crack-Qualified/Verified Data Ava		0		14DEC99	282
W3030						
130 Performance Assessment Operations						
SLPA3484	Abs HIC in Ti DS		22	24AUG99	23SEP99	29
SLPA3486	Receive Model Abstraction - PAO - AP3.10Q	M4	0		23SEP99	29
SLPA3494	Report Cracking Ti-Input Parameters and Data Ide		0		23SEP99	260



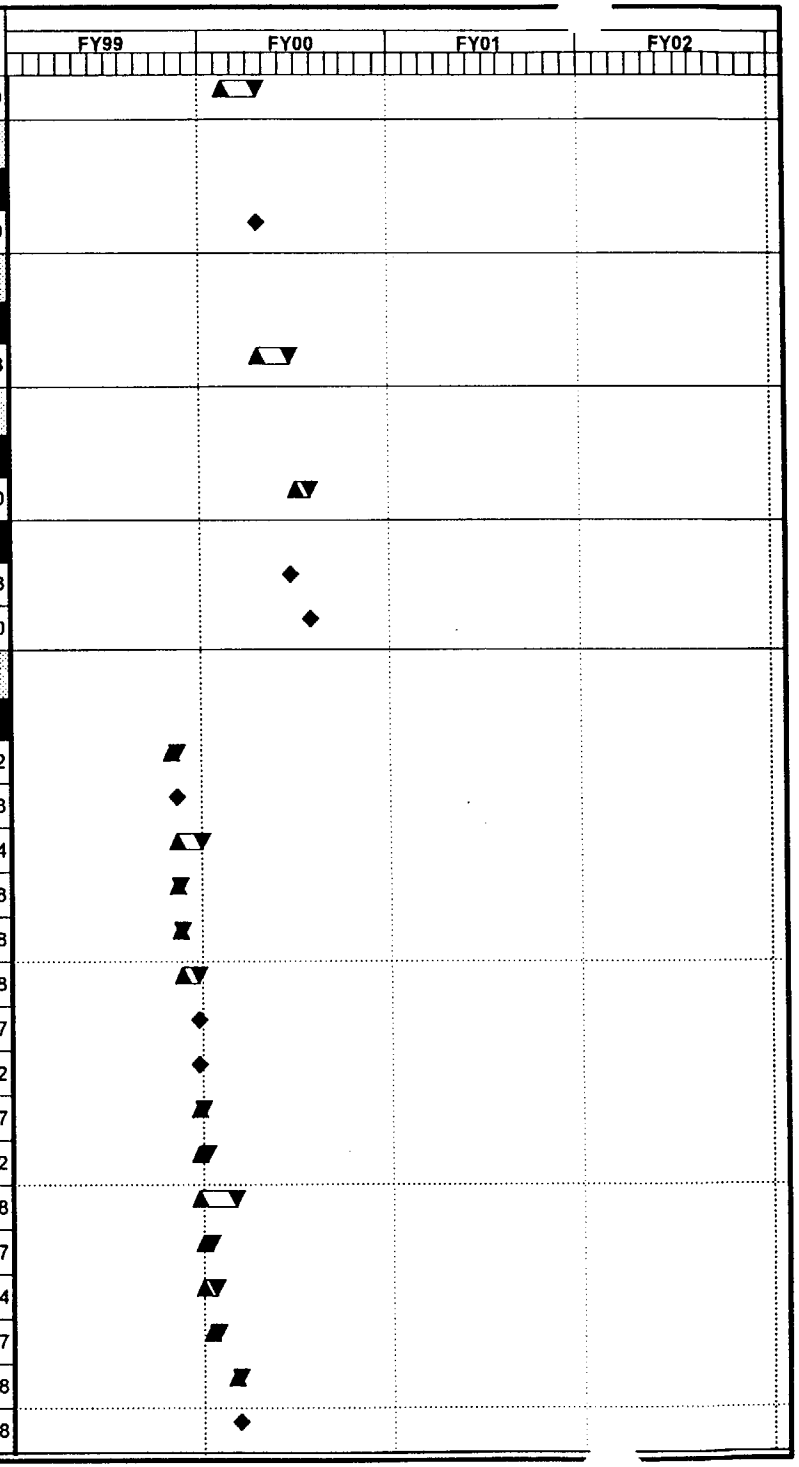
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPP535M4	Receive Model Abstraction - PAO - AP3.10Q	M4	0		23SEP99	29
SLPA3488	3.10Q Checking/Review FY99		4	24SEP99	29SEP99	44
SLPA3498	Report Cracking Ti-Determine DTN Assignment		2	24SEP99	27SEP99	260
SLPA3502	Report Cracking Ti-Determine if Data/DTN in TDMS		3	28SEP99	30SEP99	260
SLPA3490	3.10Q Checking/Review FY00		18	30SEP99	26OCT99	44
SLPA3506	Report Cracking Ti-Submit Data/DTN to TDMS as Ne		22	01OCT99	02NOV99	260
SLPA3492	Prepare Final 3.10Q Report		20	27OCT99	24NOV99	44
SLPA3510	Report Cracking Ti-Data Related Software Issues		0		02NOV99	279
SLPA3512	Report Cracking Ti-Procurement Related Issues ID		0		02NOV99	294
SLPA3514	Report Cracking Ti-Determine if Data Rel SW is U		5	03NOV99	09NOV99	279
SLPA3516	Report Cracking Ti-Rxesolve Procurement Related		10	03NOV99	17NOV99	294
SLPA3518	Report Cracking Ti-Verify/Trace Data		44	03NOV99	10JAN00	260
SLPA3520	Report Cracking Ti-Place Under SMS Control as Ne		10	10NOV99	24NOV99	279
SLPA3522	Report Cracking Ti-Verify Data-Related Software		10	29NOV99	10DEC99	279
SLPA3524	Report Cracking Ti-Update TDMS		5	11JAN00	17JAN00	260
SLPA3526	Report Cracking Ti-Qualified/Verified Data Avai		0		17JAN00	260
W3055						
110 Waste Package Operations						
WPPMR300	3.10Q data(Degrad Stainless Steel Struct Mat'l)		42	01JUL99*	30AUG99	25
WPW180	Degrad Stainless-Input Parameters and Data Ident		0		30AUG99	277
WPW181	Degrad Stainless-Models and Codes Identified		0		30AUG99	294
WPW182	Degrad Stainless-Determine DTN Assignment		2	31AUG99	01SEP99	277
WPW194	Degrad Stainless-Determine if Model-Rel SW is Un		5	31AUG99	07SEP99	294
WPPMR305	Prepare Draft 3.10Q Degrad Stainless Stee Rv 00A		0	01SEP99*	31AUG99	24
WPPMR310	3.10Q Checking/Review Degrad Stainless Steel		21	01SEP99	30SEP99	68
WPW183	Degrad Stainless-Determine if Data/DTN in TDMS		3	02SEP99	07SEP99	277
WPW184	Degrad Stainless-Submit Data/DTN to TDMS as Nece		22	08SEP99	07OCT99	277
WPW195	Degrad Stainless-Place Model-Related SW Under SM		10	08SEP99	21SEP99	294
WPW196	Degrad Stainless-Verify Model-Related Software		44	22SEP99	24NOV99	294
WPPMR315	Prepare Final 3.10Q Report Degrad Stainless Stee		13	01OCT99	20OCT99	68
WPW186	Degrad Stainless-Procurement Related Issues ID'd		0		07OCT99	311



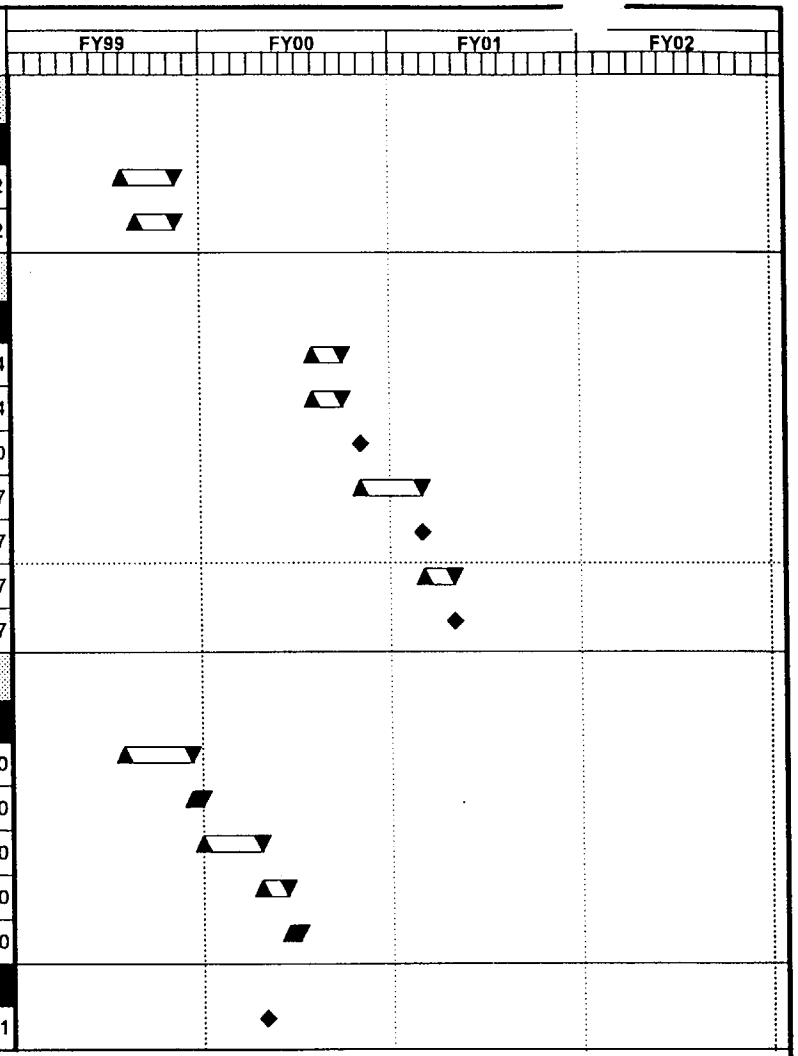
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPW190	Degrad Stainless-Data Related Software Issues Id		0		07OCT99	296
WPW185	Degrad Stainless-Verify/Trace Data		44	08OCT99	14DEC99	277
WPW187	Degrad Stainless-Rxesolve Procurement Related Da		10	08OCT99	22OCT99	311
WPW191	Degrad Stainless-Determine if Data Rel SW is Und		5	08OCT99	15OCT99	296
WPW192	Degrad Stainless-Place Under SMS Control as Nece		10	18OCT99	29OCT99	296
WPW193	Degrad Stainless-Verify Data-Related Software		10	01NOV99	15NOV99	296
WPW197	Degrad Stainless-Qualified/Verified SW Available		0		24NOV99	294
WPW188	Degrad Stainless-Update TDMS		5	15DEC99	21DEC99	277
WPW189	Degrad Stainless-Qualified/Verified Data Availab		0		21DEC99	277
W3060						
130 Performance Assessment Operations						
SLPA3528	Draft 316 SS Corr Abs 3.10Q Rev 00A		21	01SEP99	30SEP99	24
SLPA3534	SS Abs-Input Parameters and Data Identified		0		30SEP99	255
SLPA3530	3.10Q Checking/Review SS Abstraction		30	01OCT99	15NOV99	38
SLPA3538	SS Abs-Determine DTN Assignment		2	01OCT99	04OCT99	255
SLPA3542	SS Abs-Determine if Data/DTN in TDMS		3	05OCT99	07OCT99	255
SLPA3546	SS Abs-Submit Data/DTN to TDMS as Necessary		22	08OCT99	09NOV99	255
SLPA3550	SS Abs-Data Related Software Issues Identified		0		09NOV99	274
SLPA3552	SS Abs-Procurement Related Issues ID'd to Car Ma		0		09NOV99	289
SLPA3554	SS Abs-Determine if Data Rel SW is Under SMS Con		5	10NOV99	17NOV99	274
SLPA3556	SS Abs-Rxesolve Procurement Related Data Issues		10	10NOV99	24NOV99	289
SLPA3558	SS Abs-Verify/Trace Data		44	10NOV99	17JAN00	255
SLPA3532	Prepare Final 3.10Q Report SS Abstraction		13	16NOV99	06DEC99	38
SLPA3560	SS Abs-Place Under SMS Control as Necessary		10	18NOV99	03DEC99	274
SLPA3562	SS Abs-Verify Data-Related Software		10	06DEC99	17DEC99	274
SLPA3564	SS Abs-Update TDMS		5	18JAN00	24JAN00	255
SLPA3566	SS Abs-Qualified/Verified Data Available		0		24JAN00	255
W3070						
110 Waste Package Operations						
WPPMR499	Initiate Developmemt WP PMR Rev 00A Text		13	14SEP99*	30SEP99	10
WPPMR50A	Initiate Developmemt WP PMR Rev 00A Text		29	01OCT99	12NOV99	10



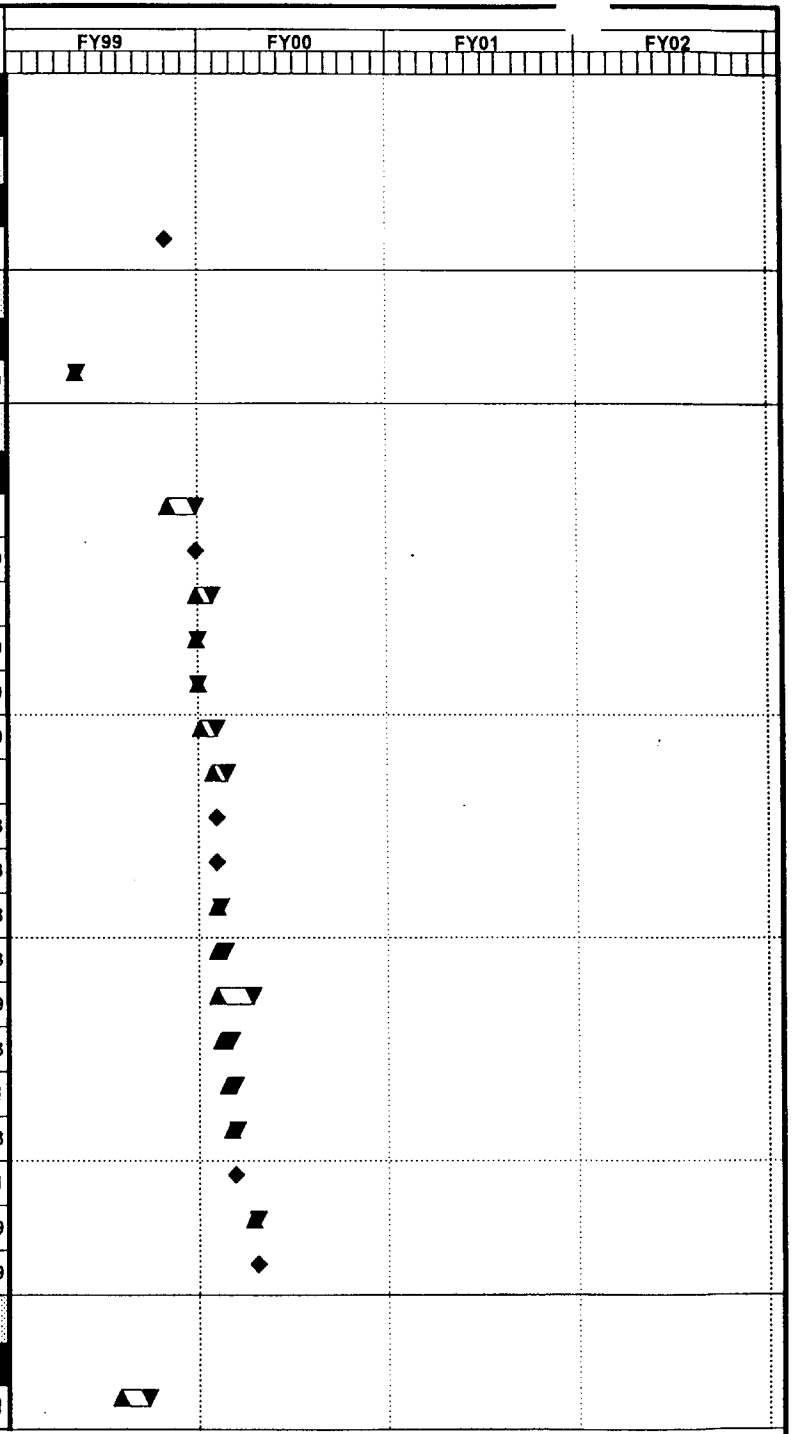
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WPPMR500	Develop Waste Package PMR Rev 00A Text		42	15NOV99	17JAN00	10
W3075						
110 Waste Package Operations						
WPPMRM4	Waste Package PMR Rev 00A	M4	0		17JAN00	10
W3080						
110 Waste Package Operations						
WPPMR510	Waste Package PMR M&O Review		43	20JAN00	21MAR00	8
W3095						
110 Waste Package Operations						
WPPMR520	Waste Package PMR DOE Review		20	03APR00	28APR00*	0
300 Regulatory & Licensing						
SLPMRFM3	Waste Package PMR Rev 00	M3	0		21MAR00	8
SLPMRGM3	Rev 01 Waste Package PMR	M3	0		28APR00	0
WNEWF						
130 Performance Assessment Operations						
SLPA3568	Draft 3.10Q MechFailures Abs - Rockfall Rev 00A		10	02AUG99	13AUG99	22
SLPA3574	MechFailures Abs-Input Parameters and Data Ident		0		13AUG99	288
SLPA3570	Check3.10Q MechFailures Abs -Rockfall Rev 00A 99		33	16AUG99	30SEP99	24
SLPA3578	MechFailures Abs-Determine DTN Assignment		2	16AUG99	17AUG99	288
SLPA3582	MechFailures Abs-Determine if Data/DTN in TDMS		3	18AUG99	20AUG99	288
SLPA3586	MechFailures Abs-Submit Data/DTN to TDMS as Nece		22	23AUG99	22SEP99	288
SLPA3590	MechFailures Abs-Data Related Software Issues Id		0		22SEP99	307
SLPA3592	MechFailures Abs-Procurement Related Issues ID'd		0		22SEP99	322
SLPA3594	MechFailures Abs-Determine if Data Rel SW is Und		5	23SEP99	29SEP99	307
SLPA3596	MechFailures Abs-Rxesolve Procurement Related Da		10	23SEP99	06OCT99	322
SLPA3598	MechFailures Abs-Verify/Trace Data		44	23SEP99	29NOV99	288
SLPA3600	MechFailures Abs-Place Under SMS Control as Nece		10	30SEP99	14OCT99	307
SLPA3572	Final 3.10Q Mech Failures Abs - Rockfall Rev 00A		15	01OCT99	22OCT99	24
SLPA3602	MechFailures Abs-Verify Data-Related Software		10	15OCT99	28OCT99	307
SLPA3604	MechFailures Abs-Update TDMS		5	30NOV99	06DEC99	288
SLPA3606	MechFailures Abs-Qualified/Verified Data Availab		0		06DEC99	288



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
WNEWJ						
130 Performance Assessment Operations						
SLPA3608	3.10Q Abstraction of Water Chem inside Breach WP		73	03MAY99*	13AUG99	22
SLPA3610	Prepare Draft 3.10Q Abstraction of Water Chem		53	01JUN99*	13AUG99	22
Z9999 PMR Rev 02 thru Rev 05						
300 Regulatory & Licensing						
WPW00A	Revise WP PMR AP 3.10Q's for SR		41	01MAY00	27JUN00	24
WPW00B	Prepare WP PMR REV-02A for SR		41	01MAY00	27JUN00	24
WPW00BM4	WP PMR Rev-02A for SR	M4	0		01AUG00*	0
WPW00C	M&O Review WP PMR Rev-02A for SR		83	02AUG00	01DEC00	17
WPW00CM3	WP PMR Rev-02 for SR	M3	0		01DEC00	17
WPW00D	DOE Review WP PMR 02 for SR		41	04DEC00	31JAN01	17
WPW00EM3	Rev 03 WP PMR for SR	M3	0		31JAN01	17
150 Support Operations						
BMP210	PIM 3.10Q/PMR Planning & Text Support (WP)		92	03MAY99*	10SEP99	0
BMP212	PIM Text & M&O Review Prep Support (WP)		13	13SEP99	29SEP99	0
BMP214	Cont. PIM Text & M&O Review Prep Support (WP)		74	30SEP99	19JAN00	0
BMP216	PIM M&O Rev. & DOE Rev.Prep Support (WP)		36	20JAN00	10MAR00	0
BMP218	PIM DOE Rev. & Final Accept. Support (WP)		15	13MAR00	31MAR00	0
SLE01M4	Rec Confirm EBS PMR SW Verified/Qualified	M4	0		28JAN00	251



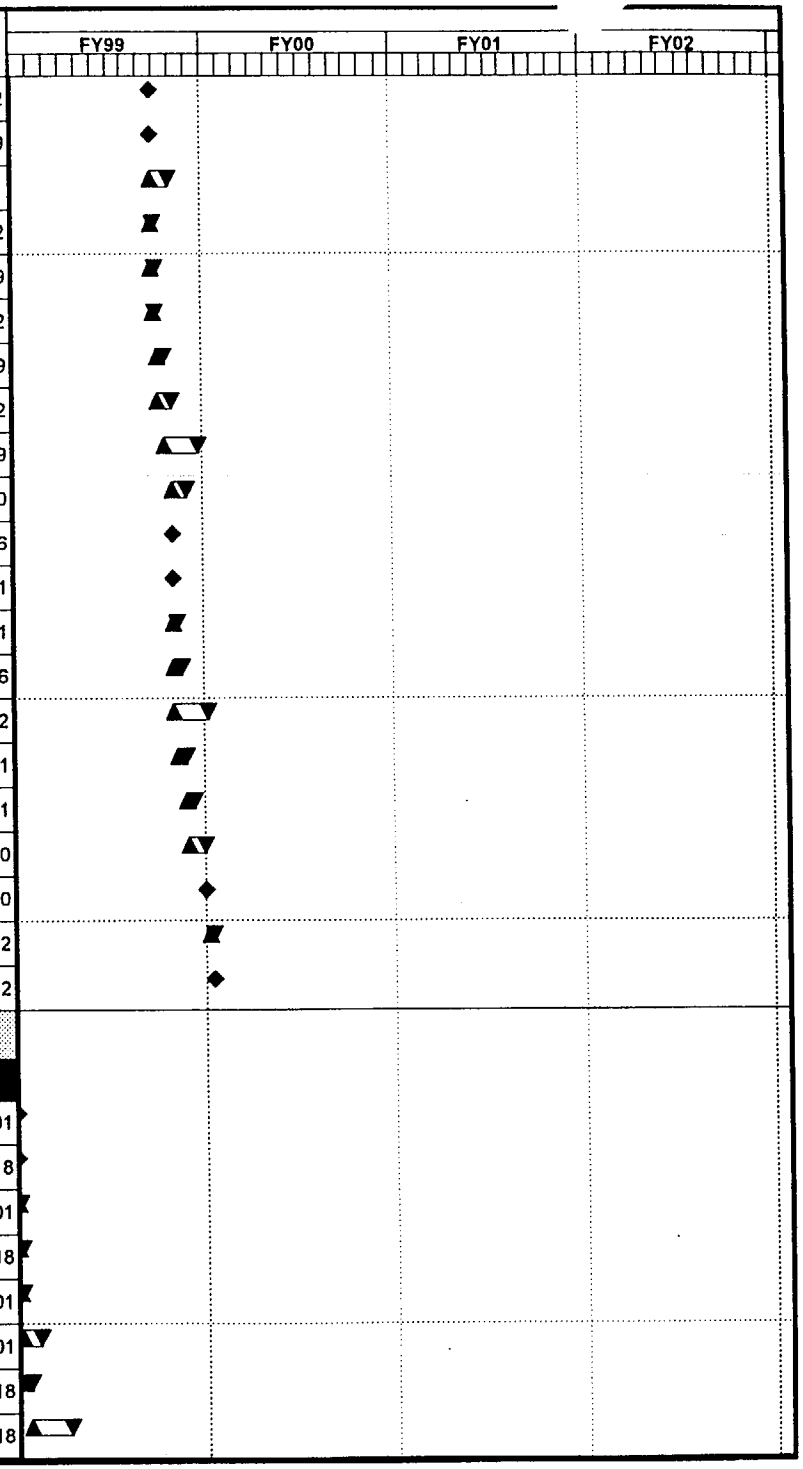
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
T Tectonics PMR						
0PA PA Input						
SLPA3616	Receive Tectonics Input	M4	0		30JUL99	1
AAA1 Conduct FEPs Workshop						
130 Performance Assessment Operations						
SLPA3618	Conduct Workshop (FEPs)		1	09FEB99*	08FEB99	59
ABS Abstraction						
130 Performance Assessment Operations						
SLPA3620	AP3.10Q Data - Disruptive Events Abstraction		39	02AUG99	24SEP99	1
SLPA3630	Disrup Events Abs-Input Parameters and Data Iden		0		24SEP99	259
SLPA3622	AP3.10Q Draft - Disruptive Events Abstraction		20	27SEP99	25OCT99	1
SLPA3634	Disrup Events Abs-Determine DTN Assignment		2	27SEP99	28SEP99	259
SLPA3638	Disrup Events Abs-Determine if Data/DTN in TDMS		3	29SEP99	01OCT99	259
SLPA3642	Disrup Events Abs-Submit Data/DTN to TDMS as Nec		22	04OCT99	03NOV99	259
SLPA3624	AP3.10Q Check - Disruptive Events Abstraction		19	26OCT99	22NOV99	1
SLPA3646	Disrup Events Abs-Data Related Software Issues I		0		03NOV99	278
SLPA3648	Disrup Events Abs-Procurement Related Issues ID'		0		03NOV99	293
SLPA3650	Disrup Events Abs-Determine if Data Rel SW is Un		5	04NOV99	10NOV99	278
SLPA3652	Disrup Events Abs-Rxesolve Procurement Related D		10	04NOV99	18NOV99	293
SLPA3654	Disrup Events Abs-Verify/Trace Data		44	04NOV99	11JAN00	259
SLPA3656	Disrup Events Abs-Place Under SMS Control as Nec		10	12NOV99	29NOV99	278
SLPA3626	AP3.10Q Final - Disruptive Events Abstraction		8	23NOV99	09DEC99	1
SLPA3658	Disrup Events Abs-Verify Data-Related Software		10	30NOV99	13DEC99	278
SLPA3628	AP3.10Q Final - Disruptive Events Abstraction	M4	0		09DEC99	1
SLPA3660	Disrup Events Abs-Update TDMS		5	12JAN00	18JAN00	259
SLPA3662	Disrup Events Abs-Qualified/Verified Data Availa		0		18JAN00	259
ADD1						
130 Performance Assessment Operations						
SLPA3664	AP3.10Q Data - Evaluate / Screen Tectonics FEPs		37	05MAY99*	25JUN99	1



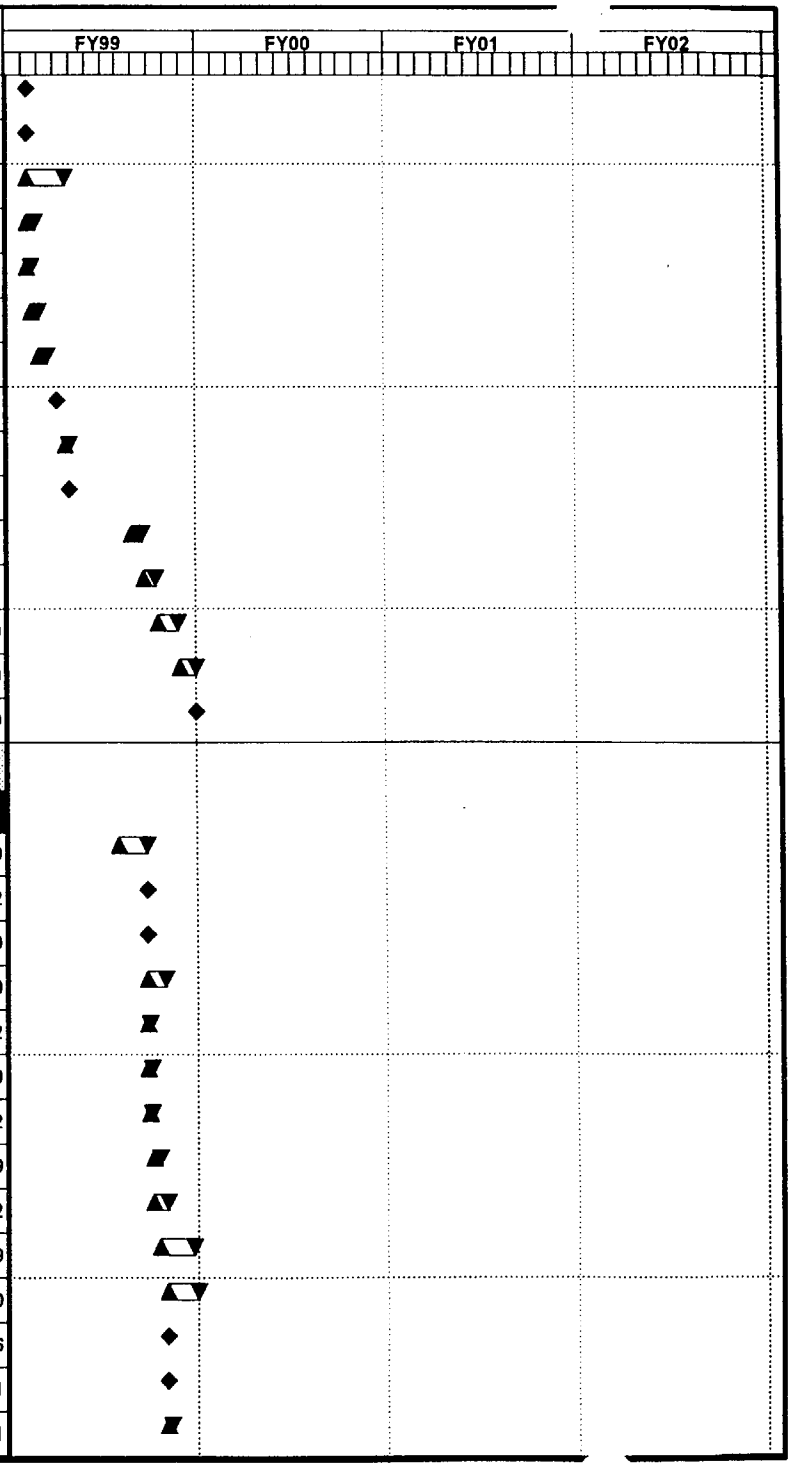
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA3674	Tectonics FEPs-Input Parameters and Data Identif		0		25JUN99	322
SLPA3676	Tectonics FEPs-Models and Codes Identified		0		25JUN99	339
SLPA3666	AP3.10Q Draft - Evaluate / Screen Tectonics FEPs		24	28JUN99	30JUL99	1
SLPA3678	Tectonics FEPs-Determine DTN Assignment		2	28JUN99	29JUN99	322
SLPA3680	Tectonics FEPs-Determine if Model-Rel SW is Unde		5	28JUN99	02JUL99	339
SLPA3682	Tectonics FEPs-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99	322
SLPA3684	Tectonics FEPs-Place Model-Related SW Under SMS		10	06JUL99	19JUL99	339
SLPA3686	Tectonics FEPs-Submit Data/DTN to TDMS as Necess		22	06JUL99	04AUG99	322
SLPA3688	Tectonics FEPs-Verify Model-Related Software		44	20JUL99	20SEP99	339
SLPA3668	AP3.10Q Check - Evaluate / Screen Tectonics FEPs		22	02AUG99	31AUG99	20
SLPA3690	Tectonics FEPs-Procurement Related Issues ID'd t		0		04AUG99	356
SLPA3692	Tectonics FEPs-Data Related Software Issues Iden		0		04AUG99	341
SLPA3694	Tectonics FEPs-Determine if Data Rel SW is Under		5	05AUG99	11AUG99	341
SLPA3696	Tectonics FEPs-Rxesolve Procurement Related Data		10	05AUG99	18AUG99	356
SLPA3698	Tectonics FEPs-Verify/Trace Data		44	05AUG99	06OCT99	322
SLPA3700	Tectonics FEPs-Place Under SMS Control as Necess		10	12AUG99	25AUG99	341
SLPA3702	Tectonics FEPs-Verify Data-Related Software		10	26AUG99	09SEP99	341
SLPA3670	AP3.10Q Final - Evaluate / Screen Tectonics FEPs		21	01SEP99	30SEP99	20
SLPA3672	AP3.10Q Final - Evaluate / Screen Tectonics FEPs	M4	0		30SEP99	20
SLPA3704	Tectonics FEPs-Update TDMS		5	07OCT99	14OCT99	322
SLPA3706	Tectonics FEPs-Qualified/Verified Data Available		0		14OCT99	322

V1110

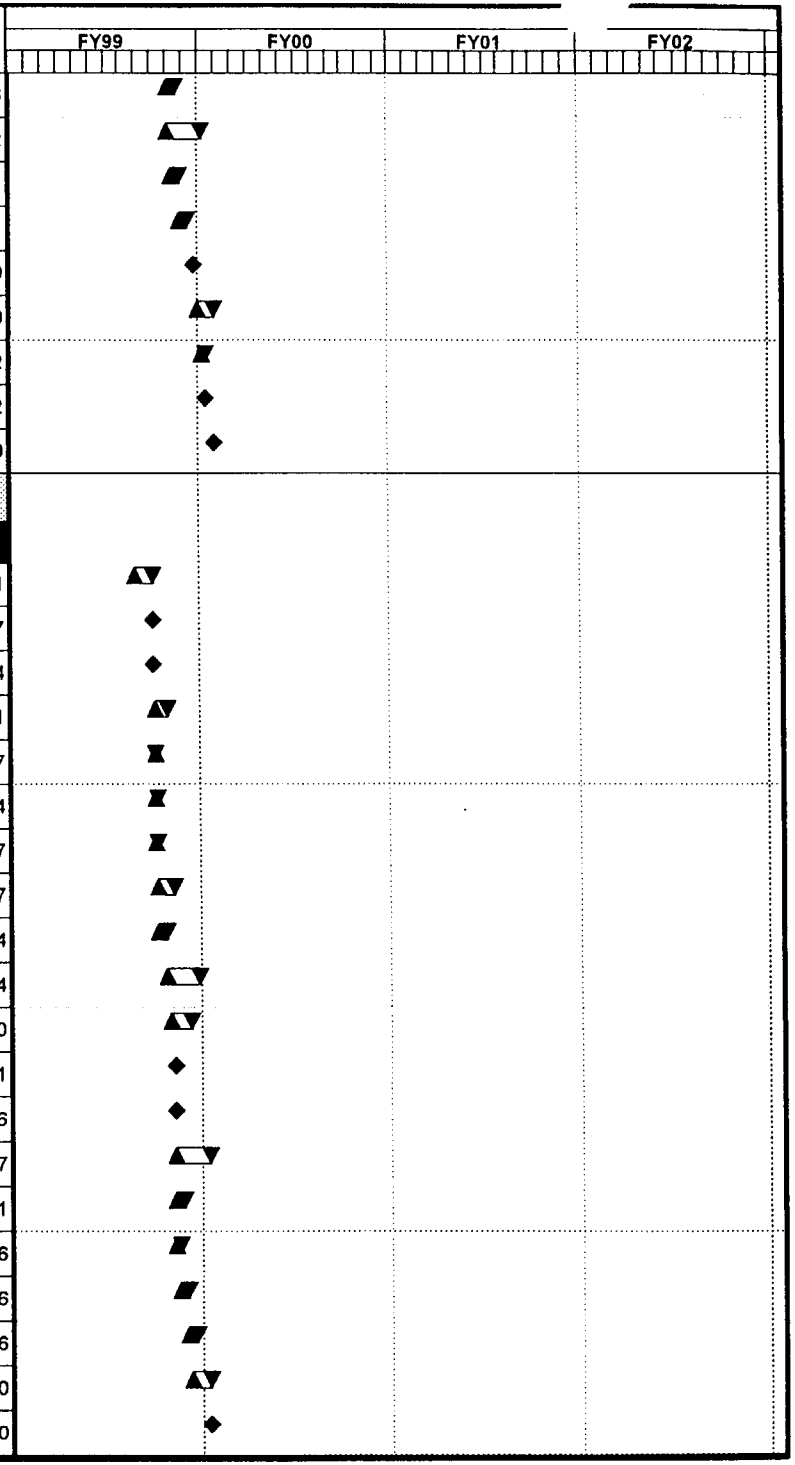
SLT036	Igneous Activity-Input Parameters and Data Ident		0		30SEP98	501
SLT038	Igneous Activity-Models and Codes Identified		0		30SEP98	518
SLT040	Igneous Activity-Determine DTN Assignment		2	01OCT98*	02OCT98	501
SLT064	Igneous Activity-Determine if Model-Rel SW is Un		5	01OCT98*	07OCT98	518
SLT042	Igneous Activity-Determine if Data/DTN in TDMS		3	05OCT98	07OCT98	501
SLT044	Igneous Activity-Submit Data/DTN to TDMS as Nece		22	08OCT98	09NOV98	501
SLT066	Igneous Activity-Place Model-Related SW Under SM		10	08OCT98	22OCT98	518
SLT068	Igneous Activity-Verify Model-Related Software		44	23OCT98	06JAN99	518



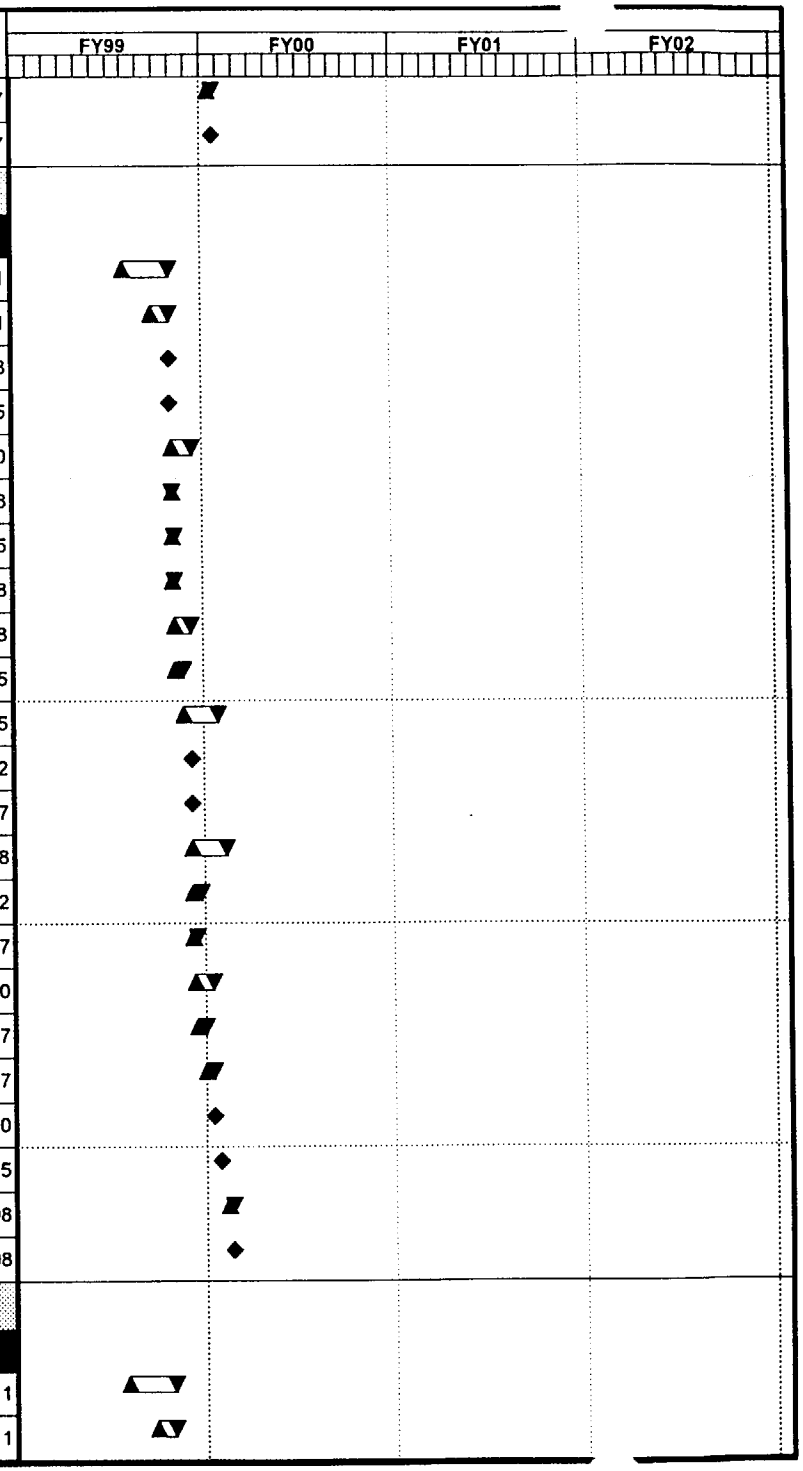
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLT048	Igneous Activity-Procurement Related Issues ID'd		0		09NOV98	535
SLT056	Igneous Activity-Data Related Software Issues Id		0		09NOV98	520
SLT046	Igneous Activity-Verify/Trace Data		44	10NOV98	22JAN99	501
SLT050	Igneous Activity-Rxesolve Procurement Related Da		10	10NOV98	24NOV98	535
SLT058	Igneous Activity-Determine if Data Rel SW is Und		5	10NOV98	17NOV98	520
SLT060	Igneous Activity-Place Under SMS Control as Nece		10	18NOV98	03DEC98	520
SLT062	Igneous Activity-Verify Data-Related Software		10	04DEC98	17DEC98	520
SLT070	Igneous Activity-Qualified/Verified SW Available		0		06JAN99	518
SLT052	Igneous Activity-Update TDMS		5	25JAN99	29JAN99	501
SLT054	Igneous Activity-Qualified/Verified Data Availab		0		29JAN99	501
SLA8010	AP3.10Q Data - Framework for Igneous Activity		14	01JUN99*	18JUN99	11
SLA8012	AP3.10Q Draft - Framework for Igneous Activity		19	21JUN99	16JUL99	11
SLA8014	AP3.10Q Check - Framework for Igneous Activity		30	19JUL99	27AUG99	20
SLA8016	AP3.10Q Final - Framework for Igneous Activity		23	30AUG99	30SEP99	20
SLA8016M4	AP3.10Q Final - Framework for Igneous Activity	M4	0		30SEP99	20
V1140						
130 Performance Assessment Operations						
SLPA3708	AP3.10Q Data - Dike Propagation Near Drifts		37	05MAY99*	25JUN99	0
SLPA3718	Dike Prop / Drifts-Input Parameters and Data Ide		0		25JUN99	322
SLPA3720	Dike Prop / Drifts-Models and Codes Identified		0		25JUN99	339
SLPA3710	AP3.10Q Draft - Dike Propagation Near Drifts		24	28JUN99	30JUL99	0
SLPA3722	Dike Prop / Drifts-Determine DTN Assignment		2	28JUN99	29JUN99	322
SLPA3724	Dike Prop / Drifts-Determine if Model-Rel SW is		5	28JUN99	02JUL99	339
SLPA3726	Dike Prop / Drifts-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99	322
SLPA3728	Dike Prop / Drifts-Place Model-Related SW Under		10	06JUL99	19JUL99	339
SLPA3730	Dike Prop / Drifts-Submit Data/DTN to TDMS as Ne		22	06JUL99	04AUG99	322
SLPA3732	Dike Prop / Drifts-Verify Model-Related Software		44	20JUL99	20SEP99	339
SLPA3712	AP3.10Q Check - Dike Propagation Near Drifts		43	02AUG99	30SEP99	0
SLPA3734	Dike Prop / Drifts-Procurement Related Issues ID		0		04AUG99	356
SLPA3736	Dike Prop / Drifts-Data Related Software Issues		0		04AUG99	341
SLPA3738	Dike Prop / Drifts-Determine if Data Rel SW is U		5	05AUG99	11AUG99	341



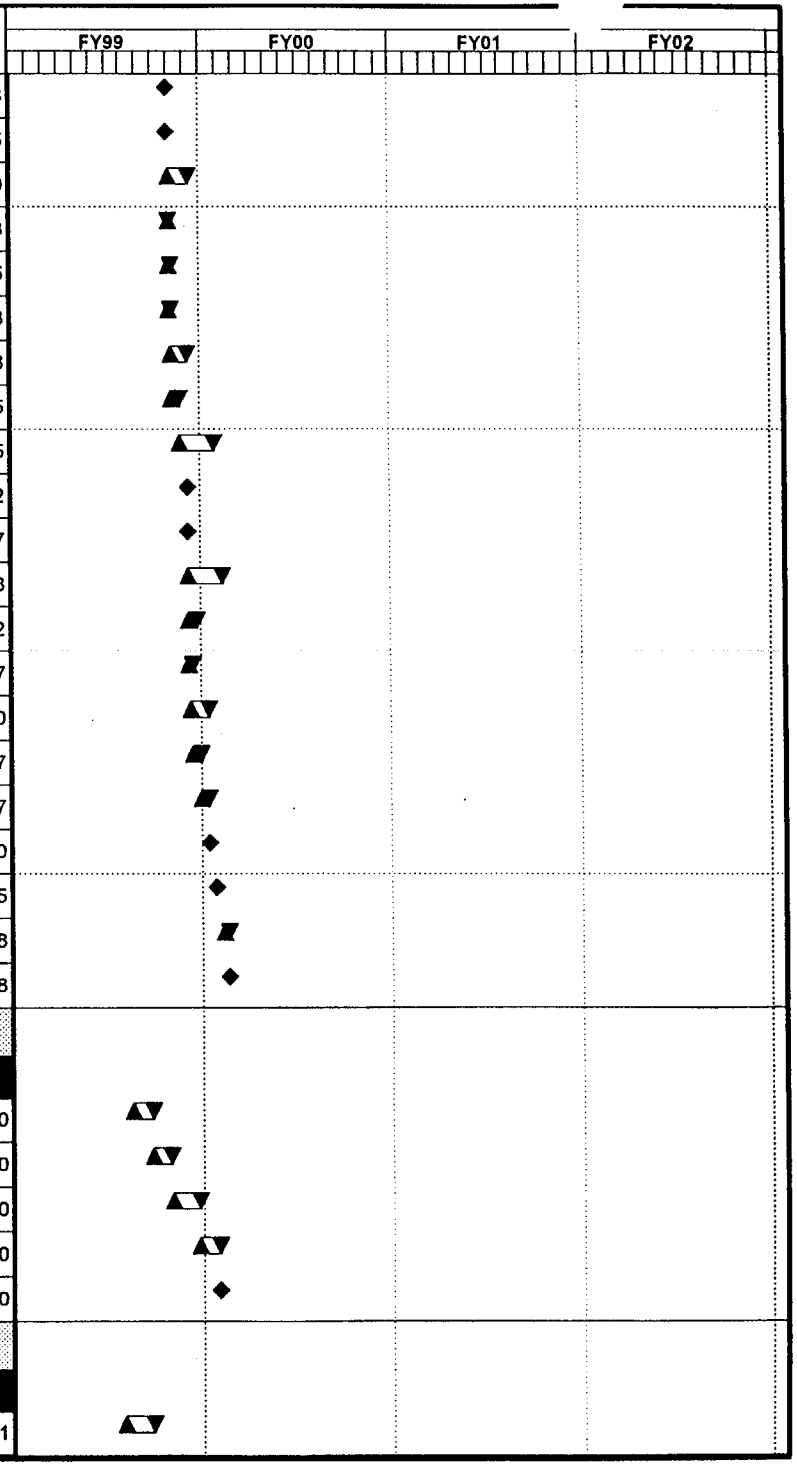
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA3740	Dike Prop / Drifts-Rxesolve Procurement Related		10	05AUG99	18AUG99	356
SLPA3742	Dike Prop / Drifts-Verify/Trace Data		44	05AUG99	06OCT99	322
SLPA3744	Dike Prop / Drifts-Place Under SMS Control as Ne		10	12AUG99	25AUG99	341
SLPA3746	Dike Prop / Drifts-Verify Data-Related Software		10	26AUG99	09SEP99	341
SLPA3748	Dike Prop / Drifts-Qualified/Verified SW Availab		0		20SEP99	339
SLPA3714	AP3.10Q Final - Dike Propagation Near Drifts		20	01OCT99	29OCT99	0
SLPA3750	Dike Prop / Drifts-Update TDMS		5	07OCT99	14OCT99	322
SLPA3752	Dike Prop / Drifts-Qualified/Verified Data Avail		0		14OCT99	322
SLPA3716	AP3.10Q Final - Dike Propagation Near Drifts	M4	0		29OCT99	0
V1150						
SLA8040	AP3.10Q Data - Characterize Eruptive Process		24	01JUN99*	02JUL99	1
SLT144	Char Eruptive-Input Parameters and Data Identifi		0		02JUL99	317
SLT146	Char Eruptive-Models and Codes Identified		0		02JUL99	334
SLA8042	AP3.10Q Draft - Characterize Eruptive Process		19	06JUL99	30JUL99	1
SLT148	Char Eruptive-Determine DTN Assignment		2	06JUL99	07JUL99	317
SLT172	Char Eruptive-Determine if Model-Rel SW is Under		5	06JUL99	12JUL99	334
SLT150	Char Eruptive-Determine if Data/DTN in TDMS		3	08JUL99	12JUL99	317
SLT152	Char Eruptive-Submit Data/DTN to TDMS as Necessa		22	13JUL99	11AUG99	317
SLT174	Char Eruptive-Place Model-Related SW Under SMS C		10	13JUL99	26JUL99	334
SLT176	Char Eruptive-Verify Model-Related Software		44	27JUL99	27SEP99	334
SLA8044	AP3.10Q Check - Characterize Eruptive Process		29	02AUG99	10SEP99	10
SLT156	Char Eruptive-Procurement Related Issues ID'd to		0		11AUG99	351
SLT164	Char Eruptive-Data Related Software Issues Ident		0		11AUG99	336
SLT154	Char Eruptive-Verify/Trace Data		44	12AUG99	14OCT99	317
SLT158	Char Eruptive-Rxesolve Procurement Related Data		10	12AUG99	25AUG99	351
SLT166	Char Eruptive-Determine if Data Rel SW is Under		5	12AUG99	18AUG99	336
SLT168	Char Eruptive-Place Under SMS Control as Necessa		10	19AUG99	01SEP99	336
SLT170	Char Eruptive-Verify Data-Related Software		10	02SEP99	16SEP99	336
SLA8046	AP3.10Q Final - Characterize Eruptive Process		24	13SEP99	15OCT99	10
SLA8046M4	AP3.10Q Final - Characterize Eruptive Process	M4	0		15OCT99	10



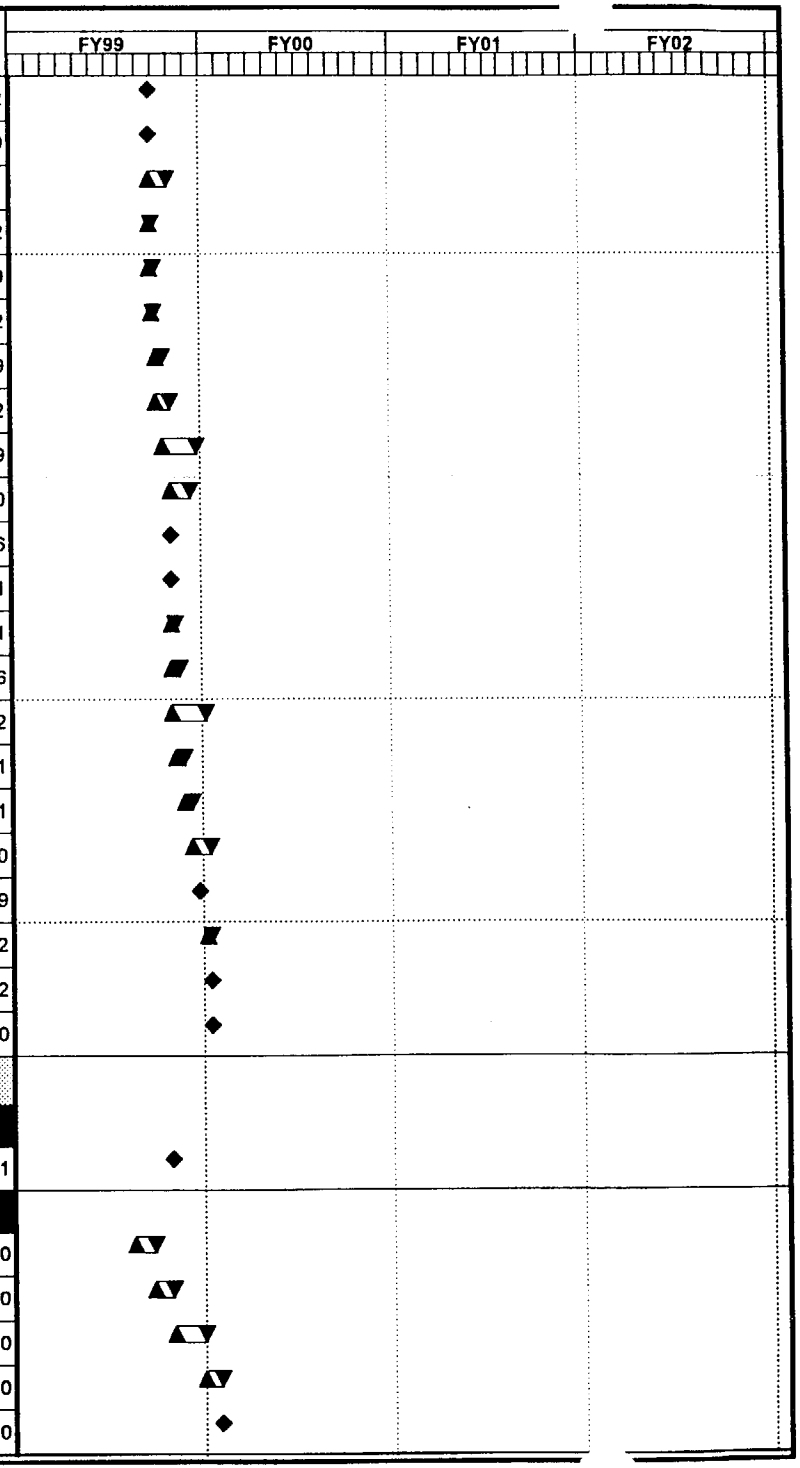
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLT160	Char Eruptive-Update TDMS		5	15OCT99	21OCT99	317
SLT162	Char Eruptive-Qualified/Verified Data Available		0		21OCT99	317
V1160						
SLA8050	AP3.10Q Data - Waste Package Behavior - Magma		61	05MAY99*	30JUL99	1
SLA8052	AP3.10Q Draft - Waste Package Behavior - Magma		24	28JUN99*	30JUL99	1
SLT180	WP Behavior/Magma-Input Parameters and Data Iden		0		30JUL99	298
SLT182	WP Behavior/Magma-Models and Codes Identified		0		30JUL99	315
SLA8054	AP3.10Q Check - Waste Package Behavior - Magma		29	02AUG99	10SEP99	10
SLT184	WP Behavior/Magma-Determine DTN Assignment		2	02AUG99	03AUG99	298
SLT208	WP Behavior/Magma-Determine if Model-Rel SW is U		5	02AUG99	06AUG99	315
SLT186	WP Behavior/Magma-Determine if Data/DTN in TDMS		3	04AUG99	06AUG99	298
SLT188	WP Behavior/Magma-Submit Data/DTN to TDMS as Nec		22	09AUG99	08SEP99	298
SLT210	WP Behavior/Magma-Place Model-Related SW Under S		10	09AUG99	20AUG99	315
SLT212	WP Behavior/Magma-Verify Model-Related Software		44	23AUG99	25OCT99	315
SLT192	WP Behavior/Magma-Procurement Related Issues ID'		0		08SEP99	332
SLT200	WP Behavior/Magma-Data Related Software Issues I		0		08SEP99	317
SLT190	WP Behavior/Magma-Verify/Trace Data		44	09SEP99	10NOV99	298
SLT194	WP Behavior/Magma-Rxesolve Procurement Related D		10	09SEP99	22SEP99	332
SLT202	WP Behavior/Magma-Determine if Data Rel SW is Un		5	09SEP99	15SEP99	317
SLA8056	AP3.10Q Final - Waste Package Behavior - Magma		24	13SEP99	15OCT99	10
SLT204	WP Behavior/Magma-Place Under SMS Control as Nec		10	16SEP99	29SEP99	317
SLT206	WP Behavior/Magma-Verify Data-Related Software		10	30SEP99	14OCT99	317
SLA8056M4	AP3.10Q Final - Waste Package Behavior - Magma	M4	0		15OCT99	10
SLT214	WP Behavior/Magma-Qualified/Verified SW Availabl		0		25OCT99	315
SLT196	WP Behavior/Magma-Update TDMS		5	12NOV99	18NOV99	298
SLT198	WP Behavior/Magma-Qualified/Verified Data Availa		0		18NOV99	298
V1170						
SLA8060	AP3.10Q Data - Waste Form Behavior - Magma		61	05MAY99*	30JUL99	1
SLA8062	AP3.10Q Draft - Waste Form Behavior - Magma		24	28JUN99*	30JUL99	1



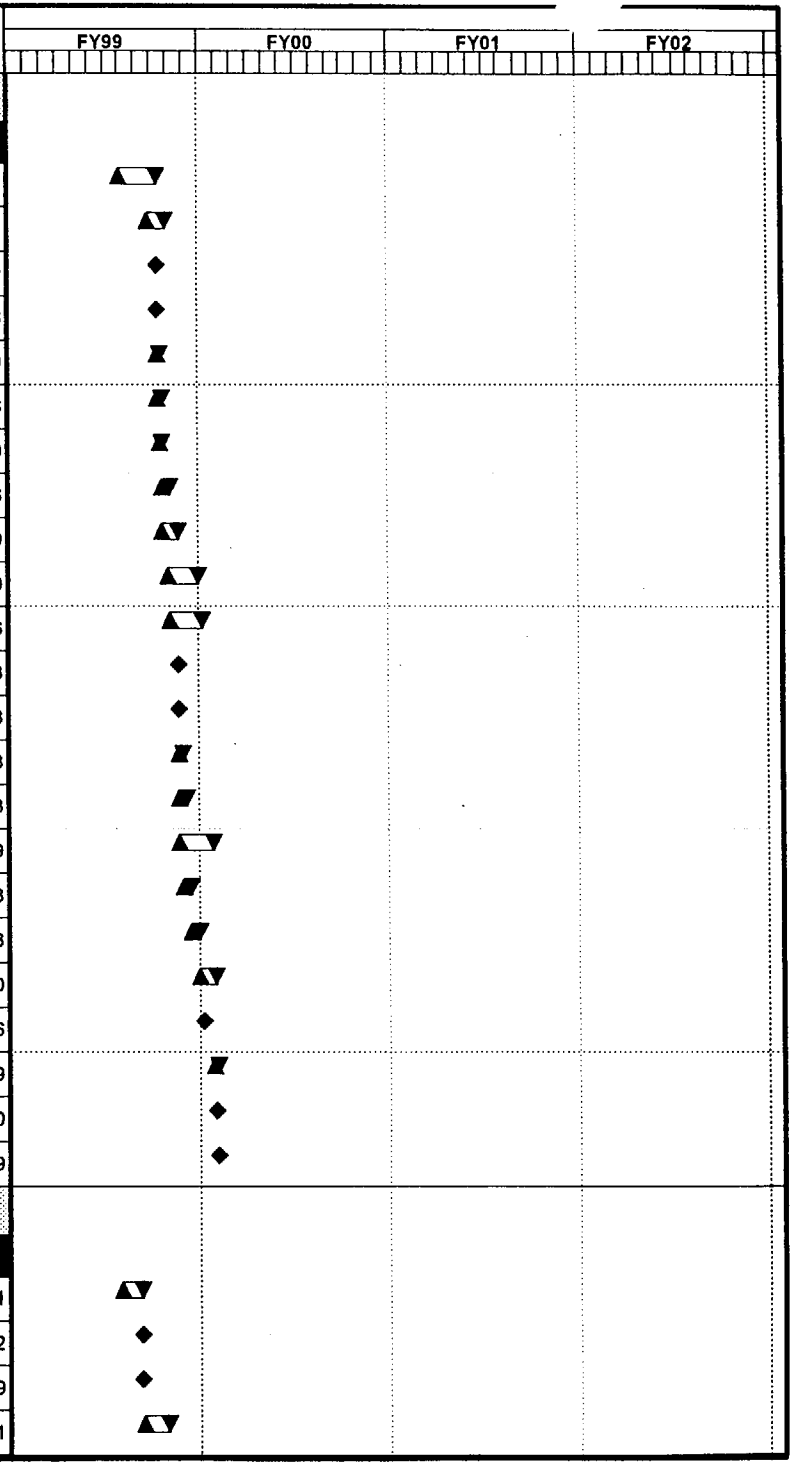
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLT216	WF Behavior/Magma-Input Parameters and Data Iden		0		30JUL99	298
SLT218	WF Behavior/Magma-Models and Codes Identified		0		30JUL99	315
SLA8064	AP3.10Q Check - Waste Form Behavior - Magma		29	02AUG99	10SEP99	10
SLT220	WF Behavior/Magma-Determine DTN Assignment		2	02AUG99	03AUG99	298
SLT244	WF Behavior/Magma-Determine if Model-Rel SW is U		5	02AUG99	06AUG99	315
SLT222	WF Behavior/Magma-Determine if Data/DTN in TDMS		3	04AUG99	06AUG99	298
SLT224	WF Behavior/Magma-Submit Data/DTN to TDMS as Nec		22	09AUG99	08SEP99	298
SLT246	WF Behavior/Magma-Place Model-Related SW Under S		10	09AUG99	20AUG99	315
SLT248	WF Behavior/Magma-Verify Model-Related Software		44	23AUG99	25OCT99	315
SLT228	WF Behavior/Magma-Procurement Related Issues ID'		0		08SEP99	332
SLT236	WF Behavior/Magma-Data Related Software Issues I		0		08SEP99	317
SLT226	WF Behavior/Magma-Verify/Trace Data		44	09SEP99	10NOV99	298
SLT230	WF Behavior/Magma-Rxesolve Procurement Related D		10	09SEP99	22SEP99	332
SLT238	WF Behavior/Magma-Determine if Data Rel SW is Un		5	09SEP99	15SEP99	317
SLA8066	AP3.10Q Final - Waste Form Behavior - Magma		24	13SEP99	15OCT99	10
SLT240	WF Behavior/Magma-Place Under SMS Control as Nec		10	16SEP99	29SEP99	317
SLT242	WF Behavior/Magma-Verify Data-Related Software		10	30SEP99	14OCT99	317
SLA8066M4	AP3.10Q Final - Waste Form Behavior - Magma	M4	0		15OCT99	10
SLT250	WF Behavior/Magma-Qualified/Verified SW Availabl		0		25OCT99	315
SLT232	WF Behavior/Magma-Update TDMS		5	12NOV99	18NOV99	298
SLT234	WF Behavior/Magma-Qualified/Verified Data Availa		0		18NOV99	298
V1180						
130 Performance Assessment Operations						
SLPA3754	AP3.10Q Data - Direct Surf Release from Eruption		27	19MAY99*	25JUN99	0
SLPA3756	AP3.10Q Draft - Direct Surf Release from Eruptio		24	28JUN99	30JUL99	0
SLPA3758	AP3.10Q Check - Direct Surf Release from Eruptio		35	02AUG99	20SEP99	0
SLPA3760	AP3.10Q Final - Direct Surf Release from Eruptio		28	21SEP99	29OCT99	0
SLPA3762	AP3.10Q Final - Direct Surf Release from Eruptio	M4	0		29OCT99	0
V1190						
130 Performance Assessment Operations						
SLPA3800	AP3.10Q Data - Deposition of Ash/Dose Pathways		37	05MAY99*	25JUN99	1



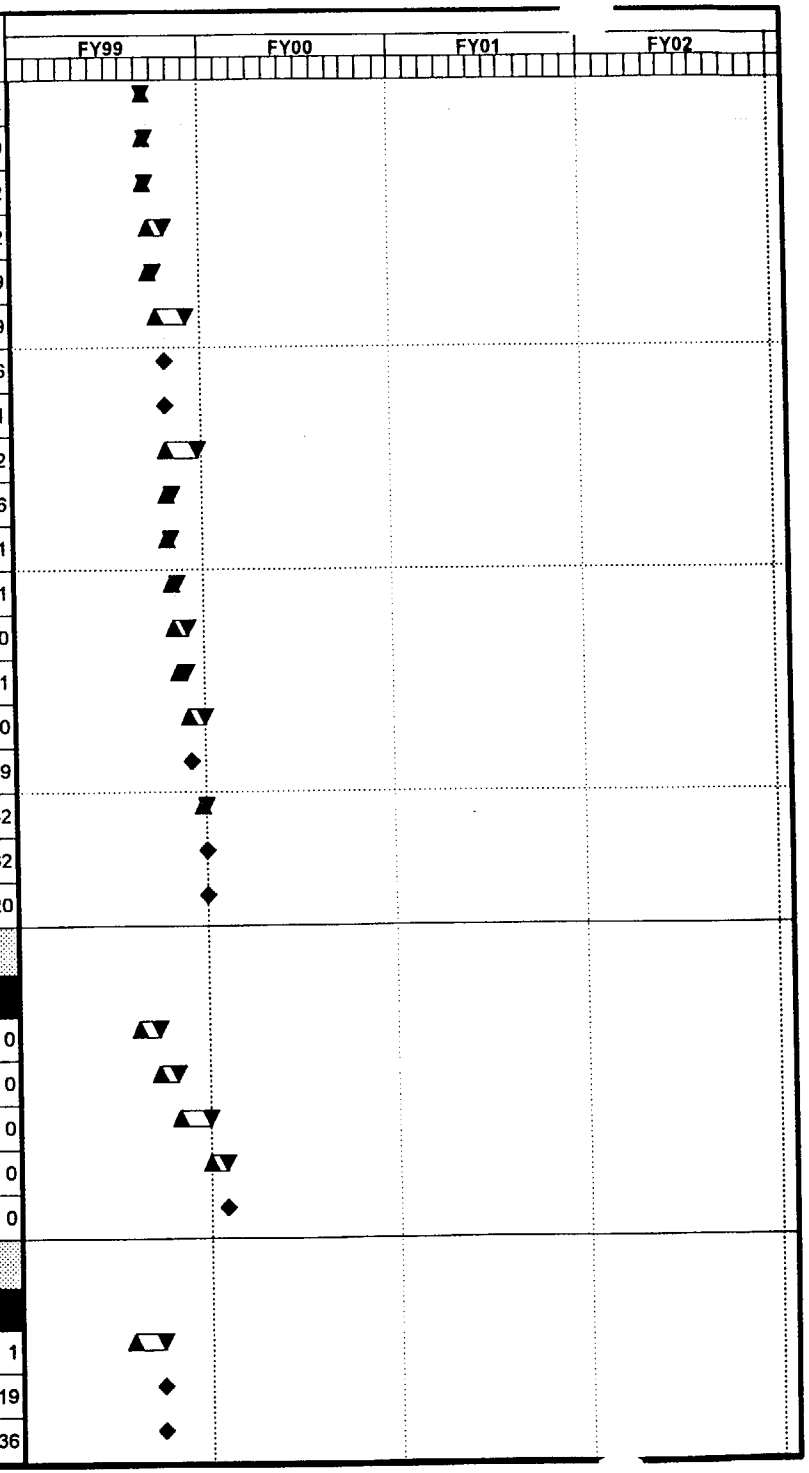
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA3810	Ash/Dose Pathways-Input Parameters and Data Ide		0		25JUN99	322
SLPA3812	Ash/Dose Pathways-Models and Codes Identified		0		25JUN99	339
SLPA3802	AP3.10Q Draft - Deposition of Ash/Dose Pathways		24	28JUN99	30JUL99	1
SLPA3814	Ash/Dose Pathways-Determine DTN Assignment		2	28JUN99	29JUN99	322
SLPA3816	Ash/Dose Pathways-Determine if Model-Rel SW is		5	28JUN99	02JUL99	339
SLPA3818	Ash/Dose Pathways-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99	322
SLPA3820	Ash/Dose Pathways-Place Model-Related SW Under		10	06JUL99	19JUL99	339
SLPA3822	Ash/Dose Pathways-Submit Data/DTN to TDMS as Ne		22	06JUL99	04AUG99	322
SLPA3824	Ash/Dose Pathways-Verify Model-Related Software		44	20JUL99	20SEP99	339
SLPA3804	AP3.10Q Check - Deposition of Ash/Dose Pathways		29	02AUG99	10SEP99	10
SLPA3826	Ash/Dose Pathways-Procurement Related Issues ID		0		04AUG99	356
SLPA3828	Ash/Dose Pathways-Data Related Software Issues		0		04AUG99	341
SLPA3830	Ash/Dose Pathways-Determine if Data Rel SW is U		5	05AUG99	11AUG99	341
SLPA3832	Ash/Dose Pathways-Rxesolve Procurement Related		10	05AUG99	18AUG99	356
SLPA3834	Ash/Dose Pathways-Verify/Trace Data		44	05AUG99	06OCT99	322
SLPA3836	Ash/Dose Pathways-Place Under SMS Control as Ne		10	12AUG99	25AUG99	341
SLPA3838	Ash/Dose Pathways-Verify Data-Related Software		10	26AUG99	09SEP99	341
SLPA3806	AP3.10Q Final - Deposition of Ash/Dose Pathways		24	13SEP99	15OCT99	10
SLPA3840	Ash/Dose Pathways-Qualified/Verified SW Availab		0		20SEP99	339
SLPA3842	Ash/Dose Pathways-Update TDMS		5	07OCT99	14OCT99	322
SLPA3844	Ash/Dose Pathways-Qualified/Verified Data Avail		0		14OCT99	322
SLPA3808	AP3.10Q Final - Deposition of Ash/Dose Pathways	M4	0		15OCT99	10
V1220						
130 Performance Assessment Operations						
SLPA3846	Receive TSPA Design Layout	M4	0		30JUL99*	1
RPT1000	AP3.10Q Data - Repository & Drift Design		27	19MAY99*	25JUN99	0
RPT1006	AP3.10Q Draft - Repository & Drift Design		24	28JUN99	30JUL99	0
RPT1020	AP3.10Q Check - Repository & Drift Design		43	02AUG99	30SEP99	0
RPT1038	AP3.10Q Final - Repository & Drift Design		20	01OCT99	29OCT99	0
RPT1044	AP3.10Q Final - Repository & Drift Design	M4	0		29OCT99	0



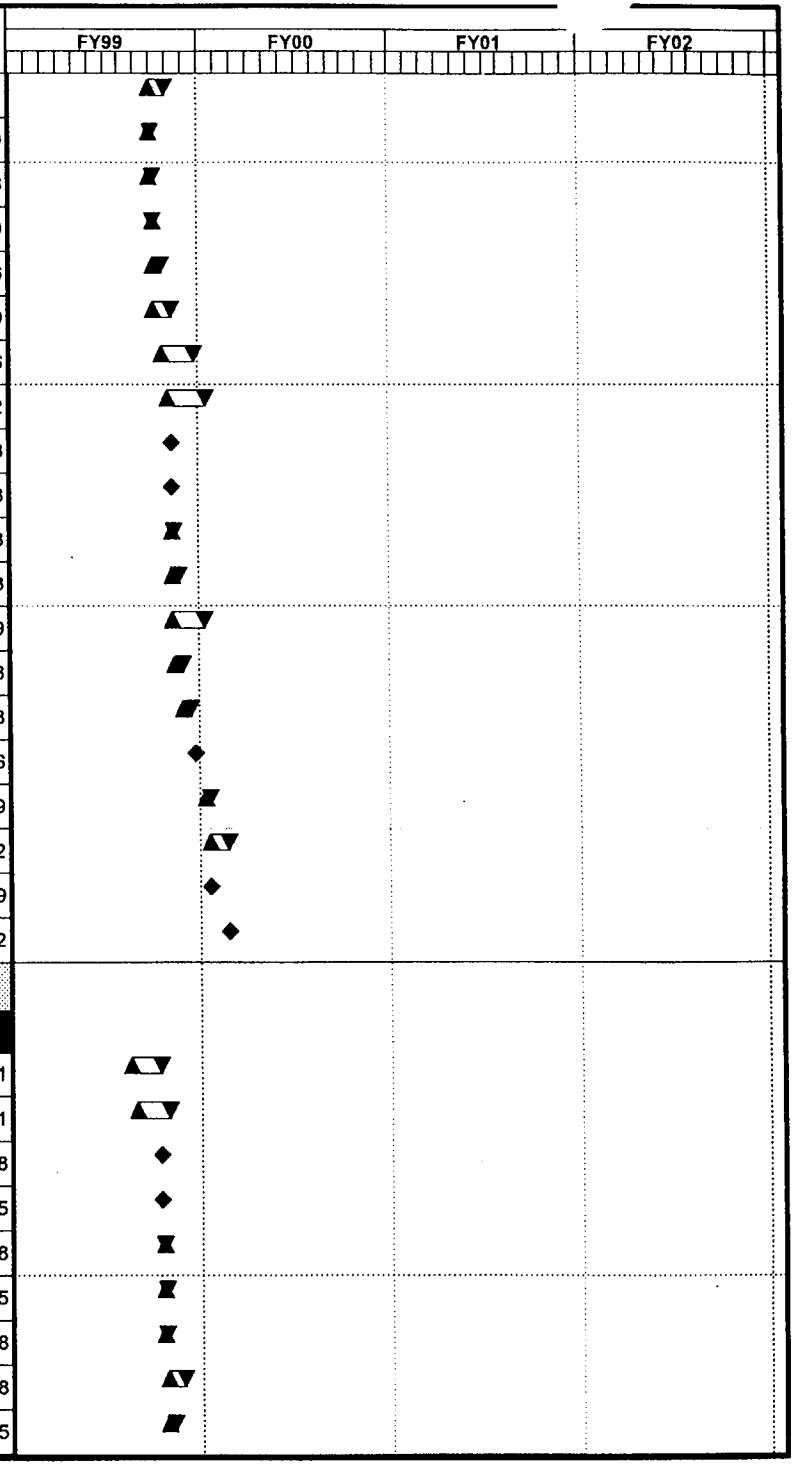
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
V1230						
130 Performance Assessment Operations						
SLPA3848	AP3.10Q Data - Number of Packages Hit		50	05MAY99*	15JUL99	11
SLPA3850	AP3.10Q Draft - Number of Packages Hit		24	28JUN99*	30JUL99	0
SLPA3858	# of Packages Hit-Input Parameters and Data Iden		0		15JUL99	309
SLPA3860	# of Packages Hit-Models and Codes Identified		0		15JUL99	326
SLPA3862	# of Packages Hit-Determine DTN Assignment		2	16JUL99	19JUL99	309
SLPA3864	# of Packages Hit-Determine if Model-Rel SW is U		5	16JUL99	22JUL99	326
SLPA3866	# of Packages Hit-Determine if Data/DTN in TDMS		3	20JUL99	22JUL99	309
SLPA3868	# of Packages Hit-Place Model-Related SW Under S		10	23JUL99	05AUG99	326
SLPA3870	# of Packages Hit-Submit Data/DTN to TDMS as Nec		22	23JUL99	23AUG99	309
SLPA3852	AP3.10Q Check - Number of Packages Hit		43	02AUG99	30SEP99	0
SLPA3872	# of Packages Hit-Verify Model-Related Software		44	06AUG99	07OCT99	326
SLPA3874	# of Packages Hit-Procurement Related Issues ID'		0		23AUG99	343
SLPA3876	# of Packages Hit-Data Related Software Issues I		0		23AUG99	328
SLPA3878	# of Packages Hit-Determine if Data Rel SW is Un		5	24AUG99	30AUG99	328
SLPA3880	# of Packages Hit-Rxesolve Procurement Related D		10	24AUG99	07SEP99	343
SLPA3882	# of Packages Hit-Verify/Trace Data		44	24AUG99	26OCT99	309
SLPA3884	# of Packages Hit-Place Under SMS Control as Nec		10	31AUG99	14SEP99	328
SLPA3886	# of Packages Hit-Verify Data-Related Software		10	15SEP99	28SEP99	328
SLPA3854	AP3.10Q Final - Number of Packages Hit		20	01OCT99	29OCT99	0
SLPA3888	# of Packages Hit-Qualified/Verified SW Availabl		0		07OCT99	326
SLPA3890	# of Packages Hit-Update TDMS		5	27OCT99	02NOV99	309
SLPA3856	AP3.10Q Final - Number of Packages Hit	M4	0		29OCT99	0
SLPA3892	# of Packages Hit-Qualified/Verified Data Availa		0		02NOV99	309
V1310						
SLA8140	AP3.10Q Data - Waste Entrainment (PDF)		27	05MAY99*	11JUN99	1
SLT504	Waste Entrainment-Input Parameters and Data Iden		0		11JUN99	332
SLT506	Waste Entrainment-Models and Codes Identified		0		11JUN99	349
SLA8142	AP3.10Q Draft - Waste Entrainment (PDF)		34	14JUN99	30JUL99	1



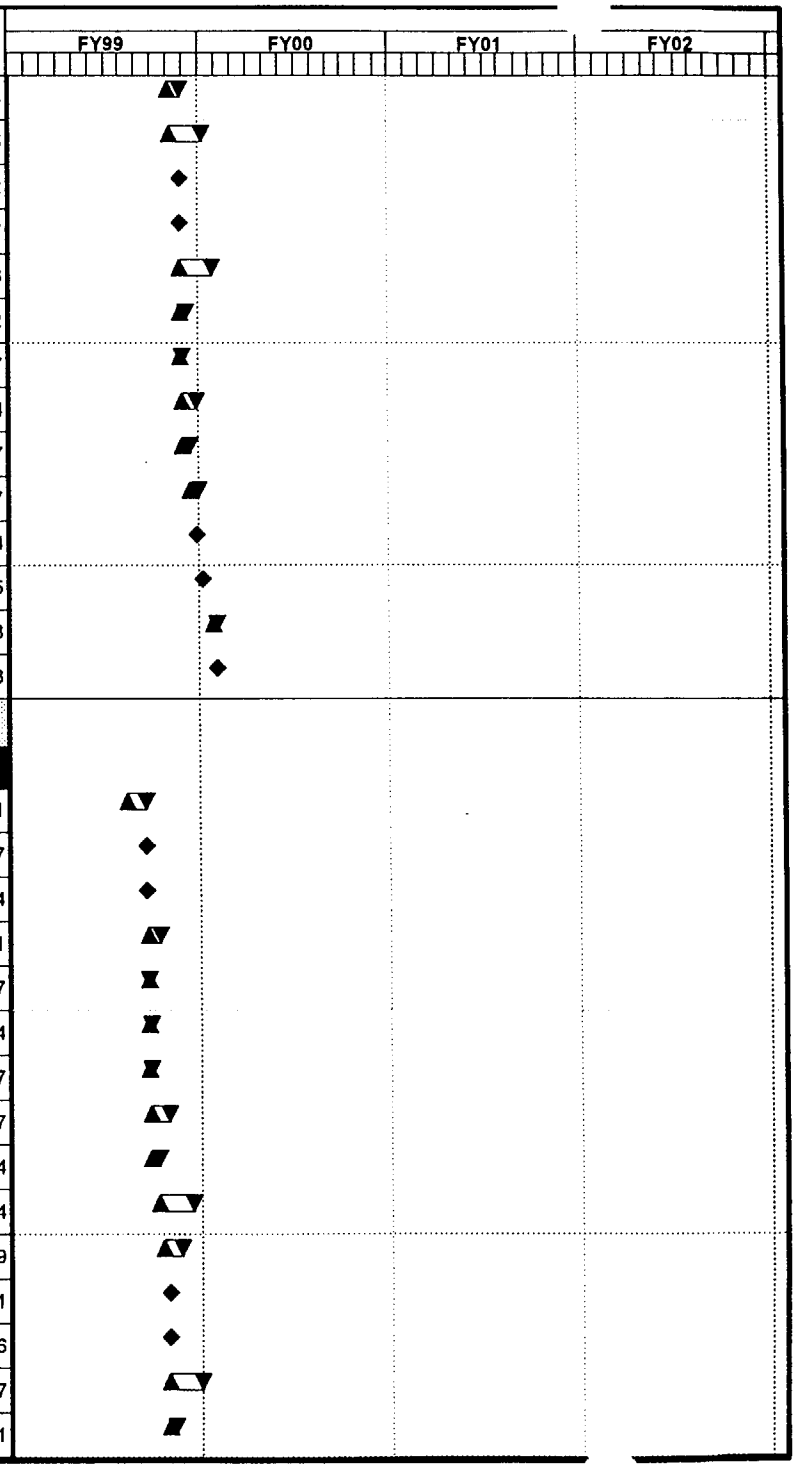
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLT508	Waste Entrainment-Determine DTN Assignment		2	14JUN99	15JUN99	332
SLT532	Waste Entrainment-Determine if Model-Rel SW is U		5	14JUN99	18JUN99	349
SLT510	Waste Entrainment-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99	332
SLT512	Waste Entrainment-Submit Data/DTN to TDMS as Nec		22	21JUN99	21JUL99	332
SLT534	Waste Entrainment-Place Model-Related SW Under S		10	21JUN99	02JUL99	349
SLT536	Waste Entrainment-Verify Model-Related Software		44	06JUL99	03SEP99	349
SLT516	Waste Entrainment-Procurement Related Issues ID'		0		21JUL99	366
SLT524	Waste Entrainment-Data Related Software Issues I		0		21JUL99	351
SLT514	Waste Entrainment-Verify/Trace Data		44	22JUL99	22SEP99	332
SLT518	Waste Entrainment-Rxesolve Procurement Related D		10	22JUL99	04AUG99	366
SLT526	Waste Entrainment-Determine if Data Rel SW is Un		5	22JUL99	28JUL99	351
SLT528	Waste Entrainment-Place Under SMS Control as Nec		10	29JUL99	11AUG99	351
SLA8144	AP3.10Q Check - Waste Entrainment (PDF)		22	02AUG99	31AUG99	20
SLT530	Waste Entrainment-Verify Data-Related Software		10	12AUG99	25AUG99	351
SLA8146	AP3.10Q Final - Waste Entrainment (PDF)		21	01SEP99	30SEP99	20
SLT538	Waste Entrainment-Qualified/Verified SW Availabl		0		03SEP99	349
SLT520	Waste Entrainment-Update TDMS		5	23SEP99	29SEP99	332
SLT522	Waste Entrainment-Qualified/Verified Data Availa		0		29SEP99	332
SLA8146M4	AP3.10Q Final - Waste Entrainment (PDF)	M4	0		30SEP99	20
1370						
SET1000	AP3.10Q Data - Waste Redistribution & BDCFs		27	19MAY99*	25JUN99	0
SET1006	AP3.10Q Draft - Waste Redistribution & BDCFs		24	28JUN99	30JUL99	0
SET1020	AP3.10Q Check - Waste Redistribution & BDCFs		43	02AUG99	30SEP99	0
SET1038	AP3.10Q Final - Waste Redistribution & BDCFs		20	01OCT99	29OCT99	0
SET1044	AP3.10Q Final - Waste Redistribution & BDCFs	M4	0		29OCT99	0
V1410						
130 Performance Assessment Operations						
SLPA3894	AP3.10Q Data -Consequence Analy/Direct Release		40	05MAY99*	30JUN99	1
SLPA3904	Direct Release-Input Parameters and Data Identif		0		30JUN99	319
SLPA3906	Direct Release-Models and Codes Identified		0		30JUN99	336



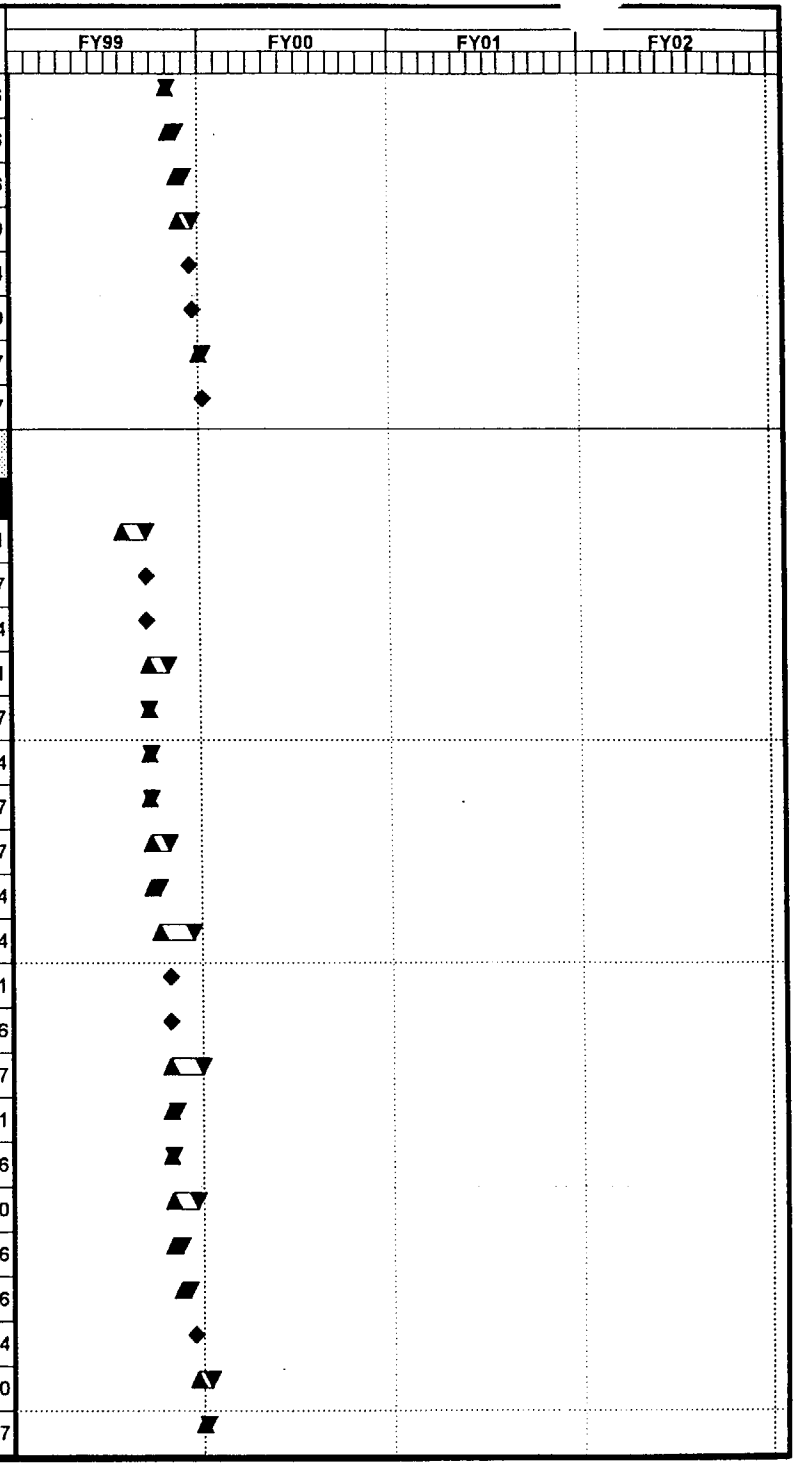
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA3896	AP3.10Q Draft -Consequence Analy/Direct Release		21	01JUL99	30JUL99	1
SLPA3908	Direct Release-Determine DTN Assignment		2	01JUL99	02JUL99	319
SLPA3910	Direct Release-Determine if Model-Rel SW is Unde		5	01JUL99	08JUL99	336
SLPA3912	Direct Release-Determine if Data/DTN in TDMS		3	06JUL99	08JUL99	319
SLPA3914	Direct Release-Place Model-Related SW Under SMS		10	09JUL99	22JUL99	336
SLPA3916	Direct Release-Submit Data/DTN to TDMS as Necess		22	09JUL99	09AUG99	319
SLPA3918	Direct Release-Verify Model-Related Software		44	23JUL99	23SEP99	336
SLPA3898	AP3.10Q Check -Consequence Analy/Direct Release		53	02AUG99	15OCT99	2
SLPA3920	Direct Release-Procurement Related Issues ID'd t		0		09AUG99	353
SLPA3922	Direct Release-Data Related Software Issues Iden		0		09AUG99	338
SLPA3924	Direct Release-Determine if Data Rel SW is Under		5	10AUG99	16AUG99	338
SLPA3926	Direct Release-Rxesolve Procurement Related Data		10	10AUG99	23AUG99	353
SLPA3928	Direct Release-Verify/Trace Data		44	10AUG99	12OCT99	319
SLPA3930	Direct Release-Place Under SMS Control as Necess		10	17AUG99	30AUG99	338
SLPA3932	Direct Release-Verify Data-Related Software		10	31AUG99	14SEP99	338
SLPA3934	Direct Release-Qualified/Verified SW Available		0		23SEP99	336
SLPA3936	Direct Release-Update TDMS		5	13OCT99	19OCT99	319
SLPA3900	AP3.10Q Final -Consequence Analy/Direct Release		27	18OCT99	24NOV99	2
SLPA3938	Direct Release-Qualified/Verified Data Available		0		19OCT99	319
SLPA3902	AP3.10Q Final -Consequence Analy/Direct Release	M4	0		24NOV99	2
Z1030						
SLA8240	AP3.10Q Data -Framework for Seis./Struc. Deform		41	19MAY99*	16JUL99	11
SLA8242	AP3.10Q Draft -Framework for Seis./Struc. Deform		43	01JUN99*	30JUL99	1
SLT864	Seis./Struc. Deform-Input Parameters and Data Id		0		16JUL99	308
SLT866	Seis./Struc. Deform-Models and Codes Identified		0		16JUL99	325
SLT868	Seis./Struc. Deform-Determine DTN Assignment		2	19JUL99	20JUL99	308
SLT892	Seis./Struc. Deform-Determine if Model-Rel SW is		5	19JUL99	23JUL99	325
SLT870	Seis./Struc. Deform-Determine if Data/DTN in TDM		3	21JUL99	23JUL99	308
SLT872	Seis./Struc. Deform-Submit Data/DTN to TDMS as N		22	26JUL99	24AUG99	308
SLT894	Seis./Struc. Deform-Place Model-Related SW Under		10	26JUL99	06AUG99	325



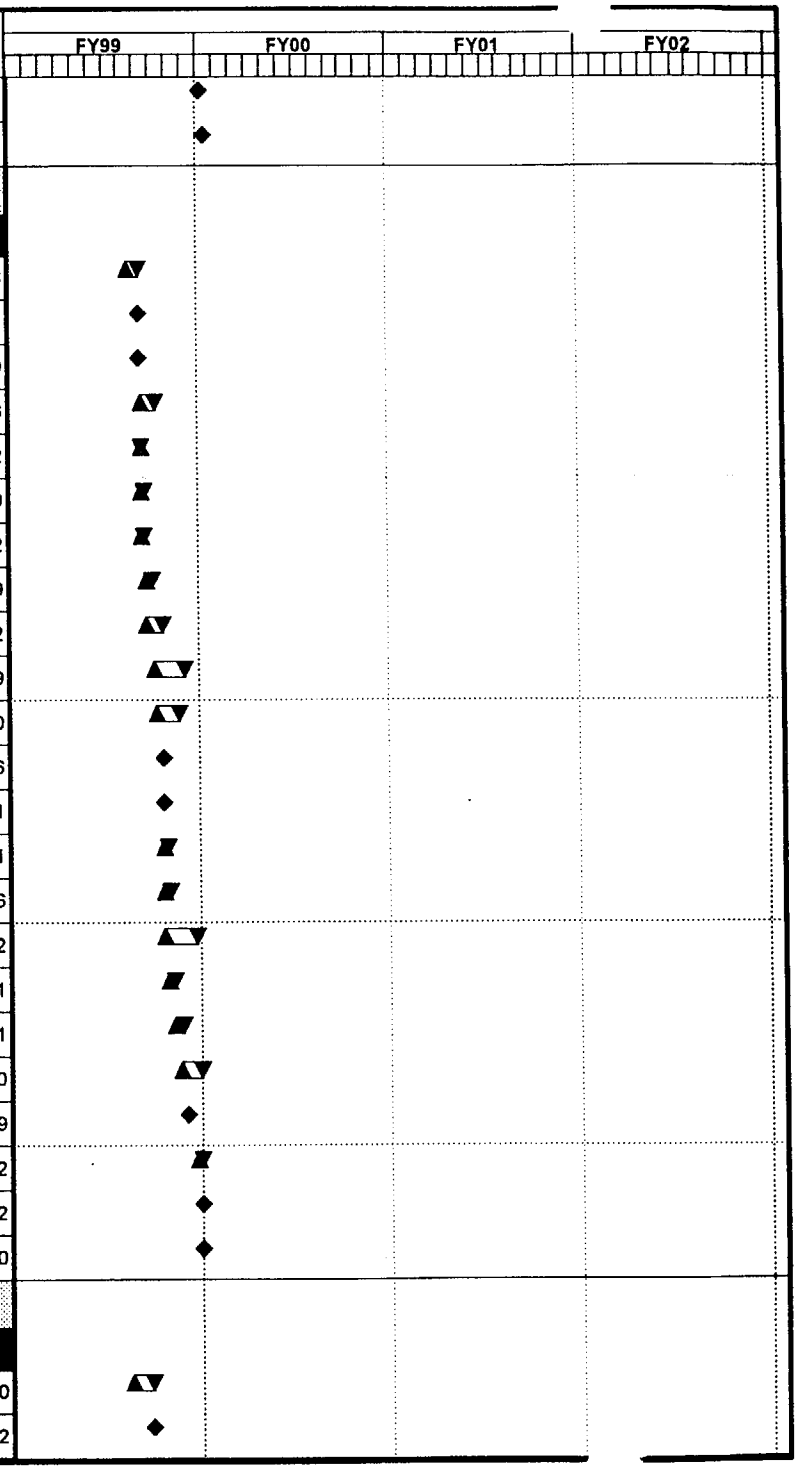
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLA8244	AP3.10Q Check -Framework for Seis./Struc. Deform		20	02AUG99	27AUG99	24
SLT896	Seis./Struc. Deform-Verify Model-Related Softwar		44	09AUG99	08OCT99	325
SLT876	Seis./Struc. Deform-Procurement Related Issues I		0		24AUG99	342
SLT884	Seis./Struc. Deform-Data Related Software Issues		0		24AUG99	327
SLT874	Seis./Struc. Deform-Verify/Trace Data		44	25AUG99	27OCT99	308
SLT878	Seis./Struc. Deform-Rxesolve Procurement Related		10	25AUG99	08SEP99	342
SLT886	Seis./Struc. Deform-Determine if Data Rel SW is		5	25AUG99	31AUG99	327
SLA8246	AP3.10Q Final -Framework for Seis./Struc. Deform		19	30AUG99	24SEP99	24
SLT888	Seis./Struc. Deform-Place Under SMS Control as N		10	01SEP99	15SEP99	327
SLT890	Seis./Struc. Deform-Verify Data-Related Software		10	16SEP99	29SEP99	327
SLA8246M4	AP3.10Q Final -Framework for Seis./Struc. Deform	M4	0		24SEP99	24
SLT898	Seis./Struc. Deform-Qualified/Verified SW Availa		0		08OCT99	325
SLT880	Seis./Struc. Deform-Update TDMS		5	28OCT99	03NOV99	308
SLT882	Seis./Struc. Deform-Qualified/Verified Data Avai		0		03NOV99	308
Z1060						
SLA8260	AP3.10Q Data - Characteristics of Faults		26	13MAY99*	18JUN99	11
SLT936	Char of Faults-Input Parameters and Data Identif		0		18JUN99	327
SLT938	Char of Faults-Models and Codes Identified		0		18JUN99	344
SLA8262	AP3.10Q Draft - Characteristics of Faults		19	21JUN99	16JUL99	11
SLT940	Char of Faults-Determine DTN Assignment		2	21JUN99	22JUN99	327
SLT964	Char of Faults-Determine if Model-Rel SW is Unde		5	21JUN99	25JUN99	344
SLT942	Char of Faults-Determine if Data/DTN in TDMS		3	23JUN99	25JUN99	327
SLT944	Char of Faults-Submit Data/DTN to TDMS as Necess		22	28JUN99	28JUL99	327
SLT966	Char of Faults-Place Model-Related SW Under SMS		10	28JUN99	12JUL99	344
SLT968	Char of Faults-Verify Model-Related Software		44	13JUL99	13SEP99	344
SLA8264	AP3.10Q Check - Characteristics of Faults		25	19JUL99	20AUG99	29
SLT948	Char of Faults-Procurement Related Issues ID'd t		0		28JUL99	361
SLT956	Char of Faults-Data Related Software Issues Iden		0		28JUL99	346
SLT946	Char of Faults-Verify/Trace Data		44	29JUL99	29SEP99	327
SLT950	Char of Faults-Rxesolve Procurement Related Data		10	29JUL99	11AUG99	361



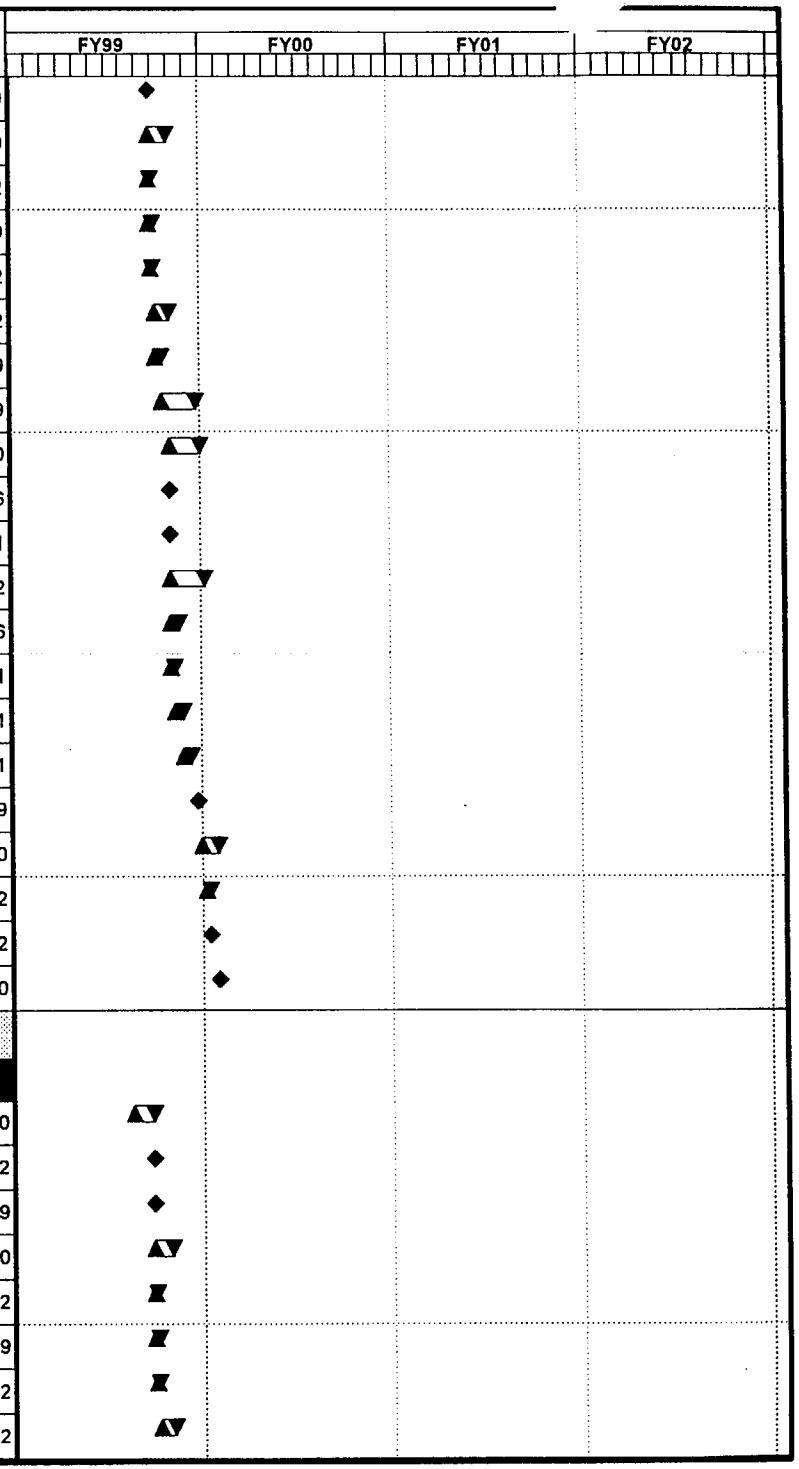
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLT958	Char of Faults-Determine if Data Rel SW is Under		5	29JUL99	04AUG99	346
SLT960	Char of Faults-Place Under SMS Control as Necess		10	05AUG99	18AUG99	346
SLT962	Char of Faults-Verify Data-Related Software		10	19AUG99	01SEP99	346
SLA8266	AP3.10Q Final - Characteristics of Faults		19	23AUG99	17SEP99	29
SLT970	Char of Faults-Qualified/Verified SW Available		0		13SEP99	344
SLA8266M4	AP3.10Q Final - Characteristics of Faults	M4	0		17SEP99	29
SLT952	Char of Faults-Update TDMS		5	30SEP99	06OCT99	327
SLT954	Char of Faults-Qualified/Verified Data Available		0		06OCT99	327
Z1070						
SLA8270	AP3.10Q Data - Repository Effects from Fault		34	03MAY99*	18JUN99	1
SLTA000	Effects from Fault-Input Parameters and Data Ide		0		18JUN99	327
SLTA002	Effects from Fault-Models and Codes Identified		0		18JUN99	344
SLA8272	AP3.10Q Draft - Repository Effects from Fault		29	21JUN99	30JUL99	1
SLTA004	Effects from Fault-Determine DTN Assignment		2	21JUN99	22JUN99	327
SLTA028	Effects from Fault-Determine if Model-Rel SW is		5	21JUN99	25JUN99	344
SLTA006	Effects from Fault-Determine if Data/DTN in TDMS		3	23JUN99	25JUN99	327
SLTA008	Effects from Fault-Submit Data/DTN to TDMS as Ne		22	28JUN99	28JUL99	327
SLTA030	Effects from Fault-Place Model-Related SW Under		10	28JUN99	12JUL99	344
SLTA032	Effects from Fault-Verify Model-Related Software		44	13JUL99	13SEP99	344
SLTA012	Effects from Fault-Procurement Related Issues ID		0		28JUL99	361
SLTA020	Effects from Fault-Data Related Software Issues		0		28JUL99	346
SLTA010	Effects from Fault-Verify/Trace Data		44	29JUL99	29SEP99	327
SLTA014	Effects from Fault-Rxesolve Procurement Related		10	29JUL99	11AUG99	361
SLTA022	Effects from Fault-Determine if Data Rel SW is U		5	29JUL99	04AUG99	346
SLA8274	AP3.10Q Check - Repository Effects from Fault		34	02AUG99	17SEP99	10
SLTA024	Effects from Fault-Place Under SMS Control as Ne		10	05AUG99	18AUG99	346
SLTA026	Effects from Fault-Verify Data-Related Software		10	19AUG99	01SEP99	346
SLTA034	Effects from Fault-Qualified/Verified SW Availab		0		13SEP99	344
SLA8276	AP3.10Q Final - Repository Effects from Fault		19	20SEP99	15OCT99	10
SLTA016	Effects from Fault-Update TDMS		5	30SEP99	06OCT99	327



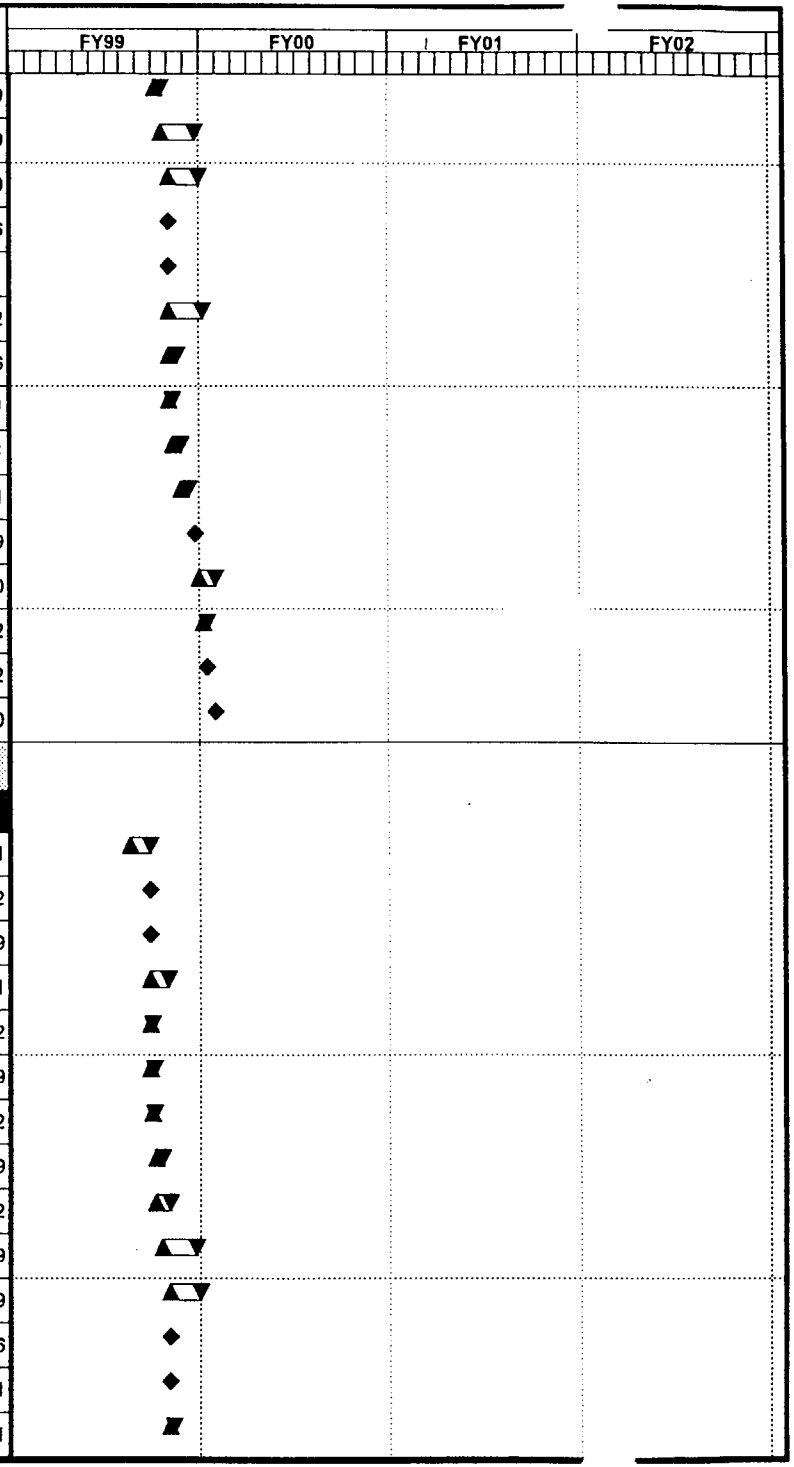
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLTA018	Effects from Fault-Qualified/Verified Data Avail		0		06OCT99	327
SLA8276M4	AP3.10Q Final - Repository Effects from Fault	M4	0		15OCT99	10
Z1080						
130 Performance Assessment Operations						
SLPA3940	AP3.10Q Data - Fault Diplacement Impacts / Hydro		17	19MAY99*	11JUN99	16
SLPA3950	Fault Diplacement-Input Parameters and Data Iden		0		11JUN99	332
SLPA3952	Fault Diplacement-Models and Codes Identified		0		11JUN99	349
SLPA3942	AP3.10Q Draft - Fault Diplacement Impacts /Hydro		19	14JUN99	09JUL99	16
SLPA3954	Fault Diplacement-Determine DTN Assignment		2	14JUN99	15JUN99	332
SLPA3956	Fault Diplacement-Determine if Model-Rel SW is U		5	14JUN99	18JUN99	349
SLPA3958	Fault Diplacement-Determine if Data/DTN in TDMS		3	16JUN99	18JUN99	332
SLPA3960	Fault Diplacement-Place Model-Related SW Under S		10	21JUN99	02JUL99	349
SLPA3962	Fault Diplacement-Submit Data/DTN to TDMS as Nec		22	21JUN99	21JUL99	332
SLPA3964	Fault Diplacement-Verify Model-Related Software		44	06JUL99	03SEP99	349
SLPA3944	AP3.10Q Check - Fault Diplacement Impacts /Hydro		30	12JUL99	20AUG99	20
SLPA3966	Fault Diplacement-Procurement Related Issues ID'		0		21JUL99	366
SLPA3968	Fault Diplacement-Data Related Software Issues I		0		21JUL99	351
SLPA3970	Fault Diplacement-Determine if Data Rel SW is Un		5	22JUL99	28JUL99	351
SLPA3972	Fault Diplacement-Rxesolve Procurement Related D		10	22JUL99	04AUG99	366
SLPA3974	Fault Diplacement-Verify/Trace Data		44	22JUL99	22SEP99	332
SLPA3976	Fault Diplacement-Place Under SMS Control as Nec		10	29JUL99	11AUG99	351
SLPA3978	Fault Diplacement-Verify Data-Related Software		10	12AUG99	25AUG99	351
SLPA3946	AP3.10Q Final - Fault Diplacement Impacts /Hyrdo		28	23AUG99	30SEP99	20
SLPA3980	Fault Diplacement-Qualified/Verified SW Availabl		0		03SEP99	349
SLPA3982	Fault Diplacement-Update TDMS		5	23SEP99	29SEP99	332
SLPA3984	Fault Diplacement-Qualified/Verified Data Availa		0		29SEP99	332
SLPA3948	AP3.10Q Final - Fault Diplacement Impacts /Hyrdo	M4	0		30SEP99	20
Z1100						
SLA8290	AP3.10Q Data - Rockfall Damage Model (PDF)		27	19MAY99*	25JUN99	0
SLTA072	Rockfall Damage-Input Parameters and Data Identi		0		25JUN99	322



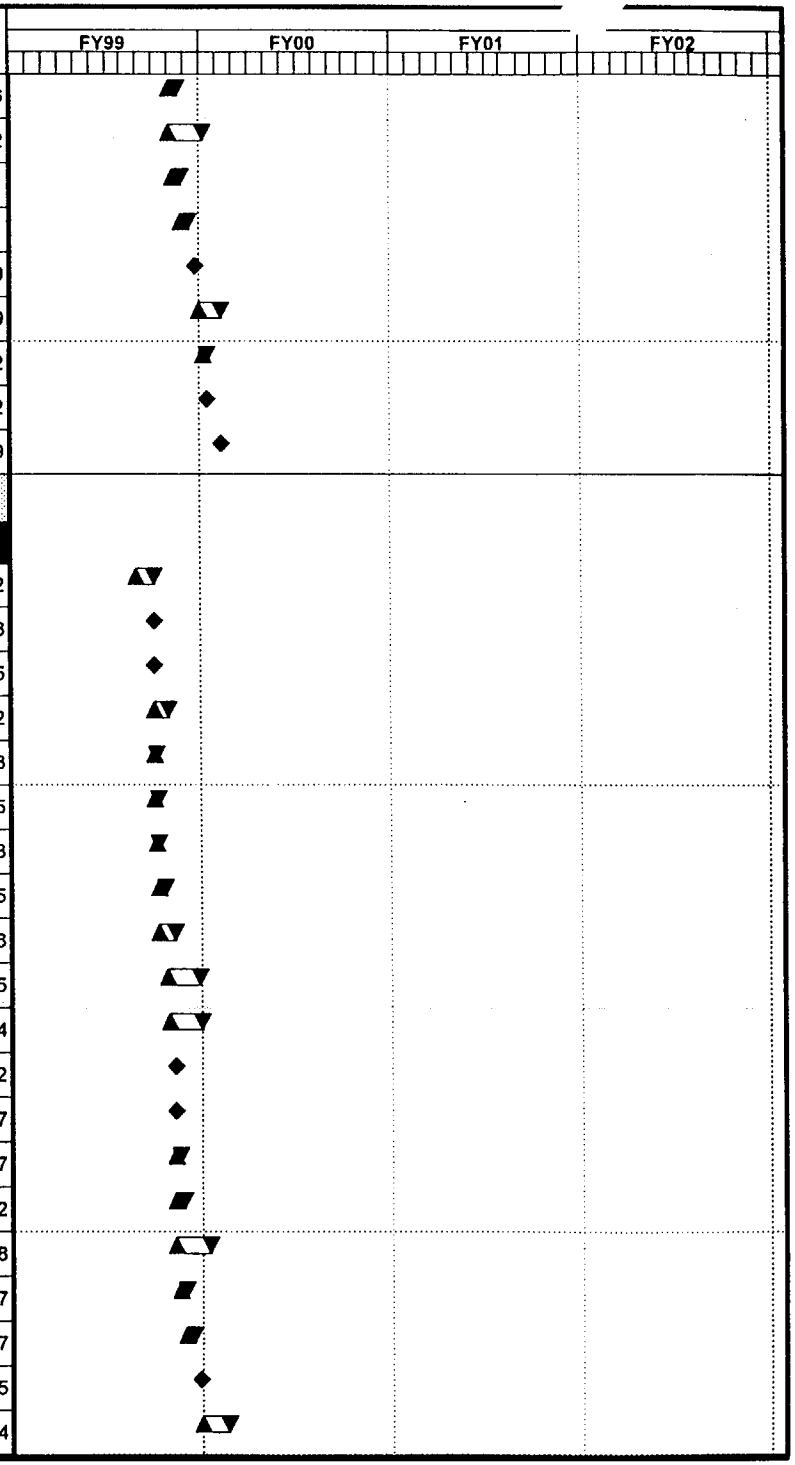
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLTA074	Rockfall Damage-Models and Codes Identified		0		25JUN99	339
SLA8292	AP3.10Q Draft - Rockfall Damage Model (PDF)		24	28JUN99	30JUL99	0
SLTA076	Rockfall Damage-Determine DTN Assignment		2	28JUN99	29JUN99	322
SLTA100	Rockfall Damage-Determine if Model-Rel SW is Und		5	28JUN99	02JUL99	339
SLTA078	Rockfall Damage-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99	322
SLTA080	Rockfall Damage-Submit Data/DTN to TDMS as Neces		22	06JUL99	04AUG99	322
SLTA102	Rockfall Damage-Place Model-Related SW Under SMS		10	06JUL99	19JUL99	339
SLTA104	Rockfall Damage-Verify Model-Related Software		44	20JUL99	20SEP99	339
SLA8294	AP3.10Q Check - Rockfall Damage Model (PDF)		43	02AUG99	30SEP99	0
SLTA084	Rockfall Damage-Procurement Related Issues ID'd		0		04AUG99	356
SLTA092	Rockfall Damage-Data Related Software Issues Ide		0		04AUG99	341
SLTA082	Rockfall Damage-Verify/Trace Data		44	05AUG99	06OCT99	322
SLTA086	Rockfall Damage-Rxesolve Procurement Related Dat		10	05AUG99	18AUG99	356
SLTA094	Rockfall Damage-Determine if Data Rel SW is Unde		5	05AUG99	11AUG99	341
SLTA096	Rockfall Damage-Place Under SMS Control as Neces		10	12AUG99	25AUG99	341
SLTA098	Rockfall Damage-Verify Data-Related Software		10	26AUG99	09SEP99	341
SLTA106	Rockfall Damage-Qualified/Verified SW Available		0		20SEP99	339
SLA8296	AP3.10Q Final - Rockfall Damage Model (PDF)		20	01OCT99	29OCT99	0
SLTA088	Rockfall Damage-Update TDMS		5	07OCT99	14OCT99	322
SLTA090	Rockfall Damage-Qualified/Verified Data Availabl		0		14OCT99	322
SLA8296M4	AP3.10Q Final - Rockfall Damage Model (PDF)	M4	0		29OCT99	0
Z1120						
SLA8310	AP3.10Q Data - Enhanced Degradation of WF (PDF)		27	19MAY99*	25JUN99	0
SLTA160	Enhanced Deg/WF-Input Parameters and Data Identi		0		25JUN99	322
SLTA162	Enhanced Deg/WF-Models and Codes Identified		0		25JUN99	339
SLA8312	AP3.10Q Draft - Enhanced Degradation of WF (PDF)		24	28JUN99	30JUL99	0
SLTA164	Enhanced Deg/WF-Determine DTN Assignment		2	28JUN99	29JUN99	322
SLTA188	Enhanced Deg/WF-Determine if Model-Rel SW is Und		5	28JUN99	02JUL99	339
SLTA166	Enhanced Deg/WF-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99	322
SLTA168	Enhanced Deg/WF-Submit Data/DTN to TDMS as Neces		22	06JUL99	04AUG99	322



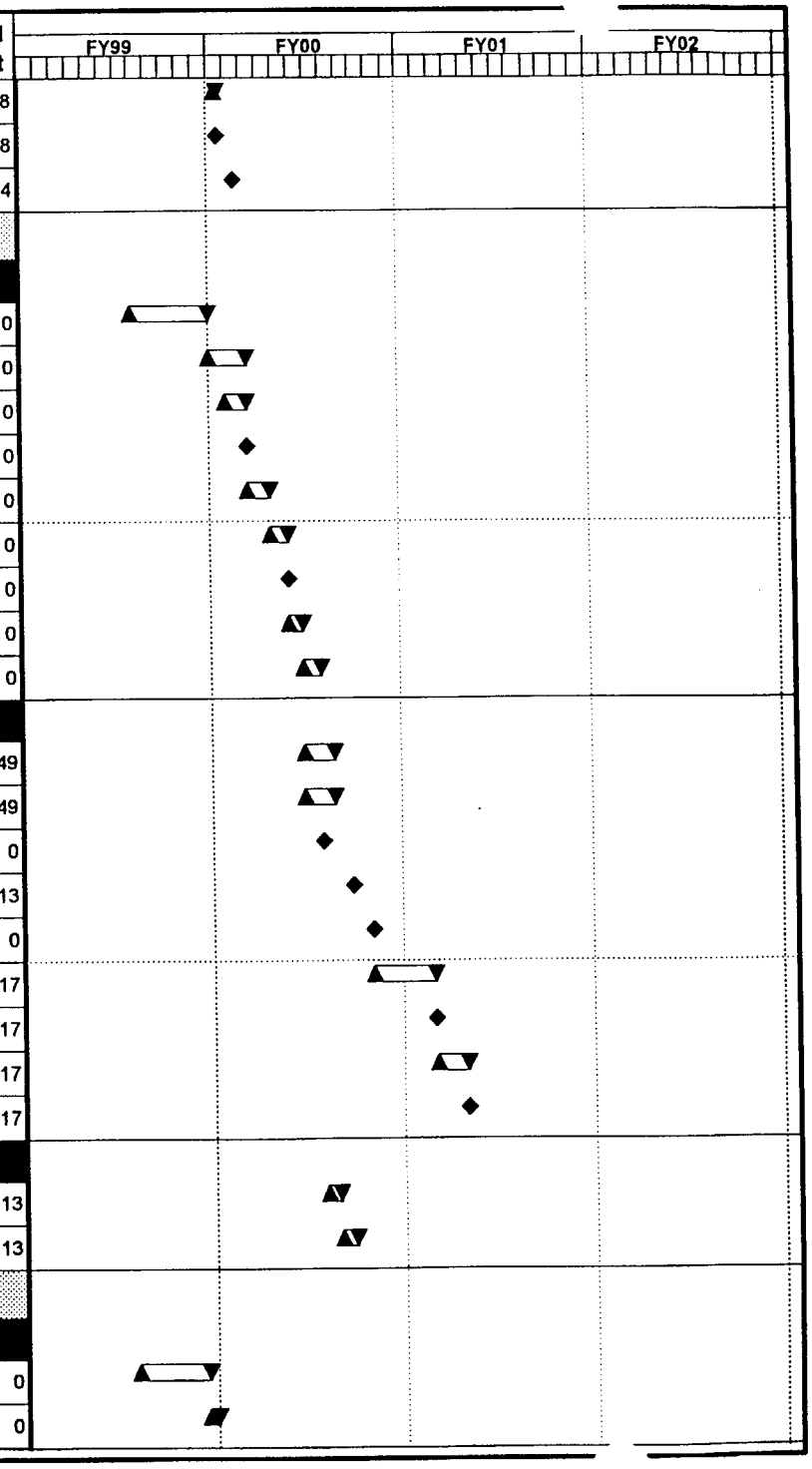
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLTA190	Enhanced Deg/WF-Place Model-Related SW Under SMS		10	06JUL99	19JUL99	339
SLTA192	Enhanced Deg/WF-Verify Model-Related Software		14	20JUL99	20SEP99	339
SLA8314	AP3.10Q Check - Enhanced Degradation of WF (PDF)		43	02AUG99	30SEP99	0
SLTA172	Enhanced Deg/WF-Procurement Related Issues ID'd		0		04AUG99	356
SLTA180	Enhanced Deg/WF-Data Related Software Issues Ide		0		04AUG99	341
SLTA170	Enhanced Deg/WF-Verify/Trace Data		44	05AUG99	06OCT99	322
SLTA174	Enhanced Deg/WF-Rxesolve Procurement Related Dat		10	05AUG99	18AUG99	356
SLTA182	Enhanced Deg/WF-Determine if Data Rel SW is Unde		5	05AUG99	11AUG99	341
SLTA184	Enhanced Deg/WF-Place Under SMS Control as Neces		10	12AUG99	25AUG99	341
SLTA186	Enhanced Deg/WF-Verify Data-Related Software		10	26AUG99	09SEP99	341
SLTA194	Enhanced Deg/WF-Qualified/Verified SW Available		0		20SEP99	339
SLA8316	AP3.10Q Final - Enhanced Degradation of WF (PDF)		20	01OCT99	29OCT99	0
SLTA176	Enhanced Deg/WF-Update TDMS		5	07OCT99	14OCT99	322
SLTA178	Enhanced Deg/WF-Qualified/Verified Data Availabl		0		14OCT99	322
SLA8316M4	AP3.10Q Final - Enhanced Degradation of WF (PDF)	M4	0		29OCT99	0
Z1130						
130 Performance Assessment Operations						
SLPA3986	AP3.10Q Data - RIP Source / Seismic Rockfall		27	19MAY99*	25JUN99	1
SLPA3996	Seismic Rockfall-Input Parameters and Data Ident		0		25JUN99	322
SLPA3998	Seismic Rockfall-Models and Codes Identified		0		25JUN99	339
SLPA3988	AP3.10Q Draft - RIP Source / Seismic Rockfall		24	28JUN99	30JUL99	1
SLPA4000	Seismic Rockfall-Determine DTN Assignment		2	28JUN99	29JUN99	322
SLPA4002	Seismic Rockfall-Determine if Model-Rel SW is Un			JN99	02JUL99	339
SLPA4004	Seismic Rockfall-Determine if Data/DTN in TDMS		3	30JUN99	02JUL99	322
SLPA4006	Seismic Rockfall-Place Model-Related SW Under SM		10	06JUL99	19JUL99	339
SLPA4008	Seismic Rockfall-Submit Data/DTN to TDMS as Nece		22	06JUL99	04AUG99	322
SLPA4010	Seismic Rockfall-Verify Model-Related Software		44	20JUL99	20SEP99	339
SLPA3990	AP3.10Q Check - RIP Source / Seismic Rockfall		43	02AUG99	30SEP99	19
SLPA4012	Seismic Rockfall-Procurement Related Issues ID'd		0		04AUG99	356
SLPA4014	Seismic Rockfall-Data Related Software Issues Id		0		04AUG99	341
SLPA4016	Seismic Rockfall-Determine if Data Rel SW is Und		5	05AUG99	11AUG99	341



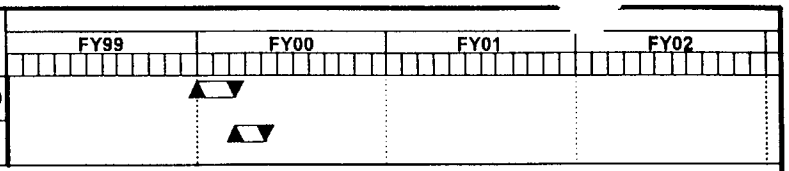
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA4018	Seismic Rockfall-Rxesolve Procurement Related Da		10	05AUG99	18AUG99	356
SLPA4020	Seismic Rockfall-Verify/Trace Data		44	05AUG99	06OCT99	322
SLPA4022	Seismic Rockfall-Place Under SMS Control as Nece		10	12AUG99	25AUG99	341
SLPA4024	Seismic Rockfall-Verify Data-Related Software		10	26AUG99	09SEP99	341
SLPA4026	Seismic Rockfall-Qualified/Verified SW Available		0		20SEP99	339
SLPA3992	AP3.10Q Final - RIP Source / Seismic Rockfall		28	01OCT99	10NOV99	19
SLPA4028	Seismic Rockfall-Update TDMS		5	07OCT99	14OCT99	322
SLPA4030	Seismic Rockfall-Qualified/Verified Data Availab		0		14OCT99	322
SLPA3994	AP3.10Q Final - RIP Source / Seismic Rockfall	M4	0		10NOV99	19
Z1160						
130 Performance Assessment Operations						
SLPA4032	AP3.10Q Data - Consequence Analysis Results		23	01JUN99*	01JUL99	2
SLPA4042	Cons Analy-Input Parameters and Data Identified		0		01JUL99	318
SLPA4044	Cons Analy-Models and Codes Identified		0		01JUL99	335
SLPA4034	AP3.10Q Draft - Consequence Analysis Results		19	02JUL99	29JUL99	2
SLPA4046	Cons Analy-Determine DTN Assignment		2	02JUL99	06JUL99	318
SLPA4048	Cons Analy-Determine if Model-Rel SW is Under SM		5	02JUL99	09JUL99	335
SLPA4050	Cons Analy-Determine if Data/DTN in TDMS		3	07JUL99	09JUL99	318
SLPA4052	Cons Analy-Place Model-Related SW Under SMS Cont		10	12JUL99	23JUL99	335
SLPA4054	Cons Analy-Submit Data/DTN to TDMS as Necessary		22	12JUL99	10AUG99	318
SLPA4056	Cons Analy-Verify Model-Related Software		44	26JUL99	24SEP99	335
SLPA4036	AP3.10Q Check - Consequence Analysis Results		43	30JUL99	29SEP99	14
SLPA4058	Cons Analy-Procurement Related Issues ID'd to Ca		0		10AUG99	352
SLPA4060	Cons Analy-Data Related Software Issues Identifi		0		10AUG99	337
SLPA4062	Cons Analy-Determine if Data Rel SW is Under SMS		5	11AUG99	17AUG99	337
SLPA4064	Cons Analy-Rxesolve Procurement Related Data Iss		10	11AUG99	24AUG99	352
SLPA4066	Cons Analy-Verify/Trace Data		44	11AUG99	13OCT99	318
SLPA4068	Cons Analy-Place Under SMS Control as Necessary		10	18AUG99	31AUG99	337
SLPA4070	Cons Analy-Verify Data-Related Software		10	01SEP99	15SEP99	337
SLPA4072	Cons Analy-Qualified/Verified SW Available		0		24SEP99	335
SLPA4038	AP3.10Q Final - Consequence Analysis Results		34	30SEP99	18NOV99	14



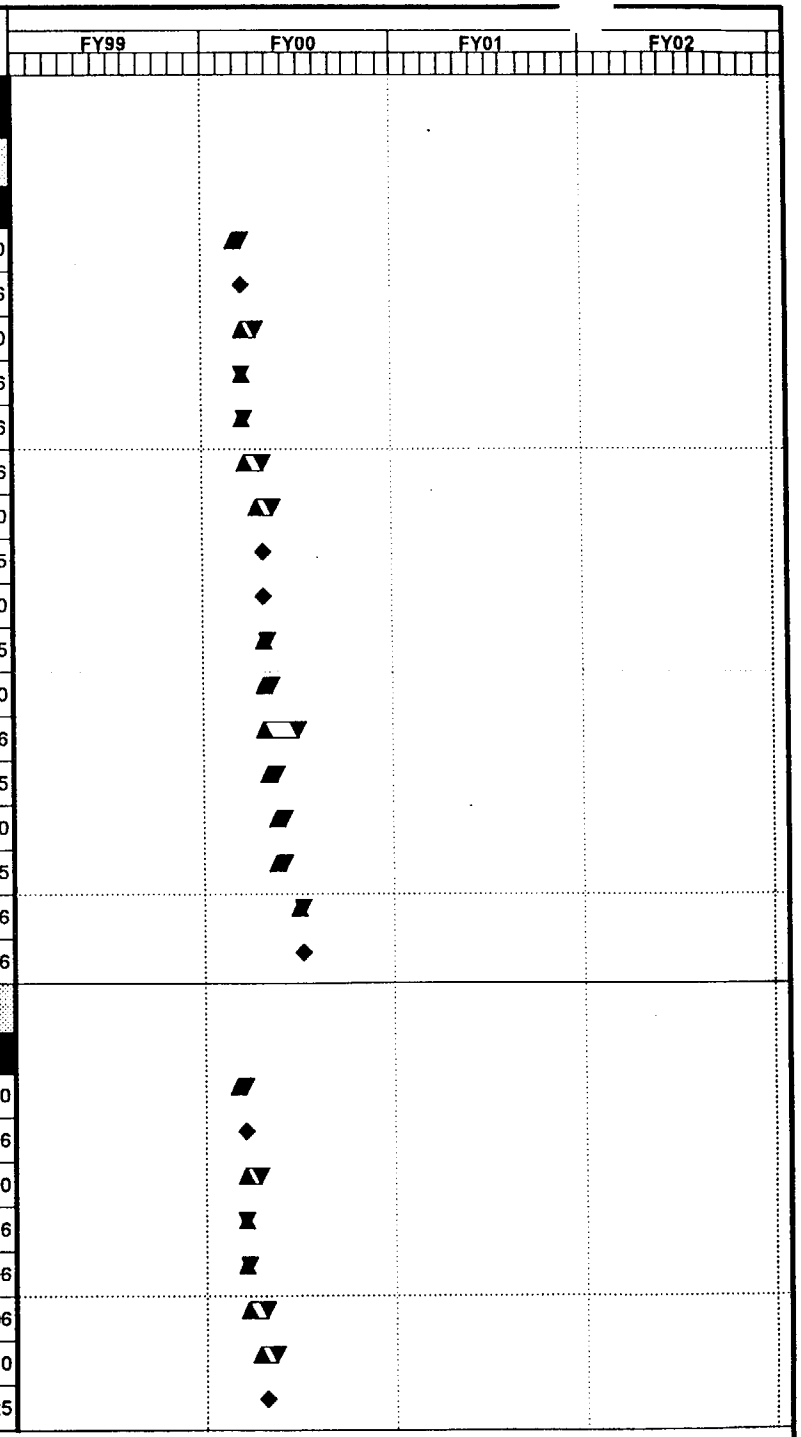
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA4074	Cons Analy-Update TDMS		5	14OCT99	20OCT99	318
SLPA4076	Cons Analy-Qualified/Verified Data Available		0		20OCT99	318
SLPA4040	AP3.10Q Final - Consequence Analysis Results	M4	0		18NOV99	14
Z9999 PMR Rev 02 thru Rev 05						
130 Performance Assessment Operations						
SLPA4078	Prepare Report for Tectonics PMR		104	05MAY99*	30SEP99	0
SLPA4080	Continue Prep. Report for Tectonics PMR		47	01OCT99*	10DEC99	0
SLPA4082	Tectonics PMR Text Process		27	01NOV99*	10DEC99	0
SLPA4084	Tectonics PMR Check Draft		0		10DEC99	0
SLPA4086	Tectonics Check Review		28	13DEC99	21JAN00	0
SLPA4088	Resolve Check Comments & Finalize Rev 00A		24	24JAN00	25FEB00	0
SLPA4090	Tectonics PMR Rev 00A		0		25FEB00	0
SLPA4092	Tectonics M&O Review		20	28FEB00	24MAR00	0
SLPA4094	Resolve M&O Review Comments & Finalize		25	27MAR00	28APR00	0
300 Regulatory & Licensing						
SLT00A	Revise Tec PMR AP 3.10Q's for SR		41	27MAR00	22MAY00	49
SLT00B	Prepare Tec PMR REV-02A for SR		41	27MAR00	22MAY00	49
SLA9100M3	Tectonics PMR Rev 00	M3	0		28APR00	0
SLA9010M3	Rev 01 Tectonics PMR	M3	0		26JUN00	13
SLT00BM4	Tec PMR Rev-02A for SR	M4	0		01AUG00*	0
SLT00C	M&O Review Tec PMR Rev-02A for SR		83	02AUG00	01DEC00	17
SLT00CM3	Tec PMR Rev-02 for SR	M3	0		01DEC00	17
SLT00D	DOE Review Tec PMR 02 for SR		41	04DEC00	31JAN01	17
SLT00EM3	Rev 03 Tec PMR for SR	M3	0		31JAN01	17
SLA9120	DOE Tectonics PMR Review		20	01MAY00	26MAY00	13
SLA9130	Resolve DOE Review Comments & Finalize		20	30MAY00	26JUN00	13
150 Support Operations						
BMP220	PIM 3.10Q/PMR Planning & Text Support (TECH)		93	03MAY99*	13SEP99	0
BMP222	Cont PIM 3.10Q/PMR Planning & Text Support(TECH)		37	14SEP99	30SEP99	0



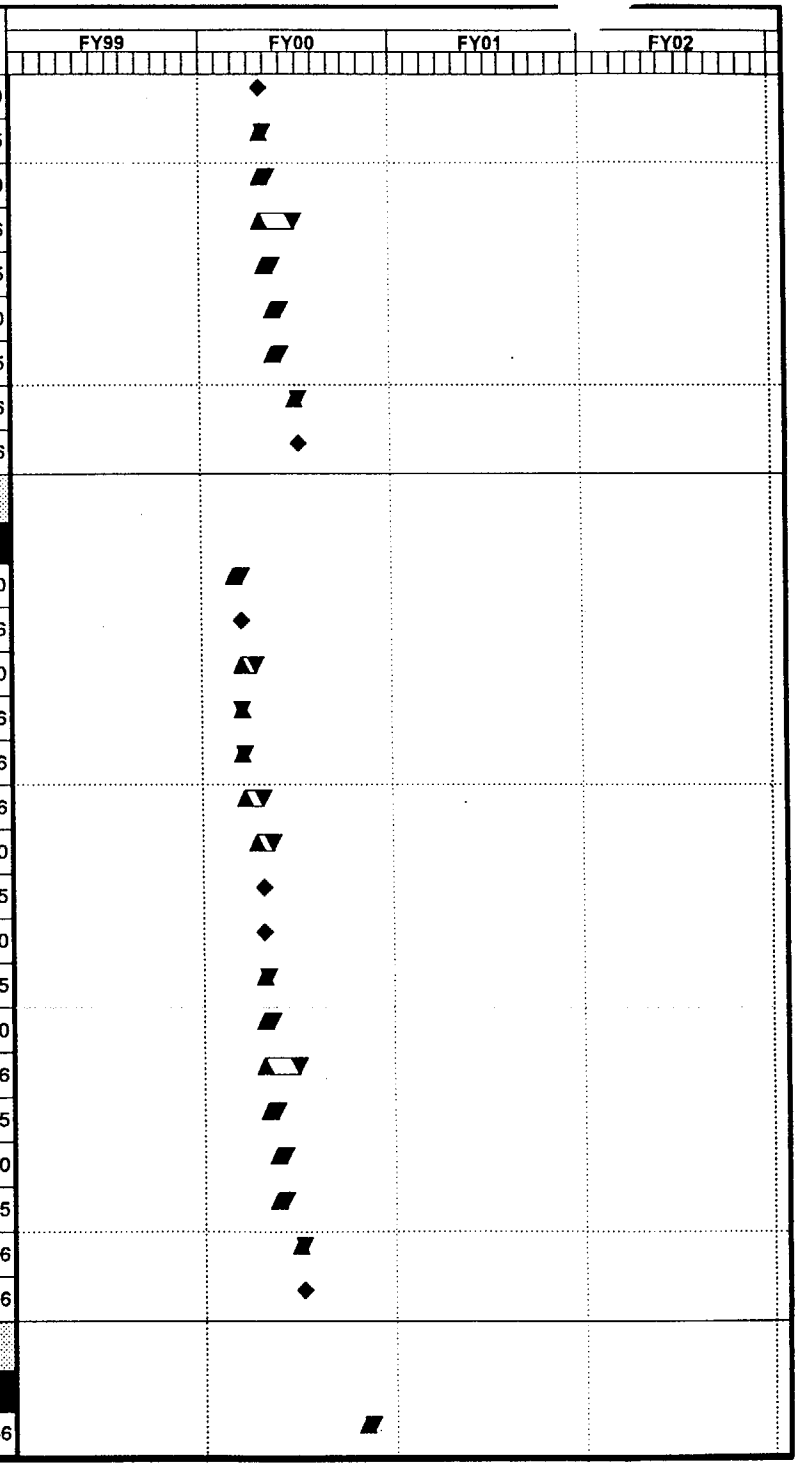
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMP224	PIM Text & M&O Review Prep Support (TECH)		47	01OCT99	10DEC99	0
BMP226	PIM M&O Rev. & DOE Rev.Prep Support (TECH)		41	13DEC99	09FEB00	11



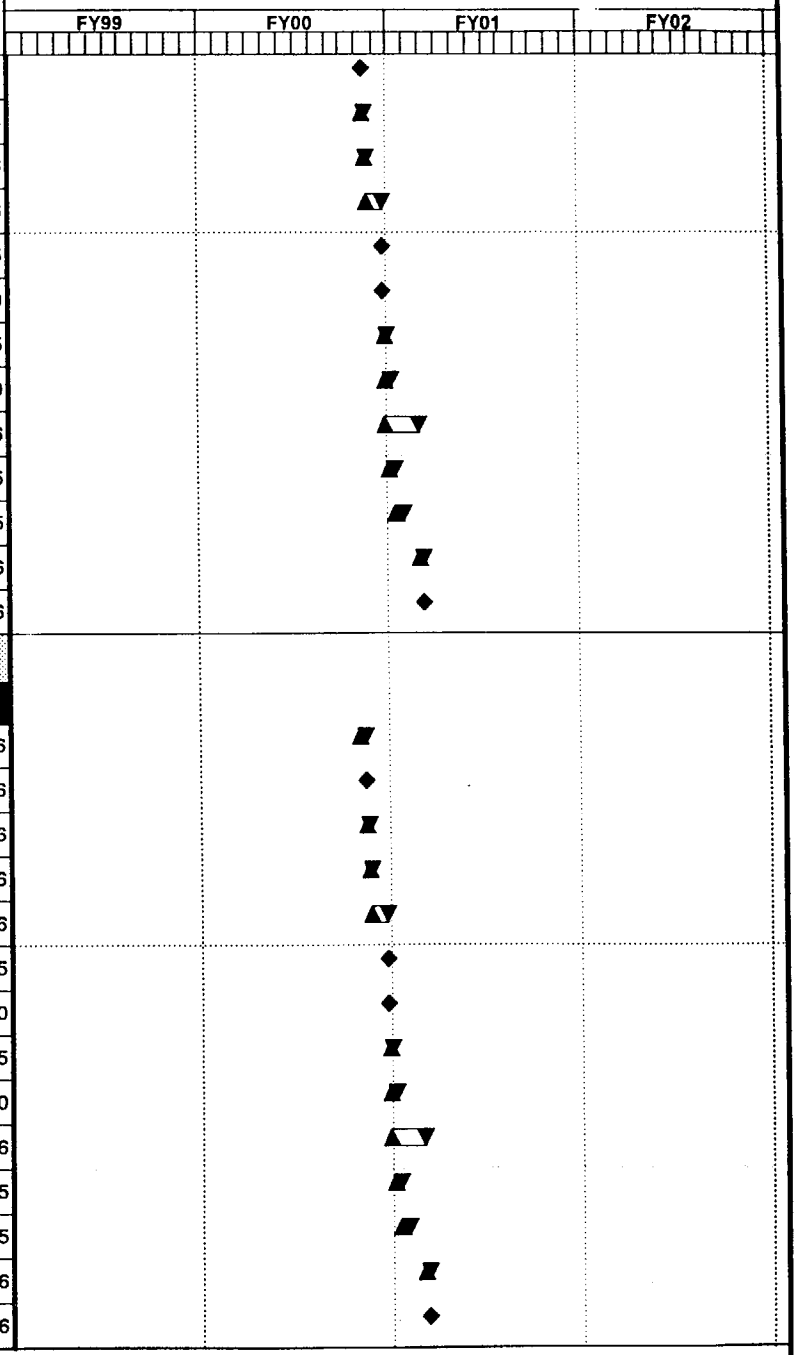
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
P TSPA SR AP3.10Qs						
8.4.1 Nominal Case Analysis						
130 Performance Assessment Operations						
SLPA4096	AP3.10Q Data - Nominal Case Analysis		10	01DEC99	14DEC99	0
SLPA4104	Nominal Case-Input Parameters and Data Identifie		0		14DEC99	206
SLPA4098	AP3.10Q Draft - Nominal Case Analysis		20	15DEC99	13JAN00	0
SLPA4108	Nominal Case-Determine DTN Assignment		2	15DEC99	16DEC99	206
SLPA4112	Nominal Case-Determine if Data/DTN in TDMS		3	17DEC99	21DEC99	206
SLPA4116	Nominal Case-Submit Data/DTN to TDMS as Necessar		22	22DEC99	24JAN00	206
SLPA4100	AP3.10Q Check - Nominal Case Analysis		21	14JAN00	11FEB00	0
SLPA4120	Nominal Case-Data Related Software Issues Identi		0		24JAN00	225
SLPA4122	Nominal Case-Procurement Related Issues ID'd to		0		24JAN00	240
SLPA4124	Nominal Case-Determine if Data Rel SW is Under S		5	25JAN00	31JAN00	225
SLPA4126	Nominal Case-Rxesolve Procurement Related Data I		10	25JAN00	07FEB00	240
SLPA4128	Nominal Case-Verify/Trace Data		44	25JAN00	27MAR00	206
SLPA4130	Nominal Case-Place Under SMS Control as Necessar		10	01FEB00	14FEB00	225
SLPA4102	AP3.10Q Final - Nominal Case Analysis		11	14FEB00	29FEB00	0
SLPA4132	Nominal Case-Verify Data-Related Software		10	15FEB00	29FEB00	225
SLPA4134	Nominal Case-Update TDMS		5	28MAR00	03APR00	206
SLPA4136	Nominal Case-Qualified/Verified Data Available		0		03APR00	206
8.4.2 Disruptive Events Analysis						
130 Performance Assessment Operations						
SLPA4138	AP3.10Q Data - Disruptive Events Analysis		10	01DEC99	14DEC99	0
SLPA4146	Disrup Events Analy-Input Parameters and Data Id		0		14DEC99	206
SLPA4140	AP3.10Q Draft - Disruptive Events Analysis		20	15DEC99	13JAN00	0
SLPA4150	Disrup Events Analy-Determine DTN Assignment		2	15DEC99	16DEC99	206
SLPA4154	Disrup Events Analy-Determine if Data/DTN in TDM		3	17DEC99	21DEC99	206
SLPA4158	Disrup Events Analy-Submit Data/DTN to TDMS as N		22	22DEC99	24JAN00	206
SLPA4142	AP3.10Q Check - Disruptive Events Analysis		21	14JAN00	11FEB00	0
SLPA4162	Disrup Events Analy-Data Related Software Issues		0		24JAN00	225



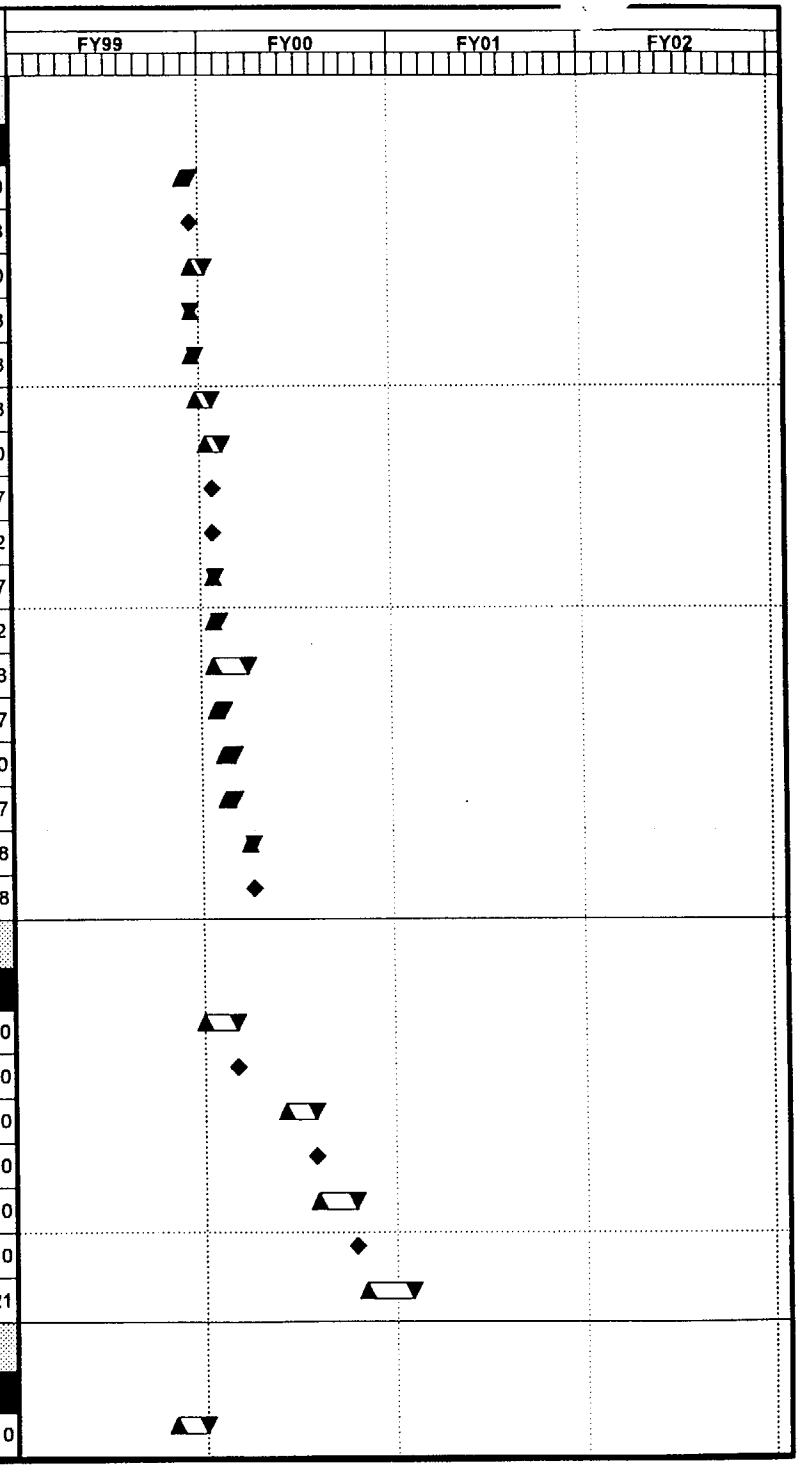
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA4164	Disrup Events Analy-Procurement Related Issues I		0		24JAN00	240
SLPA4166	Disrup Events Analy-Determine if Data Rel SW is		5	25JAN00	31JAN00	225
SLPA4168	Disrup Events Analy-Rxesolve Procurement Related		10	25JAN00	07FEB00	240
SLPA4170	Disrup Events Analy-Verify/Trace Data		44	25JAN00	27MAR00	206
SLPA4172	Disrup Events Analy-Place Under SMS Control as N		10	01FEB00	14FEB00	225
SLPA4144	AP3.10Q Final - Disruptive Events Analysis		11	14FEB00	29FEB00	0
SLPA4174	Disrup Events Analy-Verify Data-Related Software		10	15FEB00	29FEB00	225
SLPA4176	Disrup Events Analy-Update TDMS		5	28MAR00	03APR00	206
SLPA4178	Disrup Events Analy-Qualified/Verified Data Avai		0		03APR00	206
8.5 Human Intrusion Analysis						
130 Performance Assessment Operations						
SLPA4180	AP3.10Q Data - Human Intrusion Analysis		10	01DEC99	14DEC99	0
SLPA4188	Human Intrusion-Input Parameters and Data Identi		0		14DEC99	206
SLPA4182	AP3.10Q Draft - Human Intrusion Analysis		20	15DEC99	13JAN00	0
SLPA4192	Human Intrusion-Determine DTN Assignment		2	15DEC99	16DEC99	206
SLPA4196	Human Intrusion-Determine if Data/DTN in TDMS		3	17DEC99	21DEC99	206
SLPA4200	Human Intrusion-Submit Data/DTN to TDMS as Neces		22	22DEC99	24JAN00	206
SLPA4184	AP3.10Q Check - Human Intrusion Analysis		21	14JAN00	11FEB00	0
SLPA4204	Human Intrusion-Data Related Software Issues Ide		0		24JAN00	225
SLPA4206	Human Intrusion-Procurement Related Issues ID'd		0		24JAN00	240
SLPA4208	Human Intrusion-Determine if Data Rel SW is Unde		5	25JAN00	31JAN00	225
SLPA4210	Human Intrusion-Rxesolve Procurement Related Dat		10	25JAN00	07FEB00	240
SLPA4212	Human Intrusion-Verify/Trace Data		44	25JAN00	27MAR00	206
SLPA4214	Human Intrusion-Place Under SMS Control as Neces		10	01FEB00	14FEB00	225
SLPA4186	AP3.10Q Final - Human Intrusion Analysis		11	14FEB00	29FEB00	0
SLPA4216	Human Intrusion-Verify Data-Related Software		10	15FEB00	29FEB00	225
SLPA4218	Human Intrusion-Update TDMS		5	28MAR00	03APR00	206
SLPA4220	Human Intrusion-Qualified/Verified Data Availabl		0		03APR00	206
8.6 Multiple Barrier Analysis						
130 Performance Assessment Operations						
SLPA4222	AP3.10Q Data - Multiple Barrier Analysis		10	02AUG00	15AUG00	36



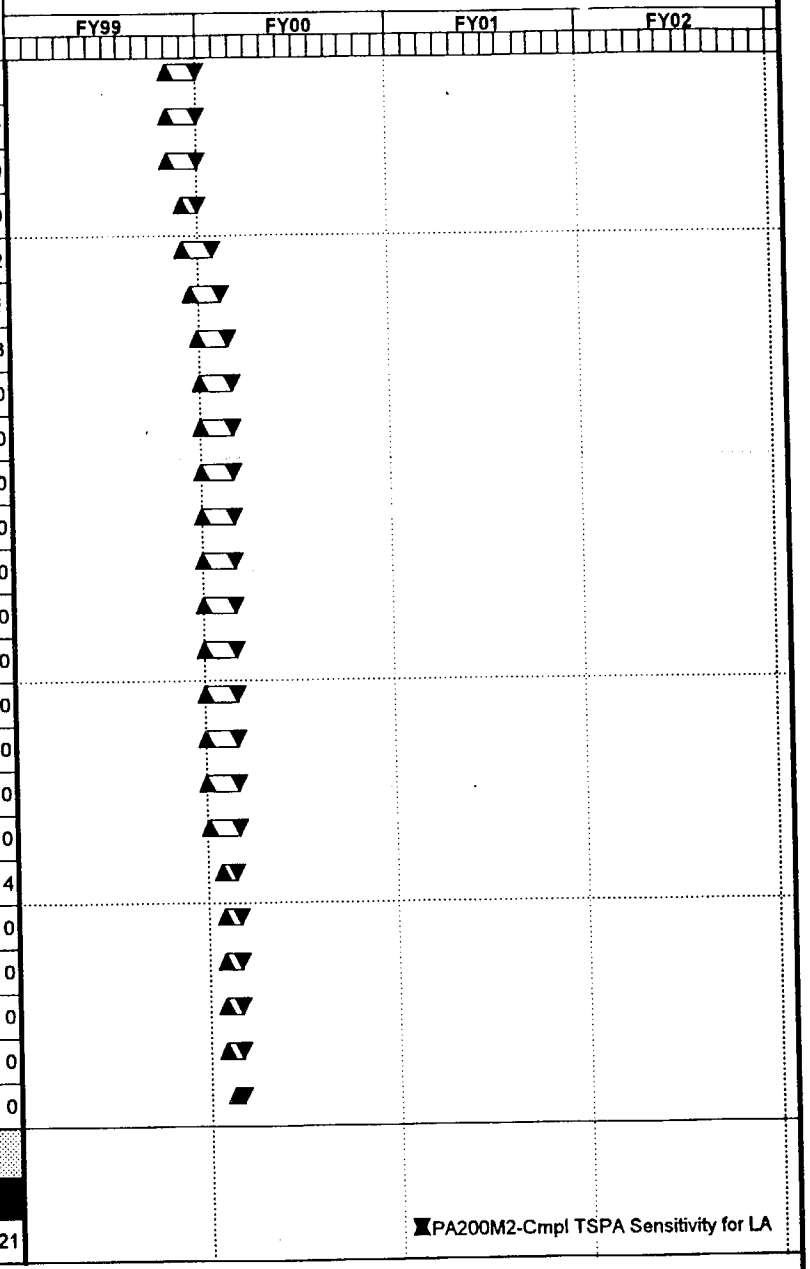
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA4230	Multiple Barrier-Input Parameters and Data Ident		0		15AUG00	36
SLPA4234	Multiple Barrier-Determine DTN Assignment		2	16AUG00	17AUG00	36
SLPA4238	Multiple Barrier-Determine if Data/DTN in TDMS		3	18AUG00	22AUG00	36
SLPA4242	Multiple Barrier-Submit Data/DTN to TDMS as Nece		22	23AUG00	22SEP00	36
SLPA4246	Multiple Barrier-Data Related Software Issues Id		0		22SEP00	55
SLPA4248	Multiple Barrier-Procurement Related Issues ID'd		0		22SEP00	70
SLPA4250	Multiple Barrier-Determine if Data Rel SW is Und		5	25SEP00	29SEP00	55
SLPA4252	Multiple Barrier-Rxesolve Procurement Related Da		10	25SEP00	06OCT00	70
SLPA4254	Multiple Barrier-Verify/Trace Data		44	25SEP00	29NOV00	36
SLPA4256	Multiple Barrier-Place Under SMS Control as Nece		10	02OCT00	16OCT00	55
SLPA4258	Multiple Barrier-Verify Data-Related Software		10	17OCT00	30OCT00	55
SLPA4260	Multiple Barrier-Update TDMS		5	30NOV00	06DEC00	36
SLPA4262	Multiple Barrier-Qualified/Verified Data Availab		0		06DEC00	36
8.7 Alternative Design Analysis						
130 Performance Assessment Operations						
SLPA4264	AP3.10C Data - Alternative Design Analysis		10	02AUG00	15AUG00	36
SLPA4272	Altern Design-Input Parameters and Data Identifi		0		15AUG00	36
SLPA4276	Altern Design-Determine DTN Assignment		2	16AUG00	17AUG00	36
SLPA4280	Altern Design-Determine if Data/DTN in TDMS		3	18AUG00	22AUG00	36
SLPA4284	Altern Design-Submit Data/DTN to TDMS as Necessa		22	23AUG00	22SEP00	36
SLPA4288	Altern Design-Data Related Software Issues Ident		0		22SEP00	55
SLPA4290	Altern Design-Procurement Related Issues ID'd to		0		22SEP00	70
SLPA4292	Altern Design-Determine if Data Rel SW is Under		5	25SEP00	29SEP00	55
SLPA4294	Altern Design-Rxesolve Procurement Related Data		10	25SEP00	06OCT00	70
SLPA4296	Altern Design-Verify/Trace Data		44	25SEP00	29NOV00	36
SLPA4298	Altern Design-Place Under SMS Control as Necessa		10	02OCT00	16OCT00	55
SLPA4300	Altern Design-Verify Data-Related Software		10	17OCT00	30OCT00	55
SLPA4302	Altern Design-Update TDMS		5	30NOV00	06DEC00	36
SLPA4304	Altern Design-Qualified/Verified Data Available		0		06DEC00	36



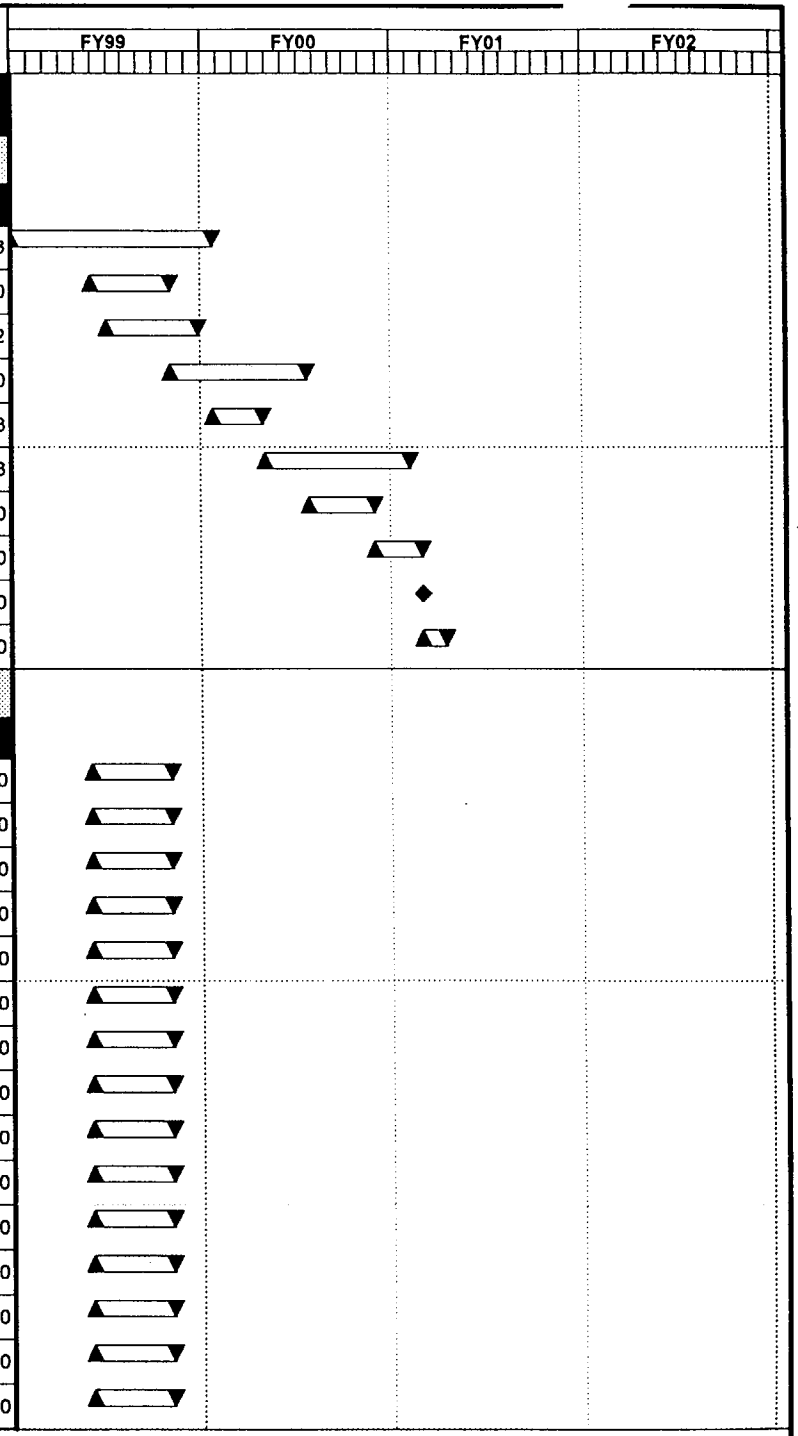
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
ASTROID Astroid 3.10						
130 Performance Assessment Operations						
SLPA4306	AP3.10Q Data - FEPs Analysis		10	30AUG99*	13SEP99	0
SLPA4314	Astroid Analysis-Input Parameters and Data Ident		0		13SEP99	268
SLPA4308	AP3.10Q Draft - FEPs Analysis		20	14SEP99	12OCT99	0
SLPA4318	Astroid Analysis-Determine DTN Assignment		2	14SEP99	15SEP99	268
SLPA4322	Astroid Analysis-Determine if Data/DTN in TDMS		3	16SEP99	20SEP99	268
SLPA4326	Astroid Analysis-Submit Data/DTN to TDMS as Nece		22	21SEP99	21OCT99	268
SLPA4310	AP3.10Q Check - FEPs Analysis		21	13OCT99	10NOV99	0
SLPA4330	Astroid Analysis-Data Related Software Issues Id		0		21OCT99	287
SLPA4332	Astroid Analysis-Procurement Related Issues ID'd		0		21OCT99	302
SLPA4334	Astroid Analysis-Determine if Data Rel SW is Und		5	22OCT99	28OCT99	287
SLPA4336	Astroid Analysis-Rxesolve Procurement Related Da		10	22OCT99	04NOV99	302
SLPA4338	Astroid Analysis-Verify/Trace Data		44	22OCT99	28DEC99	268
SLPA4340	Astroid Analysis-Place Under SMS Control as Nece		10	29OCT99	12NOV99	287
SLPA4312	AP3.10Q Final - FEPs Analysis		11	12NOV99	30NOV99	0
SLPA4342	Astroid Analysis-Verify Data-Related Software		10	15NOV99	30NOV99	287
SLPA4344	Astroid Analysis-Update TDMS		5	29DEC99	05JAN00	268
SLPA4346	Astroid Analysis-Qualified/Verified Data Availab		0		05JAN00	268
BASE Baseline Activities						
130 Performance Assessment Operations						
SL90958	Incorporate Abstraction (Baseline)		39	01OCT99*	30NOV99	0
SL90960M4	Receive input for TSPA Run Rev 00	M4	0		30NOV99*	0
SL90962	Interpret / Document		43	01MAR00	28APR00	0
SL921M4	TSPA Input to Site Suitibility -Rev 00	M4	0		28APR00*	0
SL91000	M&O Review		53	01MAY00	14JUL00	0
SL921M3	TSPA-SR - Rev 00	M3	0		14JUL00*	0
SL91962	Run TSPA-SR Probabilistic Analyses Rev 01		62	02AUG00*	30OCT00	21
RIP Run RIP						
130 Performance Assessment Operations						
SLPA4348	Basecase Results NFE Input to RIP FY99		42	03AUG99	30SEP99	0



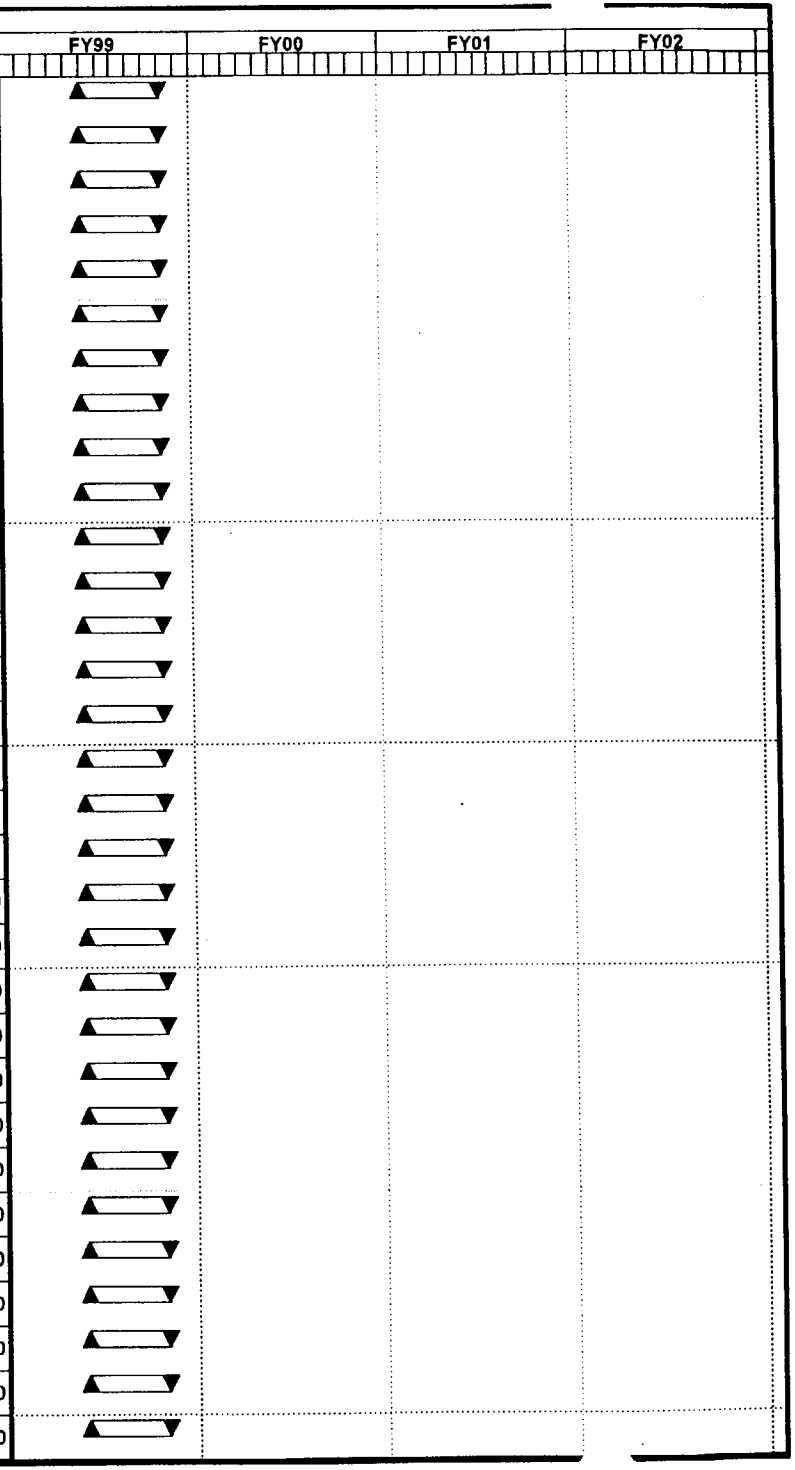
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLPA4350	Desc. on Basecase NFE Input to RIP FY99		42	03AUG99	30SEP99	0
SLPA4352	THC Process NFE Input to RIP FY99		42	03AUG99	30SEP99	0
SLPA4354	THC Abstraction NFE Input to RIP FY99		42	03AUG99	30SEP99	0
SLPA4356	Disruptive Events (Bio) Input to RIP FY99		22	31AUG99	30SEP99	0
SLPA4358	Other WP Abs (WF) Input to Rip		39	31AUG99	26OCT99	22
SLPA4360	Coupled Process Seepage Abs (UZ) Input to Rip		39	16SEP99	10NOV99	11
SLPA4362	Coupled Process Abs (UZ) Input to Rip		39	28SEP99	23NOV99	3
SLPA4364	Disruptive Events (Bio) Input to RIP FY00		39	01OCT99	30NOV99	0
SLPA4366	Particle Tracking Model (UZ) Input to Rip		39	01OCT99	30NOV99	0
SLPA4368	Colloid Source Term Abs (WF) Input to Rip		39	01OCT99	30NOV99	0
SLPA4370	WP Transport Abs (WF) Input to Rip		39	01OCT99	30NOV99	0
SLPA4372	Infilltration Uncert Analysis (UZ) Input to Rip		39	01OCT99	30NOV99	0
SLPA4374	Flow Field Abs (UZ) Input to Rip		39	01OCT99	30NOV99	0
SLPA4376	Basecase Results NFE Input to RIP FY00		39	01OCT99	30NOV99	0
SLPA4378	Desc. on Basecase NFE Input to RIP FY00		39	01OCT99	30NOV99	0
SLPA4380	THC Process NFE Input to RIP FY00		39	01OCT99	30NOV99	0
SLPA4382	THC Abstraction NFE Input to RIP FY00		39	01OCT99	30NOV99	0
SLPA4384	Base Case (SZ) Input to RIP		38	04OCT99	30NOV99	0
SLPA4386	Disruptive Events Abs (Tectonics) Input to RIP		19	26OCT99	22NOV99	4
SLPA4388	Water Usage (Bio) Input to RIP		19	01NOV99	30NOV99	0
SLPA4390	Water Dist/Rem Abs (EBS) Input to RIP		18	02NOV99	30NOV99	0
SLPA4392	Rad. Trans. Abs (EBS) Input to RIP		18	02NOV99	30NOV99	0
SLPA4394	Degr Model/FEPs Abs (EBS) Input to RIP		18	02NOV99	30NOV99	0
SLPA4396	Radionuclide / Soil (Bio) Input to RIP		9	16NOV99	30NOV99	0
M2NW	TSPA-SR Rev.01	M2	1	31OCT00	31OCT00	21



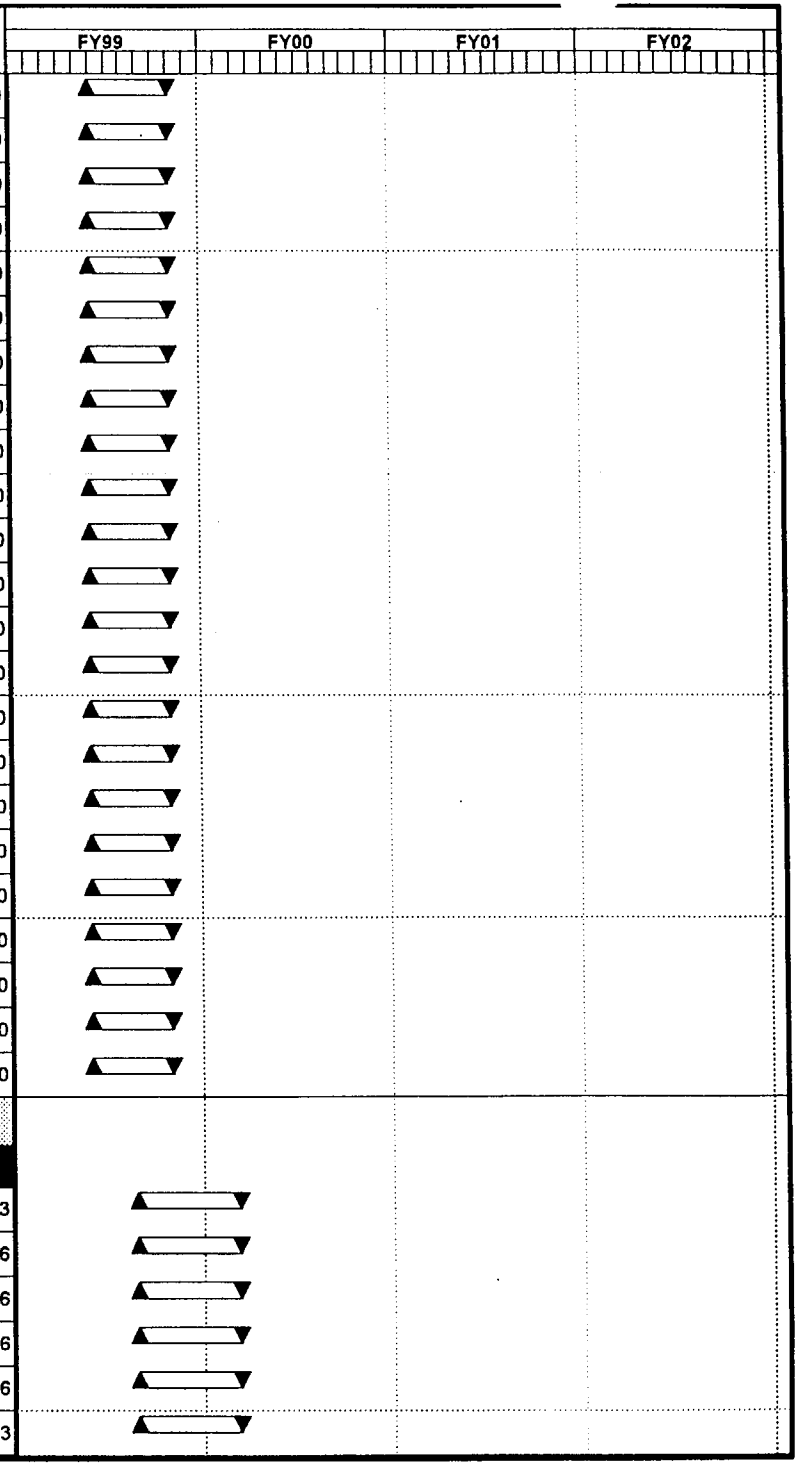
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
M Systems Eng SDD's						
SA Summary Activities for SE						
160 Systems Engineering & Integration Office - LV						
SE1820	Conformance Verification Matrices (CVM)		261	01OCT98	22OCT99	23
SE1050	Classification Analysis (Sec I and DBE)		110	01MAR99	03AUG99	10
SE1060	3.10Q Analysis to support SDD Section II		60	01APR99*	27SEP99	152
SE1020	3.10Q System Analysis feed to SR		180	04AUG99	21APR00	10
SE1824	Test and Evaluation Draft Update		65	25OCT99	28JAN00	23
SE1826	Test and Evaluation Update		196	31JAN00	06NOV00	23
SE1650	3.10Q Analysis to support SDD Section II		1	24APR00	29AUG00	10
SE1630	SDD Sec II for Notification SR		1	30AUG00	28NOV00	10
SE1660M4	All Analysis Issued to Support Notification SR	M4	0		28NOV00	10
SE1670	Complete all Checking and Review -Notification S		32	29NOV00	15JAN01	10
CA Classification Analysis						
160 Systems Engineering & Integration Office - LV						
SE1081	EXTERNAL HAZARDS ANALYSIS		110	01MAR99*	03AUG99	10
SE1085	INTERNAL HAZARDS ANALYSIS		110	01MAR99*	03AUG99	10
SE1090	INDUSTRIAL / MILITARY ANALYSIS		110	01MAR99*	03AUG99	10
SE1095	PRELIM MGR DBE's		110	01MAR99*	03AUG99	10
SE1100	AIRCRAFT HAZARDS ASSESSMENT		110	01MAR99*	03AUG99	10
SE1105	RELEASE FRACTION'S FOR COMMERCIAL SNF		110	01MAR99*	03AUG99	10
SE1107	WIND / TORNADO ANALYSIS		110	01MAR99*	03AUG99	10
SE1110	PA01 - CA Performance Confirmation Waste Isolati		110	01MAR99*	03AUG99	10
SE1115	SS01 - CA Subsurface Facility Sys		110	01MAR99*	03AUG99	10
SE1120	SS02 - CA Ex-Container Sys		110	01MAR99*	03AUG99	10
SE1125	SS03 - CA Ground Control Sys		110	01MAR99*	03AUG99	10
SE1130	SS05 - CA Subsurface Ventilation Sys		110	01MAR99*	03AUG99	10
SE1135	SS06 - CA Subsurface Electrical Distribution Sys		110	01MAR99*	03AUG99	10
SE1140	SS08 - CA Subsurface Compressed Air Sys		110	01MAR99*	03AUG99	10
SE1145	SS09 - CA Subsurface Water Distribution Sys		110	01MAR99*	03AUG99	10



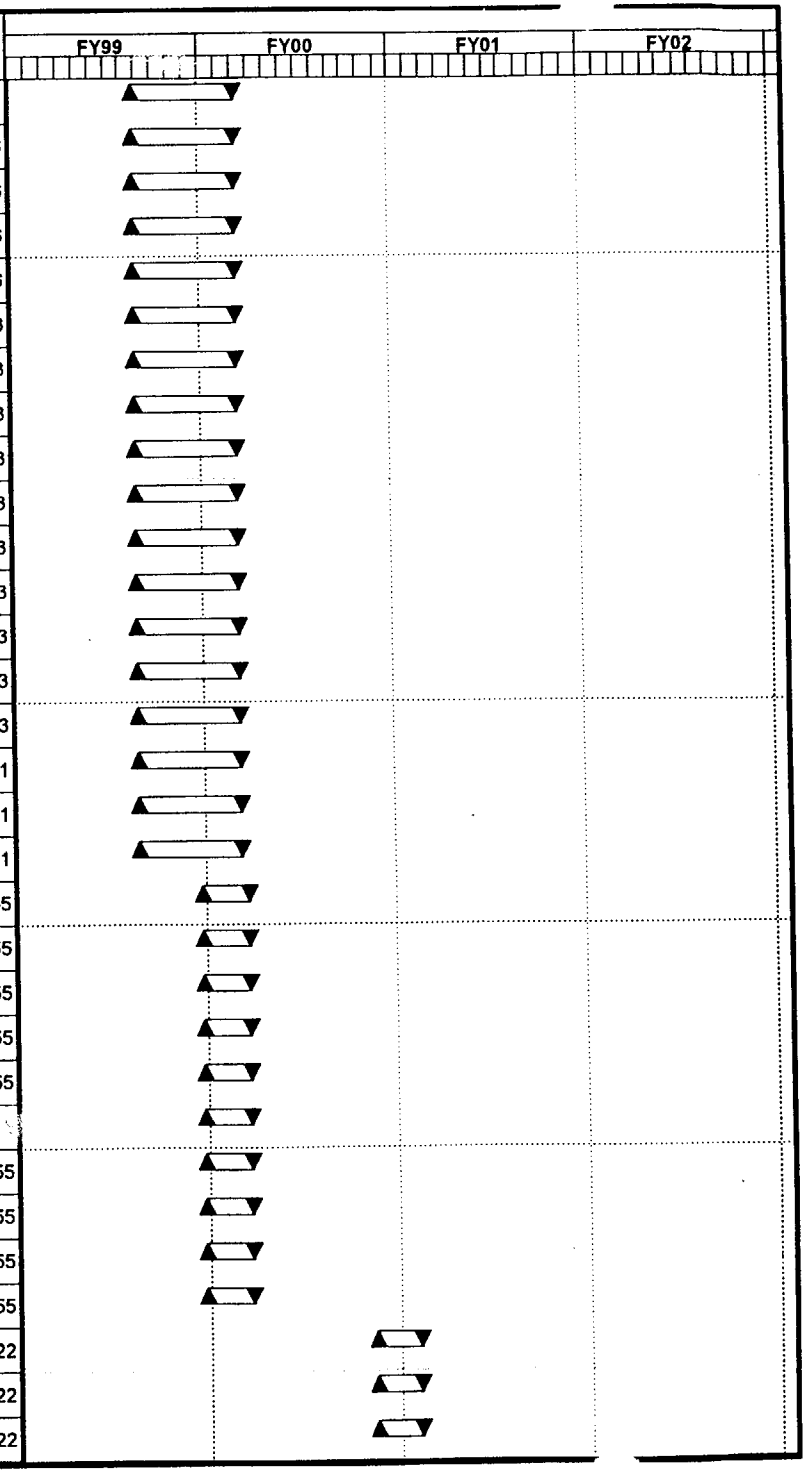
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SE1150	SS10 - CA Subsurface Safety and Monitoring Sys		110	01MAR99*	03AUG99	10
SE1155	SS12 - CA Subsurface Ops Monitoring and Control		110	01MAR99*	03AUG99	10
SE1160	SS14 - CA Performance Confirmation Emplacement D		110	01MAR99*	03AUG99	10
SE1165	SS15 - CA Muck Handling Sys		110	01MAR99*	03AUG99	10
SE1170	SS16 - CA Subsurface Development Transportation		110	01MAR99*	03AUG99	10
SE1175	SS17 - CA Waste Emplacement Sys		110	01MAR99*	03AUG99	10
SE1180	SS18 - CA Backfill Emplacement Sys		110	01MAR99*	03AUG99	10
SE1185	SS19 - CA Subsurface Closure & Seal Sys		110	01MAR99*	03AUG99	10
SE1190	SS20 - CA Subsurface Water Collection/Removal Sy		110	01MAR99*	03AUG99	10
SE1195	SS21 - CA Waste Retrieval Sys		110	01MAR99*	03AUG99	10
SE1200	SS24 - CA Subsurface Emplacement Transportation		110	01MAR99*	03AUG99	10
SE1205	SS25 - CA Subsurface Excavation Sys		110	01MAR99*	03AUG99	10
SE1210	SS26 - CA Subsurface Fire Protection Sys		110	01MAR99*	03AUG99	10
SE1215	SU01 - CA Monitored Geologic Repository Site Lay		110	01MAR99*	03AUG99	10
SE1220	SU02 - CA Waste Handling BLDG. Sys		110	01MAR99*	03AUG99	10
SE1225	SU04 - CA Waste Treatment BLDG. Sys		110	01MAR99*	03AUG99	10
SE1230	SU05 - CA Carrier Preparation BLDG. Sys		110	01MAR99*	03AUG99	10
SE1235	SU08 - CA Carrier Preparation BLDG. Materials Ha		110	01MAR99*	03AUG99	10
SE1240	SU09 - CA Carrier/Cask Handling Sys		110	01MAR99*	03AUG99	10
SE1245	SU10 - CA Assembly Transfer Sys		110	01MAR99*	03AUG99	10
SE1250	SU11 - CA Canister Transfer Sys		110	01MAR99*	03AUG99	10
SE1255	SU12 - CA Waste Package Remediation Sys		110	01MAR99*	03AUG99	10
SE1260	SU13 - CA Disposal Container Handling Sys		110	01MAR99*	03AUG99	10
SE1265	SU16 - CA Carrier/Cask Transport Sys		110	01MAR99*	03AUG99	10
SE1270	SU18 - CA Waste Handling BLDG. Electrical Sys		110	01MAR99*	03AUG99	10
SE1275	SU22 - CA Waste Handling BLDG. Ventilation Sys		110	01MAR99*	03AUG99	10
SE1280	SU24 - CA Waste Treatment BLDG. Ventilation Sys		110	01MAR99*	03AUG99	10
SE1285	SU29 - CA Site Radiological Monitoring Sys		110	01MAR99*	03AUG99	10
SE1290	SU33 - CA Waste Handling BLDG. Fire Protection S		110	01MAR99*	03AUG99	10
SE1295	SU37 - CA Site Generated Radiological Waste Hand		110	01MAR99*	03AUG99	10
SE1300	SU40 - CA Emergency Response Sys		110	01MAR99*	03AUG99	10



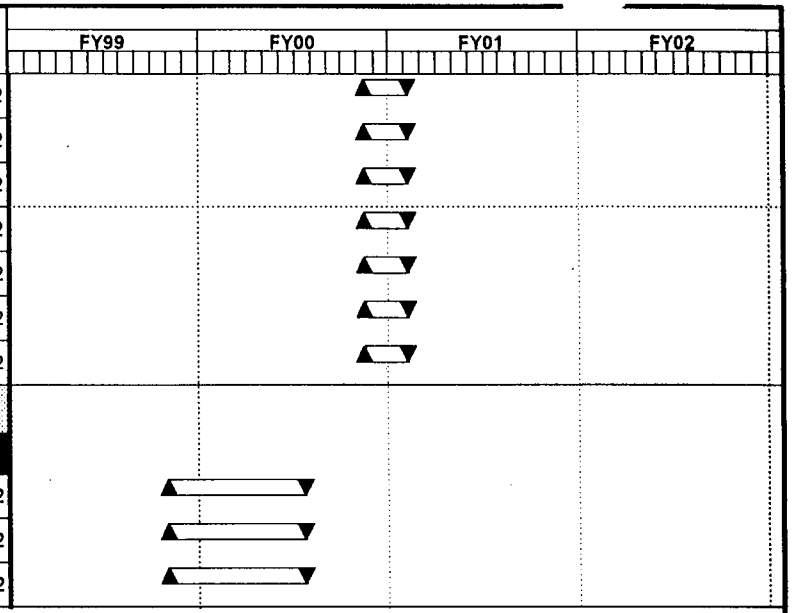
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SE1305	SU41 - CA Health Safety Sys		110	01MAR99*	03AUG99	10
SE1310	SU42 - CA Site Communications Sys		110	01MAR99*	03AUG99	10
SE1315	SU43 - CA Site Water Sys		110	01MAR99*	03AUG99	10
SE1320	SU44 - CA Site Electrical Power Sys		110	01MAR99*	03AUG99	10
SE1325	SU45 - CA Site Compressed Air Sys		110	01MAR99*	03AUG99	10
SE1330	SU47 - CA Site Generated Hazardous, Nonhazardous		110	01MAR99*	03AUG99	10
SE1335	SU48 - CA Safeguards and Security Sys		110	01MAR99*	03AUG99	10
SE1340	SU49 - CA Surface Environmental Monitoring Sys		110	01MAR99*	03AUG99	10
SE1345	SU50 - CA Administration Sys		110	01MAR99*	03AUG99	10
SE1350	SU51 - CA Maintenance and Supply Sys		110	01MAR99*	03AUG99	10
SE1355	SU52 - CA Site Operations Sys		110	01MAR99*	03AUG99	10
SE1360	SU53 - CA Off-Site Utilities Sys		110	01MAR99*	03AUG99	10
SE1365	SU54 - CA General Site Transportation Sys		110	01MAR99*	03AUG99	10
SE1370	SU55 - CA Performance Confirmation Data Acquisit		110	01MAR99*	03AUG99	10
SE1375	SU56 - CA Pool Water Treatment and Cooling Sys		110	01MAR99*	03AUG99	10
SE1380	SU57 - CA Surface Operations Monitoring and Cont		110	01MAR99*	03AUG99	10
SE1385	SU58 - CA Site Fire Protection Sys		110	01MAR99*	03AUG99	10
SE1390	WP01 - CA Uncanistered SNF Disposal Container Sy		110	01MAR99*	03AUG99	10
SE1395	WP02 - CA Canistered SNF Disposal Container Sys		110	01MAR99*	03AUG99	10
SE1400	WP03 - CA Defense High Level Waste Disposal Cont		110	01MAR99*	03AUG99	10
SE1405	WP04 - CA DOE SNF Disposal Container Sys		110	01MAR99*	03AUG99	10
SE1410	WP07 - CA Non-Fuel Components Disposal Container		110	01MAR99*	03AUG99	10
SE1415	WP09 - CA Naval SNF Disposal Container Sys		110	01MAR99*	03AUG99	10
SDD System Design Document (SDD)						
160 Systems Engineering & Integration Office - LV						
PA01S1A	(PA01-Sec 1) Performance Confirmation Waste Isol		1	28MAY99*	09DEC99	63
SS01S1A	(SS01-Sec 1) Subsurface Facility System		1	28MAY99*	09DEC99	136
SS02S1A	(SS02-Sec 1) Ex-Container System		1	28MAY99*	09DEC99	136
SS03S1A	(SS03-Sec 1) Ground Control System		1	28MAY99*	09DEC99	136
SS05S1A	(SS05-Sec 1) Subsurface Ventilation System		1	28MAY99*	09DEC99	136
SS08S1A	(SS08-Sec 1) Subsurface Compressed Air System		1	28MAY99*	09DEC99	63



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SS09S1A	(SS09-Sec 1) Subsurface Water Distribution Syste		1	28MAY99*	09DEC99	63
SS10S1A	(SS10-Sec 1) Subsurface Safety and Monitoring Sy		1	28MAY99*	09DEC99	136
SS12S1A	(SS12-Sec 1) Subsurface Operations Monitoring &		1	28MAY99*	09DEC99	136
SS14S1A	(SS14-Sec 1) Performance Confirmation Emplacemen		1	28MAY99*	09DEC99	136
SS17S1A	(SS17-Sec 1) Waste Emplacement System		1	28MAY99*	09DEC99	136
SS18S1A	(SS18-Sec 1) Backfill Emplacement System		1	28MAY99*	09DEC99	63
SS20S1A	(SS20-Sec 1) Subsurface Water Collection/Removal		1	28MAY99*	09DEC99	63
SS26S1A	(SS26-Sec 1) Subsurface Fire Protection System		1	28MAY99*	09DEC99	63
SU01S1A	(SU01-Sec 1) MGR Site Layout		1	28MAY99*	09DEC99	63
SU02S1A	(SU02-Sec 1) Waste Handling Building System		1	28MAY99*	09DEC99	63
SU29S1A	(SU29-Sec 1) Site Radiological Monitoring System		1	28MAY99*	09DEC99	63
SU40S1A	(SU40-Sec 1) Emergency Response System		1	28MAY99*	09DEC99	63
SU48S1A	(SU48-Sec 1) Safeguards and Security System		1	28MAY99*	09DEC99	63
SU55S1A	(SU55-Sec 1) Performance Confirmation Data Acqui		1	28MAY99*	09DEC99	63
SU57S1A	(SU57-Sec 1) Surface Operations Monitoring & Con		1	28MAY99*	09DEC99	63
WP01S1A	(WP01-Sec 1) Uncanistered SNF Disposal Container		1	28MAY99*	09DEC99	21
WP03S1A	(WP03-Sec 1) DHLW Disposal Container		1	28MAY99*	09DEC99	21
WP09S1A	(WP09-Sec 1) Naval Spent Nuclear Fuel Disposal C		1	28MAY99*	09DEC99	21
SS01S2A	(SS01-Sec 2) Subsurface Facility System		1	23SEP99*	21DEC99	55
SS02S2A	(SS02-Sec 2) Ex-Container System		1	23SEP99*	21DEC99	55
SS03S2A	(SS03-Sec 2) Ground Control System		1	23SEP99*	21DEC99	55
SS05S2A	(SS05-Sec 2) Subsurface Ventilation System		1	23SEP99*	21DEC99	55
SS10S2A	(SS10-Sec 2) Subsurface Safety and Monitoring Sy		1	23SEP99*	21DEC99	55
SS12S2A	(SS12-Sec 2) Subsurface Operations Monitoring &		1	23SEP99*	21DEC99	55
SS14S2A	(SS14-Sec 2) Performance Confirmation Emplacemen		1	23SEP99*	21DEC99	55
SS17S2A	(SS17-Sec 2) Waste Emplacement System		1	23SEP99*	21DEC99	55
SS19S2A	(SS19-Sec 2) Subsurface Closure & Seal System		1	23SEP99*	21DEC99	55
SS21S2A	(SS21-Sec 2) Waste Retrieval System		1	23SEP99*	21DEC99	55
SU02S2B	(SU02-Sec 2) Waste Handling Building System		1	14AUG00*	07NOV00	22
SU10S2B	(SU10-Sec 2) Assembly Transfer System		1	14AUG00*	07NOV00	22
SU11S2B	(SU11- Sec 2) Canister Transfer System		1	14AUG00*	07NOV00	22



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SU12S2B	(SU12-Sec 2) Waste Package Remediation System		1	14AUG00*	07NOV00	22
SU13S2B	(SU13-Sec 2) Disposal Container Handling System		1	14AUG00*	07NOV00	22
SU18S2B	(SU18-Sec 2) Waste Handling Building Electrical		1	14AUG00*	07NOV00	22
SU22S2B	(SU22-Sec 2) Waste Handling Building Ventilation		1	14AUG00*	07NOV00	22
SU56S2B	(SU56-Sec 2) Pool Water Treatment & Cooling Syst		1	14AUG00*	07NOV00	22
SU57S2B	(SU57-Sec 2) Surface Operations Monitoring & Con		1	14AUG00*	07NOV00	22
SUCGS2B	(SUCG-Sec 2) Compressed Gas System		1	14AUG00*	07NOV00	22
310 AP3.10Q						
160 Systems Engineering & Integration Office - LV						
WP01QA	(WP01-3.10Q) Uncanistered SNF Disposal Container		1	02AUG99*	19APR00	12
WP03QA	(WP03-3.10Q) DHLW Disposal Container		1	02AUG99*	19APR00	12
WP09QA	(WP09-3.10Q) Naval Spent Nuclear Fuel Disposal C		1	02AUG99*	19APR00	12



X Detailed SR Schedule

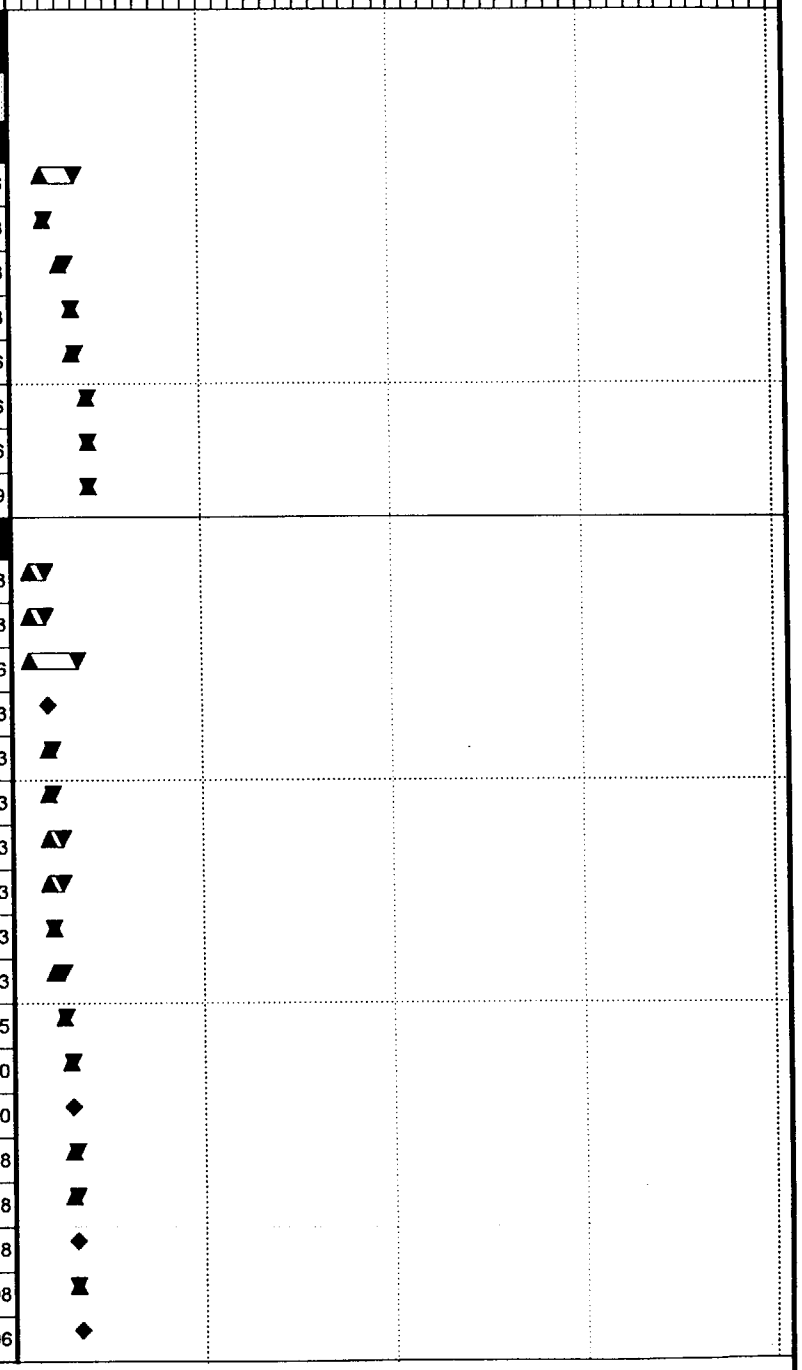
AO

150 Support Operations

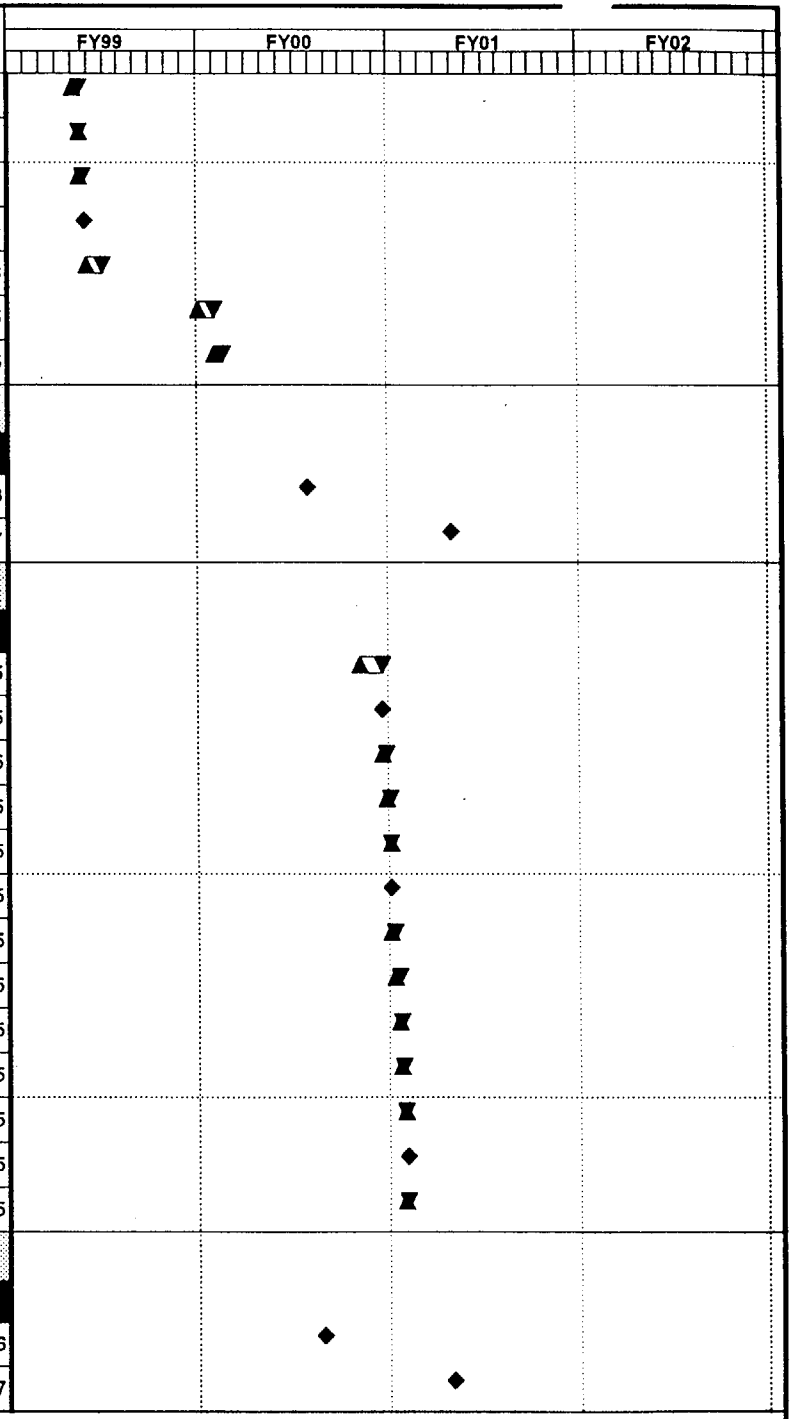
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMSR5035	Establish SR Report Electronic Story Board		37	02DEC98*	01FEB99	106
BMSR5010	QC Check of SR AO/Comment Incorporation		2	04DEC98*	07DEC98	3
BMSR5041	CDP Format SR AO Rev 1 Review Draft		8	05JAN99*	14JAN99	3
BMSR5044	QC Check SR AO Rev 1 Approval Draft		2	27JAN99*	28JAN99	108
BMSR5046	CDP Final Edit/Repro SR AO Rev 1 Approval Draft		2	29JAN99*	01FEB99	106
BMSR5031	SR AO Rev 1 Final QC Check		2	24FEB99*	25FEB99	106
BMSR5032	Repro & Prepare SR AO Rev 1 Approval Package		1	26FEB99*	26FEB99	106
BMSR5047	Post SR AO Rev 1 on Story Board		1	26FEB99*	26FEB99	129

300 Regulatory & Licensing

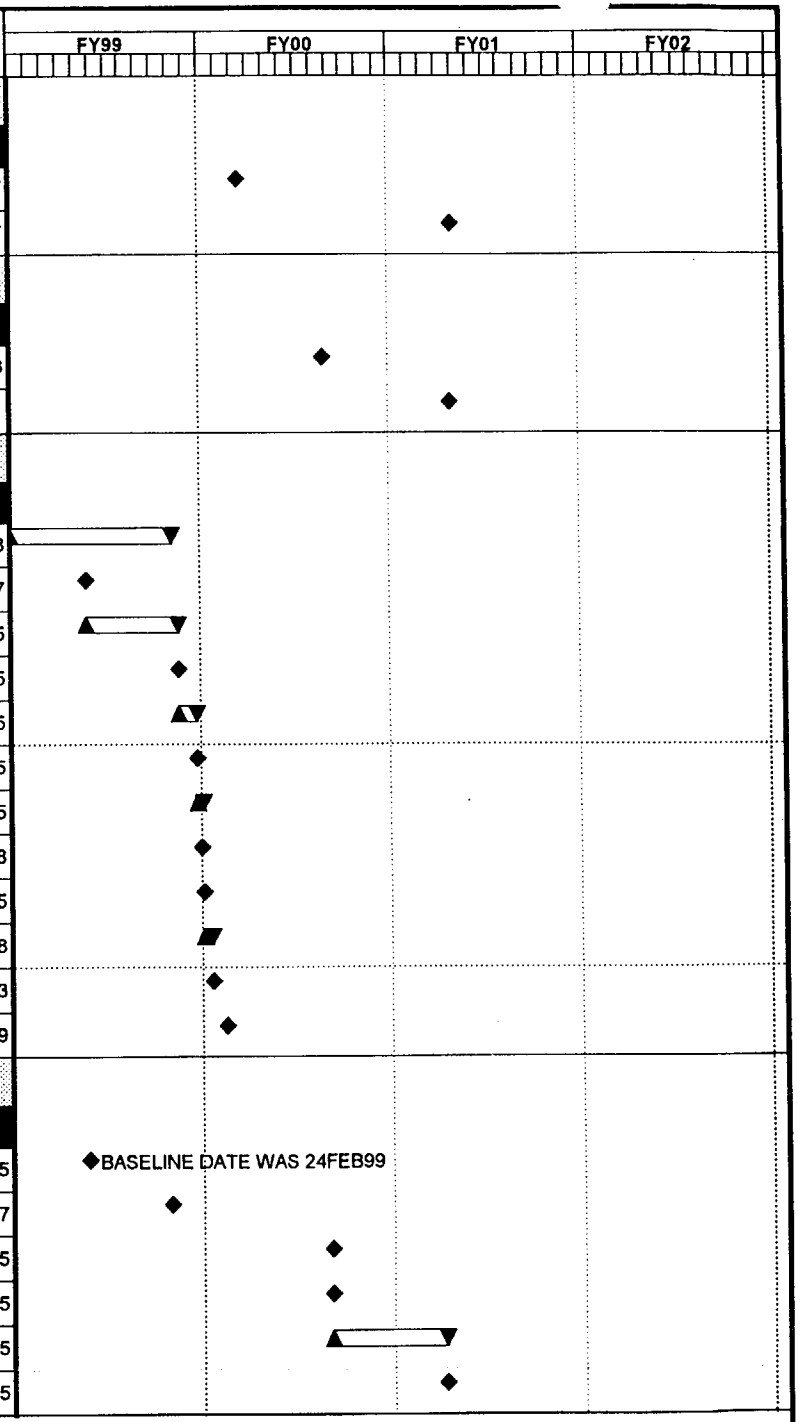
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLCE0005	Prepare SR Vol 2 AO Rev 0 Draft		21	02NOV98*	03DEC98	3
SLSR5000	Prepare SR Vol 1 AO Rev 0 Draft		21	02NOV98*	03DEC98	3
SLSR5070	Prepare SR Management Plan		56	02NOV98*	01FEB99	106
SLSR50M4	Distribute SR AO Prelim Draft to SR Team/Consult	M4	0		07DEC98*	3
SLSR5015	SR Team Review SR AO Prelim. Draft		5	08DEC98*	14DEC98	3
SLSR5016	YMSCO SR AO Prelim Draft Review		5	08DEC98*	14DEC98	3
SLSR5045	Prepare SR Report Author List		13	08DEC98*	04JAN99	3
SLSR5060	Prepare SR Report Authors' Guide		13	08DEC98*	04JAN99	3
SLSR5017	SR AO Prelim Draft Comment Review Meeting		1	15DEC98*	15DEC98	3
SLSR5040	Complete Preliminary SR AO Rev 1 Review Draft		7	16DEC98*	04JAN99	3
SLSR5048	SR Team AO Comment Review Meeting		2	06JAN99*	07JAN99	5
SLSR5049	Revise Preliminary SR AO		3	15JAN99*	19JAN99	0
SLSR55M4	Submit SR AO Rev 1 Draft for M&O Review	M4	0		19JAN99*	0
SLSR5042	M&O-wide Review SR AO Rev 1 Approval Draft		5	20JAN99*	25JAN99	108
SLSR5052	YMSCO SR AO Preliminary Informal Review		5	20JAN99*	25JAN99	108
SLSR5051	Receive M&O SR AO Review Comments	M4	0		25JAN99*	108
SLSR5043	Incorporate SR AO Rev 1 Prelim Review Comments		2	26JAN99*	27JAN99	108
SLSR51M3	Submit SR AO Rev 1 for YMSCO/DOE Reviews	M3	0		01FEB99*	106



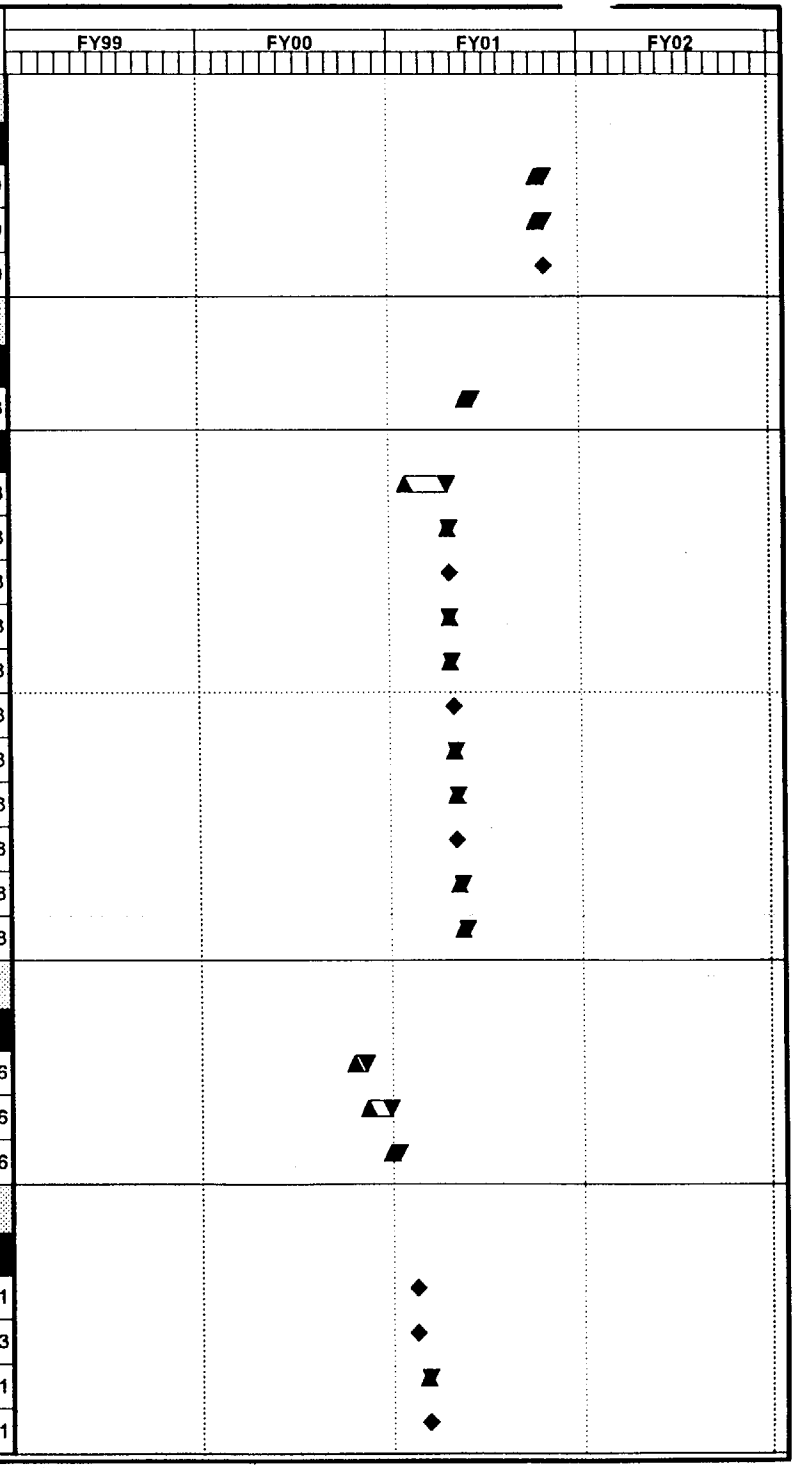
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLSR5027	YMSCO/DOE 6.2 Review SR AO Rev 1 Draft		10	02FEB99*	16FEB99	106
SLSR5028	Final SR AO Rev 1 Comment Resolution Meeting		1	16FEB99*	16FEB99	106
SLSR5029	Incorporate Comments/Finalize SR AO Rev 1		5	17FEB99*	23FEB99	106
SLSR53M3	Complete SR AO Rev 1 Development	M3	0		26FEB99*	106
SLSR5030	SR Report Author Training		23	01MAR99	31MAR99	106
SLCE0020	Update Site Recommendation AO		21	06OCT99	04NOV99	5
SLCE0025	DOE Reviev Site Recommendation AO Update		10	05NOV99	19NOV99	5
BIO PMR						
150 Support Operations						
SLB272M4	Rec Bio PMR Rev01/SR Consideration Hearing Draft	M4	0		28APR00	53
SLB274M4	Rec Bio PMR Rev 03 for SR Notification Draft	M4	0		31JAN01	17
CHFR						
300 Regulatory & Licensing						
SLRCH005	Prepare Draft SR Hearing Notice for FR		30	07AUG00*	18SEP00	5
SLCH01M4	Complete Initial Draft SR Hearing Notice	M4	0		18SEP00	5
SLRCH010	M&O Review Draft SR Hearings Notice		5	19SEP00	25SEP00	5
SLRCH015	Incorporate M&O Comments-Draft SR Hearing Notice		5	26SEP00	02OCT00	5
SLRCH020	M&O Finalize Draft SR Hearing Notice		2	03OCT00	04OCT00	5
SLCH01M3	M&O Provide Draft SR Hearing Notice to YMSCO	M3	0		04OCT00	5
SLRCH025	YMSCO Review Draft SR Hearing Notice		5	05OCT00	12OCT00	5
SLRCH030	M&O Finalize Draft SR Hearing Notice		5	13OCT00	19OCT00	5
SLRCH035	YMSCO Forward Draft SR Hearing Notice to OCRWM		1	20OCT00	20OCT00	5
SLRCH040	OCRWM/X-1 Review SR Consideration Hearing Notice		5	23OCT00	27OCT00	5
SLRCH045	M&O Finalize SR Consideration Hearing Notice		2	30OCT00	31OCT00	5
P1CH	RW-1 Forward Consideration Hearings FR Notice	P1	0		01NOV00	5
SLRCH050	RW-1 Approve Consideration Hearing FR Notice		1	01NOV00	01NOV00	5
EBS PMR						
120 Engineered Barrier System Operations						
SLE812M4	Rec EBS PMR Rev01/SR Consideration Hearing Draft	M4	0		23MAY00	36
SLE814M4	Rec EBS PMR Rev 03 for SR Notification Draft	M4	0		31JAN01	17



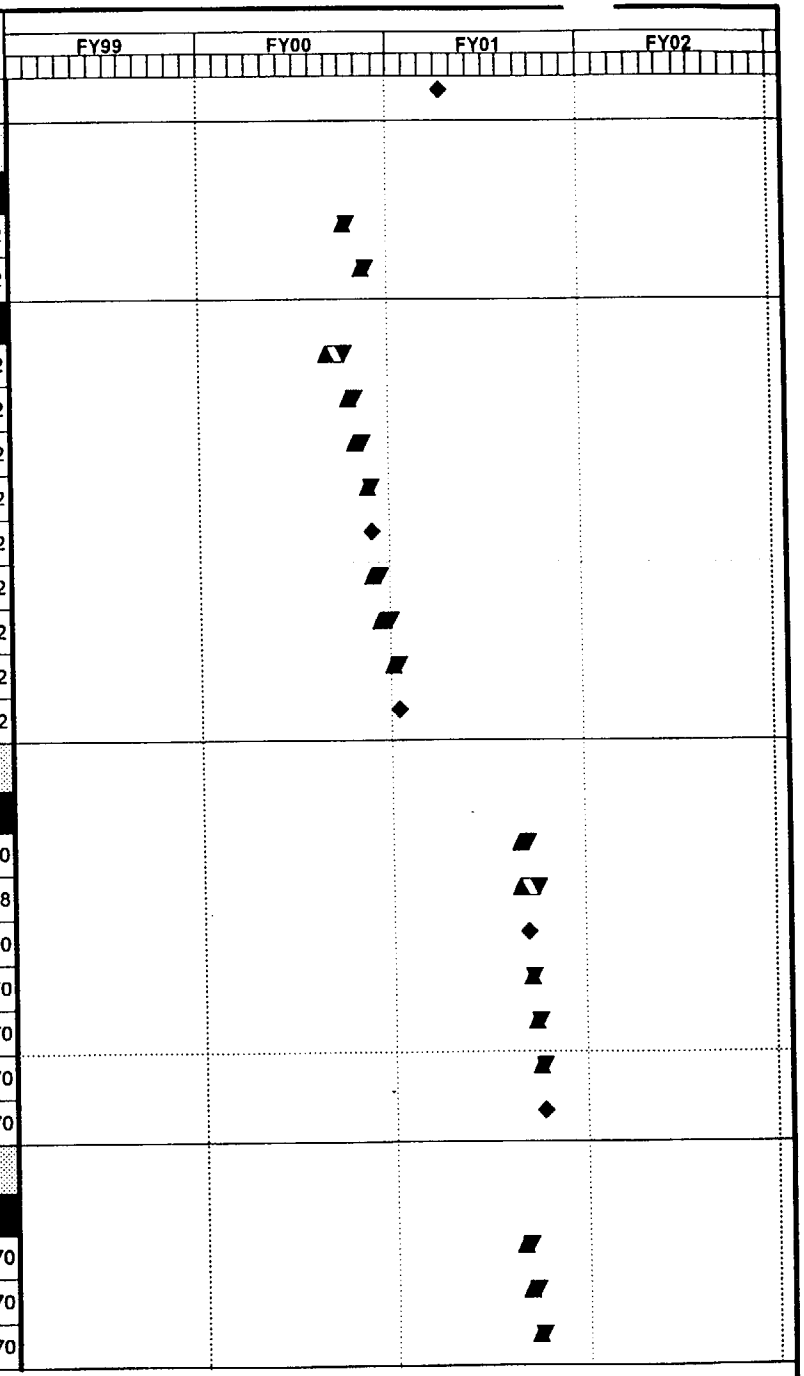
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
ISM PMR						
140 Natural Environment Program Operations						
SLM182M4	Rec ISM PMR Rev01/SR Consideration Hearing Draft	M4	0		15DEC99	147
SLM184M4	Rec ISM PMR Rev 03 for SR Notification Draft	M4	0		31JAN01	17
NFE PMR						
140 Natural Environment Program Operations						
SLN542M4	Rec NFE PMR Rev01/SR Consideration Hearing Draft	M4	0		26MAY00	33
SLN544M4	Rec NFE PMR Rev 03 for SR Notification Draft	M4	0		25JAN01	21
RM						
300 Regulatory & Licensing						
SLTR705	Prepare & Publish Revised 10CFR960		207	01OCT98*	05AUG99	78
SLSR60M4	NRC Proposed Rule 10CFR Part63 Draft Published	MX	0		22FEB99*	7
SLBR0025	10CFR960 NRC Concurrence Review		126	23FEB99*	19AUG99	5
SLBR00M4	Obtain NRC Concurrence - Proposed 10CFR960	M4	0		19AUG99	5
SLBR0035	Prepare Revised Final 10CFR960		21	20AUG99	20SEP99	5
SLBR40M4	Complete Revised Final 10CFR960	M4	0		20SEP99	5
SLBR0045	DOE Concurrence on Revised Final 10CFR960		11	21SEP99	05OCT99	5
SLSR61M4	EPA Publish Final 10CFR197 Rule	MX	0		01OCT99*	38
SLBR50M1	DOE Concur on Revised Final 10CFR960	P1	0		05OCT99	5
SLBR0055	Prepare Camera Ready Revised 10CFR960 f/FR		8	06OCT99	18OCT99	28
M1AP	Publish Revised 10CFR960 Rule in Fed Register	M1	0		18OCT99	43
SLSR65M4	NRC Publish Final 10CFR Part 63	MX	0		15NOV99*	9
RSS1						
300 Regulatory & Licensing						
M2MP	Licensing Case Selection Rev 0 (SR)	M2	0		24FEB99*	645
SL06X7M3	Submit Repository Safety Strategy Rev 3	M3	0		28JUL99*	537
M2MR	Licensing Case Selection Rev 1 (LA)	M2	0		01JUN00*	325
SL08X7M3	Submit Repository Safety Strategy Rev 4	M3	0		01JUN00*	325
SLTR19	Develop Sufficiency Case		148	02JUN00	05JAN01	325
MXRS	Complete Sufficiency Case Development	M4	0		05JAN01	325



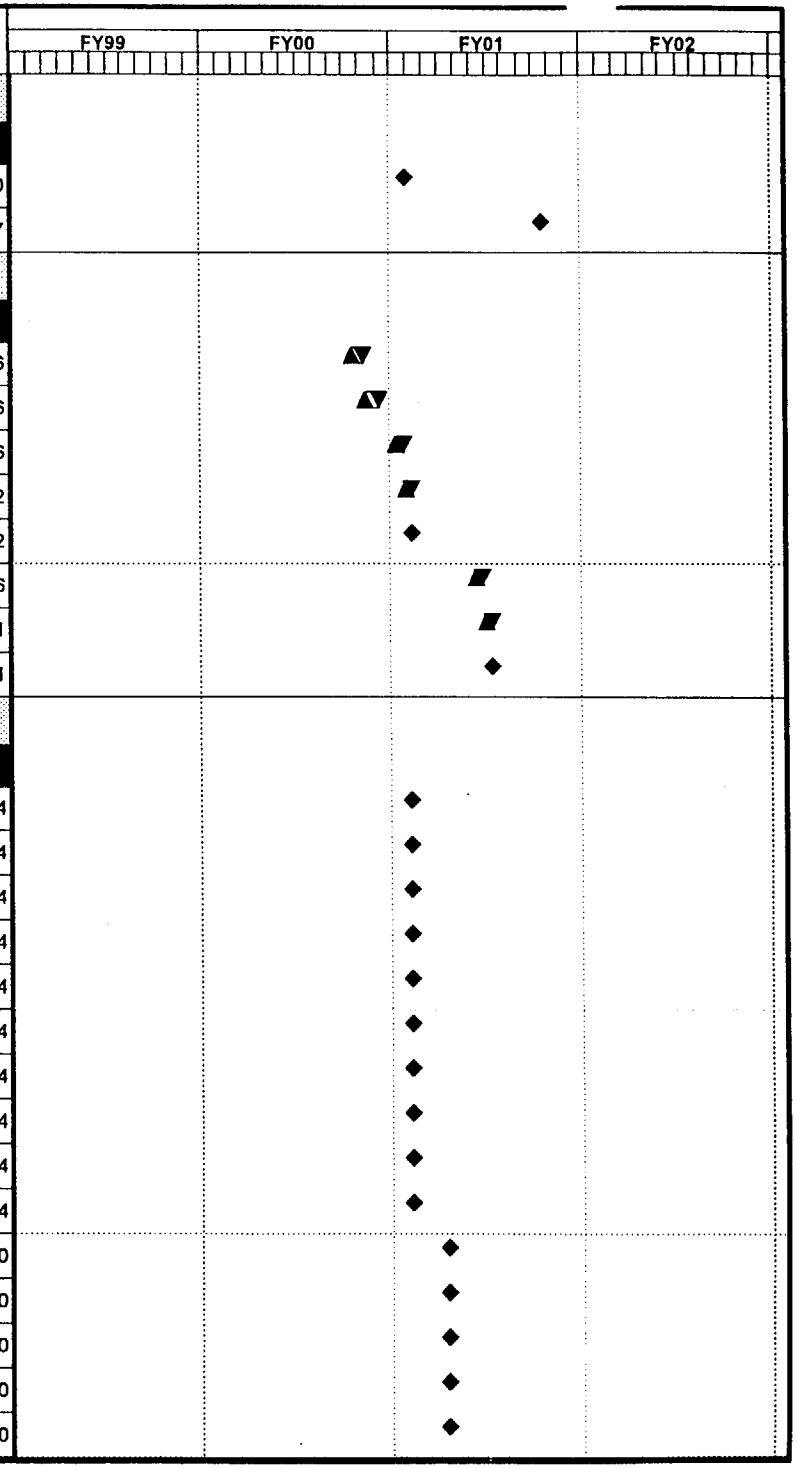
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SRA						
300 Regulatory & Licensing						
SLTR220	Secretarial Review of SR Product (Vol 1)		12	12JUL01	27JUL01	270
SLTR245C	S-1 Review Response to State Views/Concur Vol. 3		12	12JUL01	27JUL01	270
M0AJ	Secretary Issue SR Product to President	M0	0		27JUL01	270
SRBR						
150 Support Operations						
SL10845	CDP Prepare Camera Ready Copy of BOR		12	21FEB01	08MAR01	278
300 Regulatory & Licensing						
SL10001	Prelim. Draft SR Basis of Recommendation (BOR)		53	31OCT00	18JAN01	278
SL10865	Prepare BOR First Mockup		2	19JAN01	22JAN01	278
SL100M4	BOR First Mockup Available for Mgmt. Review	M4	0		23JAN01	278
SL10825	BOR First Design Meeting		1	23JAN01	23JAN01	278
SL11040	BOR First Management Review		2	24JAN01	25JAN01	278
SL108M4	BOR Draft Illustrations Completed	M4	0		29JAN01	278
SL10810	Prepare BOR 2nd Mockup, with illustrations		4	30JAN01	02FEB01	278
SL10855	BOR Second Management Review		3	02FEB01	06FEB01	278
SL109M4	BOR Second Mockup Available for Mgmt. Review	M4	0		02FEB01	278
SL10875	Prepare BOR 3rd Mockup		5	07FEB01	13FEB01	278
SL10835	BOR Third Management Review		4	14FEB01	20FEB01	278
SRCD						
150 Support Operations						
BM50850	Establish VA Cover Design Graphics Standards		20	17JUL00	11AUG00	6
BM50860	Viability Assessment Cover Design Period		30	14AUG00	25SEP00	6
BM50870	Viability Assess. Cover Design Approval Period		10	26SEP00	10OCT00	6
SRCH						
300 Regulatory & Licensing						
M0AC	Publish FR Notice of SR Consideration Hearings	M0	0		13NOV00*	1
M1BB	OCRWM Releases Consid.Hear.Draft SR - Public Rev	M1	0		13NOV00	13
SLTR202	Conduct Public Consideration Hearings		5	04DEC00	08DEC00	1
M1BD	Complete SR Consideration Hearings	M1	0		08DEC00	1



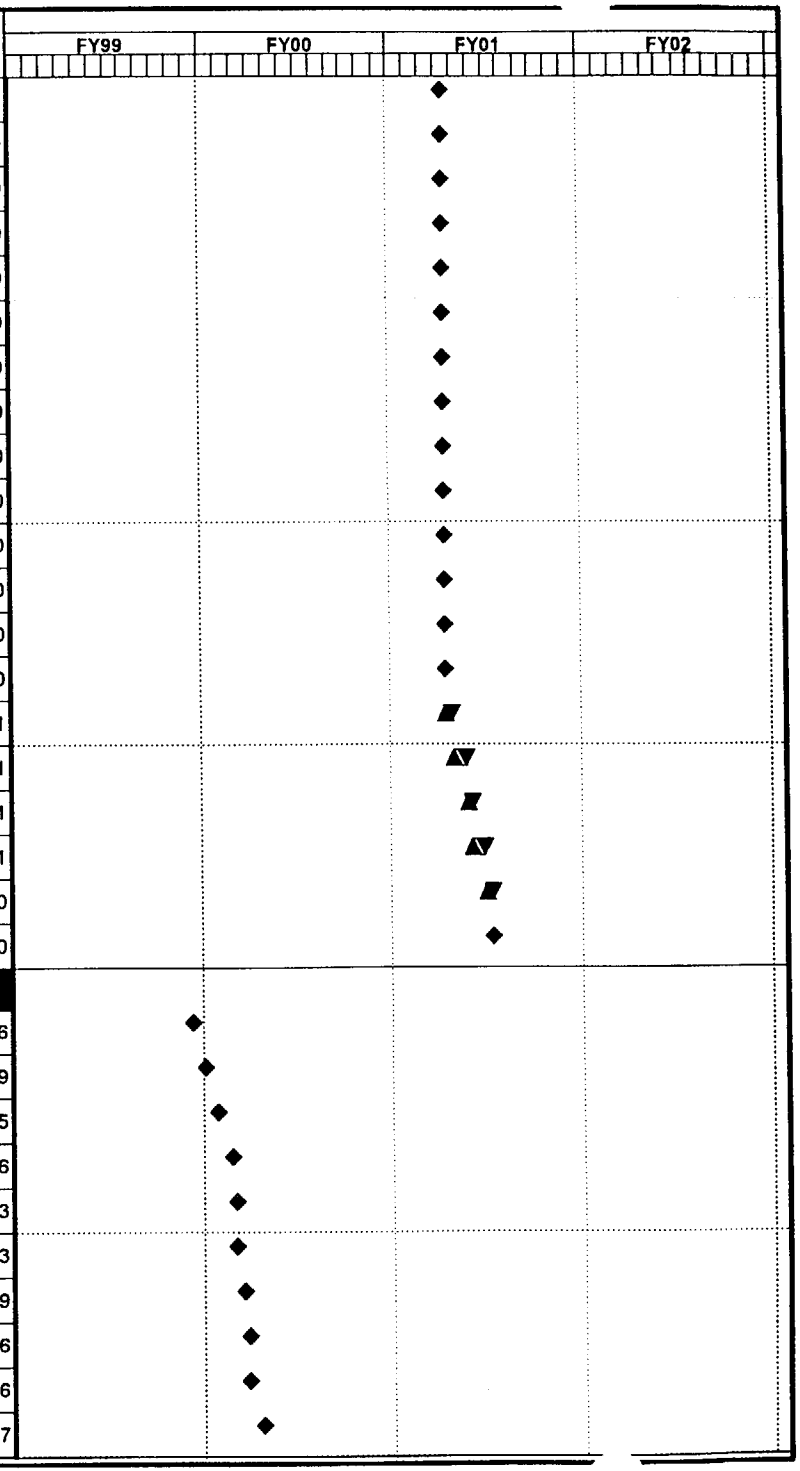
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
M1BE	Close Public & State Comment Period f/SR Conside	M1	0		12JAN01	1
SRCRD						
150 Support Operations						
BMRCR010	CDP Format CRD Process Document		5	07JUL00	13JUL00	2
BMRCR025	M&O QC Check CRD Process Document		5	11AUG00	17AUG00	2
300 Regulatory & Licensing						
SLRCR005	Prepare Draft CRD Process & System Document		25	01JUN00*	06JUL00	2
SLRCR015	M&O Review CRD Process Document		10	14JUL00	27JUL00	2
SLRCR020	Incorporate M&O Review Comments-CRD Procss Doc.		10	28JUL00	10AUG00	2
SLRCR030	M&O Incorporate QC Comments on CRD Process Doc.		5	18AUG00	24AUG00	2
SLRCR1M3	M&O Submit CRD System & Process Document	M3	0		24AUG00	2
SLRCR035	YMSCO Review CRD Process Document		10	25AUG00	08SEP00	2
SLRCR040	M&O Incorporate YMSCO Comments-CRD Process		15	11SEP00	29SEP00	2
SLRCR045	HQ Review Hearings CRD Process		9	02OCT00	13OCT00	2
SLRM4	YMSCO Approve SR Hearing CRD Process Doc.	M4	0		13OCT00	2
SRDP1						
300 Regulatory & Licensing						
SLSR7330	Prepare Final SR Volume 1		14	29MAY01	15JUN01	270
SLTR230	Prepare SR Action Memo for President		25	29MAY01	02JUL01	288
M2NG	YMSCO Submits Complete SR for DOE Review	M2	0		15JUN01	270
SLSR7340	DOE Review Final SR Volume 1		5	18JUN01	22JUN01	270
SLSR7350	Resolve Comments on Final SR Volume 1		6	25JUN01	[illegible]JUL01	270
SLTR245A	RW-1/X-1 Concurrence on SR Final Package		6	03JUL01	11JUL01	270
M1BH	OCRWM Completes DOE Review & Concurrence of SR	M1	0		11JUL01	270
SRDP2						
300 Regulatory & Licensing						
SLSR6160	Prepare Final Compliance Evaluation Report-Vol 2		9	29MAY01	08JUN01	270
SLSR6170	DOE Review Final Compl Eval (Vol 2)		10	11JUN01	22JUN01	270
SLSR6180	Resolve Comments on Final Compl Eval (Vol 2)		6	25JUN01	02JUL01	270



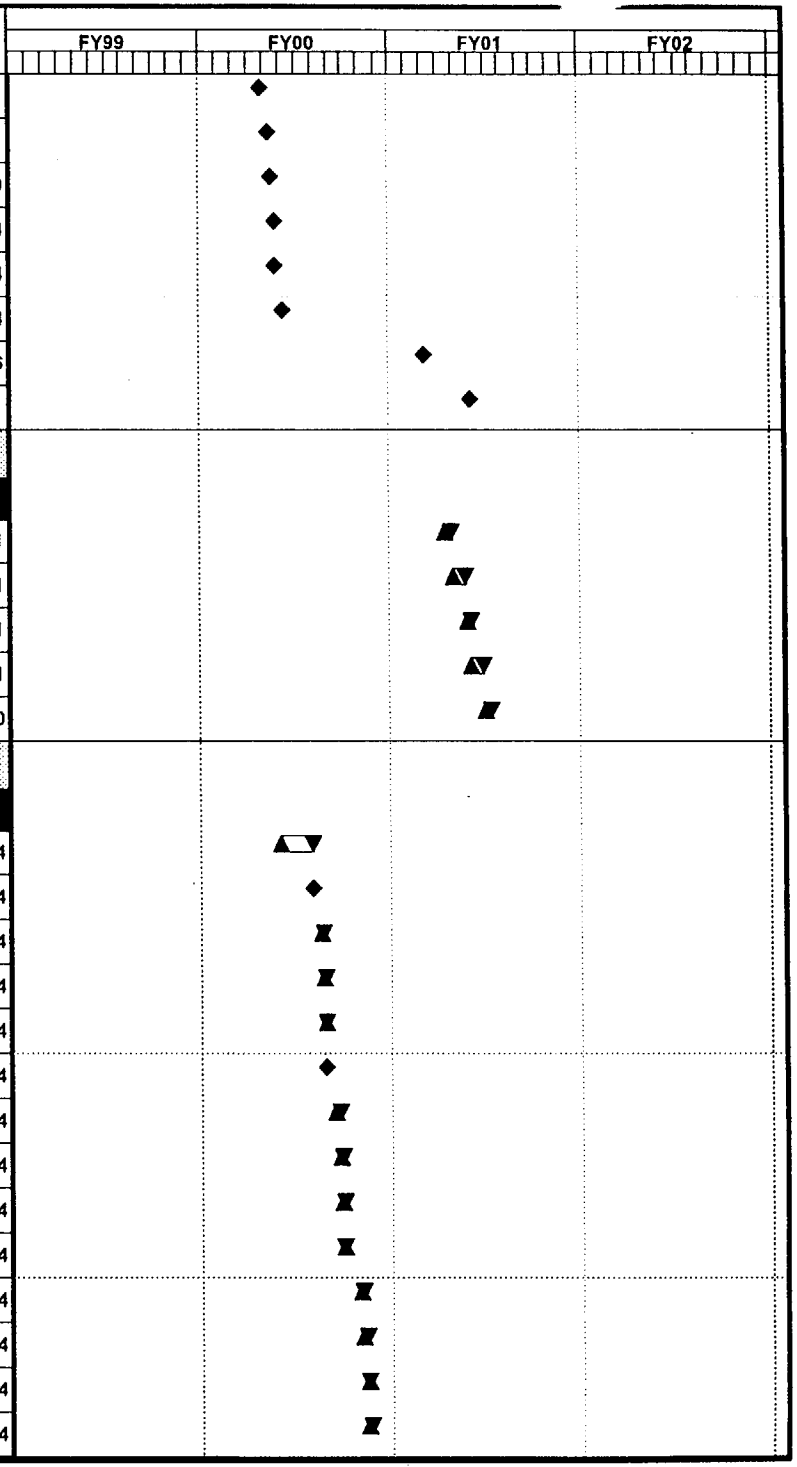
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SRDR						
300 Regulatory & Licensing						
SL92XM4	Complete DOE Review of SR References (TSPA/SD)	M4	0		30OCT00*	0
M2JX	Complete Administrative Record for SR	M2	0		18JUL01*	277
SRGP						
150 Support Operations						
BM50775	Establish GPO Printing Requirements		20	17JUL00	11AUG00	6
BM51000	GPO Obtain Preliminary Bids (OCRWM Approved)		20	14AUG00	11SEP00	6
BM51010	GPO Obtain Final Bids -SR Consid Hear Printing		10	11OCT00	24OCT00	6
BM51020	GPO Printing of SR Consideration Hearing Draft		8	31OCT00	09NOV00	2
BM513M4	GPO Deliver SR Consideration Hearing Draft	M4	0		09NOV00	2
BM51040	GPO Obtain Final Bids -SR Notif.Draft Printing		10	13MAR01	26MAR01	276
BM51050	GPO Printing of SR Notification Draft		8	03APR01	12APR01	271
BM516M4	GPO Deliver SR Notification Draft	M4	0		12APR01	271
SRND1						
300 Regulatory & Licensing						
SLNU02M4	Rec Waste Handling Building System SDD Sec 2	M4	0		07NOV00	54
SLNU10M4	Rec Assembly Transfer System SDD Sec 2	M4	0		07NOV00	54
SLNU11M4	Rec Canister Transfer System SDD Sec 2	M4	0		07NOV00	54
SLNU12M4	Rec Waste Package Remediation System SDD Sec 2	M4	0		07NOV00	54
SLNU13M4	Disposal Container Handling System SDD Sec 2	M4	0		07NOV00	54
SLNU18M4	Rec Waste Handling Bldg Electr. Sys. SDD Sec 2	M4	0		07NOV00	54
SLNU22M4	Waste Handling Bldg Ventilation Sys SDD Sec 2	M4	0		07NOV00	54
SLNU56M4	Rec Pool Water Treatment & Cooling Sys SDD Sec 2	M4	0		07NOV00	54
SLNU57M4	Rec Surface Ops Monitoring/Control Sys SDD Sec 2	M4	0		07NOV00	54
SLNUCGM4	Rec Site Compressed Gas System SDD Sec 2	M4	0		07NOV00	54
SLNP01M4	Rec Uncanistered SNF Disp. Container SDD Sec 1	M4	0		15JAN01	10
SLNP03M4	Receive DHLW Disposal Container SDD Sec 1	M4	0		15JAN01	10
SLNP09M4	Receive Navy Fuel Disposal Container SDD Sec 1	M4	0		15JAN01	10
SLNS01M4	Receive Subsurface Facility System SDD Sec 2	M4	0		15JAN01	10
SLNS02M4	Receive Ex-Container Systems SDD Sec 2	M4	0		15JAN01	10



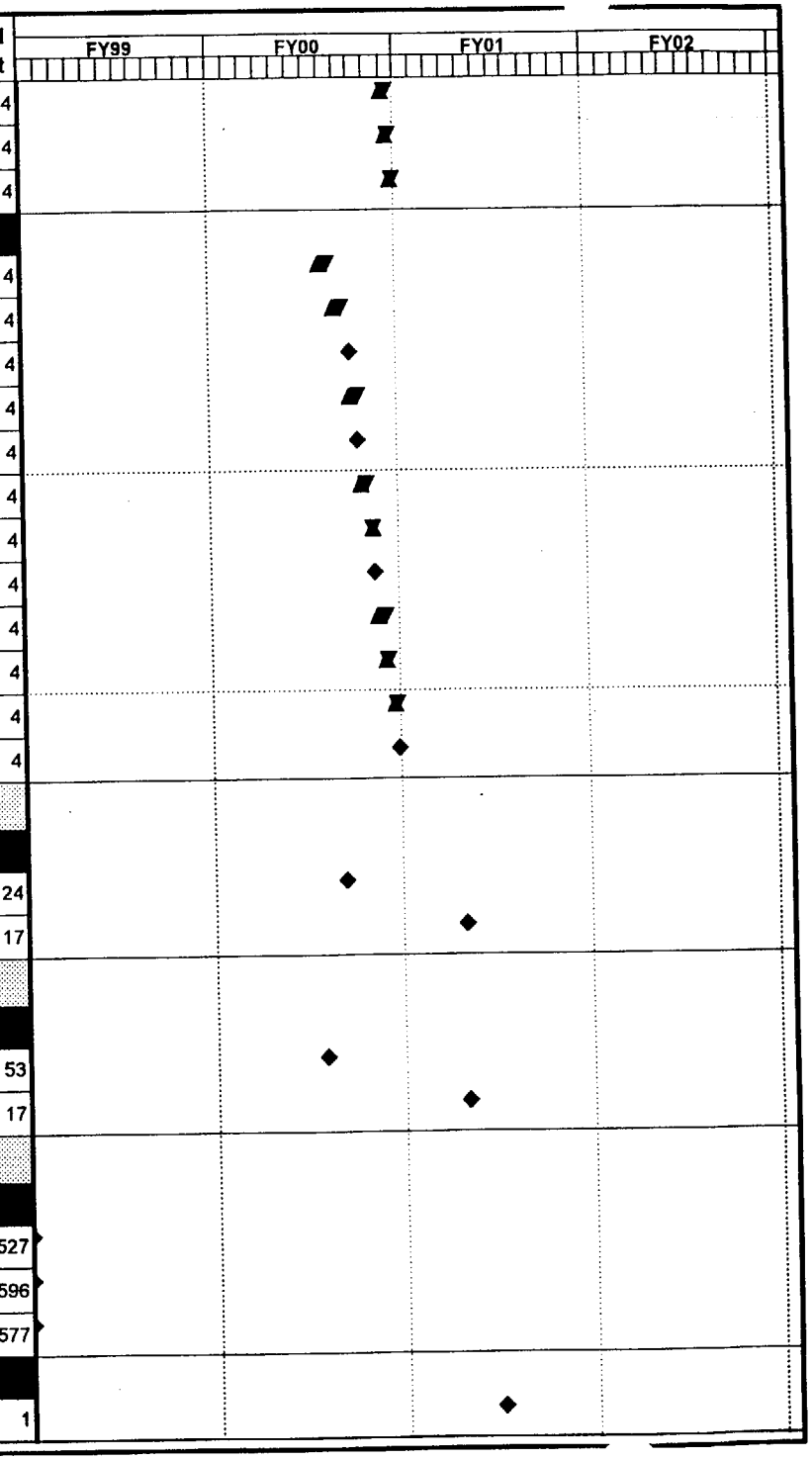
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLNS03M4	Receive Ground Control System SDD Sec 2	M4	0		15JAN01	10
SLNS05M4	Receive SS Ventilation System SDD Sec 2	M4	0		15JAN01	10
SLNS06M4	Rec SS Electrical Distr. Sys SDD Class Analysis	M4	0		15JAN01	10
SLNS10M4	Receive SS Safety & Monitoring System SDD Sec 2	M4	0		15JAN01	10
SLNS12M4	Rec SS Ops Monitoring & Control System SDD Sec 2	M4	0		15JAN01	10
SLNS14M4	Rec. PC Emplacement Drift Monitor Sys. SDD Sec 2	M4	0		15JAN01	10
SLNS17M4	Rec Waste Emplacement System SDD Sec 2	M4	0		15JAN01	10
SLNS18M4	Rec Backfill Emplacement System SDD Sec 1	M4	0		15JAN01	10
SLNS19M4	Rec SS Closure & Seal System SDD Sec 2	M4	0		15JAN01	10
SLNS21M4	Rec Waste Retrieval System SDD Sec 2	M4	0		15JAN01	10
SLNS25M4	Rec Subsurface Excavation System SDD Class Analy	M4	0		15JAN01	10
SLNS26M4	Rec SS Fire Protection System SDD Sec 1	M4	0		15JAN01	10
SLNU44M4	Rec Site Electrical Power System SDD Class Analy	M4	0		15JAN01	10
SLNU52M4	Rec Central C&C Ops. System SDD Class Analysis	M4	0		15JAN01	10
SLSR7210	Rvw/Consolidate Comments for SR Notification Drf		10	15JAN01	26JAN01	1
SLSR7220	Prepare SR Notification Draft		19	29JAN01	23FEB01	1
SLSR7230	DOE Review/Finalize SR Notification Draft		6	26FEB01	05MAR01	1
SLSR7240	RW-1/X-1 Concurrence on SR Update		19	06MAR01	30MAR01	1
SLSR7250	S-1 Concurrence on SR Update		9	03APR01	13APR01	270
M0AG	Sec. Notifies State - Decision to Recommend Site	M0	0		13APR01	270
SLM01M4	Rec Confirm ISM PMR SW Verified/Qualified	M4	0		09SEP99	346
SLM02M4	Rec Confirmation ISM PMR Data Verified/Qualified	M4	0		04OCT99	329
SLT01M4	Rec Confirm Techtonics PMR SW Verified/Qualified	M4	0		25OCT99	315
SLS01M4	Rec Confirm SZ PMR SW Verified/Qualified	M4	0		22NOV99	296
SLN01M4	Rec Confirm NFE PMR SW Verified/Qualified	M4	0		29NOV99	293
SLW01M4	Rec Confirm WP PMR SW Verified/Qualified	M4	0		29NOV99	293
SLS02M4	Rec Confirmation SZ PMR Data Verified/Qualified	M4	0		17DEC99	279
SLN02M4	Rec Confirmation NFE PMR Data Verified/Qualified	M4	0		22DEC99	276
SLW02M4	Rec Confirmation WP PMR Data Verified/Qualified	M4	0		22DEC99	276
SLU01M4	Rec Confirm UZ PMR SW Verified/Qualified	M4	0		20JAN00	257



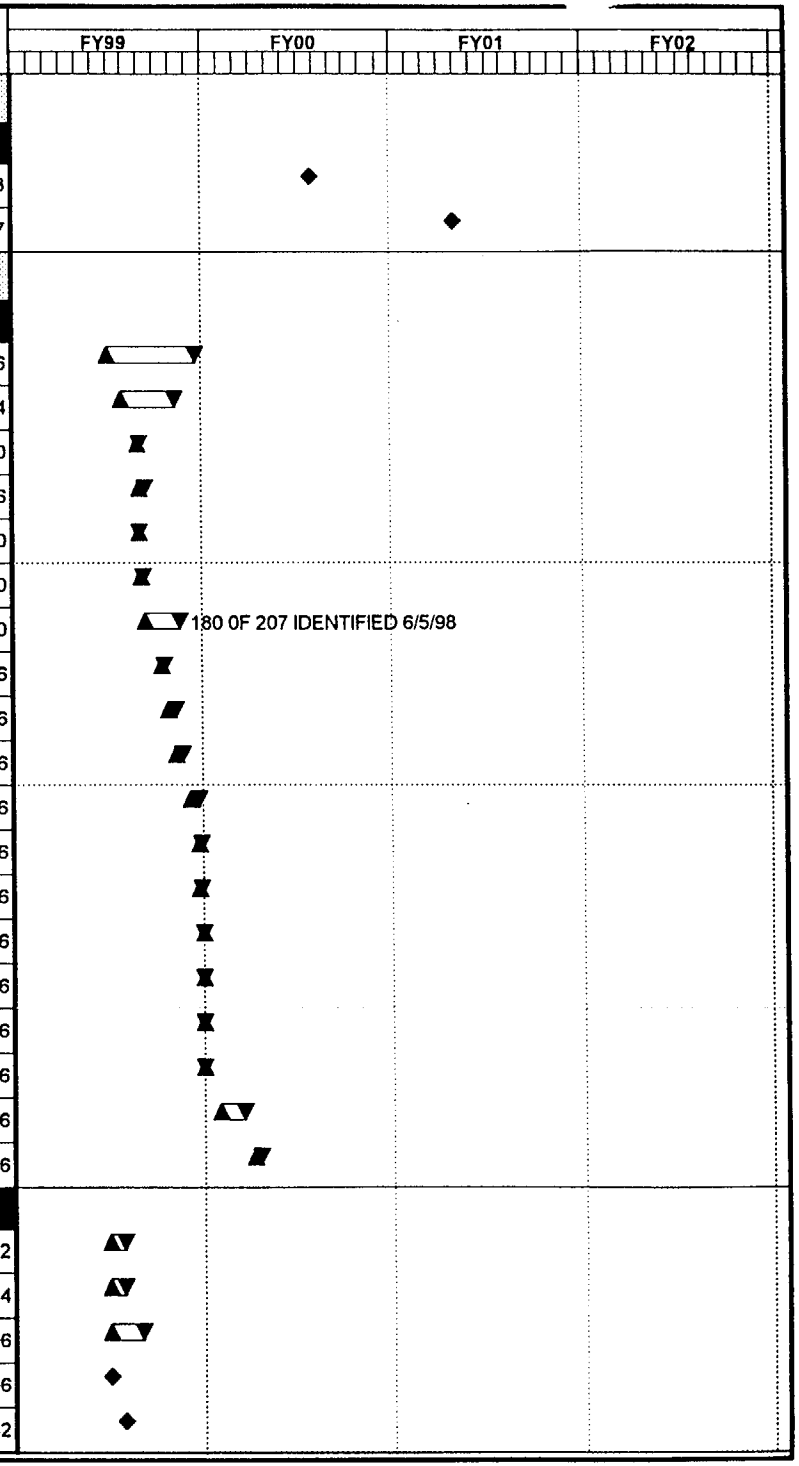
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLB01M4	Rec Confirm BIO PMR SW Verified/Qualified	M4	0		28JAN00	251
SLF01M4	Rec Confirm WFD PMR SW Verified/Qualified	M4	0		11FEB00	241
SLU02M4	Rec Confirmation UZ PMR Data Verified/Qualified	M4	0		14FEB00	240
SLB02M4	Rec Confirmation BIO PMR Data Verified/Qualified	M4	0		23FEB00	234
SLE02M4	Rec Confirmation EBS PMR Data Verified/Qualified	M4	0		23FEB00	234
SLF02M4	Rec Confirmation WFD PMR Data Verified/Qualified	M4	0		08MAR00	224
SLT02M4	Rec Confirmation Tec PMR Data Verified/Qualified	M4	0		06DEC00	36
M2KD	YMSCO Submits Draft State Notif. SR for DOE Rev.	M2	0		05MAR01	1
SRND2						
300 Regulatory & Licensing						
SLSR6110	Review Hearings Comments for Compl Eval Update		10	15JAN01	26JAN01	1
SLSR6120	Prepare Compl. Eval Update (incorporate coments)		19	29JAN01	23FEB01	1
SLSR6130	DOE Review/Finalize Compl Eval Update		6	26FEB01	05MAR01	1
SLSR6140	RW-1/X-1 Concurrence on Compl Eval Update		19	06MAR01	30MAR01	1
SLSR6150	S-1 Concurrence on Compl Eval Update		9	03APR01	13APR01	270
SRPI						
150 Support Operations						
BMRDP005	Develop SR Draft Distribution/PI plan		45	01MAR00*	02MAY00	4
BMRDP1M4	Complete Preliminary Draft Distribution/PI Plan	M4	0		02MAY00	4
BMRDP015	CDP Format Prelim Draft Distribution/PI Plan		4	17MAY00	22MAY00	4
BMRDP020	QA/QC Check Prelim Draft SR Distribution/PI Plan		2	23MAY00	24MAY00	4
BMRDP025	Incorp. Author Review Comments-Distr./PI Plan		2	25MAY00	26MAY00	4
BMRDP2M4	Deliver SR Team Review Distribution/PI Plan Draf	M4	0		26MAY00	4
BMRDP035	Incorp. Internal Review Comments-Distr./PI Plan		5	13JUN00	19JUN00	4
BMRDP040	CDP Format Distribution/PI Plan M&O Review Draft		4	20JUN00	23JUN00	4
BMRDP045	QA/QC Check Distribution/ PI Plan		2	26JUN00	27JUN00	4
BMRDP050	Incorporate M&O Review Comments-Distr./PI Plan		2	28JUN00	29JUN00	4
BMRDP065	M&O Incorporate YMSCO Review Comments		4	31JUL00	03AUG00	4
BMRDP070	CDP Format DOE Rvw Draft Distr/PI Plan		4	04AUG00	09AUG00	4
BMRDP080	Incorporate Comments from SR Team		2	14AUG00	15AUG00	4
BMRDP085	M&O Repro Copy & Distribute Didtr./PI Plan		2	16AUG00	17AUG00	4



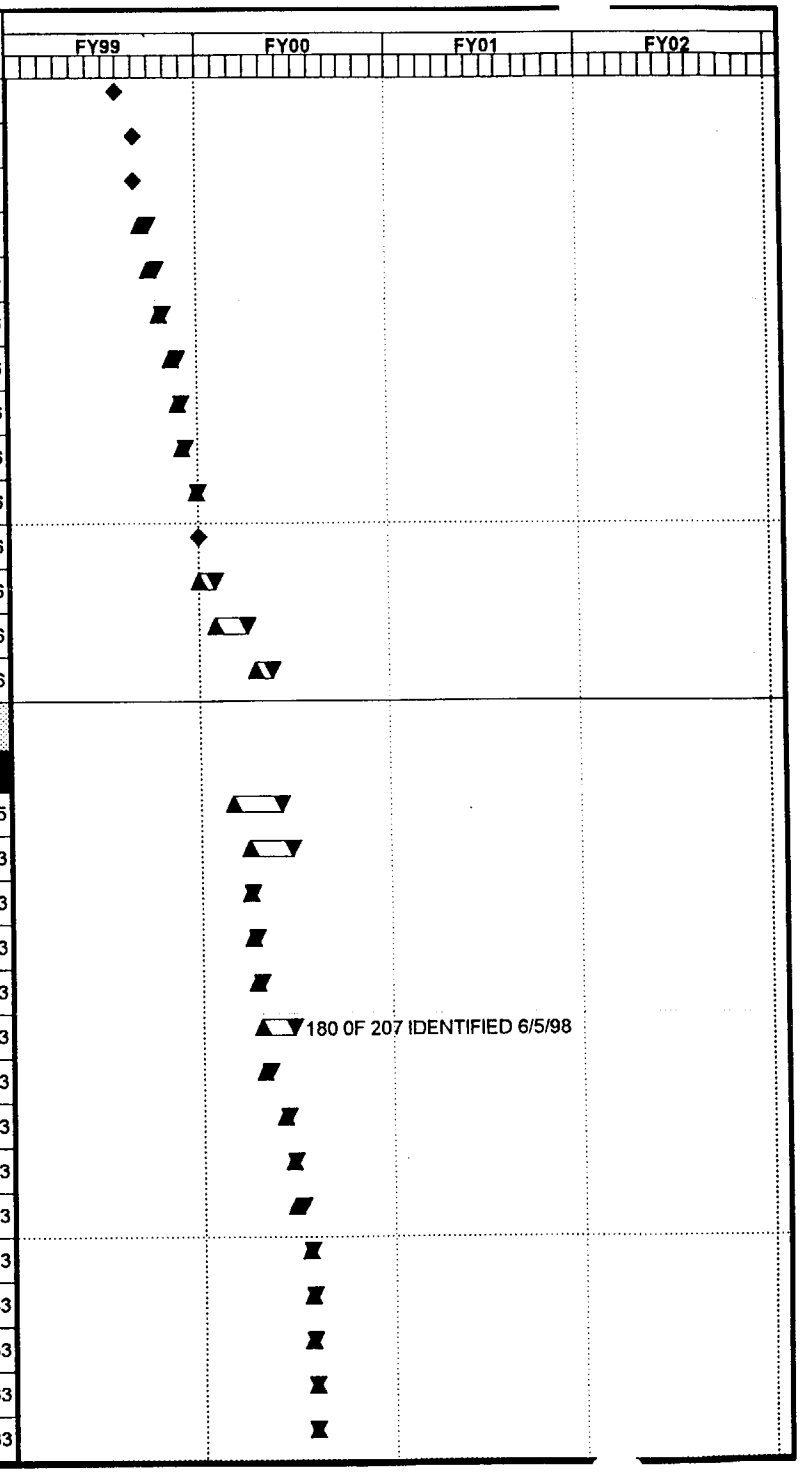
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMRDP100	M&O Incorporate Comments Distr/PI Plan		4	08SEP00	13SEP00	4
BMRDP105	CDP Edit, Type & Format Distr/PI Plan		4	14SEP00	19SEP00	4
BMRDP115	Incorporate Comments & Finalize Distr/PI Plan		2	22SEP00	25SEP00	4
300 Regulatory & Licensing						
SLRDP010	Authors review Draft SR Distribution/PI Plan		10	03MAY00	16MAY00	4
SLRDP030	SR Team Review SR Distribution/PI Plan		10	30MAY00	12JUN00	4
SLRDP3M3	M&O Deliver Draft SR Distribution/PI Plan	M3	0		29JUN00	4
SLRDP055	YMSCO Review Draft Distribution/PI Plan		10	30JUN00	14JUL00	4
SLRDP4M4	YMSCO Complete Review of Draft Distr/PI Plan	M4	0		14JUL00	4
SLRDP060	M&O/YMSCO Comment Resolution- Distr/PI Plan		10	17JUL00	28JUL00	4
SLRDP075	Distr/PI Plan QA/QC by Author/PM/SR Team		2	10AUG00	11AUG00	4
SLRDP5M3	M&O Deliver Draft Distr/PI Plan for Acceptance	M3	0		15AUG00	4
SLRDP090	YMSCO/OCRWM/DOE Tech/Mgmt Rvw-Distr/PI Plan		10	18AUG00	31AUG00	4
SLRDP095	Distr/PI Plan Final Comment Resolution		4	01SEP00	07SEP00	4
SLRDP110	QA by Author/PM/SR Team		2	20SEP00	21SEP00	4
M2DP	YMSCO Approve SR Distribution & PI Plan	P2	0		25SEP00	4
SZ PMR						
140 Natural Environment Program Operations						
SLS452M4	Rec SZ PMR Rev01/SR Consideration Hearing Draft	M4	0		09JUN00	24
SLS454M4	Rec SZ PMR Rev 03 for SR Notification Draft	M4	0		31JAN01	17
TEC PMR Tectonics PMR						
150 Support Operations						
SL282M4	Rec Tectonics PMR Rev00/SR Consid. Hearing Draft	M4	0		28APR00	53
SL286M4	Rec Tectonics PMR Rev 03 f/ SR Notification Drft	M4	0		31JAN01	17
TSPA						
130 Performance Assessment Operations						
M2JG	TSPA-SR Rev 00	M2	0		30SEP98	527
SL934M3	Submit TSPA for SR Update	M3	0		30SEP98	596
SL934M4	Provide TSPA input for SR Update	M4	0		30SEP98	577
300 Regulatory & Licensing						
M1BF	OCRWM Compl.DOE Review & Concur.-State Notif. SR	M1	0		02APR01	1



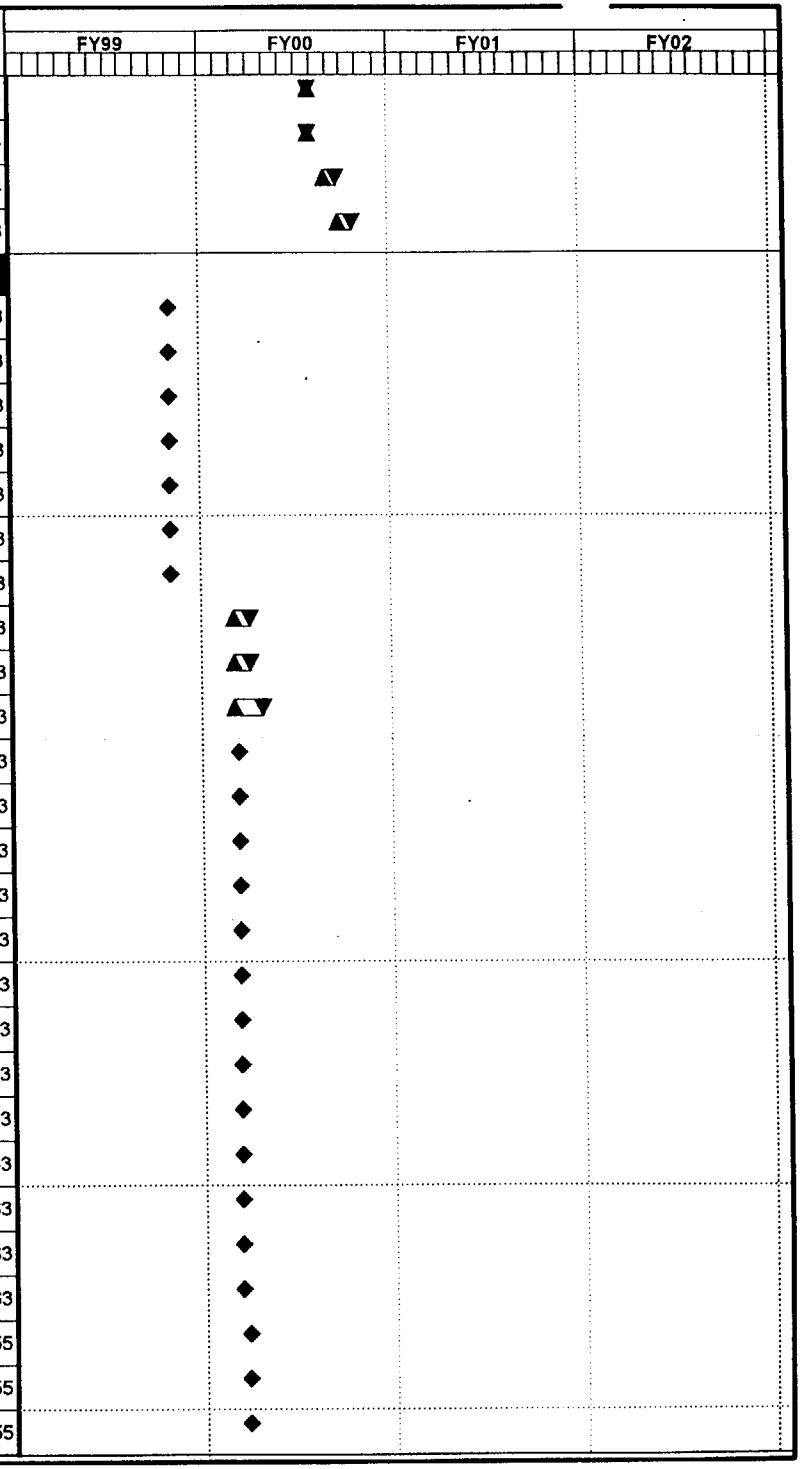
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
UZ PMR						
140 Natural Environment Program Operations						
SLU362M4	Rec UZ PMR Rev01/SR Consideration Hearing Draft	M4	0		28APR00	53
SLU364M4	Rec UZ PMR Rev 03 for SR Notification Draft	M4	0		31JAN01	17
V1S1						
150 Support Operations						
BMR10011	CDP Writing Consultants Support V1S1 Development		118	01APR99	16SEP99	116
BMR10160	Prepare SR V1S1 Graphics for Review Draft		73	29APR99	11AUG99	124
BMR10148	CIM Rvw V1S1 Ref/Fwd Internal Ref List to DC		2	01JUN99	02JUN99	120
BMR10010	CDP Edit, Format SR Prel Draft V1S1		8	03JUN99	14JUN99	106
BMR10105	DC Research SR V1S1 Ref. List for 30.12 Reqmts.		2	03JUN99	04JUN99	120
BMR10140	RPC Rev SR V1S1 Ref Doc Format Electr./Hard Copy		5	07JUN99	11JUN99	120
BMR10150	CIM Locate SR V1S1 Cited References		46	14JUN99	17AUG99	120
BMR10040	Preliminary QC Check of SR V1S1		5	14JUL99	20JUL99	106
BMR10050	CDP Edit, Reformat V1S1		9	28JUL99	09AUG99	106
BMR10051	Preliminary Technical Check SR V1S1/AP-3.11Q		10	10AUG99	23AUG99	106
BMR10070	CDP Final Edit SR V1S1 Approval Draft		10	08SEP99	21SEP99	106
BMR10075	SR V1S1 Pre-Submission QC Check		3	22SEP99	24SEP99	106
BMR10076	Technical Re-Check SR V1S1/AP-3.11Q		3	22SEP99	24SEP99	106
BMR10084	CDP Press Check V1S1 Submission Package		1	29SEP99	29SEP99	106
BMR10085	Repro & Prep SR V1S1 Submission Package		1	29SEP99	29SEP99	106
BMR10086	CDP Book Check SR V1S1 Submission Package		1	30SEP99	30SEP99	106
BMR10087	DC Book Check SR V1S1 Submission Package		1	30SEP99	30SEP99	106
BMR10165	Update/Finalize V1S1 Graphics		30	01NOV99	15DEC99	116
BMSR7125	CDP Finalize SR V1S1 Acceptance Draft		10	03JAN00	14JAN00	106
300 Regulatory & Licensing						
SLR10003	Review & Assemble V1S1 Potential Refs.		20	01APR99	28APR99	142
SLR10004	Identify V1S1 Figures & Tables		20	01APR99	28APR99	124
SLR10005	Write SR V1S1 Preliminary Draft		44	01APR99	02JUN99	106
SLSR54M4	Begin Site Recommendation Vol 1 Preparation	M4	0	01APR99		106
SL1001M4	Author Provide V1S1 Prelim Ref List to CIM	M4	0		28APR99	142



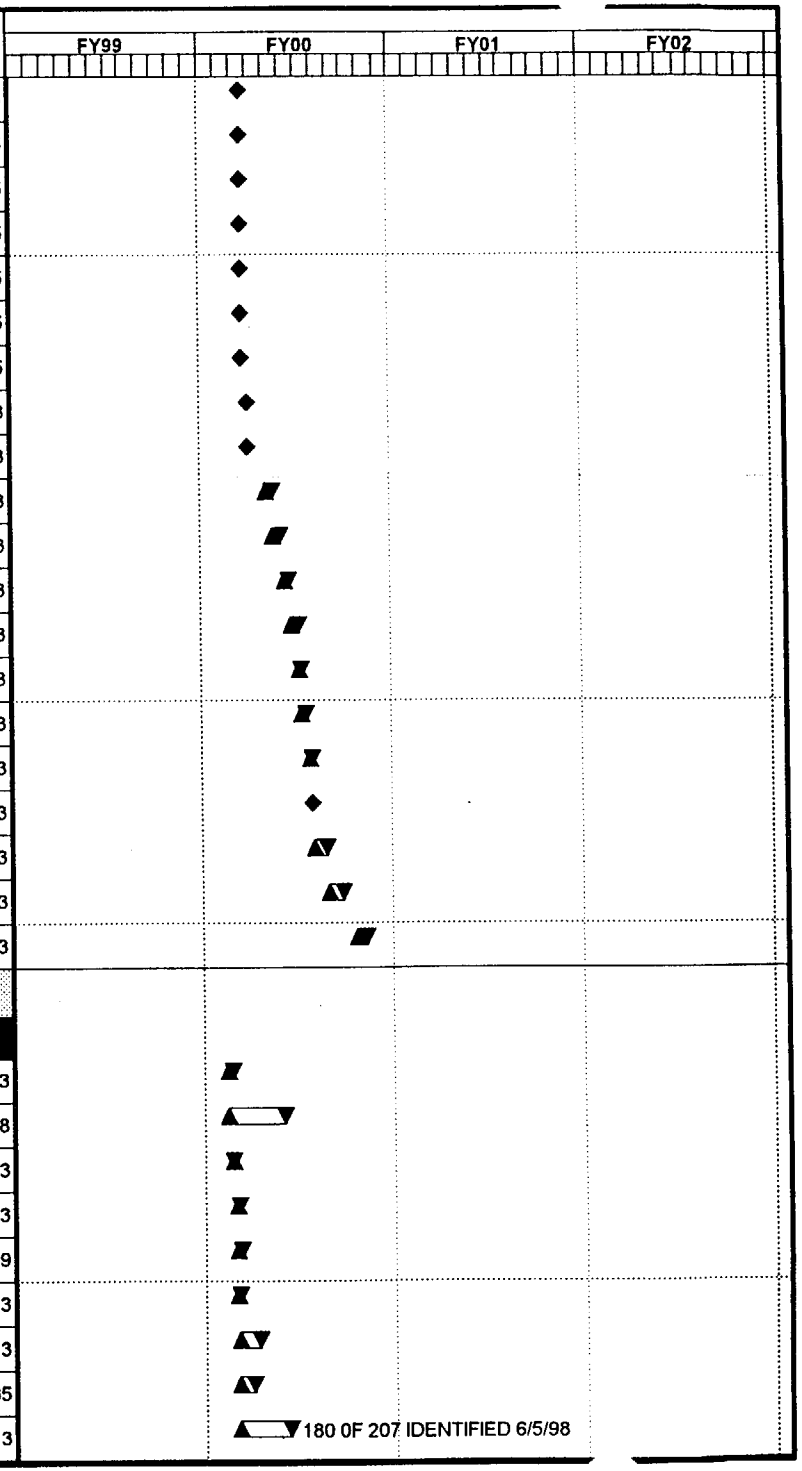
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SL1002M4	Author Transmit V1S1 Graphics Requirements	M4	0		28APR99	124
SL1003M4	Author Provide SR V1S1 Ref List Update to CIM	M4	0		02JUN99	120
SL1004M4	Author Provide SR V1S1 Graphics Req. Update	M4	0		02JUN99	173
SLR10015	M&O SR Team Review V1S1 Prel. Draft		10	15JUN99	28JUN99	106
SLR10020	Incorp. V1S1 SR Team Comments		10	29JUN99	13JUL99	106
SLR10045	Incorporate M&O SR V1S1 QC Check Comments		5	21JUL99	27JUL99	106
SLR10055	M&O/YMSCO SR V1S1 Preliminary Review		10	10AUG99	23AUG99	106
SLR10060	Resolve M&O/YMSCO SR V1S1 Preliminary		5	24AUG99	30AUG99	106
SLR10065	Final Update for SR V1S1 Approval Draft		5	31AUG99	07SEP99	106
SLR10080	SR Team Finalize V1S1 Approval Draft		2	27SEP99	28SEP99	106
SLSR7FM3	Submit Draft SR V1S1 to DOE	M3	0		30SEP99	106
SLSR7110	DOE Review Draft SR V1S1 (Vol 1)		20	01OCT99	29OCT99	106
SLSR7120	Revise & Resolve Comments on Draft SR V1S1		40	01NOV99	30DEC99	106
SLSR7130	DOE Acceptance Review of Draft SR V1S1		21	17JAN00	14FEB00	106
V1S2						
150 Support Operations						
BMR11011	CDP Writing Consultants Support V1S2 Development		63	01DEC99	01MAR00	75
BMR13135	Prepare V1S2 Graphics for Review Draft		56	30DEC99	20MAR00	53
BMR13161	CIM Review V1S2 Ref/Fwd Internal Ref List to DC		2	30DEC99	03JAN00	53
BMR13105	DC Research V1S2 Ref. List for 30.12 Reqmts.		5	04JAN00	10JAN00	53
BMR13145	RPC Rev V1S2 Ref Doc Format Electr./Hard Copy		5	11JAN00	17JAN00	53
BMR13155	CIM Locate V1S2 Cited References		44	18JAN00	20MAR00	53
BMR11010	CDP Edit, Format Prel Draft V1S2		7	25JAN00	02FEB00	33
BMR11040	Preliminary QC Check of SR V1S2		5	03MAR00	09MAR00	33
BMR11050	CDP Edit, Reformat V1S2		2	17MAR00	20MAR00	33
BMR11041	Preliminary Technical Check SR V1S2 per AP-3.11Q		10	21MAR00	03APR00	33
BMR11070	CDP Final Edit V1S2 Approval Draft		2	18APR00	19APR00	33
BMR11075	V1S2 Pre-Submission QC Check		3	20APR00	24APR00	33
BMR11076	Technical Re-Check SR V1S2/AP-3.11Q		3	20APR00	24APR00	33
BMR11071	CDP Press Check V1S2 Submission Package		1	27APR00	27APR00	33
BMR11085	Repro & Prep V1S2 Submission Package		1	27APR00	27APR00	33



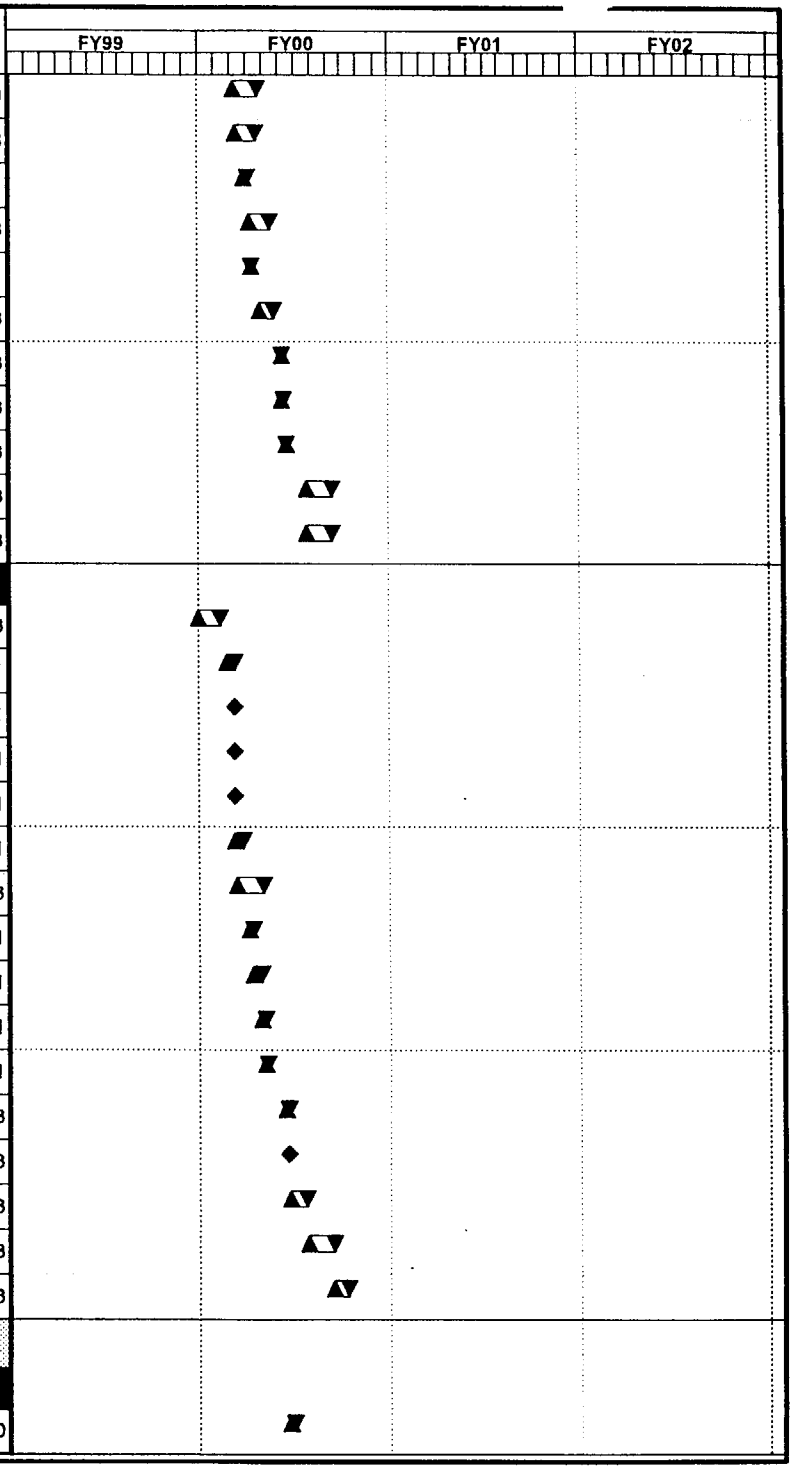
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMR11072	CDP Book Check SR V1S2 Submission Package		1	28APR00	28APR00	33
BMR13116	DC Book Check SR V1S2 Submission Package		1	28APR00	28APR00	33
BMR13140	Update/Finalize V1S2 Graphics		18	30MAY00	22JUN00	54
BMR7025A	CDP Finalize SR V1S2 Acceptance Draft		19	26JUN00	21JUL00	53
300 Regulatory & Licensing						
SLSS06M4	Rec SS Electrical Distr. Sys DBE/Class Analysis	M4	0		03AUG99	113
SLSS15M4	Rec Muck Handling System Class Analysis	M4	0		03AUG99	113
SLSS16M4	Rec Subsurface Development Class Analysis	M4	0		03AUG99	113
SLSS24M4	Rec Subsurface Emplacement Class Analysis	M4	0		03AUG99	113
SLSS25M4	Rec Subsurface Excavation System DBE Analy.	M4	0		03AUG99	113
SLSU42M4	Rec Site Communications System Class Analysis	M4	0		03AUG99	113
SLSU52M4	*Rec Central C&C Ops. System DBE Analysis	M4	0		03AUG99	113
SLR11003	Review & Assemble V1S2 Potential Refs.		20	01DEC99	29DEC99	53
SLR11004	Identify V1S2 Figures & Tables		20	01DEC99	29DEC99	53
SLR11005	Write V1S2 Preliminary Draft		37	01DEC99*	24JAN00	33
SLPA01M4	Rec PC Waste Ver/Val. System SDD Sec 1	M4	0		09DEC99	63
SLSS08M4	Rec Subsurface Compressed Air System SDD Sec 1	M4	0		09DEC99	63
SLSS09M4	Rec SS Water Distribution System SDD Sec 1	M4	0		09DEC99	63
SLSS18M4	Rec Backfill Emplacement System SDD Sec 1	M4	0		09DEC99	63
SLSS20M4	Rec Subsurface Water SDD Sec 1	M4	0		09DEC99	63
SLSS26M4	Rec SS Fire Protection System SDD Sec 1	M4	0		09DEC99	63
SLSU01M4	Rec MGR Site Layout SDD Sec 1	M4	0		09DEC99	63
SLSU02M4	*Rec Waste Handling Building System SDD Sec 1	M4	0		09DEC99	63
SLSU29M4	Rec Site Rad Monitoring System SDD Sec 1	M4	0		09DEC99	63
SLSU40M4	Rec Emergency Response System SDD Sec 1	M4	0		09DEC99	63
SLSU48M4	Rec Safeguards & Security System SDD Sec 1	M4	0		09DEC99	63
SLSU55M4	Rec Performance Confirmation Data SDD Sec 1	M4	0		09DEC99	63
SLSU57M4	Rec Pool Water Treatment & Cooling Sys SDD Sec 1	M4	0		09DEC99	63
SLSS01M4	Receive Subsurface Facility System SDD Sec 2	M4	0		21DEC99	55
SLSS02M4	Receive Ex-Container Systems SDD Sec 2	M4	0		21DEC99	55
SLSS03M4	Receive Ground Control System SDD Sec 2	M4	0		21DEC99	55



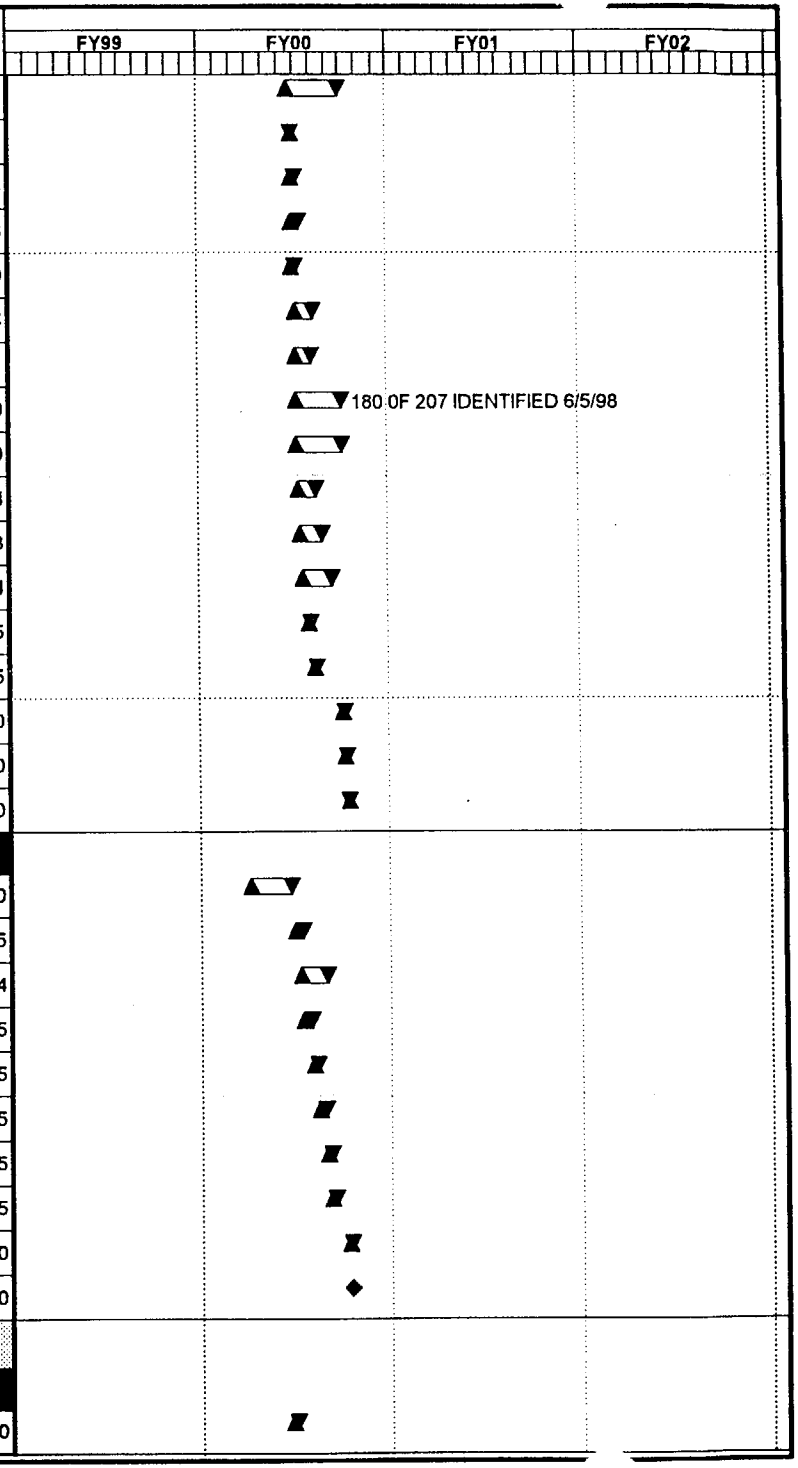
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLSS05M4	Receive SS Ventilation System SDD Sec 2	M4	0		21DEC99	55
SLSS10M4	Receive SS Safety & Monitoring System SDD Sec 2	M4	0		21DEC99	55
SLSS12M4	Rec SS Ops Monitoring & Control System SDD Sec 2	M4	0		21DEC99	55
SLSS14M4	Rec. PC Emplacement Drift Monitor Sys. SDD Sec 2	M4	0		21DEC99	55
SLSS17M4	Rec Waste Emplacement System SDD Sec 2	M4	0		21DEC99	55
SLSS19M4	Rec SS Closure & Seal System SDD Sec 2	M4	0		21DEC99	55
SLSS21M4	Rec Waste Retrieval System SDD Sec 2	M4	0		21DEC99	55
SL1005M4	Author Provide V1S2 Prelim Ref List to CIM	M4	0		29DEC99	53
SL1006M4	Author Transmit V1S2 Graphics Requirements	M4	0		29DEC99	53
SLR11015	M&O SR Team Review V1S2 Prel. Draft		10	03FEB00	16FEB00	33
SLR11020	Incorp. V1S2 SR Team Comments		10	17FEB00	02MAR00	33
SLR11045	Incorporate M&O V1S2 QC Check Comments		5	10MAR00	16MAR00	33
SLR11055	M&O/YMSCO V1S2 Preliminary Review		10	21MAR00	03APR00	33
SLR11060	Resolve M&O/YMSCO V1S2 Preliminary Comments		5	04APR00	10APR00	33
SLR11065	Final Update for V1S2 Approval Draft		5	11APR00	17APR00	33
SLR11080	SR Team Finalize V1S2 Approval Draft		2	25APR00	26APR00	33
SLSR7DM3	Submit Draft SR V1S2 to DOE	M3	0		28APR00	33
SLSR7020A	DOE Review Draft SR V1S2		20	01MAY00	26MAY00	33
SLSR7025A	Resolve Comments/Revise Draft SR V1S2		19	30MAY00	23JUN00	53
SLSR7140	DOE Acceptance Review of Draft SR V1S2		14	24JUL00	10AUG00	53
V1S3						
150 Support Operations						
BMR12010	CDP Edit, Format Prel Draft V1S3		7	15NOV99	23NOV99	3
BMR14135	Prepare V1S3 Graphics for Review Draft		72	15NOV99	29FEB00	8
BMR14100	CDP Extract V1S3 Ref List for RPC/TIC/WBIS		1	24NOV99	24NOV99	3
BMR14105	DC Research V1S3 Ref. List for 30.12 Reqmts.		5	29NOV99	03DEC99	13
BMR14125	CIM Review V1S3 Ref List for Doc Availability		8	29NOV99	08DEC99	19
BMR14145	RPC Rev V1S3 Ref Doc Format Electr./Hard Copy		5	29NOV99	03DEC99	3
BMR14110	Retrieve V1S3 Refs. for 30.12 Rvw Pkgs		25	06DEC99	11JAN00	13
BMR14150	Scan V1S3 Ref Doc Hard Copies (As Needed)		17	06DEC99	29DEC99	35
BMR14155	CIM Locate V1S3 Cited References		64	06DEC99	07MAR00	3



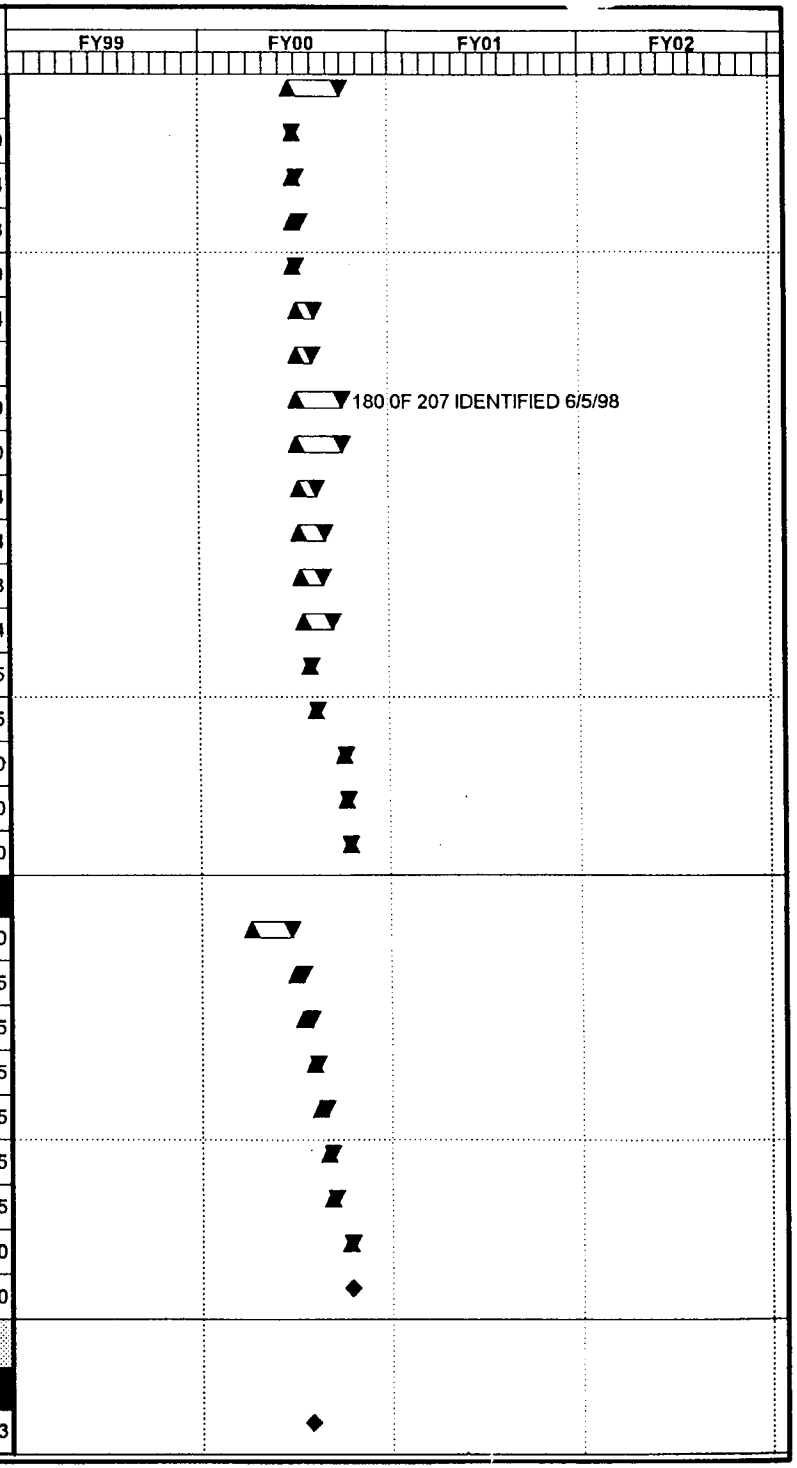
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMR14130	CIM Procure V1S3 Ref Documents (As Needed)		30	09DEC99	21JAN00	19
BMR14115	DC Prepare V1S3 Refs 30.12 Review Packages		25	13DEC99	18JAN00	13
BMR12040	Preliminary QC Check of SR V1S3		5	27DEC99	03JAN00	21
BMR14160	CIM Furnish V1S3 Ref Doc for WBIS		27	07JAN00	14FEB00	13
BMR12050	CDP Edit, Reformat V1S3		2	11JAN00	12JAN00	21
BMR14165	Incorporate V1S3 Ref Docs in WBIS		19	26JAN00	22FEB00	13
BMR12070	CDP Final Edit V1S3 Approval Draft		2	08MAR00	09MAR00	3
BMR12075	V1S3 Pre-Submission QC Check		3	10MAR00	14MAR00	3
BMR12085	Repro & Prep V1S3 Submission Package		1	17MAR00	17MAR00	3
BMR14140	Update/Finalize V1S3 Graphics		36	24APR00	13JUN00	3
BMSR7155	CDP Support SR V1S3 Acceptance Draft		36	24APR00	13JUN00	3
300 Regulatory & Licensing						
SLR12005	Write V1S3 Preliminary Draft		29	01OCT99*	12NOV99	3
SLR12015	M&O SR Team Review V1S3 Prel. Draft		10	24NOV99	09DEC99	21
SLWP01M4	Rec Uncanistered SNF Disp. Container SDD Sec 1	M4	0		09DEC99	21
SLWP03M4	Receive DHLW Disposal Container SDD Sec 1	M4	0		09DEC99	21
SLWP09M4	Receive Navy Fuel Disposal Container SDD Sec 1	M4	0		09DEC99	21
SLR12020	Incorp. V1S3 SR Team Comments		10	10DEC99	23DEC99	21
SLR14120	YMSCO Conduct V1S3 Ref 30.12 Review as needed		34	13DEC99	31JAN00	13
SLR12045	Incorporate M&O V1S3 QC Check Comments		5	04JAN00	10JAN00	21
SLR12055	M&O/YMSCO V1S3 Preliminary Review		10	13JAN00	26JAN00	21
SLR12060	Resolve M&O/YMSCO V1S3 Preliminary Comments		5	27JAN00	02FEB00	21
SLR12065	Final Update for V1S3 Approval Draft		5	03FEB00	09FEB00	21
SLR12080	SR Team Finalize V1S3 Approval Draft		2	15MAR00	16MAR00	3
SLSR7CM3	Submit Draft SR V1S3 to DOE	M3	0		17MAR00	3
SLSR7020	DOE Review Draft SR V1S3		25	20MAR00	21APR00	3
SLSR7150	Resolve Comments/Revise Draft SR V1S3		36	24APR00	13JUN00	3
SLSR7160	DOE Acceptance Review SR Draft V1S3		19	14JUN00	11JUL00	3
V1S4.1						
150 Support Operations						
BMR13010	CDP Edit, Format Prel Draft V1S4.1		7	21MAR00	29MAR00	0



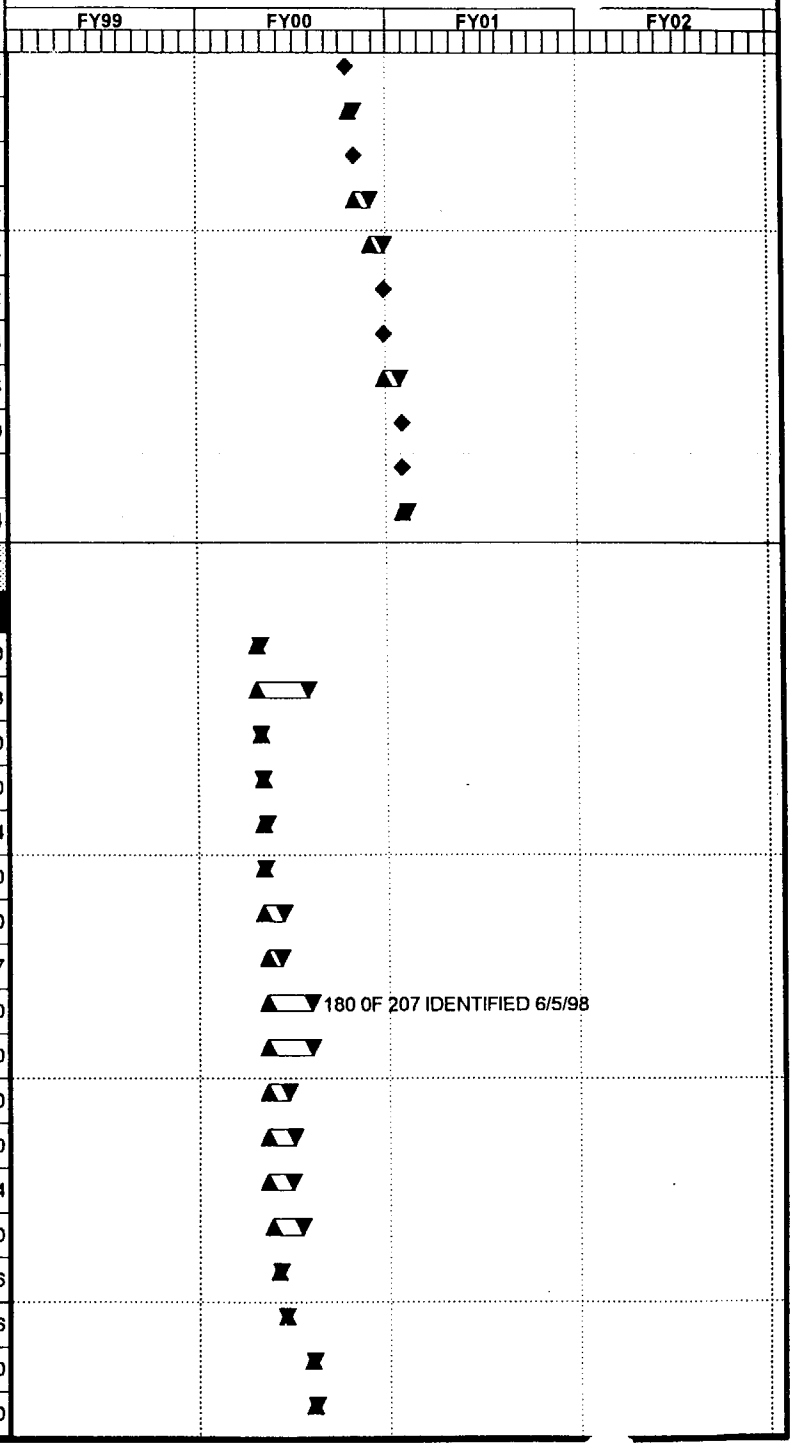
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMR15135	Prepare V1S4.1 Graphics for Review Draft		73	21MAR00	30JUN00	1
BMR15100	CDP Extract V1S4.1 Ref List for RPC/TIC/WBIS		1	30MAR00	30MAR00	0
BMR15105	DC Research V1S4.1 Ref. List for 30.12 Reqmt.		2	31MAR00	03APR00	14
BMR15125	CIM Rvw V1S4.1 Ref List for Doc Availability		8	31MAR00	11APR00	18
BMR15145	RPC Rev V1S4.1 Ref Doc Format Electr/Hard Cop		5	31MAR00	06APR00	0
BMR15110	Retrieve V1S4.1 Refs. for 30.12 Rvw Pkgs		25	04APR00	08MAY00	14
BMR15150	Scan V1S4.1 Ref Doc Hard Copies (As Needed)		20	07APR00	04MAY00	31
BMR15155	CIM Locate V1S4.1 Cited References		61	07APR00	03JUL00	0
BMR15165	Incorporate V1S4.1 Ref Docs in WBIS		61	07APR00	03JUL00	0
BMR15115	DC Prepare V1S4.1 Refs 30.12 Review Packages		25	11APR00	15MAY00	14
BMR15130	CIM Procure V1S4.1 Ref Documents (As Needed)		30	12APR00	23MAY00	18
BMR15160	CIM Furnish V1S4.1 Ref Doc for WBIS		40	18APR00	13JUN00	14
BMR13055	Preliminary QC Check of SR V1S4.1		5	27APR00	03MAY00	15
BMR13050	CDP Edit, Reformat V1S4.1		2	11MAY00	12MAY00	15
BMR13070	CDP Final Edit V1S4.1 Approval Draft		2	05JUL00	06JUL00	0
BMR13075	V1S4.1 Pre-Submission QC Check		3	07JUL00	11JUL00	0
BMR13085	Repro & Prep V1S4.1 Submission Package		1	14JUL00	14JUL00	0
300 Regulatory & Licensing						
SLR13005	Write V1S4.1 Preliminary Draft		55	03JAN00*	20MAR00	0
SLR13015	M&O SR Team Review V1S4.1 Prel. Draft		10	30MAR00	12APR00	15
SLR15120	YMSCO Conduct V1S4.1 Ref 30.12 Rvw as needed		35	11APR00	30MAY00	14
SLR13020	Incorp. V1S4.1 SR Team Comments		10	13APR00	26APR00	15
SLR13045	Incorporate M& O V1S4.1 QC Check Comments		5	04MAY00	10MAY00	15
SLR13055	M&O/YMSCO V1S4.1 Preliminary Review		10	15MAY00	26MAY00	15
SLR13060	Resolve M&O/YMSCO V1S4.1 Preliminary Comments		5	30MAY00	05JUN00	15
SLR13065	Final Update for V1S4.1 Approval Draft		5	06JUN00	12JUN00	15
SLR13080	SR Team Finalize V1S4.1 Approval Draft		2	12JUL00	13JUL00	0
SLBR13M4	Complete SR V1S4.1 f/DOE Review	M4	0		14JUL00	0
V1S4.2						
150 Support Operations						
BMR15175	CDP Edit, Format Prel Draft V1S4.1		7	21MAR00	29MAR00	0



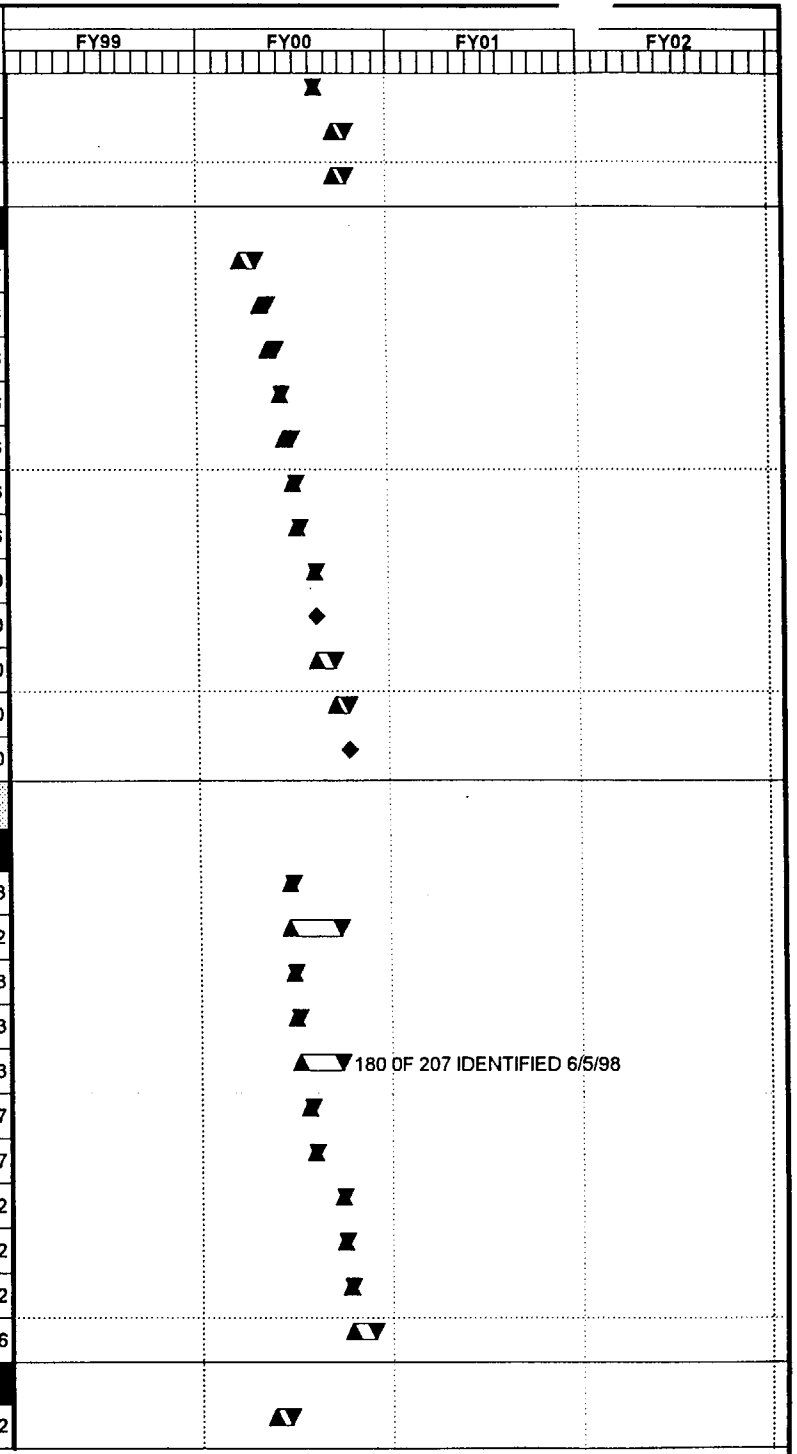
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMR15295	Prepare V1S4.2 Graphics for Review Draft		73	21MAR00	30JUN00	1
BMR15255	CDP Extract V1S4.2 Ref List for RPC/TIC/WBIS		1	30MAR00	30MAR00	0
BMR15260	DC Research V1S4.2 Ref. List for 30.12 Reqmts		2	31MAR00	03APR00	14
BMR15285	CIM Rvw V1S4.2 Ref List for Doc Availability		8	31MAR00	11APR00	18
BMR15300	RPC Rev V1S4.2 Ref Doc Format Electr/Hard Cop		5	31MAR00	06APR00	0
BMR15265	Retrieve V1S4.2 Refs. for 30.12 Rvw Pkgs		25	04APR00	08MAY00	14
BMR15305	Scan V1S4.2 Ref Doc Hard Copies (As Needed)		20	07APR00	04MAY00	31
BMR15310	CIM Locate V1S4.2 Cited References		61	07APR00	03JUL00	0
BMR15320	Incorporate V1S4.2 Ref Docs in WBIS		61	07APR00	03JUL00	0
BMR15270	DC Prepare V1S4.2 Refs 30.12 Review Packages		25	11APR00	15MAY00	14
BMR15275	YMSCO Conduct V1S4.2 Ref 30.12 Rvw as needed		35	11APR00	30MAY00	14
BMR15290	CIM Procure V1S4.2 Ref Documents (As Needed)		30	12APR00	23MAY00	18
BMR15315	CIM Furnish V1S4.2 Ref Doc for WBIS		40	18APR00	13JUN00	14
BMR15205	Preliminary QC Check of SR V1S4.2		5	27APR00	03MAY00	15
BMR15215	CDP Edit, Reformat V1S4.2		2	11MAY00	12MAY00	15
BMR15235	CDP Final Edit V1S4.2 Approval Draft		2	05JUL00	06JUL00	0
BMR15240	V1S4.2 Pre-Submission QC Check		3	07JUL00	11JUL00	0
BMR15250	Repro & Prep V1S4.2 Submission Package		1	14JUL00	14JUL00	0
300 Regulatory & Licensing						
SLR15170	Write V1S4.2 Preliminary Draft		55	03JAN00*	20MAR00	0
SLR15180	M&O SR Team Review V1S4.2 Prel. Draft		10	30MAR00	12APR00	15
SLR15185	Incorp. V1S4.2 SR Team Comments		10	13APR00	26APR00	15
SLR15210	Incorporate M& V1S4.2 QC Check Comments		5	04MAY00	10MAY00	15
SLR15220	M&O/YMSCO V1S4.2 Preliminary Review		10	15MAY00	26MAY00	15
SLR15225	Resolve M&O/YMSCO V1S4.2 Preliminary Comments		5	30MAY00	05JUN00	15
SLR15230	Final Update for V1S4.2 Approval Draft		5	06JUN00	12JUN00	15
SLR15245	SR Team Finalize V1S4.2 Approval Draft		2	12JUL00	13JUL00	0
SLSR7XM4	Complete SR V1S4.2 f/DOE Review	M4	0		14JUL00	0
V1SCHD						
300 Regulatory & Licensing						
SLSR7BM4	Receive Draft TSPA for SR Draft	M4	0		28APR00	53



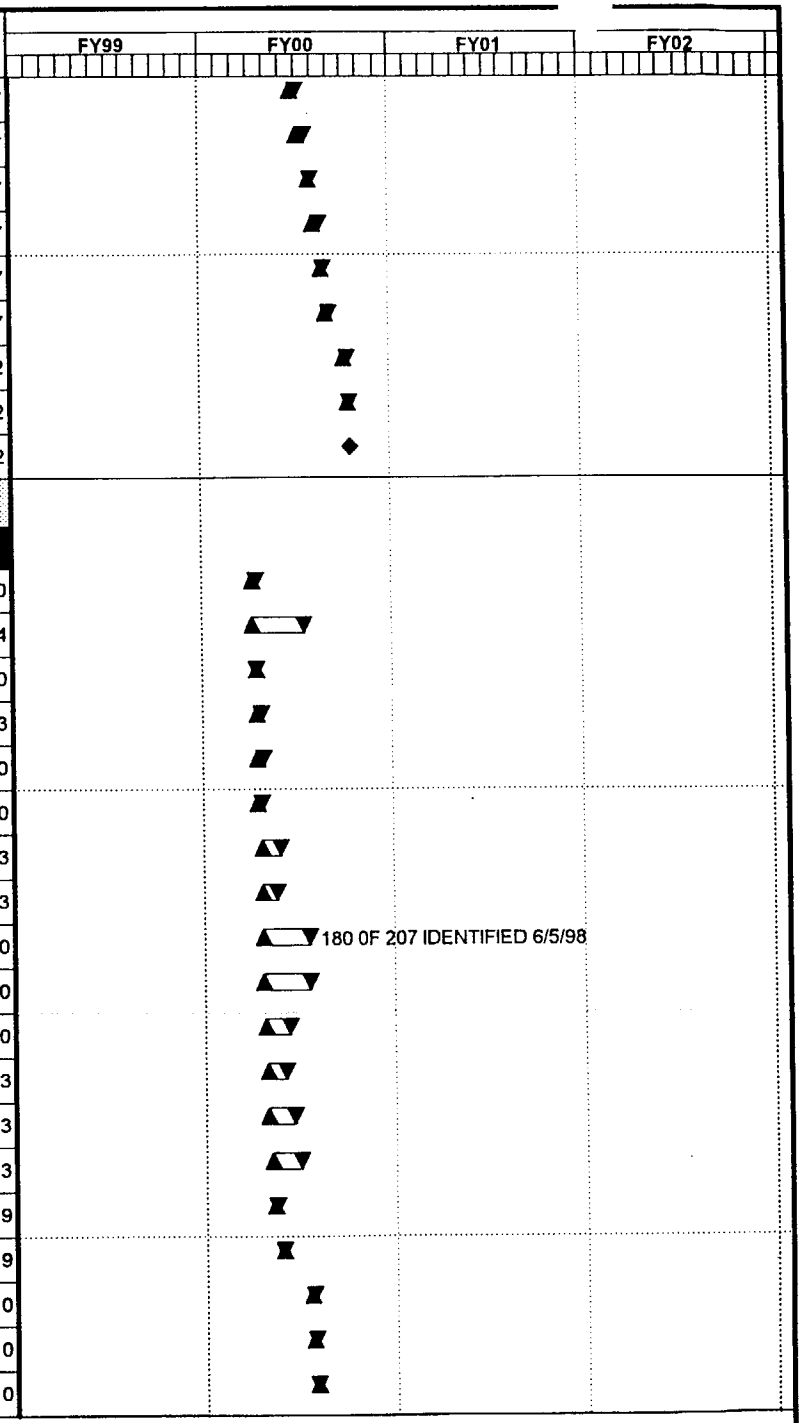
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLSR7EM3	Submit SR Consideration Hearings Draft to DOE	M3	0		14JUL00*	0
SLSR7020B	DOE Acceptance Review Draft SR Vol 1		11	17JUL00	31JUL00	4
M2NL	YMSCO Submits Consideration Hearing Draft SR	M2	0		31JUL00	61
SLSR7170	Resolve Comments/Revise Draft SR Vol 1		20	01AUG00	28AUG00	4
SLSR7180	DOE Acceptance Review of Draft SR Vol 1		19	29AUG00	25SEP00	4
SLM2JTM3	Complete DOE Concurrence Review Draft SR Vol 1	M3	0		25SEP00	22
SLSR7AM3	Complete OCRWM Concurrence Draft SR Vol 1	M3	0		25SEP00	4
SLSR7040	DOE Concurrence Review of SR Product Vol 1 & 2		20	26SEP00	24OCT00	4
M1NX	OCRWM Cmpl.DOE Rev.& Concur.Consid.Hear.Draft SR	M1	0		30OCT00	0
SLSR7FM4	Receive TSPA - SR Draft Input	M4	0		31OCT00	21
SLTR245B	DOE X-1 Concur on SR Consideration Hearing Draft		8	31OCT00	09NOV00	14
V2S1						
150 Support Operations						
BMR21010	CDP Edit, Format Prel Draft V2S1		7	19JAN00	27JAN00	0
BMR21135	Prepare V2S1 Graphics for Review Draft		72	19JAN00	28APR00	3
BMR21100	CDP Extract V2S1 Ref List for RPC/TIC/WBIS		1	28JAN00	28JAN00	0
BMR21105	DC Research V2S1 Ref. List for 30.12 Reqmts.		2	31JAN00	01FEB00	10
BMR21125	CIM Review V2S1 Ref List for Doc Availability		8	31JAN00	09FEB00	14
BMR21145	RPC Rev V2S1 Ref Doc Format Electr./Hard Copy		5	31JAN00	04FEB00	0
BMR21110	Retrieve V2S1 Refs. for 30.12 Rvw Pkgs		25	02FEB00	08MAR00	10
BMR21150	Scan V2S1 Ref Doc Hard Copies (As Needed)		20	07FEB00	06MAR00	27
BMR21155	CIM Locate V2S1 Cited References		62	07FEB00	03MAY00	0
BMR21165	Incorporate V2S1 Ref Docs in WBIS		62	07FEB00	03MAY00	0
BMR21115	DC Prepare V2S1 Refs 30.12 Review Packages		25	09FEB00	15MAR00	10
BMR21120	YMSCO Conduct V2S1 Ref 30.12 Review as needed		35	09FEB00	29MAR00	10
BMR21130	CIM Procure V2S1 Ref Documents (As Needed)		30	10FEB00	23MAR00	14
BMR21160	CIM Furnish V2S1 Ref Doc for WBIS		40	16FEB00	12APR00	10
BMR21040	Preliminary QC Check of SR V2S1		5	28FEB00	03MAR00	16
BMR21050	CDP Edit, Reformat V2S1		2	13MAR00	14MAR00	16
BMR21070	CDP Final Edit V2S1 Approval Draft		2	04MAY00	05MAY00	0
BMR21075	V2S1 Pre-Submission QC Check		3	08MAY00	10MAY00	0



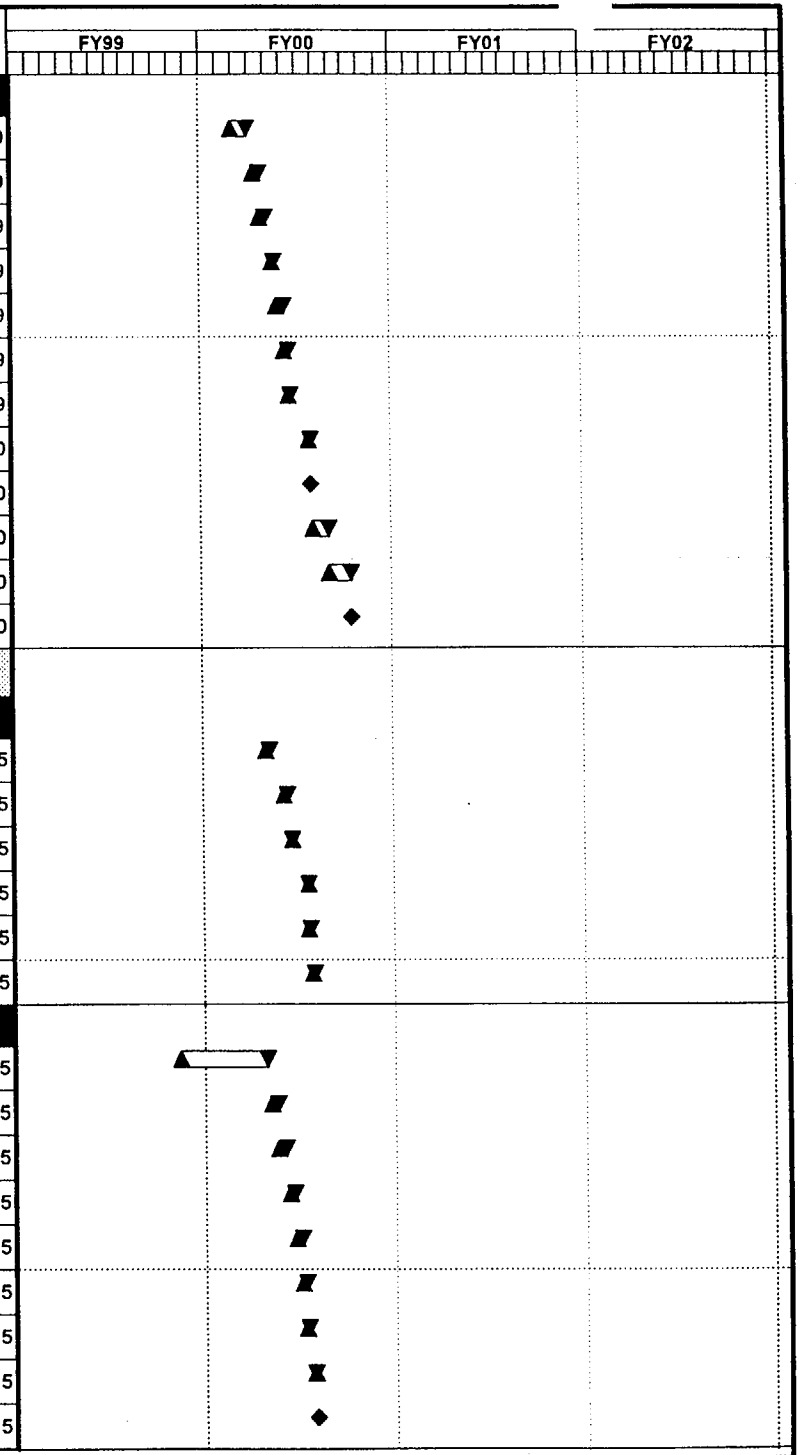
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMR21085	Repro & Prep V2S1 Submission Package		1	15MAY00	15MAY00	0
BMR21140	Update/Finalize V2S1 Graphics		18	16JUN00	12JUL00	2
BMSR6825	CDP Support SR V2S1 Acceptance Draft		18	16JUN00	12JUL00	2
300 Regulatory & Licensing						
SLR21005	Write V2S1 Preliminary Draft		20	20DEC99*	18JAN00	0
SLR21015	M&O SR Team Review V2S1 Prel. Draft		10	28JAN00	10FEB00	16
SLR21020	Incorp. V2S1 SR Team Comments		10	11FEB00	25FEB00	16
SLR21045	Incorporate M&O V2S1 QC Check Comments		5	06MAR00	10MAR00	16
SLR21055	M&O/YMSCO V2S1Preliminary Review		10	15MAR00	28MAR00	16
SLR21060	Resolve M&O/YMSCO V2S1 Preliminary Comments		5	29MAR00	04APR00	16
SLR21065	Final Update for V2S1 Approval Draft		5	05APR00	11APR00	16
SLR21080	SR Team Finalize V2S1 Approval Draft		2	11MAY00	12MAY00	0
SLSR68M3	Submit V2S1 Prelim Draft f/ DOE Rvw	M3	0		15MAY00	0
SLSR6810	DOE Rvw V2S1 Introduction		22	16MAY00	15JUN00	0
SLSR6820	Finalize V2S1 Introduction		20	16JUN00	14JUL00	0
SLSR68M4	Complete Final V2S1 Introduction	M4	0		14JUL00	0
V2S2						
150 Support Operations						
BMSR2210	CDP Edit, Format Prel Draft V2S2		7	16MAR00	24MAR00	3
BMSR2215	Prepare V2S2 Graphics - Review Draft		72	16MAR00	26JUN00	2
BMSR2225	CDP Extract V2S2Ref List for RPC/TIC/WBIS		1	27MAR00	27MAR00	3
BMSR2240	RPC Rev V2S2 Ref Doc Format Electr./Hard Copy		5	28MAR00	03APR00	3
BMSR2255	CIM Locate V2S2 Cited References		58	04APR00	23JUN00	3
BMSR2305	Preliminary QC Check of SR V2S2		5	20APR00	26APR00	17
BMSR2315	CDP Edit, Reformat V2S2		2	04MAY00	05MAY00	17
BMSR2335	CDP Final Edit V2S2 Approval Draft		2	27JUN00	28JUN00	2
BMSR2340	V2S2 Pre-Submission QC Check		3	29JUN00	03JUL00	2
BMSR2355	Repro & Prep V2S2 Submission Package		1	12JUL00	12JUL00	2
BMSR2370	Update/Finalize V2S2 Graphics		31	13JUL00	24AUG00	6
300 Regulatory & Licensing						
SLSR2205	Write V2S2 Preliminary Draft		20	16FEB00*	15MAR00	2



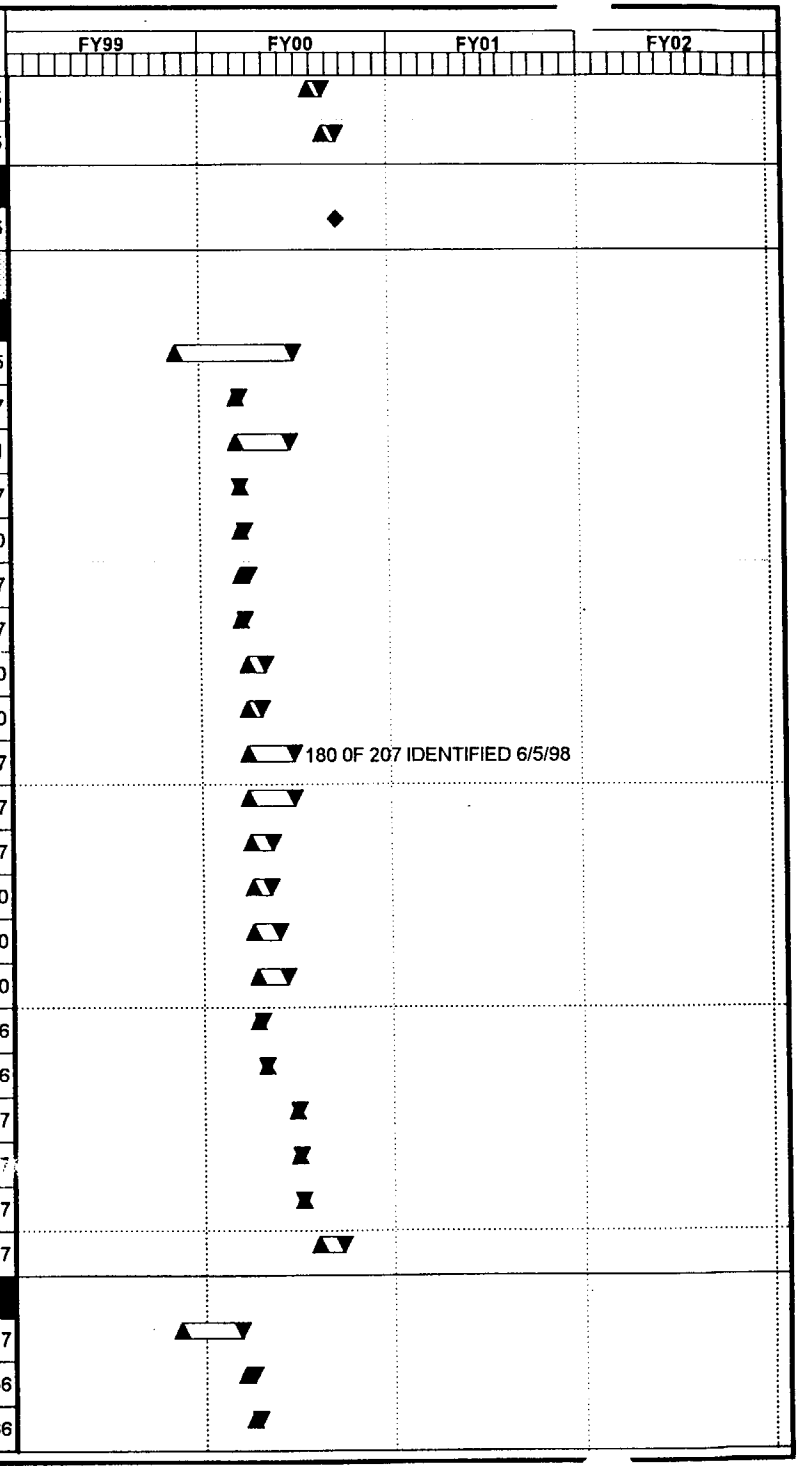
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLSR2220	M&O SR Team Review V2S2Prel. Draft		9	27MAR00	06APR00	17
SLSR2265	Incorp. V2S2 SR Team Comments		9	07APR00	19APR00	17
SLSR2310	Incorporate M&O V2S2 QC Check Comments		5	27APR00	03MAY00	17
SLSR2320	M&O/YMSCO V2S2 Preliminary Review		10	08MAY00	19MAY00	17
SLSR2325	Resolve M&O/YMSCO V2S2 Preliminary Comments		5	22MAY00	26MAY00	17
SLSR2330	Final Update for V2S2 Approval Draft		5	30MAY00	05JUN00	17
SLSR2345	SR Team Finalize V2S2 Approval Draft		5	05JUL00	11JUL00	2
SLSR2350	Complete V2S2 Prelim. Draft for DOE Review		1	12JUL00	12JUL00	2
SLSR6CM4	Complete V2S2 Post-CI. Eval Draft f/ DOE Review	M4	0		12JUL00	2
V2S3.1						
150 Support Operations						
BMR22010	CDP Edit, Format Prel Draft V2S3.1		7	03JAN00	11JAN00	0
BMR22135	Prepare SV2S3.1Graphics for Review Draft		72	03JAN00	12APR00	4
BMR22100	CDP Extract V2S3.1 Ref List for RPC/TIC/WBIS		1	12JAN00	12JAN00	0
BMR22105	DC Research V2S3.1 Ref. List for 30.12 Reqmts.		5	13JAN00	19JAN00	3
BMR22125	CIM Review V2S3.1 Ref List for Doc Availability		8	13JAN00	24JAN00	10
BMR22145	RPC Rev V2S3.1Ref Doc Format Electr./Hard Copy		5	13JAN00	19JAN00	0
BMR22110	Retrieve V2S3.1 Refs. for 30.12 Rvw Pkgs		25	20JAN00	24FEB00	3
BMR22150	Scan V2S3.1Ref Doc Hard Copies (As Needed)		20	20JAN00	16FEB00	23
BMR22155	CIM Locate V2S3.1 Cited References		63	20JAN00	18APR00	0
BMR22165	Incorporate V2S3.1 Ref Docs in WBIS		63	20JAN00	18APR00	0
BMR22130	CIM Procure V2S3.1 Ref Documents (As Needed)		30	25JAN00	07MAR00	10
BMR22115	DC Prepare V2S3.1 Refs 30.12 Review Packages		25	27JAN00	02MAR00	3
BMR22120	YMSCO Conduct V2S3.1 Ref 30.12 Review as needed		35	27JAN00	16MAR00	3
BMR22160	CIM Furnish V2S3.1 Ref Doc for WBIS		40	03FEB00	30MAR00	3
BMR22040	Preliminary QC Check of SR V2S3.1		5	07FEB00	11FEB00	19
BMR22050	CDP Edit, Reformat V2S3.1		2	22FEB00	23FEB00	19
BMR22070	CDP Final Edit V2S3.1 Approval Draft		2	19APR00	20APR00	0
BMR22075	V2S3.1 Pre-Submission QC Check		3	21APR00	25APR00	0
BMR22085	Repro & Prep V2S3.1 Submission Package		1	28APR00	28APR00	0



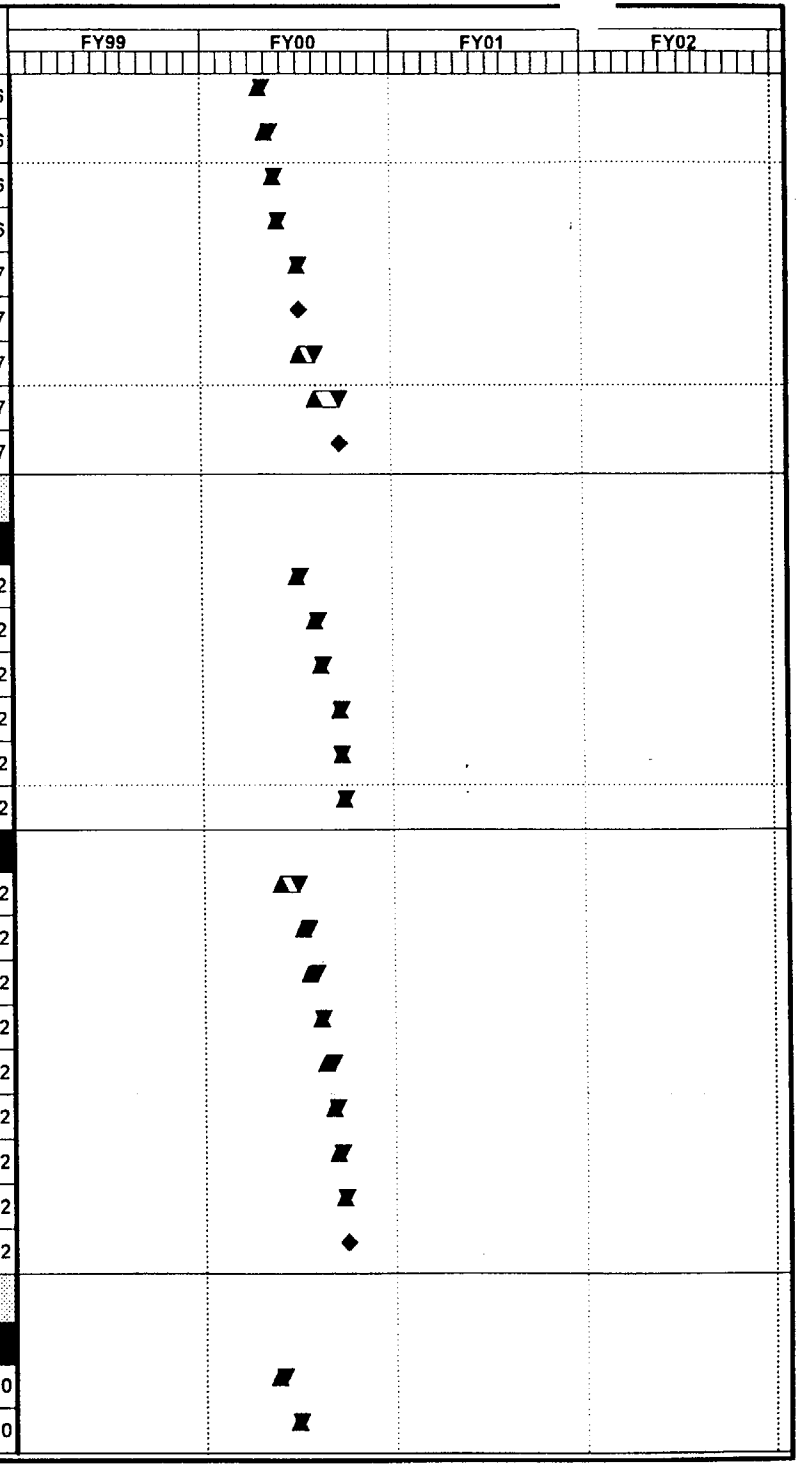
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
300 Regulatory & Licensing						
SLR22005	Write V2S3.1 Preliminary Draft		21	01DEC99*	30DEC99	0
SLR22015	M&O SR Team Review V2S3.1Prel. Draft		9	12JAN00	24JAN00	19
SLR22020	Incorp. V2S3.1 SR Team Comments		9	25JAN00	04FEB00	19
SLR22045	Incorporate M&O V2S3.1 QC Check Comments		5	14FEB00	18FEB00	19
SLR22055	M&O/YMSCO V2S3.1 Preliminary Review		10	24FEB00	08MAR00	19
SLR22060	Resolve M&O/YMSCO V2S3.1 Preliminary Comments		5	09MAR00	15MAR00	19
SLR22065	Final Update for V2S3.1 Approval Draft		5	16MAR00	22MAR00	19
SLR22080	SR Team Finalize V2S3.1 Approval Draft		2	26APR00	27APR00	0
SLSR6AM3	Submit V2S3.1 Prelim. Draft f/ DOE Review	M3	0		28APR00	0
SLSR6025	DOE Review V2S3.1 Precl. Evaluation		22	01MAY00	31MAY00	0
SLSR6030	Finalize V2S3.1 Preclosure Evaluation		31	01JUN00	14JUL00	0
SLSR6BM4	Complete Final V2S3.1 Preclosure Evaluation	M4	0		14JUL00	0
V2S3.2						
150 Support Operations						
BMR22175	CDP Edit, Format Prel Draft V2S3.2		7	26JAN00	03FEB00	15
BMR22205	Preliminary QC Check of SR V2S3.2		5	02MAR00	08MAR00	15
BMR22215	CDP Edit, Reformat V2S3.2		2	16MAR00	17MAR00	15
BMR22235	CDP Final Edit V2S3.2 Approval Draft		2	17APR00	18APR00	15
BMR22240	V2S3.2 Pre-Submission QC Check		3	19APR00	21APR00	15
BMR22250	Repro & Prep V2S3.2 Submission Package		1	26APR00	26APR00	15
300 Regulatory & Licensing						
SLR22170	Write V2S3.2 Preliminary Draft		110	16AUG99*	25JAN00	15
SLR22180	M&O SR Team Review V2S3.2 Prel. Draft		9	04FEB00	16FEB00	15
SLR22185	Incorp. V2S3.2 SR Team Comments		9	17FEB00	01MAR00	15
SLR22210	Incorporate M&O V2S3.2 QC Check Comments		5	09MAR00	15MAR00	15
SLR22220	M&O/YMSCO V2S3.2 Preliminary Review		10	20MAR00	31MAR00	15
SLR22225	Resolve M&O/YMSCO V2S3.2 Prelimi Comments		5	03APR00	07APR00	15
SLR22230	Final Update for V2S3.2 Approval Draft		5	10APR00	14APR00	15
SLR22245	SR Team Finalize V2S3.2 Approval Draft		2	24APR00	25APR00	15
SLR222M3	Submit Precl. Eval Prelim. Drft V2S3.2 DOE Rvw	M3	0		26APR00	15



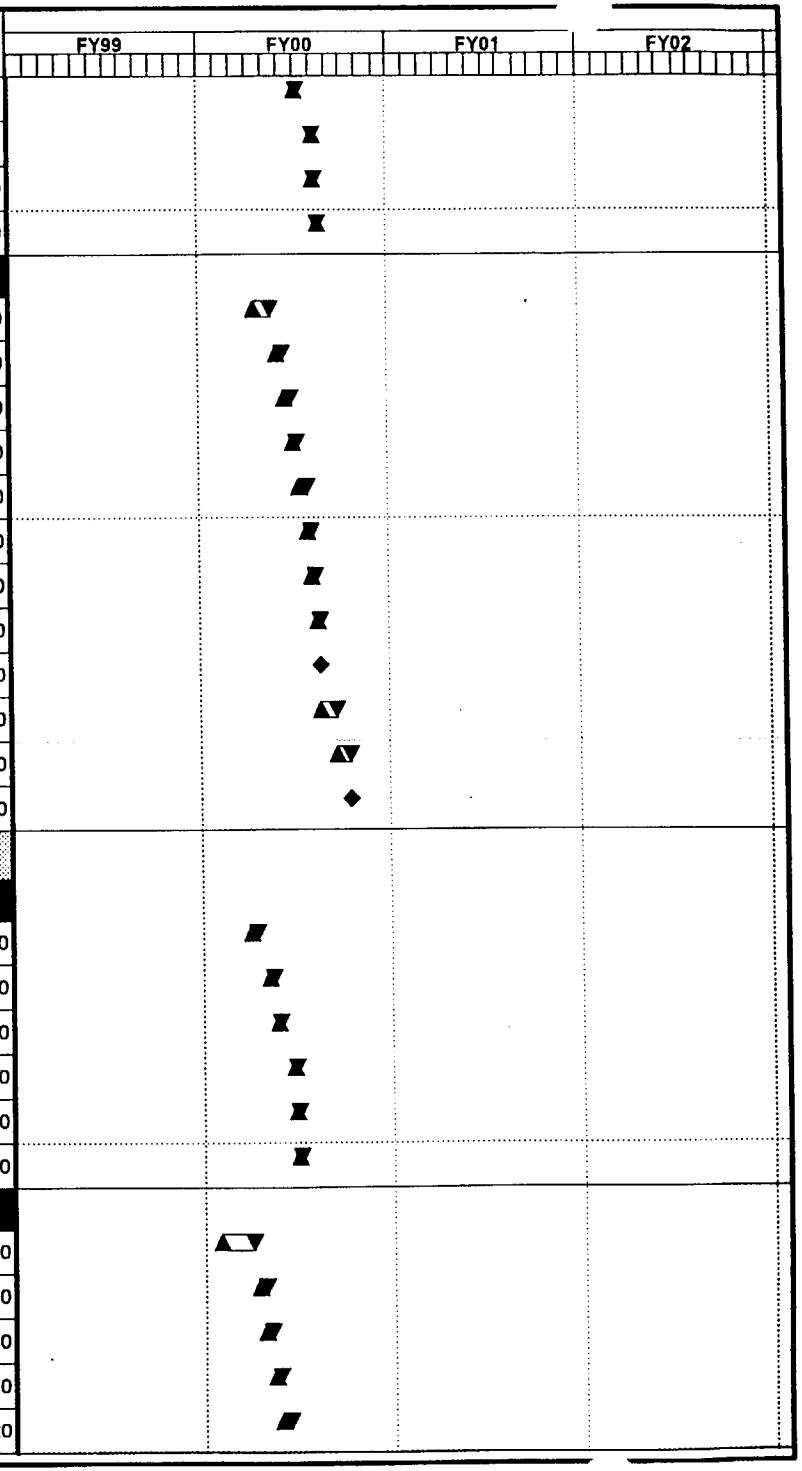
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLR22260	DOE Review Draft SR V1S2		20	27APR00	24MAY00	15
SLR22265	Resolve Comments/Revise Draft SR V1S2		20	25MAY00	22JUN00	15
SLR22M4	Complete SR V1S2 f/DOE Review	M4	0		22JUN00	15
V2S3.3						
150 Support Operations						
BMR23255	CDP Support SR V2S3.3 Acceptance Draft		155	16AUG99	29MAR00	75
BMR23175	CDP Edit, Format Prel Draft SR V2S3.3		7	07DEC99	15DEC99	17
BMR23315	Prepare SR V2S3.3 Graphics for Review Draft		72	07DEC99	20MAR00	21
BMR23280	CDP Extrct SR V2S3.3 Ref List for RPC/TIC/WBIS		1	16DEC99	16DEC99	17
BMR23285	DC Research SR V2S3.3 Ref. List - 30.12 Rqmts.		5	17DEC99	23DEC99	20
BMR23305	CIM Review SR V2S3.3 Ref List for Doc Avail		8	17DEC99	29DEC99	27
BMR23325	RPC Rev SR V2S3.3 Ref Doc Form Elect/Hard Copy		5	17DEC99	23DEC99	17
BMR23290	Retrieve SR V2S3.3 Refs. for 30.12 Rvw Pkgs		25	27DEC99	31JAN00	20
BMR23330	Scan SR V2S3.3 Ref Doc Hard Copies (As Rqd)		20	27DEC99	24JAN00	40
BMR23335	CIM Locate SR V2S3.3 Cited References		63	27DEC99	24MAR00	17
BMR23345	Incorporate SR V2S3.3 Ref Docs in WBIS		63	27DEC99	24MAR00	17
BMR23310	CIM Procure SR V2S3.3 Ref Documents (As Rqd)		30	30DEC99	10FEB00	27
BMR23295	DC Prepare SR V2S3.3 Refs 30.12 Review Pkgs		25	04JAN00	07FEB00	20
BMR23300	YMSCO Conduct SR V2S3.3 Ref 30.12 Revw as rqd		35	04JAN00	22FEB00	20
BMR23340	CIM Furnish SR V2S3.3 Ref Doc for WBIS		40	11JAN00	07MAR00	20
BMR23205	Preliminary QC Check of SR SR V2S3.3		5	13JAN00	19JAN00	36
BMR23215	CDP Edit, Reformat SR V2S3.3		2	27JAN00	28JAN00	36
BMR23235	CDP Final Edit SR V2S3.3 Approval Draft		2	27MAR00	28MAR00	17
BMR23240	SR V2S3.3 Pre-Submission QC Check		3	29MAR00	31MAR00	17
BMR23250	Repro & Prep SR V2S3.3 Submission Package		1	05APR00	05APR00	17
BMR23320	Update/Finalize SR V2S3.3 Graphics		31	08MAY00	20JUN00	17
300 Regulatory & Licensing						
SLR23170	Write SR V2S3.3 Preliminary Draft		76	16AUG99*	06DEC99	17
SLR23180	M&O SR Team Review SR V2S3.3 Prel. Draft		9	16DEC99	29DEC99	36
SLR23185	Incorp. SR V2S3.3 SR Team Comments		9	30DEC99	12JAN00	36



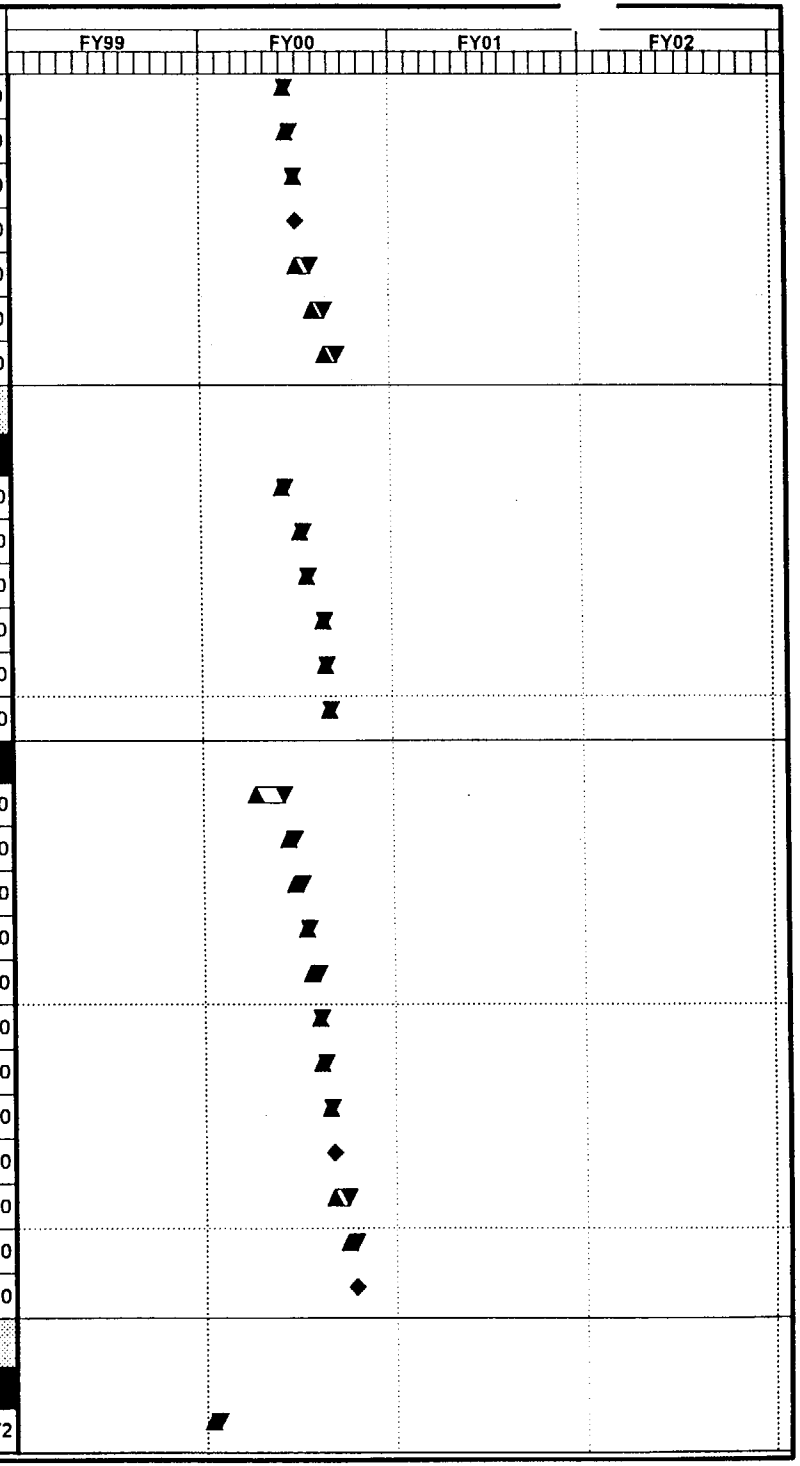
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLR23210	Incorporate M&O SR V2S3.3 QC Check Comments		5	20JAN00	26JAN00	36
SLR23220	M&O/YMSCO SR V2S3.3 Preliminary Review		10	31JAN00	11FEB00	36
SLR23225	Resolve M&O/YMSCO SR V2S3.3 Prelim Comments		5	14FEB00	18FEB00	36
SLR23230	Final Update for SR V2S3.3 Approval Draft		5	22FEB00	28FEB00	36
SLR23245	SR Team Finalize SR V2S3.3 Approval Draft		2	03APR00	04APR00	17
SLR232M3	Submit V2S3.3 Prelim Draft SR for DOE Rvw	M3	0		05APR00	17
SLR23265	DOE Rvw V2S3.3 Precl Evaluation/Finalization		22	06APR00	05MAY00	17
SLR23270	Finalize V2S3.3 Preclosure Evaluation		31	08MAY00*	20JUN00	17
SLR23275	Complete Final V2S3.3 Preclosure Evaluation	M4	0		20JUN00	17
V2S4.1.1						
150 Support Operations						
BMR24730	CDP Edit, Format Prel Draft V2S4.1.1		7	28MAR00	05APR00	12
BMR24760	Preliminary QC Check of SR V2S4.1.1		5	02MAY00	08MAY00	12
BMR24770	CDP Edit, Reformat V2S4.1.1		2	16MAY00	17MAY00	12
BMR24790	CDP Final Edit V2S4.1.1 Approval Draft		2	16JUN00	19JUN00	12
BMR24795	V2S4.1.1 Pre-Submission QC Check		3	20JUN00	22JUN00	12
BMR24805	Repro & Prep V2S4.1.1 Submission Package		1	27JUN00	27JUN00	12
300 Regulatory & Licensing						
SLR24725	Write V2S4.1.1 Preliminary Draft		25	22FEB00*	27MAR00	12
SLR24735	M&O SR Team Review V2S4.1.1 Prel. Draft		9	06APR00	18APR00	12
SLR24740	Incorp. V2S4.1.1 SR Team Comments		9	19APR00	01MAY00	12
SLR24765	Incorporate M& V2S4.1.1 QC Check Comments		5	09MAY00	15MAY00	12
SLR24775	M&O/YMSCO V2S4.1.1 Preliminary Review		10	18MAY00	01JUN00	12
SLR24780	Resolve M&O/YMSCO V2S4.1.1 Prel. Comments		5	02JUN00	08JUN00	12
SLR24785	Final Update for V2S4.1.1 Approval Draft		5	09JUN00	15JUN00	12
SLR24800	SR Team Finalize V2S4.1.1 Approval Draft		2	23JUN00	26JUN00	12
SLR248M4	Complete V2S4.1.1 Prelim. Draft f/ DOE Review	M4	0		27JUN00	12
V2S4.1.2						
150 Support Operations						
BMR24820	CDP Edit, Format Prel Draft V2S4.1.2		7	17FEB00	28FEB00	0
BMR24850	Preliminary QC Check of SR V2S4.1.2		5	24MAR00	30MAR00	0



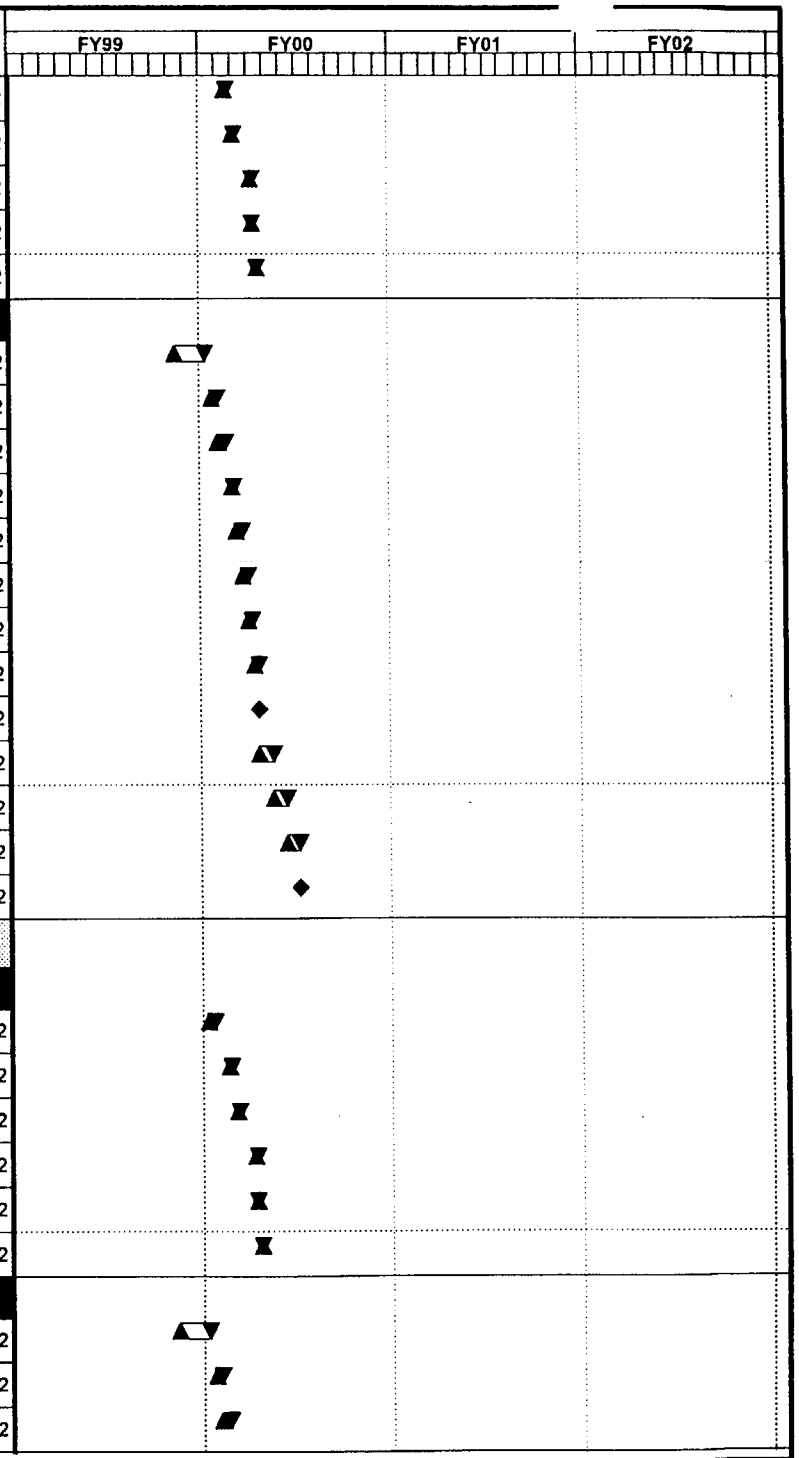
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMR24860	CDP Edit, Reformat V2S4.1.2		2	07APR00	10APR00	0
BMR24880	CDP Final Edit V2S4.1.2 Approval Draft		2	09MAY00	10MAY00	0
BMR24885	V2S4.1.2 Pre-Submission QC Check		3	11MAY00	15MAY00	0
BMR24895	Repro & Prep V2S4.1.2 Submission Package		1	18MAY00	18MAY00	0
300 Regulatory & Licensing						
SLR24815	Write V2S4.1.2 Preliminary Draft		23	17JAN00*	16FEB00	0
SLR24825	M&O SR Team Review V2S4.1.2Prel. Draft		9	29FEB00	10MAR00	0
SLR24830	Incorp. V2S4.1.2 SR Team Comments		9	13MAR00	23MAR00	0
SLR24855	Incorporate M& Sec V2S4.1.2 QC Check Comments		5	31MAR00	06APR00	0
SLR24865	M&O/YMSCO V2S4.1.2 Preliminary Review		10	11APR00	24APR00	0
SLR24870	Resolve M&O/YMSCO V2S4.1.2 Prel. Comments		5	25APR00	01MAY00	0
SLR24875	Final Update for V2S4.1.2 Approval Draft		5	02MAY00	08MAY00	0
SLR24890	SR Team Finalize V2S4.1.2 Approval Draft		2	16MAY00	17MAY00	0
SLR249M3	Submit V2S4.1.2 Prelim. Draft f/ DOE Review	M3	0		18MAY00	0
SLR24901	DOE Review Draft SR V1S4.1.2		20	19MAY00	16JUN00	0
SLR24902	Finalize Draft SR V1S4.1.2		19	19JUN00	14JUL00	0
SLR249M4	Complete Final Draft SR V1S DOE Rvw	M4	0		14JUL00	0
V2S4.1.3						
150 Support Operations						
BMR24910	CDP Edit, Format Prel Draft V2S4.1.3		7	30DEC99	10JAN00	20
BMR24940	Preliminary QC Check of SR V2S4.1.3		5	04FEB00	10FEB00	20
BMR24950	CDP Edit, Reformat V2S4.1.3		2	18FEB00	22FEB00	20
BMR24970	CDP Final Edit V2S4.1.3 Approval Draft		2	22MAR00	23MAR00	20
BMR24975	V2S4.1.3 Pre-Submission QC Check		3	24MAR00	28MAR00	20
BMR24985	Repro & Prep V2S4.1.3 Submission Package		1	31MAR00	31MAR00	20
300 Regulatory & Licensing						
SLR24905	Write V2S4.1.3 Preliminary Draft		39	01NOV99*	29DEC99	20
SLR24915	M&O SR Team Review V2S4.1.3 Prel. Draft		9	11JAN00	21JAN00	20
SLR24920	Incorp. V2S4.1.3 SR Team Comments		9	24JAN00	03FEB00	20
SLR24945	Incorporate M&O V2S4.1.3 QC Check Comments		5	11FEB00	17FEB00	20
SLR24955	M&O/YMSCO V2S4.1.3 Preliminary Review		10	23FEB00	07MAR00	20



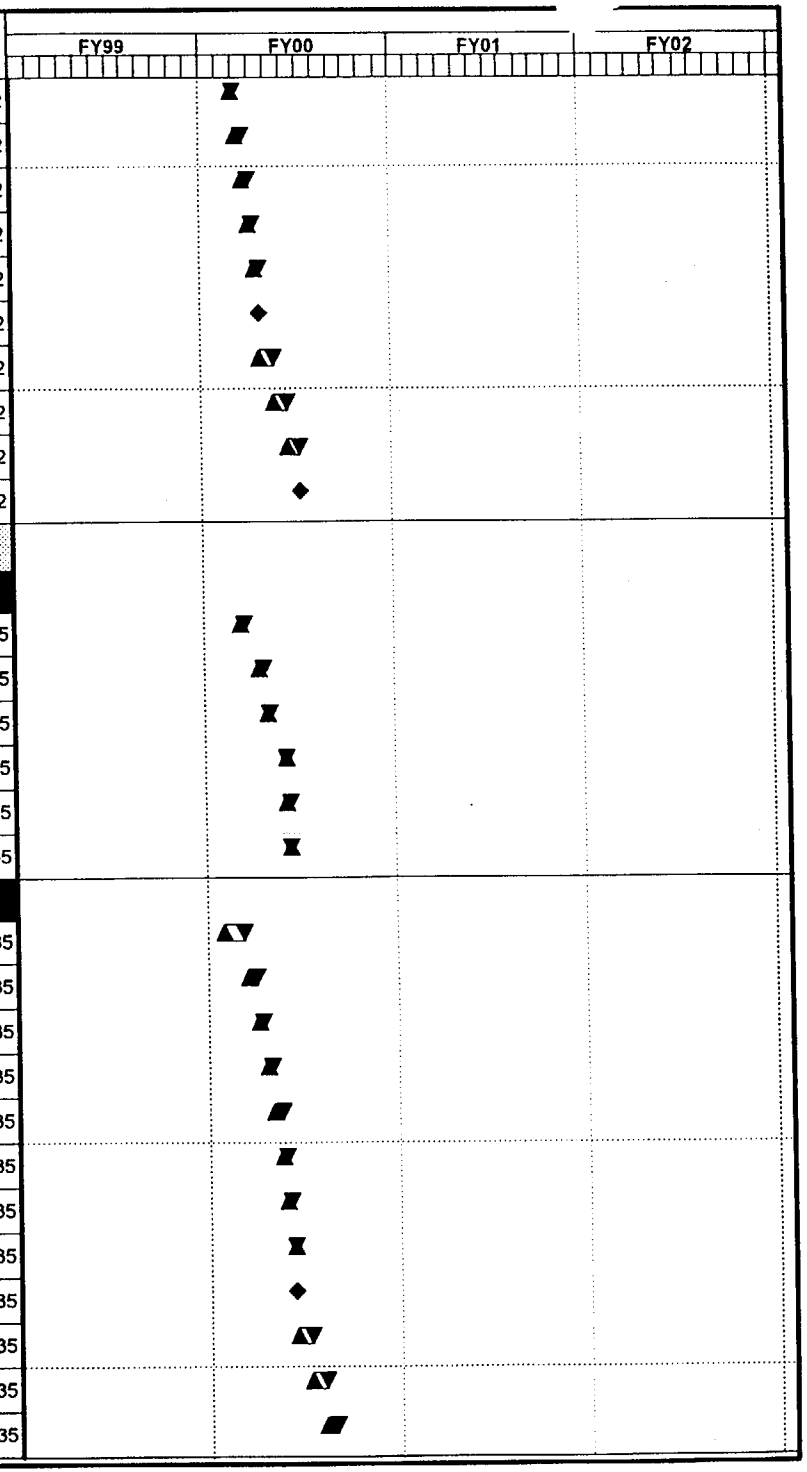
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLR24960	Resolve M&O/YMSCO V2S4.1.3Prel. Comments		5	08MAR00	14MAR00	20
SLR24965	Final Update for V2S4.1.3 Approval Draft		5	15MAR00	21MAR00	20
SLR24980	SR Team Finalize V2S4.1.3 Approval Draft		2	29MAR00	30MAR00	20
SLR250M3	Submit V2S4.1.3 Prelim. Draft f/ DOE Review	M3	0		31MAR00	20
SLR24991	DOE Review Draft SR V2S4.1.3		20	03APR00	28APR00	20
SLR24992	Resolve Comments/Revise Draft SR V2S4.1.3		19	01MAY00	25MAY00	20
SLR24993	DOE Acceptance Review of Draft SR V2S4.1.3		14	26MAY00	15JUN00	20
V2S4.1.4						
150 Support Operations						
BMR25000	CDP Edit, Format Prel Draft V2S4.1.4		7	01MAR00	09MAR00	0
BMR25030	Preliminary QC Check of SR V2S4.1.4		5	05APR00	11APR00	0
BMR25040	CDP Edit, Reformat V2S4.1.4		2	19APR00	20APR00	0
BMR25060	CDP Final Edit Sec V2S4.1.4 Approval Draft		2	19MAY00	22MAY00	0
BMR25065	Sec V2S4.1.4 Pre-Submission QC Check		3	23MAY00	25MAY00	0
BMR25075	Repro & Prep V2S4.1.4 Submission Package		1	31MAY00	31MAY00	0
300 Regulatory & Licensing						
SLR24995	Write V2S4.1.4 Preliminary Draft		36	10JAN00*	29FEB00	0
SLR25005	M&O SR Team Review V2S4.1.4 Prel. Draft		9	10MAR00	22MAR00	0
SLR25010	Incorp.V2S4.1.4 SR Team Comments		9	23MAR00	04APR00	0
SLR25035	Incorporate M&O V2S4.1.4 QC Check Comments		5	12APR00	18APR00	0
SLR25045	M&O/YMSCO V2S4.1.4 Preliminary Review		10	21APR00	04MAY00	0
SLR25050	Resolve M&O/YMSCO V2S4.1.4 Prel. Comments		5	05MAY00	11MAY00	0
SLR25055	Final Update for V2S4.1.4 Approval Draft		5	12MAY00	18MAY00	0
SLR25070	SR Team Finalize V2S4.1.4 Approval Draft		2	26MAY00	30MAY00	0
SLR25XM3	Submit V2S4.1.4 Prelim. Draft f/ DOE Review	M3	0		31MAY00	0
SLR25081	DOE Review Draft SR V2S4.1.4		20	01JUN00	28JUN00	0
SLR25082	Resolve Comments/Revise Draft SR V2S4.1.4		11	29JUN00	14JUL00	0
SLR25XM4	Complete Final SR V2S4.1.4 f/DOE Rvw	M4	0		14JUL00	0
V2S4.1.5						
150 Support Operations						
BMR25090	CDP Edit, Format Prel Draft V2S4.1.5		7	13OCT99	21OCT99	72



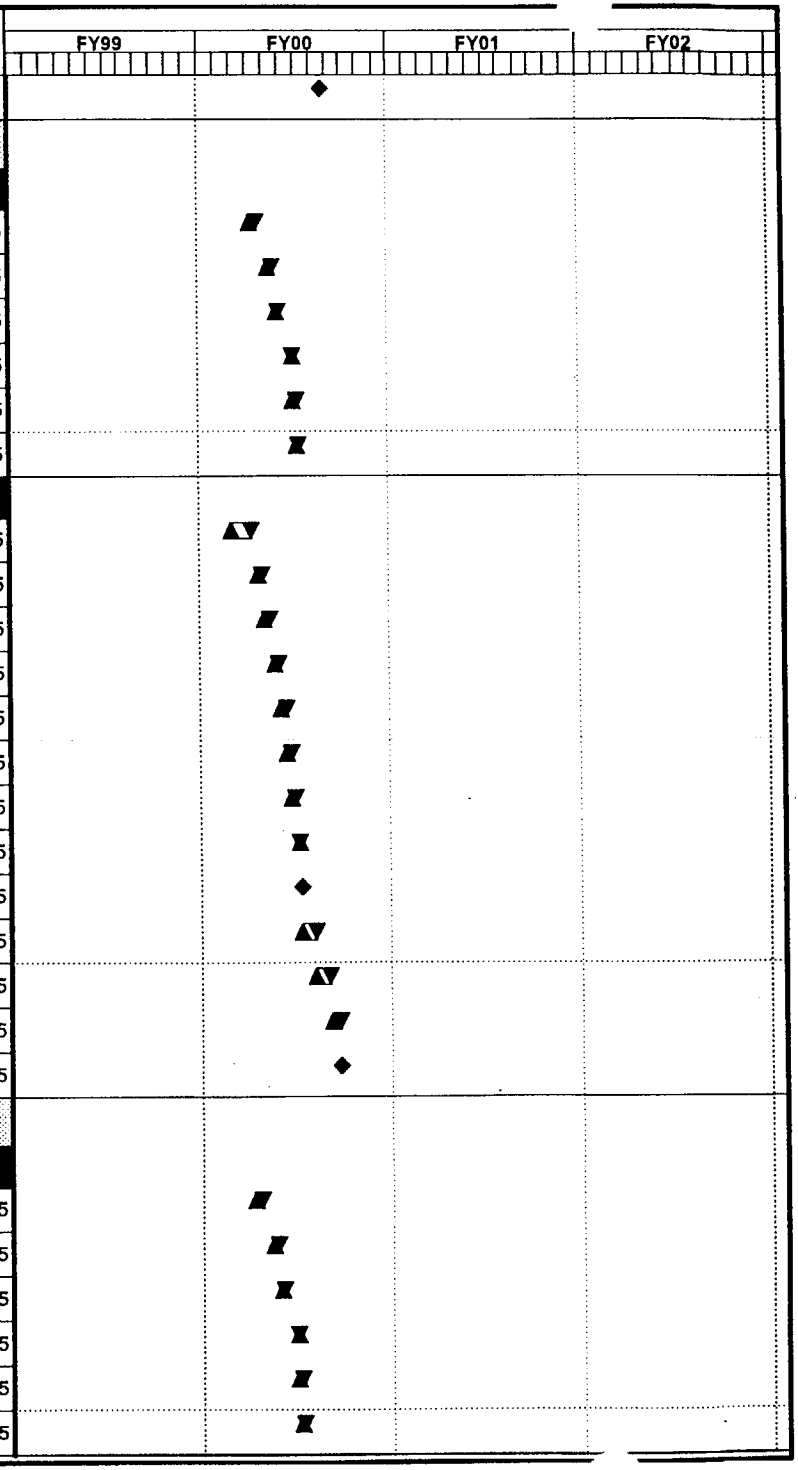
Activity ID	Activity Description	MILE	Orig dur	Ear., Start	Early Finish	Total Float
BMR25120	Preliminary QC Check of SR V2S4.1.5		5	18NOV99	24NOV99	72
BMR25130	CDP Edit, Reformat V2S4.1.5		2	06DEC99	07DEC99	72
BMR25150	CDP Final Edit V2S4.1.5 Approval Draft		2	07JAN00	10JAN00	72
BMR25155	V2S4.1.5 Pre-Submission QC Check		3	11JAN00	13JAN00	72
BMR25165	Repro & Prep V2S4.1.5 Submission Package		1	18JAN00	18JAN00	72
300 Regulatory & Licensing						
SLR25085	Write V2S4.1.5 Preliminary Draft		40	16AUG99*	12OCT99	72
SLR25095	M&O SR Team Review V2S4.1.5 Prel. Draft		9	22OCT99	03NOV99	72
SLR25100	Incorp. V2S4.1.5 SR Team Comments		9	04NOV99	17NOV99	72
SLR25125	Incorporate M& V2S4.1.5 QC Check Comments		5	29NOV99	03DEC99	72
SLR25135	M&O/YMSCO V2S4.1.5 Preliminary Review		10	08DEC99	21DEC99	72
SLR25140	Resolve M&O/YMSCO V2S4.1.5 Prel. Comments		5	22DEC99	29DEC99	72
SLR25145	Final Update for V2S4.1.5 Approval Draft		5	30DEC99	06JAN00	72
SLR25160	SR Team Finalize V2S4.1.5 Approval Draft		2	14JAN00	17JAN00	72
SLR251M3	Submit V2S4.1.5 Prelim. Draft f/ DOE Review	M3	0		18JAN00	72
SLR25171	DOE Review Draft SR V2S4.1.5		20	19JAN00	15FEB00	72
SLR25172	Resolve Comments/Revise Draft SR V2S4.1.5		19	16FEB00	14MAR00	72
SLR25173	DOE Acceptance Review of Draft SR V2S4.1.5		14	15MAR00	03APR00	72
SLR251M4	Complete Final SR V2S4.1.5 f/DOE Rvw	M4	0		03APR00	72
V2S4.1.6						
150 Support Operations						
BMR25180	CDP Edit, Format Prel Draft V2S4.1.6		7	13OCT99	21OCT99	72
BMR25210	Preliminary QC Check of SR V2S4.1.6		5	18NOV99	24NOV99	72
BMR25220	CDP Edit, Reformat V2S4.1.6		2	06DEC99	07DEC99	72
BMR25240	CDP Final Edit V2S4.1.6 Approval Draft		2	07JAN00	10JAN00	72
BMR25245	Sec V2S4.1.6 Pre-Submission QC Check		3	11JAN00	13JAN00	72
BMR25255	Repro & Prep V2S4.1.6 Submission Package		1	18JAN00	18JAN00	72
300 Regulatory & Licensing						
SLR25175	Write V2S4.1.6 Preliminary Draft		40	16AUG99*	12OCT99	72
SLR25185	M&O SR Team Review V2S4.1.6 Prel. Draft		9	22OCT99	03NOV99	72
SLR25190	Incorp. V2S4.1.6 SR Team Comments		9	04NOV99	17NOV99	72



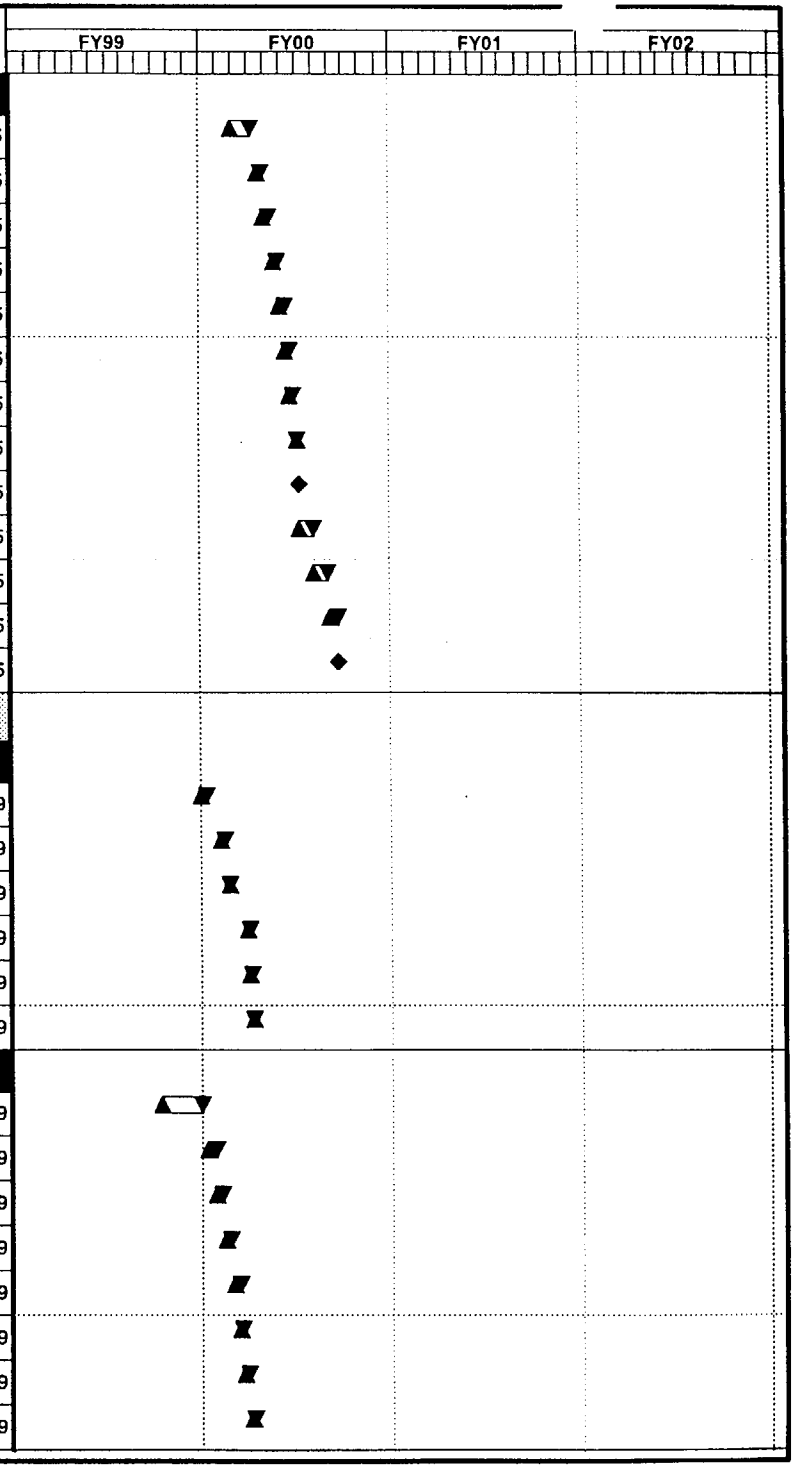
Activity ID	Activity Description	MILE	Orig dur	Ear., Start	Early Finish	Total Float
SLR25215	Incorporate M&O V2S4.1.6 QC Check Comments		5	29NOV99	03DEC99	72
SLR25225	M&O/YMSCO V2S4.1.6 Preliminary Review		10	08DEC99	21DEC99	72
SLR25230	Resolve M&O/YMSCO V2S4.1.6 Prel. Comments		5	22DEC99	29DEC99	72
SLR25235	Final Update for Sec V2S4.1.6 Approval Draft		5	30DEC99	06JAN00	72
SLR25250	SR Team Finalize V2S4.1.6 Approval Draft		2	14JAN00	17JAN00	72
SLR252M3	Submit V2S4.1.6 Prelim. Draft f/ DOE Review	M3	0		18JAN00	72
SLR25261	DOE Review Draft SR V2S4.1.6		20	19JAN00	15FEB00	72
SLR25262	Resolve Comments/Revise Draft SR V2S4.1.6		19	16FEB00	14MAR00	72
SLR25263	DOE Acceptance Review of Draft SR V2S4.1.6		14	15MAR00	03APR00	72
SLR252M4	Complete Final SR V2S4.1.6 f/DOE Rvw	M4	0		03APR00	72
V2S4.1.7						
150 Support Operations						
BMR25270	CDP Edit, Format Prel Draft V2S4.1.7		7	08DEC99	16DEC99	35
BMR25300	Preliminary QC Check of SR V2S4.1.7		5	14JAN00	20JAN00	35
BMR25310	CDP Edit, Reformat V2S4.1.7		2	28JAN00	31JAN00	35
BMR25330	CDP Final Edit V2S4.1.7 Approval Draft		2	01MAR00	02MAR00	35
BMR25335	V2S4.1.7 Pre-Submission QC Check		3	03MAR00	07MAR00	35
BMR25345	Repro & Prep V2S4.1.7 Submission Package		1	10MAR00	10MAR00	35
300 Regulatory & Licensing						
SLR25265	Write V2S4.1.7 Preliminary Draft		24	01NOV99*	07DEC99	35
SLR25275	M&O SR Team Review V2S4.1.7 Prel. Draft		9	17DEC99	30DEC99	35
SLR25280	Incorp. V2S4.1.7 SR Team Comments		9	03JAN00	13JAN00	35
SLR25305	Incorporate M&O V2S4.1.7 QC Check Comments		5	21JAN00	27JAN00	35
SLR25315	M&O/YMSCO V2S4.1.7 Preliminary Review		10	01FEB00	14FEB00	35
SLR25320	Resolve M&O/YMSCO V2S4.1.7 Prel. Comments		5	15FEB00	22FEB00	35
SLR25325	Final Update for V2S4.1.7 Approval Draft		5	23FEB00	29FEB00	35
SLR25340	SR Team Finalize V2S4.1.7 Approval Draft		2	08MAR00	09MAR00	35
SLR253M3	Submit V2S4.1.7 Prelim. Draft f/ DOE Review	M3	0		10MAR00	35
SLR25351	DOE Review Draft SR V2S4.1.7		20	13MAR00	07APR00	35
SLR25352	Resolve Comments/Revise Draft SR V2S4.1.7		19	10APR00	04MAY00	35
SLR25353	DOE Acceptance Review of Draft SR V2S4.1.7		14	05MAY00	24MAY00	35



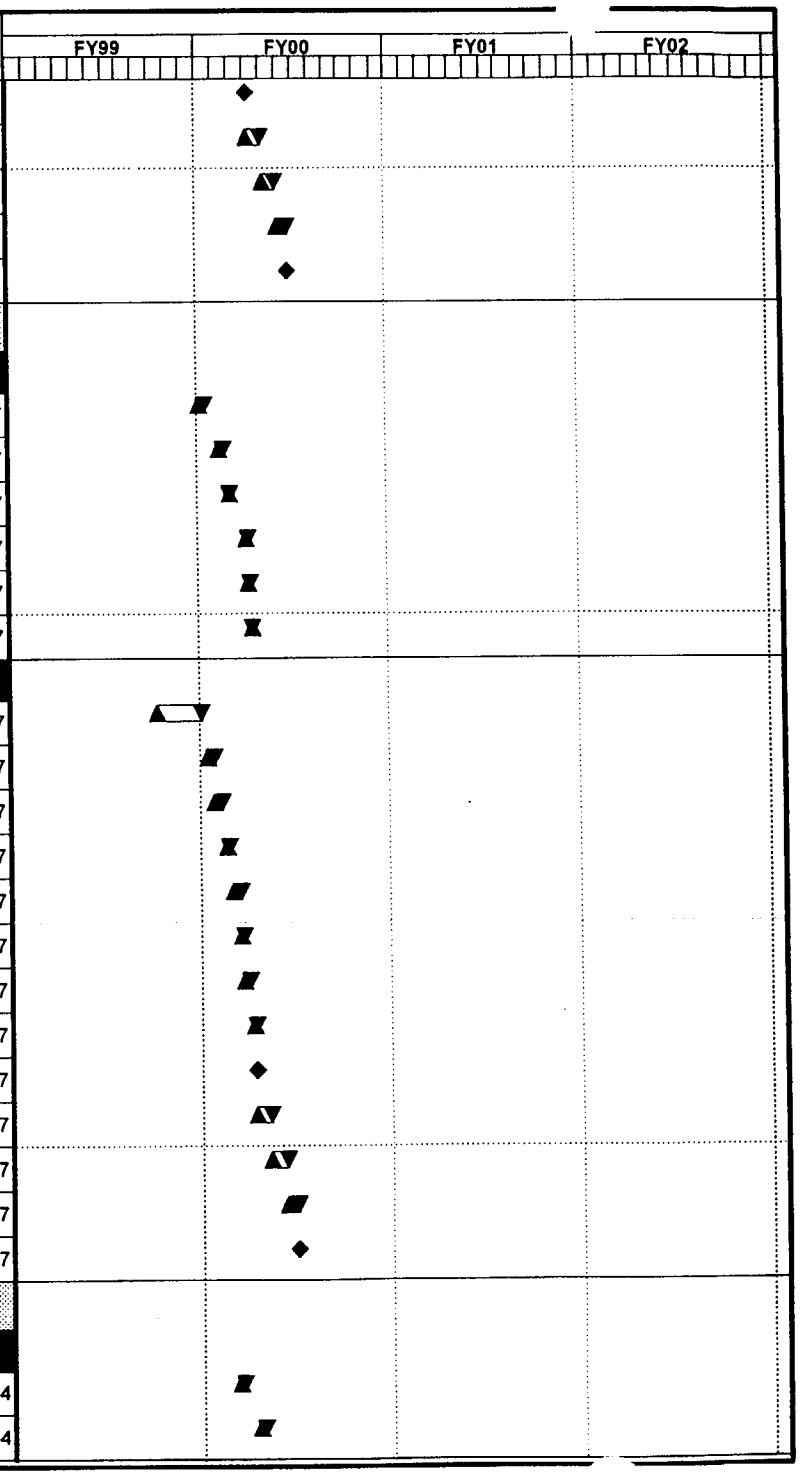
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLR253M4	Complete Final SR V2S4.1.7 f/DOE Rvw	M4	0		24MAY00	35
V2S4.1.8						
150 Support Operations						
BMR25360	CDP Edit, Format Prel Draft V2S4.1.8		7	07JAN00	17JAN00	15
BMR25390	Preliminary QC Check of SR V2S4.1.8		5	11FEB00	17FEB00	15
BMR25400	CDP Edit, Reformat V2S4.1.8		2	28FEB00	29FEB00	15
BMR25420	CDP Final Edit V2S4.1.8 Approval Draft		2	29MAR00	30MAR00	15
BMR25425	V2S4.1.8 Pre-Submission QC Check		3	31MAR00	04APR00	15
BMR25435	Repro & Prep V2S4.1.8 Submission Package		1	07APR00	07APR00	15
300 Regulatory & Licensing						
SLR25355	Write V2S4.1.8 Preliminary Draft		25	01DEC99*	06JAN00	15
SLR25365	M&O SR Team Review V2S4.1.8 Prel. Draft		9	18JAN00	28JAN00	15
SLR25370	Incorp. V2S4.1.8 SR Team Comments		9	31JAN00	10FEB00	15
SLR25395	Incorporate M&O V2S4.1.8 QC Check Comments		5	18FEB00	25FEB00	15
SLR25405	M&O/YMSCO V2S4.1.8 Preliminary Review		10	01MAR00	14MAR00	15
SLR25410	Resolve M&O/YMSCO V2S4.1.8 Prel. Comments		5	15MAR00	21MAR00	15
SLR25415	Final Update for V2S4.1.8 Approval Draft		5	22MAR00	28MAR00	15
SLR25430	SR Team Finalize V2S4.1.8 Approval Draft		2	05APR00	06APR00	15
SLR254M3	Submit V2S4.1.8 Prelim. Draft f/ DOE Review	M3	0		07APR00	15
SLR25441	DOE Review Draft SR V2S4.1.8		20	10APR00	05MAY00	15
SLR25442	Resolve Comments/Revise Draft SR V2S4.1.8		19	08MAY00	02JUN00	15
SLR25443	DOE Acceptance Review of Draft SR V2S4.1.8		14	05JUN00	22JUN00	15
SLR254M4	Complete Final SR V2S4.1.8 f/DOE Rvw	M4	0		22JUN00	15
V2S4.1.9						
150 Support Operations						
BMR25450	CDP Edit, Format Prel Draft V2S4.1.9		7	07JAN00	17JAN00	15
BMR25480	Preliminary QC Check of SR V2S4.1.9		5	11FEB00	17FEB00	15
BMR25490	CDP Edit, Reformat V2S4.1.9		2	28FEB00	29FEB00	15
BMR25510	CDP Final Edit V2S4.1.9 Approval Draft		2	29MAR00	30MAR00	15
BMR25515	V2S4.1.9 Pre-Submission QC Check		3	31MAR00	04APR00	15
BMR25525	Repro & Prep V2S4.1.9 Submission Package		1	07APR00	07APR00	15



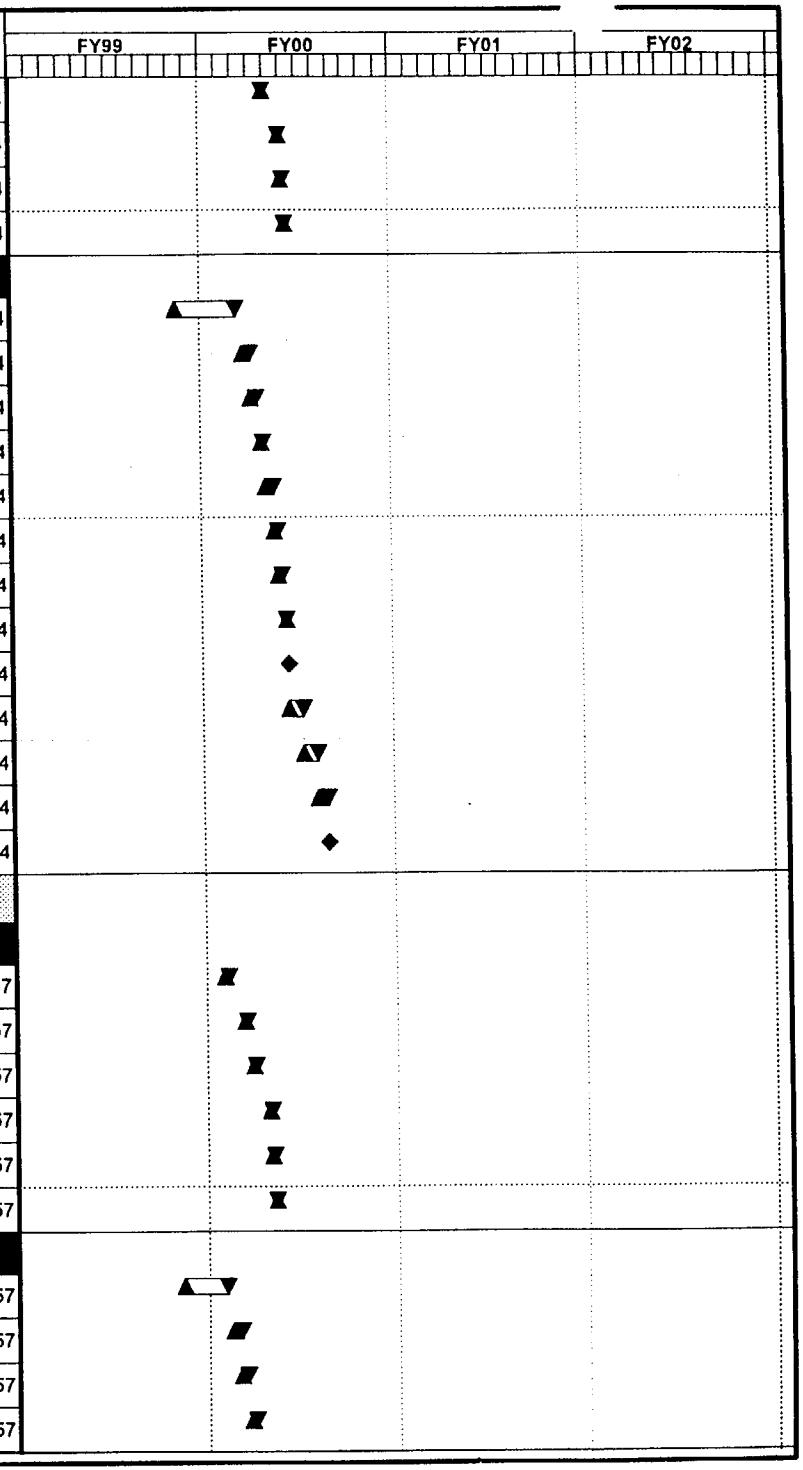
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
300 Regulatory & Licensing						
SLR25445	Write V2S4.1.9 Preliminary Draft		25	01DEC99*	06JAN00	15
SLR25455	M&O SR Team Review V2S4.1.9 Prel. Draft		9	18JAN00	28JAN00	15
SLR25460	Incorp. V2S4.1.9 SR Team Comments		9	31JAN00	10FEB00	15
SLR25485	Incorporate M& V2S4.1.9 QC Check Comments		5	18FEB00	25FEB00	15
SLR25495	M&O/YMSCO V2S4.1.9 Preliminary Review		10	01MAR00	14MAR00	15
SLR25500	Resolve M&O/YMSCO V2S4.1.9 Prel. Comments		5	15MAR00	21MAR00	15
SLR25505	Final Update for Sec V2S4.1.9 Approval Draft		5	22MAR00	28MAR00	15
SLR25520	SR Team Finalize V2S4.1.9 Approval Draft		2	05APR00	06APR00	15
SLR255M3	Submit V2S4.1.9 Prelim. Draft f/ DOE Review	M3	0		07APR00	15
SLR25531	DOE Review Draft SR V2S4.19		20	10APR00	05MAY00	15
SLR25532	Resolve Comments/Revise Draft SR V2S4.1.9		19	08MAY00	02JUN00	15
SLR25533	DOE Acceptance Review of Draft SR V2S4.1.9		14	05JUN00	22JUN00	15
SLR255M4	Complete Final SR V2S4.1.9 f/DOE Rvw	M4	0		22JUN00	15
V2S4.2.01						
150 Support Operations						
BMR23355	CDP Edit, Format Prel Draft V2S.4.2.1		7	01OCT99	12OCT99	79
BMR23385	Preliminary QC Check of SR V2S.4.2.1		5	08NOV99	15NOV99	79
BMR23395	CDP Edit, Reformat V2S.4.2.1		2	23NOV99	24NOV99	79
BMR23415	CDP Final Edit V2S.4.2.1 Approval Draft		2	28DEC99	29DEC99	79
BMR23420	V2S.4.2.1 Pre-Submission QC Check		3	30DEC99	04JAN00	79
BMR23430	Repro & Prep V2S.4.2.1 Submission Package		1	07JAN00	07JAN00	79
300 Regulatory & Licensing						
SLR23350	Write V2S.4.2.1 Preliminary Draft		55	15JUL99*	30SEP99	79
SLR23360	M&O SR Team Review V2S.4.2.1 Prel. Draft		9	13OCT99	25OCT99	79
SLR23365	Incorp. V2S.4.2.1 SR Team Comments		9	26OCT99	05NOV99	79
SLR23390	Incorporate M&O V2S.4.2.1 QC Check Comments		5	16NOV99	22NOV99	79
SLR23400	M&O/YMSCO V2S.4.2.1 Preliminary Review		10	29NOV99	10DEC99	79
SLR23405	Resolve M&O/YMSCO V2S.4.2.1 Prelim Comments		5	13DEC99	17DEC99	79
SLR23410	Final Update for V2S.4.2.1 Approval Draft		5	20DEC99	27DEC99	79
SLR23425	SR Team Finalize V2S.4.2.1 Approval Draft		2	05JAN00	06JAN00	79



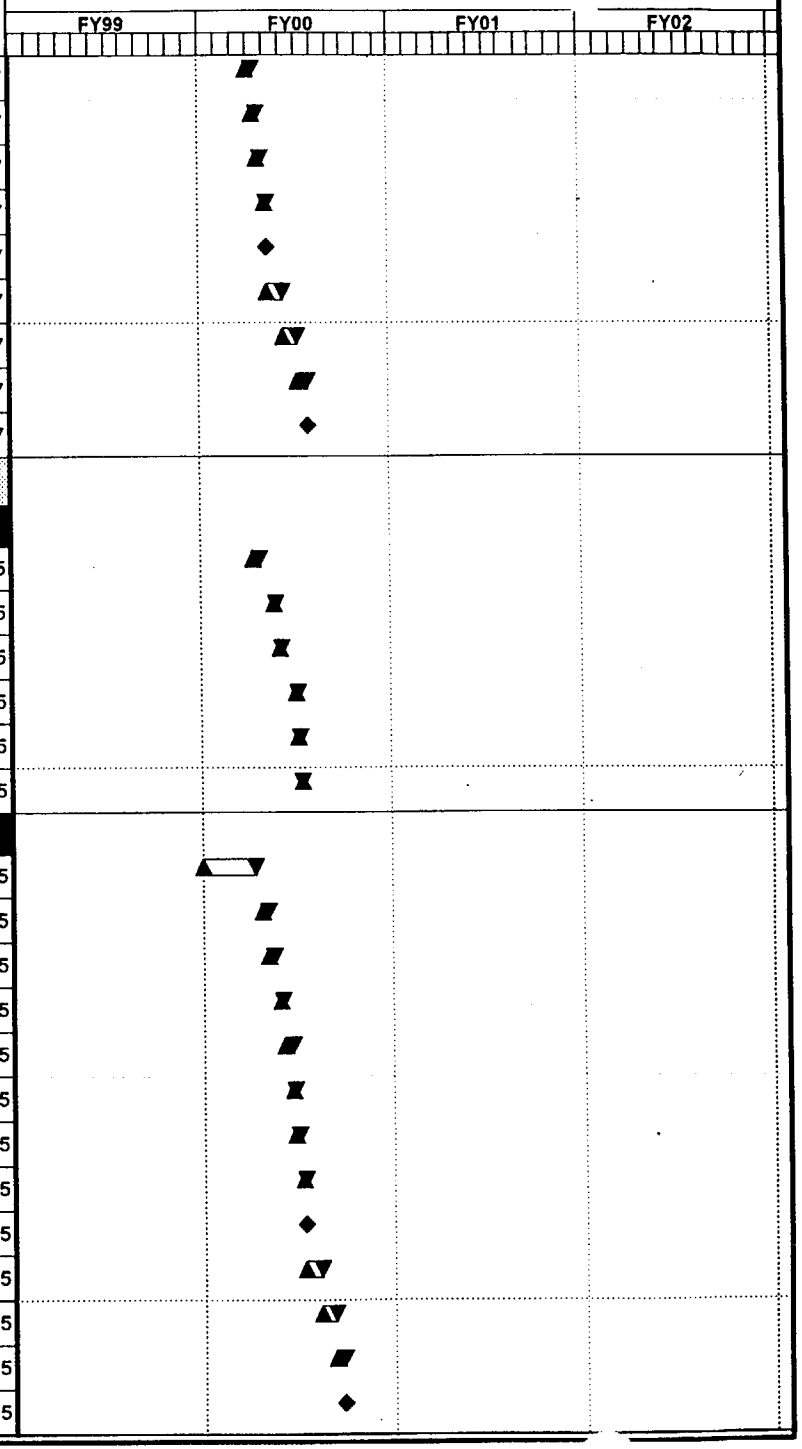
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLR234M3	Submt V2S.4.2.1 Precl Eval Prelim. Draft DOE Rvw	M3	0		07JAN00	79
SLR23436	DOE Review Draft SR V2S4.2.1		20	10JAN00	04FEB00	79
SLR23437	Resolve Comments/Revise Draft SR V2S4.2.1		19	07FEB00	03MAR00	79
SLR23438	DOE Acceptance Review of Draft SR V2S4.2.1		14	06MAR00	23MAR00	79
SLR234M4	Complete Final SR V2S4.2.1 f/DOE Rvw	M4	0		23MAR00	79
V2S4.2.02						
150 Support Operations						
BMR23445	CDP Edit, Format Prel Draft V2S4.2.2		7	05OCT99	14OCT99	77
BMR23475	Preliminary QC Check of SR V2S4.2.2		5	10NOV99	17NOV99	77
BMR23485	CDP Edit, Reformat V2S4.2.2		2	29NOV99	30NOV99	77
BMR23505	CDP Final Edit V2S4.2.2 Approval Draft		2	30DEC99	03JAN00	77
BMR23510	V2S4.2.2 Pre-Submission QC Check		3	04JAN00	06JAN00	77
BMR23520	Repro & Prep V2S4.2.2 Submission Package		1	11JAN00	11JAN00	77
300 Regulatory & Licensing						
SLR23440	Write V2S4.2.2 Preliminary Draft		60	12JUL99*	04OCT99	77
SLR23450	M&O SR Team Review V2S4.2.2 Prel. Draft		9	15OCT99	27OCT99	77
SLR23455	Incorp. V2S4.2.2 SR Team Comments		9	28OCT99	09NOV99	77
SLR23480	Incorporate M&O V2S4.2.2 QC Check Comments		5	18NOV99	24NOV99	77
SLR23490	M&O/YMSCO V2S4.2.2 Preliminary Review		10	01DEC99	14DEC99	77
SLR23495	Resolve M&O/YMSCO V2S4.2.2 Prelim Comments		5	15DEC99	21DEC99	77
SLR23500	Final Update for V2S4.2.2 Approval Draft		5	22DEC99	29DEC99	77
SLR23515	SR Team Finalize V2S4.2.2 Approval Draft		2	07JAN00	10JAN00	77
SLR235M3	Submit V2S4.2.2 Prelim. Draft f/ DOE Review	M3	0		11JAN00	77
SLR23526	DOE Review Draft SR V2S4.2.2		20	12JAN00	08FEB00	77
SLR23527	Resolve Comments/Revise Draft SR V2S4.2.2		19	09FEB00	07MAR00	77
SLR23528	DOE Acceptance Review of Draft SR V2S4.2.2		14	08MAR00	27MAR00	77
SLR235M4	Complete Final SR V2S4.2.2 f/DOE Rvw	M4	0		27MAR00	77
V2S4.2.03						
150 Support Operations						
BMR23535	CDP Edit, Format Prel Draft V2S4.2.3		7	09DEC99	17DEC99	34
BMR23565	Preliminary QC Check of SR V2S4.2.3		5	17JAN00	21JAN00	34



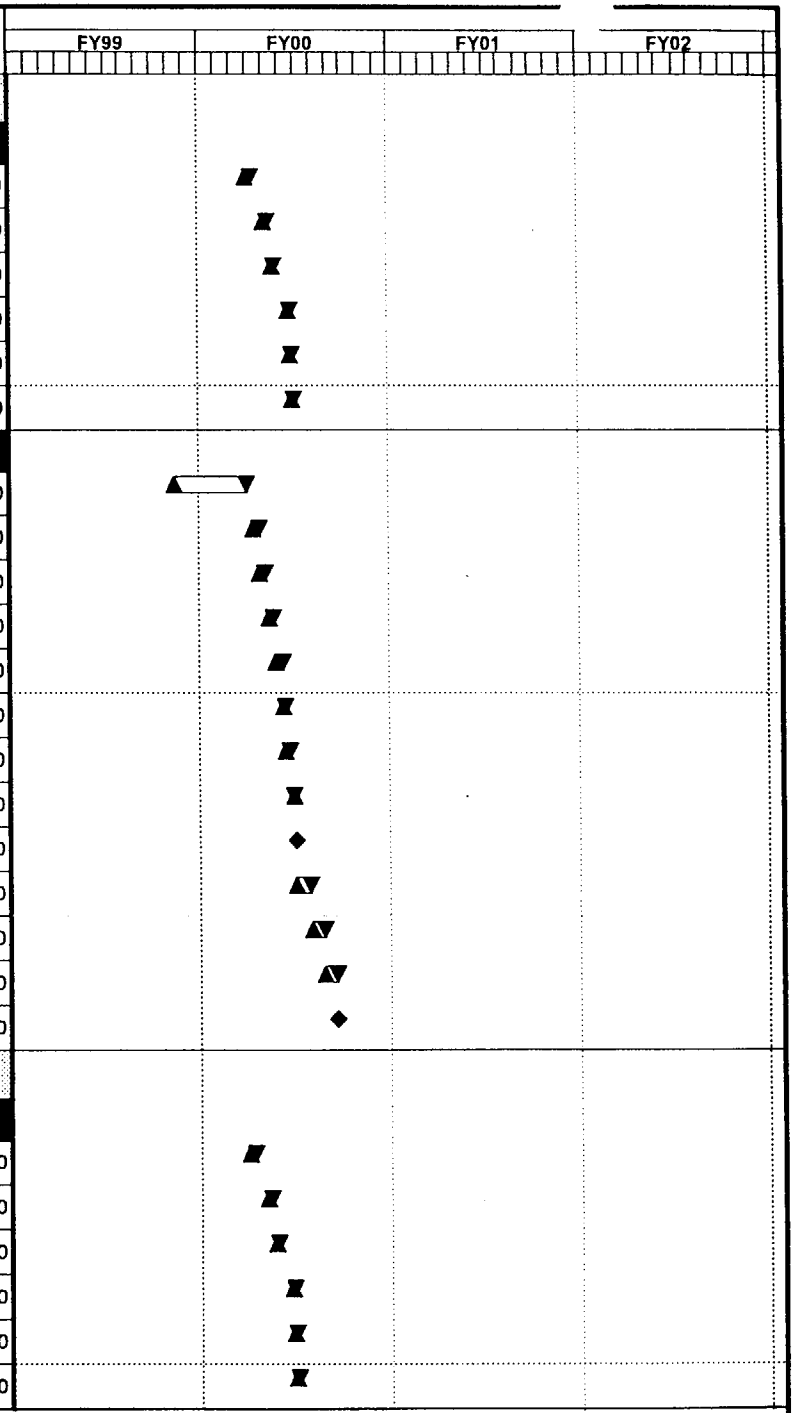
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMR23575	CDP Edit, Reformat V2S4.2.3		2	31JAN00	01FEB00	34
BMR23595	CDP Final Edit V2S4.2.3 Approval Draft		2	02MAR00	03MAR00	34
BMR23600	V2S4.2.3 Pre-Submission QC Check		3	06MAR00	08MAR00	34
BMR23610	Repro & Prep V2S4.2.3 Submission Package		1	13MAR00	13MAR00	34
300 Regulatory & Licensing						
SLR23530	Write V2S4.2.3 Preliminary Draft		78	16AUG99*	08DEC99	34
SLR23540	M&O SR Team Review V2S4.2.3 Prel. Draft		9	20DEC99	03JAN00	34
SLR23545	Incorp. V2S4.2.3 SR Team Comments		9	04JAN00	14JAN00	34
SLR23570	Incorporate M& V2S4.2.3 QC Check Comments		5	24JAN00	28JAN00	34
SLR23580	M&O/YMSCO V2S4.2.3 Preliminary Review		10	02FEB00	15FEB00	34
SLR23585	Resolve M&O/YMSCO V2S4.2.3 Prelim Comments		5	16FEB00	23FEB00	34
SLR23590	Final Update for V2S4.2.3 Approval Draft		5	24FEB00	01MAR00	34
SLR23605	SR Team Finalize V2S4.2.3 Approval Draft		2	09MAR00	10MAR00	34
SLR236M3	Submit V2S4.2.3 Prelim. Draft f/ DOE Review	M3	0		13MAR00	34
SLR23616	DOE Review Draft SR V2S4.2.3		20	14MAR00	10APR00	34
SLR23617	Resolve Comments/Revise Draft SR V2S4.2.3		19	11APR00	05MAY00	34
SLR23618	DOE Acceptance Review of Draft SR V2S4.2.3		14	08MAY00	25MAY00	34
SLR236M4	Complete Final SR V2S4.2.3 f/DOE Rvw	M4	0		25MAY00	34
V2S4.2.04						
150 Support Operations						
BMR24010	CDP Edit, Format Prel Draft V2S4.2.4		7	03NOV99	12NOV99	57
BMR24040	Preliminary QC Check of SR V2S4.2.4		5	13DEC99	17DEC99	57
BMR24050	CDP Edit, Reformat V2S4.2.4		2	28DEC99	29DEC99	57
BMR24070	CDP Final Edit V2S4.2.4 Approval Draft		2	28JAN00	31JAN00	57
BMR24075	V2S4.2.4 Pre-Submission QC Check		3	01FEB00	03FEB00	57
BMR24085	Repro & Prep V2S4.2.4 Submission Package		1	08FEB00	08FEB00	57
300 Regulatory & Licensing						
SLR24005	Write V2S4.2.4 Preliminary Draft		55	16AUG99*	02NOV99	57
SLR24015	M&O SR Team Review V2S4.2.4 Prel. Draft		9	15NOV99	29NOV99	57
SLR24020	Incorp.V2S4.2.4 SR Team Comments		9	30NOV99	10DEC99	57
SLR24045	Incorporate M& V2S4.2.4 QC Check Comments		5	20DEC99	27DEC99	57



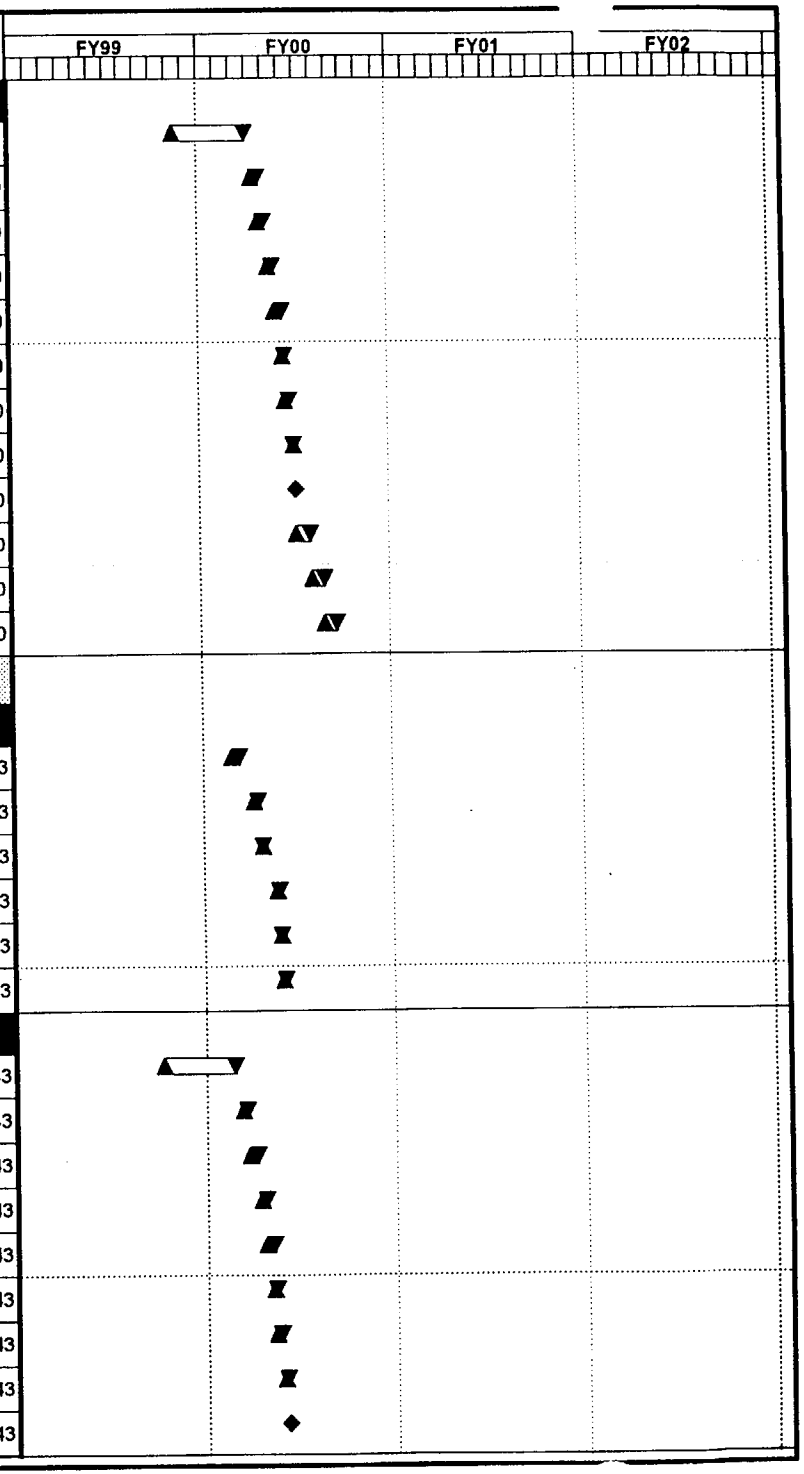
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLR24055	M&O/YMSCO V2S4.2.4 Preliminary Review		10	30DEC99	13JAN00	57
SLR24060	Resolve M&O/YMSCO V2S4.2.4 Prelim Comments		5	14JAN00	20JAN00	57
SLR24065	Final Update for V2S4.2.4 Approval Draft		5	21JAN00	27JAN00	57
SLR24080	SR Team Finalize V2S4.2.4 Approval Draft		2	04FEB00	07FEB00	57
SLR240M3	Submit V2S4.2.4 Prelim. Draft f/ DOE Review	M3	0		08FEB00	57
SLR24091	DOE Review Draft SR V2S4.2.4		20	09FEB00	08MAR00	57
SLR24092	Resolve Comments/Revise Draft SR V2S4.2.4		19	09MAR00	04APR00	57
SLR24093	DOE Acceptance Review of Draft SR V2S4.2.4		14	05APR00	24APR00	57
SLR240M4	Complete Final SR V2S4.2.4 f/DOE Rvw	M4	0		24APR00	57
V2S4.2.05						
150 Support Operations						
BMR24100	CDP Edit, Format Prel Draft V2S4.2.5		7	10JAN00	18JAN00	15
BMR24130	Preliminary QC Check of SR V2S4.2.5		5	14FEB00	18FEB00	15
BMR24140	CDP Edit, Reformat V2S4.2.5		2	29FEB00	01MAR00	15
BMR24160	CDP Final Edit V2S4.2.5 Approval Draft		2	30MAR00	31MAR00	15
BMR24165	V2S4.2.5 Pre-Submission QC Check		3	03APR00	05APR00	15
BMR24175	Repro & Prep V2S4.2.5 Submission Package		1	10APR00	10APR00	15
300 Regulatory & Licensing						
SLR24095	Write V2S4.2.5 Preliminary Draft		65	01OCT99*	07JAN00	15
SLR24105	M&O SR Team Review V2S4.2.5 Prel. Draft		9	19JAN00	31JAN00	15
SLR24110	Incorp. V2S4.2.5 SR Team Comments		9	01FEB00	11FEB00	15
SLR24135	Incorporate M& V2S4.2.5 QC Check Comments		5	22FEB00	28FEB00	15
SLR24145	M&O/YMSCO V2S4.2.5 Preliminary Review		10	02MAR00	15MAR00	15
SLR24150	Resolve M&O/YMSCO V2S4.2.5 Prelimi Comments		5	16MAR00	22MAR00	15
SLR24155	Final Update for V2S4.2.5 Approval Draft		5	23MAR00	29MAR00	15
SLR24170	SR Team Finalize V2S4.2.5 Approval Draft		2	06APR00	07APR00	15
SLR241M3	Submit V2S4.2.5 Prelim. Draft f/ DOE Review	M3	0		10APR00	15
SLR24181	DOE Review Draft SR V2S4.2.5		20	11APR00	08MAY00	15
SLR24182	Resolve Comments/Revise Draft SR V2S4.2.5		19	09MAY00	05JUN00	15
SLR24183	DOE Acceptance Review of Draft SR V2S4.2.5		13	06JUN00	22JUN00	15
SLR241M4	Complete Final SR V2S4.2.5 f/DOE Rvw	M4	0		22JUN00	15



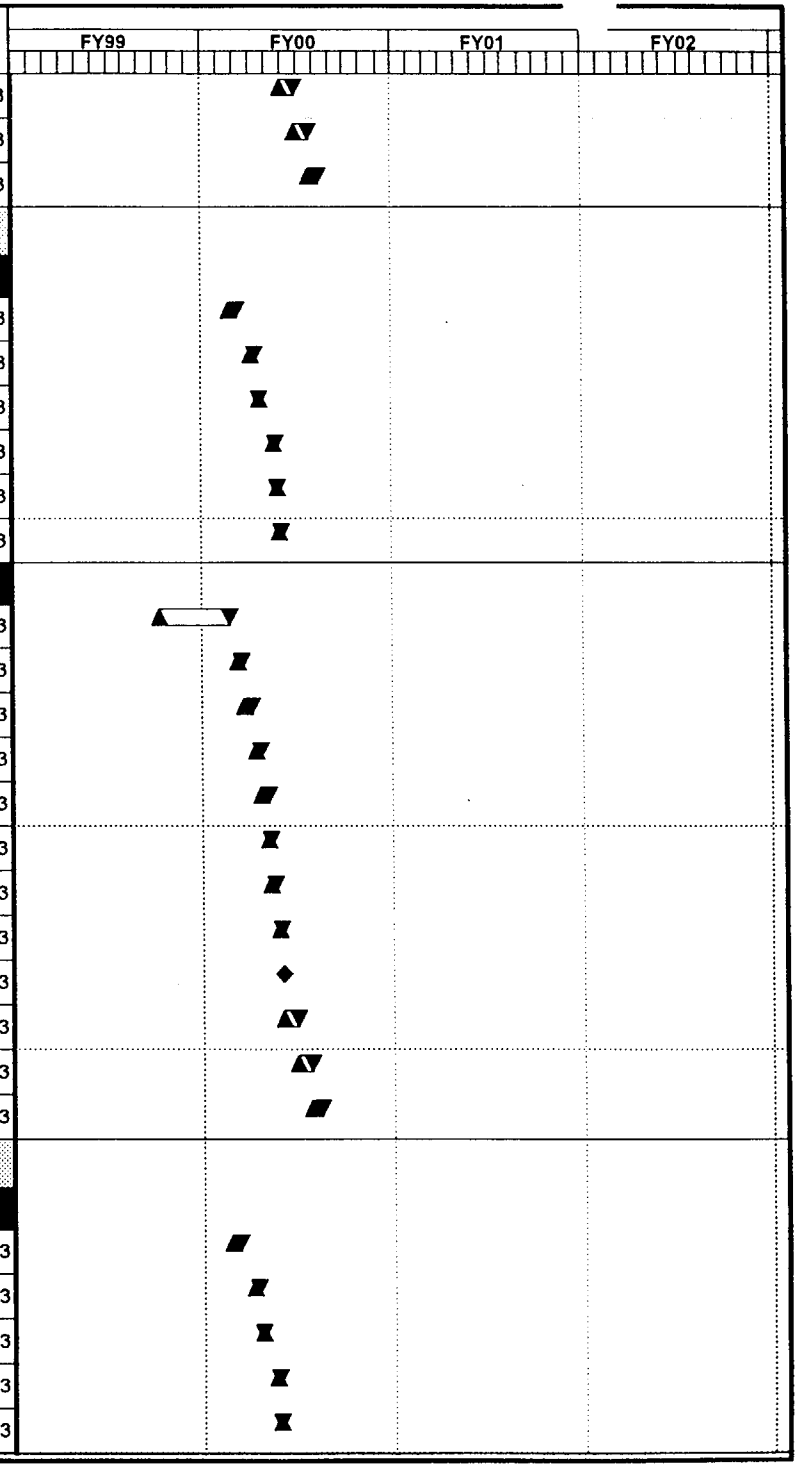
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
V2S4.2.06						
150 Support Operations						
BMR24190	CDP Edit, Format Prel Draft V2S4.2.6		7	30DEC99	10JAN00	20
BMR24220	Preliminary QC Check of SR V2S4.2.6		5	04FEB00	10FEB00	20
BMR24230	CDP Edit, Reformat V2S4.2.6		2	18FEB00	22FEB00	20
BMR24250	CDP Final Edit V2S4.2.6 Approval Draft		2	22MAR00	23MAR00	20
BMR24255	V2S4.2.6 Pre-Submission QC Check		3	24MAR00	28MAR00	20
BMR24265	Repro & Prep V2S4.2.6 Submission Package		1	31MAR00	31MAR00	20
300 Regulatory & Licensing						
SLR24185	Write V2S4.2.6 Preliminary Draft		92	16AUG99*	29DEC99	20
SLR24195	M&O SR Team Review V2S4.2.6 Prel. Draft		9	11JAN00	21JAN00	20
SLR24200	Incorp. V2S4.2.6 SR Team Comments		9	24JAN00	03FEB00	20
SLR24225	Incorporate M& V2S4.2.6 QC Check Comments		5	11FEB00	17FEB00	20
SLR24235	M&O/YMSCO V2S4.2.6 Preliminary Review		10	23FEB00	07MAR00	20
SLR24240	Resolve M&O/YMSCO V2S4.2.6 PrelimComments		5	08MAR00	14MAR00	20
SLR24245	Final Update for V2S4.2.6 Approval Draft		5	15MAR00	21MAR00	20
SLR24260	SR Team Finalize V2S4.2.6 Approval Draft		2	29MAR00	30MAR00	20
SLR242M3	Submit V2S4.2.6 Prelim. Draft f/ DOE Review	M3	0		31MAR00	20
SLR24271	DOE Review Draft SR V2S4.2.6		20	03APR00	28APR00	20
SLR24272	Resolve Comments/Revise Draft SR V2S4.2.6		19	01MAY00	25MAY00	20
SLR24273	DOE Acceptance Review of Draft SR V2S4.2.6		14	26MAY00	15JUN00	20
SLR242M4	Complete Final SR V2S4.2.6 f/DOE Rvw	M4	0		15JUN00	20
V2S4.2.07						
150 Support Operations						
BMR24280	CDP Edit, Format Prel Draft V2S4.2.7		7	30DEC99	10JAN00	20
BMR24310	Preliminary QC Check of SR V2S4.2.7		5	04FEB00	10FEB00	20
BMR24320	CDP Edit, Reformat V2S4.2.7		2	18FEB00	22FEB00	20
BMR24340	CDP Final Edit V2S4.2.7 Approval Draft		2	22MAR00	23MAR00	20
BMR24345	V2S4.2.7 Pre-Submission QC Check		3	24MAR00	28MAR00	20
BMR24355	Repro & Prep V2S4.2.7 Submission Package		1	31MAR00	31MAR00	20



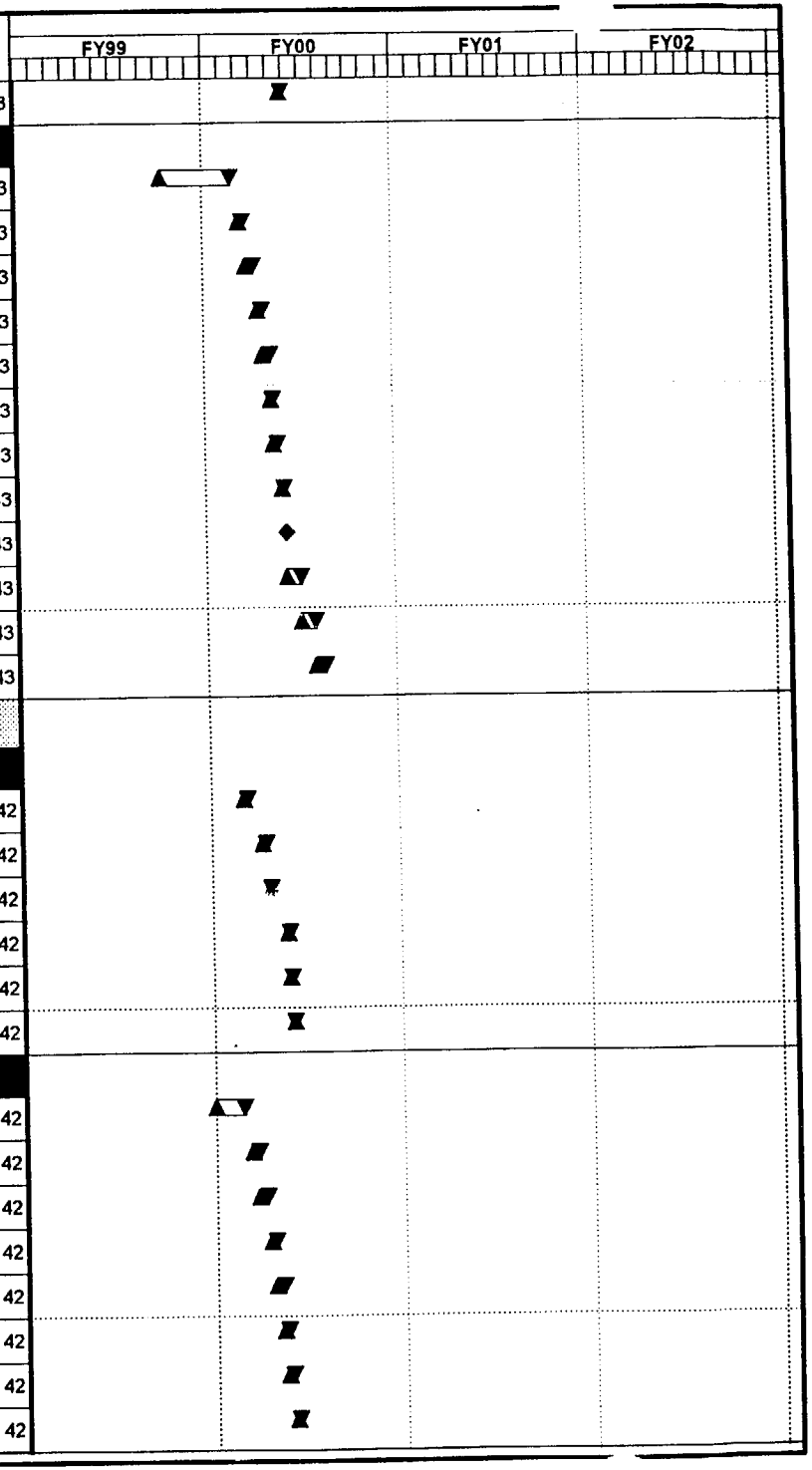
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
300 Regulatory & Licensing						
SLR24275	Write V2S4.2.7 Preliminary Draft		92	16AUG99*	29DEC99	20
SLR24285	M&O SR Team Review V2S4.2.7 Prel. Draft		9	11JAN00	21JAN00	20
SLR24290	Incorp. V2S4.2.7 SR Team Comments		9	24JAN00	03FEB00	20
SLR24315	Incorporate M& V2S4.2.7 QC Check Comments		5	11FEB00	17FEB00	20
SLR24325	M&O/YMSCO V2S4.2.7 Prelim Review		10	23FEB00	07MAR00	20
SLR24330	Resolve M&O/YMSCO V2S4.2.7 Prelim Comments		5	08MAR00	14MAR00	20
SLR24335	Final Update for V2S4.2.7 Approval Draft		5	15MAR00	21MAR00	20
SLR24350	SR Team Finalize V2S4.2.7 Approval Draft		2	29MAR00	30MAR00	20
SLR243M3	Submit V2S4.2.7 Prelim. Draft f/ DOE Review	M3	0		31MAR00	20
SLR24361	DOE Review Draft SR V2S4.2.7		20	03APR00	28APR00	20
SLR24362	Resolve Comments/Revise Draft SR V2S4.2.7		19	01MAY00	25MAY00	20
SLR24363	DOE Acceptance Review of Draft SR V2S4.2.7		14	26MAY00	15JUN00	20
V2S4.2.08						
150 Support Operations						
BMR24370	CDP Edit, Format Prel Draft V2S4.2.8		7	24NOV99	06DEC99	43
BMR24400	Preliminary QC Check of SR V2S4.2.8		5	04JAN00	10JAN00	43
BMR24410	CDP Edit, Reformat V2S4.2.8		2	18JAN00	19JAN00	43
BMR24430	CDP Final Edit V2S4.2.8 Approval Draft		2	17FEB00	18FEB00	43
BMR24435	V2S4.2.8 Pre-Submission QC Check		3	22FEB00	24FEB00	43
BMR24445	Repro & Prep V2S4.2.8 Submission Package		1	29FEB00	29FEB00	43
300 Regulatory & Licensing						
SLR24365	Write V2S4.2.8 Preliminary Draft		94	12JUL99*	23NOV99	43
SLR24375	M&O SR Team Review V2S4.2.8 Prel. Draft		9	07DEC99	17DEC99	43
SLR24380	Incorp. Sec V2S4.2.8 SR Team Comments		9	20DEC99	03JAN00	43
SLR24405	Incorporate M&O V2S4.2.8 QC Check Comments		5	11JAN00	17JAN00	43
SLR24415	M&O/YMSCO V2S4.2.8 Preliminary Review		10	20JAN00	02FEB00	43
SLR24420	Resolve M&O/YMSCO V2S4.2.8 Prelim Comments		5	03FEB00	09FEB00	43
SLR24425	Final Update for V2S4.2.8 Approval Draft		5	10FEB00	16FEB00	43
SLR24440	SR Team Finalize V2S4.2.8 Approval Draft		2	25FEB00	28FEB00	43
SLR244M3	Submit V2S4.2.8 Draft f/ DOE Review	M3	0		29FEB00	43



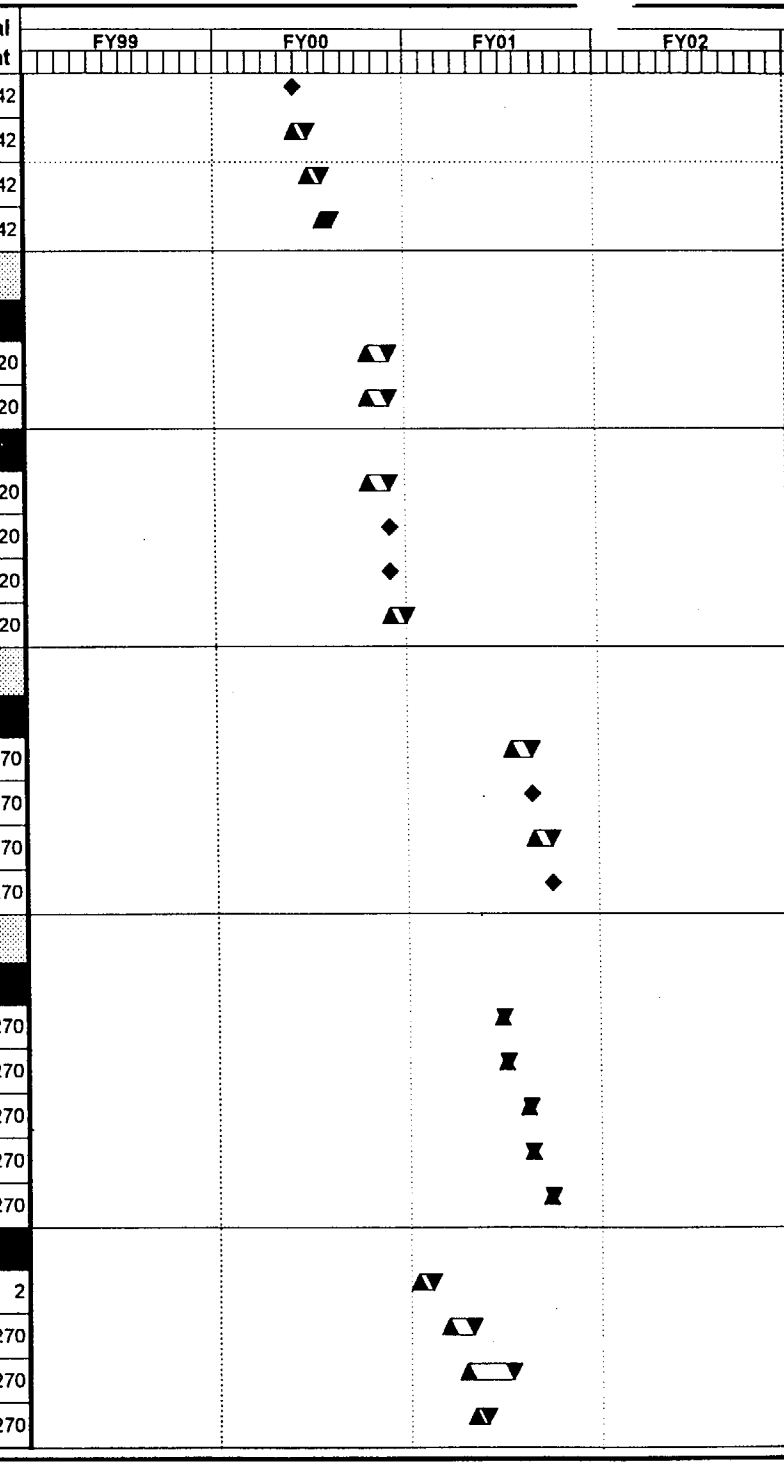
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLR24451	DOE Review Draft SR V2S4.2.8		20	01MAR00	28MAR00	43
SLR24452	Resolve Comments/Revise Draft SR V2S4.2.8		19	29MAR00	24APR00	43
SLR24453	DOE Acceptance Review of Draft SR V2S4.2.8		14	25APR00	12MAY00	43
V2S4.2.09						
150 Support Operations						
BMR24460	CDP Edit, Format Prel Draft V2S4.2.9		7	24NOV99	06DEC99	43
BMR24490	Preliminary QC Check of SR V2S4.2.9		5	04JAN00	10JAN00	43
BMR24500	CDP Edit, Reformat V2S4.2.9		2	18JAN00	19JAN00	43
BMR24520	CDP Final Edit V2S4.2.9 Approval Draft		2	17FEB00	18FEB00	43
BMR24525	V2S4.2.9 Pre-Submission QC Check		3	22FEB00	24FEB00	43
BMR24535	Repro & Prep V2S4.2.9 Submission Package		1	29FEB00	29FEB00	43
300 Regulatory & Licensing						
SLR24455	Write V2S4.2.9 Preliminary Draft		94	12JUL99*	23NOV99	43
SLR24465	M&O SR Team Review V2S4.2.9 Prel. Draft		9	07DEC99	17DEC99	43
SLR24470	Incorp. V2S4.2.9 SR Team Comments		9	20DEC99	03JAN00	43
SLR24495	Incorporate M& V2S4.2.9 QC Check Comments		5	11JAN00	17JAN00	43
SLR24505	M&O/YMSCO V2S4.2.9 Preliminary Review		10	20JAN00	02FEB00	43
SLR24510	Resolve M&O/YMSCO V2S4.2.9 Prelim Comments		5	03FEB00	09FEB00	43
SLR24515	Final Update for V2S4.2.9 Approval Draft		5	10FEB00	16FEB00	43
SLR24530	SR Team Finalize V2S4.2.9 Approval Draft		2	25FEB00	28FEB00	43
SLR24XM3	Submit V2S4.2.9. Draft f/ DOE Review	M3	0		29FEB00	43
SLR24541	DOE Review Draft SR V2S4.2.9		20	01MAR00	28MAR00	43
SLR24542	Resolve Comments/Revise Draft SR V2S4.2.9		19	29MAR00	24APR00	43
SLR24543	DOE Acceptance Review of Draft SR V2S4.2.9		14	25APR00	12MAY00	43
V2S4.2.10						
150 Support Operations						
BMR24550	CDP Edit, Format Prel Draft V2S4.2.10		7	24NOV99	06DEC99	43
BMR24580	Preliminary QC Check of SR V2S4.2.10		5	04JAN00	10JAN00	43
BMR24590	CDP Edit, Reformat V2S4.2.10		2	18JAN00	19JAN00	43
BMR24610	CDP Final Edit V2S4.2.10 Approval Draft		2	17FEB00	18FEB00	43
BMR24615	V2S4.2.10 Pre-Submission QC Check		3	22FEB00	24FEB00	43



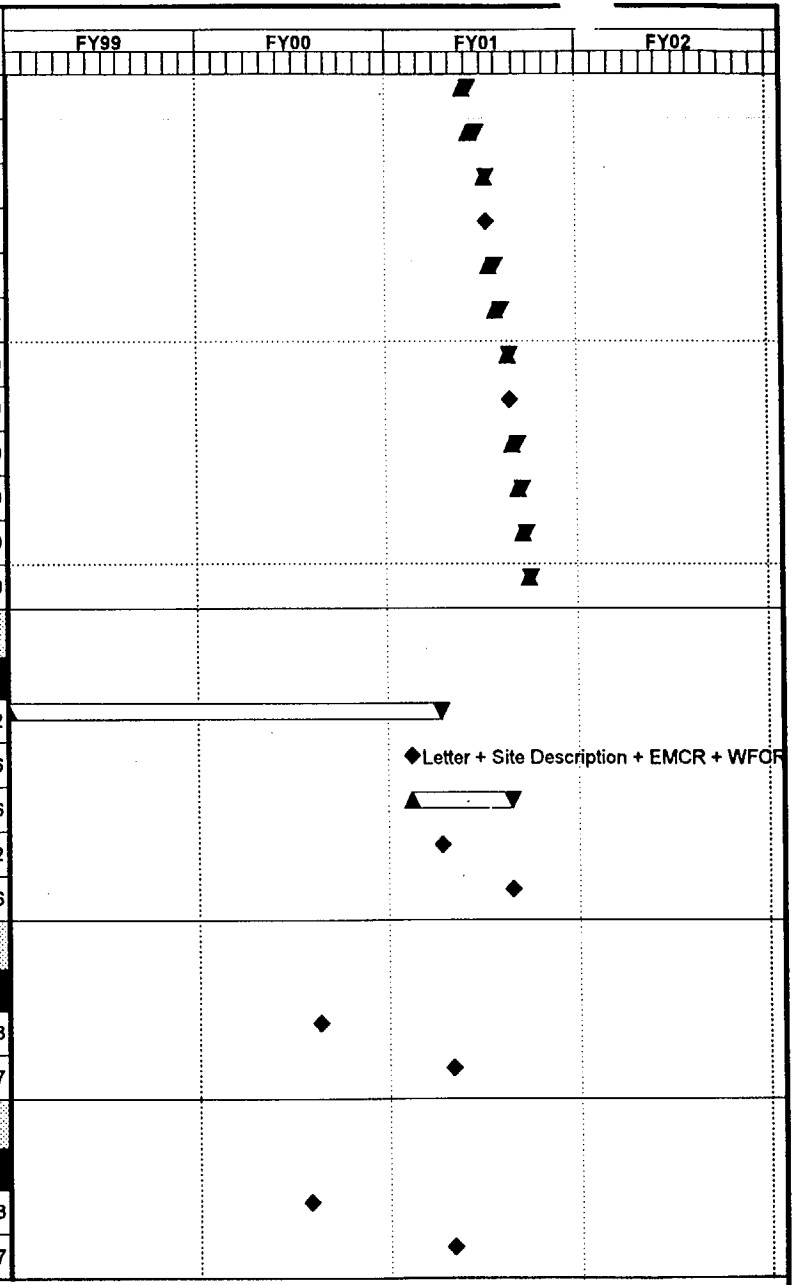
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
BMR24625	Repro & Prep V2S4.2.10 Submission Package		1	29FEB00	29FEB00	43
300 Regulatory & Licensing						
SLR24545	Write V2S4.2.10 Preliminary Draft		94	12JUL99*	23NOV99	43
SLR24555	M&O SR Team Review V2S4.2.10 Prel. Draft		9	07DEC99	17DEC99	43
SLR24560	Incorp. V2S4.2.10 SR Team Comments		9	20DEC99	03JAN00	43
SLR24585	Incorp M&O V2S4.2.10 QC Check Comments		5	11JAN00	17JAN00	43
SLR24595	M&O/YMSCO V2S4.2.10 Preliminary Review		10	20JAN00	02FEB00	43
SLR24600	Resolve M&O/YMSCO V2S4.2.10 Prelim Comments		5	03FEB00	09FEB00	43
SLR24605	Final Update for V2S4.2.10 Approval Draft		5	10FEB00	16FEB00	43
SLR24620	SR Team Finalize V2S4.2.10 Approval Draft		2	25FEB00	28FEB00	43
SLR246M3	Submit V2S4.2.10 Draft f/ DOE Review	M3	0		29FEB00	43
SLR24631	DOE Review Draft SR V2S4.2.10		20	01MAR00	28MAR00	43
SLR24632	Resolve Comments/Revise Draft SR V2S4.2.10		19	29MAR00	24APR00	43
SLR24633	DOE Acceptance Review of Draft SR V2S4.2.10		14	25APR00	12MAY00	43
V2S4.2.11						
150 Support Operations						
BMR24640	CDP Edit, Format Prel Draft V2S4.2.11		7	29NOV99	07DEC99	42
BMR24670	Preliminary QC Check of SR Sec 2.5.3.11		5	05JAN00	11JAN00	42
BMR24680	CDPEdit, Reformat V2S4.2.11		2	19JAN00	20JAN00	42
BMR24700	CDP Final Edit V2S4.2.11 Approval Draft		2	18FEB00	22FEB00	42
BMR24705	V2S4.2.11 Pre-Submission QC Check		3	23FEB00	25FEB00	42
BMR24715	Repro & Prep V2S4.2.11 Submission Package		1	01MAR00	01MAR00	42
300 Regulatory & Licensing						
SLR24635	Write V2S4.2.11 Preliminary Draft		37	01OCT99*	24NOV99	42
SLR24645	M&O SR Team Review V2S4.2.11 Prel. Draft		9	08DEC99	20DEC99	42
SLR24650	Incorp. V2S4.2.11 SR Team Comments		9	21DEC99	04JAN00	42
SLR24675	Incorporate M&O V2S4.2.11 QC Check Comments		5	12JAN00	18JAN00	42
SLR24685	M&O/YMSCO V2S4.2.11 Prelim Review		10	21JAN00	03FEB00	42
SLR24690	Resolve M&O/YMSCO V2S4.2.11 Prelim Comments		5	04FEB00	10FEB00	42
SLR24695	Final Update for V2S4.2.11 Approval Draft		5	11FEB00	17FEB00	42
SLR24710	SR Team Finalize V2S4.2.11 Approval Draft		2	28FEB00	29FEB00	42



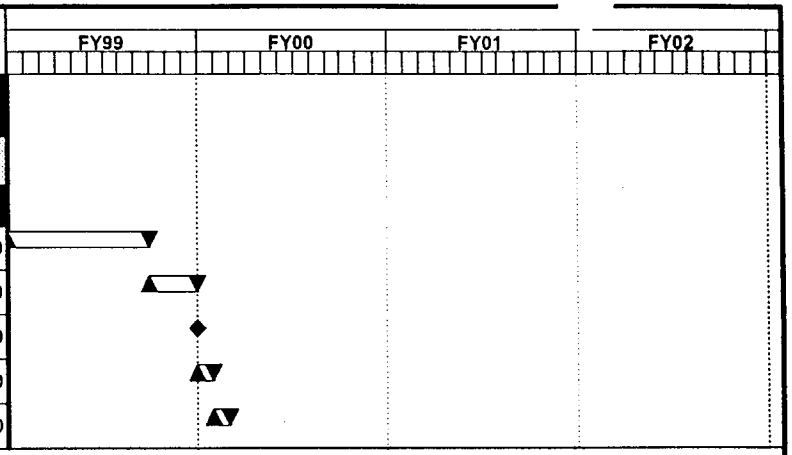
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLR247M3	Submit V2S4.2.11 Draft f/ DOE Review	M3	0		01MAR00	42
SLR24721	DOE Review Draft SR V2S4.2.11		20	02MAR00	29MAR00	42
SLR24722	Resolve Comments/Revise Draft SR V2S4.2.11		19	30MAR00	25APR00	42
SLR24723	DOE Acceptance Review of Draft SR V2S4.2.11		14	26APR00	15MAY00	42
V2SCHD						
150 Support Operations						
BMSR6030B	CDP Support SR Vol 2 Hearing Draft Finalization		32	17JUL00	29AUG00	20
BMSR6030C	Graphic Support SR Vol 2 Hearing Draft Finalizat		32	17JUL00	29AUG00	20
300 Regulatory & Licensing						
SLSR6030A	Finalize 10CFR960 Compl Eval f/Hearings		32	17JUL00	29AUG00	20
M2HQ	Initiate RW-1 Review of Compliance Evaluation	M2	0		29AUG00	20
SLSR6DM3	Complete Final 10CFR960 Evaluation (SR Vol 2)	M3	0		29AUG00	20
SLSR6045	DOE 10CFR960 Compl Eval Concurrence Review		20	30AUG00	27SEP00	20
V3						
300 Regulatory & Licensing						
SLTR225	State Views on Site Recommendation (Vol 3)		30	16APR01	25MAY01	270
MXJW	DOE Rec State of Nevada Comments on SR Decision	M2	0		25MAY01	270
SLTR245	Prepare Secretarial Response to State's Views		25	29MAY01	02JUL01	270
SLMXM4	Complete S-1 Response to State Comments	M4	0		02JUL01	270
V3.2						
150 Support Operations						
BMRCR075	CDP Format Hearings Comment Response Document		5	26MAR01	30MAR01	270
BMRCR080	QC Check of Hearings Comment Response Document		5	02APR01	06APR01	270
BMRCR100	CDP Format Hearings CSD Approval Draft		5	14MAY01	18MAY01	270
BMRCR105	QC Check Hearings CSD Approval Draft		3	21MAY01	23MAY01	270
BMRCR130	Final QC Check on Hearings CSD (SR Vol 3)		3	26JUN01	28JUN01	270
300 Regulatory & Licensing						
SLRCR050	Conduct Hearing CRD Preparation Training		19	16OCT00	09NOV00	2
SLRCR055	Collect/Track/Catalog Public Comments		33	11DEC00	26JAN01	270
SLTR204	Prepare Public Comment Summary Document (Vol 3)		64	15JAN01	13APR01	270
SLRCR060	Prepare Draft Responses to Public Comments		19	29JAN01	23FEB01	270



Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
SLRCR065	M&O Review of Public Comment Draft Responses		10	26FEB01	09MAR01	270
SLRCR070	Incorporate M&O Comments		10	12MAR01	23MAR01	270
SLRCR085	Finalize Hearings CRD/Incorporate QC Comments		5	09APR01	13APR01	270
SLR245M3	Complete SR Comment Summary Document	M3	0		13APR01	270
SLRCR090	YMSCO/DOE Review Hearings Comment Summary Doc.		11	16APR01	30APR01	270
SLRCR095	Incorporate DOE Comments in Hearings CSD		9	01MAY01	11MAY01	270
SLRCR110	Finalize Hearings CSD for HQ Review		2	24MAY01	25MAY01	270
M2CR	Submit Hearings CSD for HQ Approval	P2	0		25MAY01	270
SLRCR115	OCRWM/DOE Review Hearings CSD		10	29MAY01	11JUN01	270
SLRCR120	Resolve DOE Comments on Hearings CSD		5	12JUN01	18JUN01	270
SLRCR125	Finalize Hearings CSD (SR Vol. 3)		5	19JUN01	25JUN01	270
SLRCR135	Resolve/Incorp. QC Check Comments-Hearings CSD		2	29JUN01	02JUL01	270
V4						
300 Regulatory & Licensing						
SLTR155	NRC Interactions on Sufficiency		677	01OCT98*	10JAN01	302
M1GV	OCRWM Requests Sufficiency Comments from NRC	M1	0		13NOV00	226
SLTR155A	NRC Sufficiency Review Period		134	14NOV00	25MAY01	226
MXJB	NRC Issues IRSRs	M4	0		10JAN01	302
MXJA	DOE Receives Sufficiency Comments f/ NRC (SR-V4)	M2	0		25MAY01	226
WF PMR						
110 Waste Package Operations						
SLF722M4	Rec WF PMR Rev01/SR Consideration Hearing Draft	M4	0		19MAY00	38
SLF724M4	Rec WF PMR Rev 03 for SR Notification Draft	M4	0		31JAN01	17
WP PMR						
110 Waste Package Operations						
SLW632M4	Rec WP PMR Rev01/SR Consideration Hearing Draft	M4	0		28APR00	53
SLW634M4	Rec WP PMR Rev 03 for SR Notification Draft	M4	0		31JAN01	17



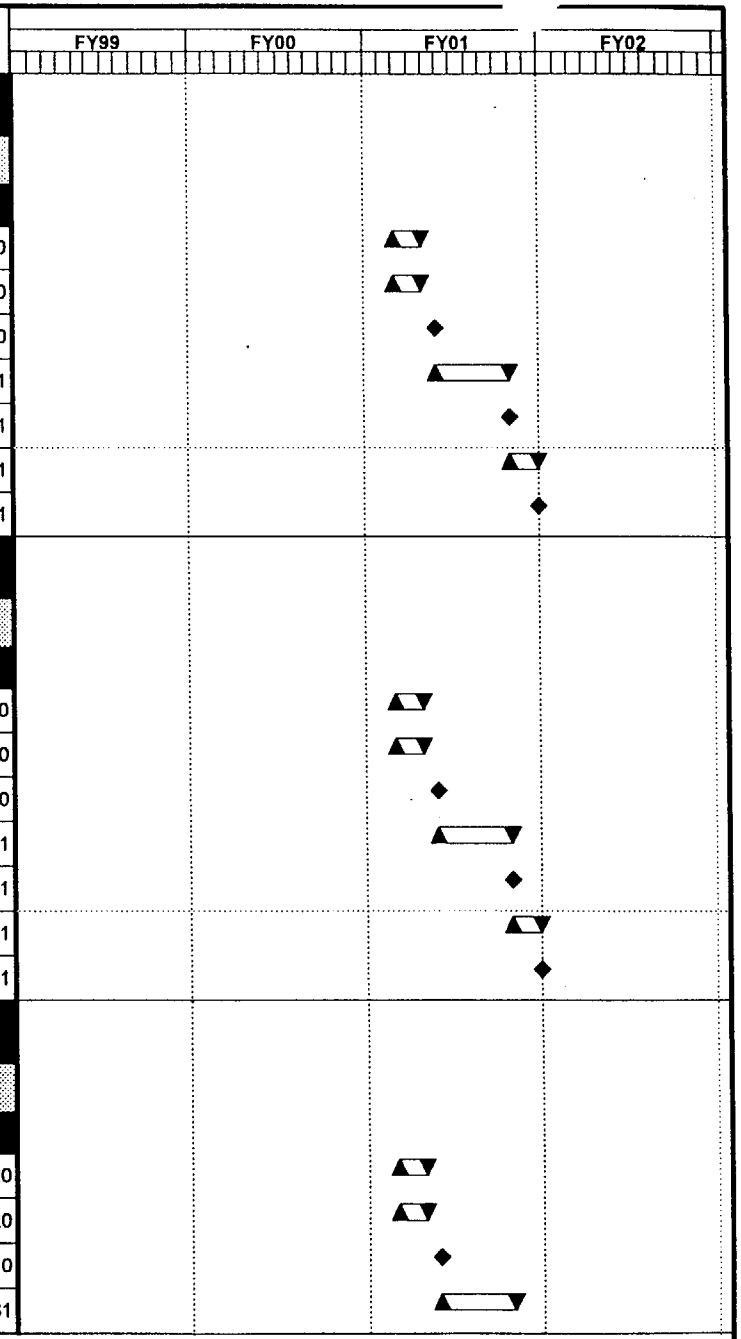
Activity ID	Activity Description	MILE	Orig dur	Early Start	Early Finish	Total Float
Z LADS/EDA2						
SA Summary Activities for SE						
160 Systems Engineering & Integration Office - LV						
SE1920	SR/LA Products List Draft Revision		182	01OCT98	30JUN99	260
SE1925	Complete SR/LA Products List incl. M&O Rev/App		64	01JUL99	30SEP99	260
SE1930M3	Submit SR/LA Products List to DOE for Approval	M3	0		30SEP99	260
SE1935	DOE Review of SR/LA Product List		20	01OCT99	29OCT99	260
SE1940	Incorporate DOE Comments to SR/LA Products List		19	01NOV99	30NOV99	260



Schedule

License Application Activities

Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
I ISM PMR							
Z9999 PMR Rev 02 thru Rev 05							
300 Regulatory & Licensing							
SPI00P	Revise ISM PMR AP 3.10Q's for LA			41	04DEC00	31JAN01	20
SPI00Q	Prepare ISM PMR REV-04A for LA			41	04DEC00	31JAN01	20
SPI00QM4	ISM PMR Rev-04A for LA		M4	0		01MAR01*	0
SPI00R	M&O Review ISM PMR Rev-04A for LA			106	02MAR01	31JUL01	181
SPI00RM3	ISM PMR Rev-04 for LA		M3	0		31JUL01	181
SPI00S	DOE Review ISM PMR 04 for LA			42	01AUG01	28SEP01	181
SPI00SM3	Rev 05 ISM PMR for LA		M3	0		28SEP01	181
B BIO PMR							
Z9999 PMR Rev 02 thru Rev 05							
300 Regulatory & Licensing							
SSB00P	Revise Bio PMR AP 3.10Q's for LA			41	04DEC00	31JAN01	20
SSB00Q	Prepare Bio PMR REV-04A for LA			41	04DEC00	31JAN01	20
SSB00QM4	Bio PMR Rev-04A for LA		M4	0		01MAR01*	0
SSB00R	M&O Review Bio PMR Rev-04A for LA			106	02MAR01	31JUL01	181
SSB00RM3	Bio PMR Rev-04 for LA		M3	0		31JUL01	181
SSB00S	DOE Review Bio PMR 04 for LA			42	01AUG01	28SEP01	181
SSB00SM3	Rev 05 Bio PMR for LA		M3	0		28SEP01	181
E EBS PMR							
Z9999 PMR Rev 02 thru Rev 05							
300 Regulatory & Licensing							
RPE00P	Revise EBS PMR AP 3.10Q's for LA			41	04DEC00	31JAN01	20
RPE00Q	Prepare EBS PMR REV-04A for LA			41	04DEC00	31JAN01	20
RPE00QM4	EBS PMR Rev-04A for LA		M4	0		01MAR01*	0
RPE00R	M&O Review EBS PMR Rev-04A for LA			106	02MAR01	31JUL01	181



Project Start 01OCT98
Project Finish 30SEP02
Data Date 01OCT98
Run Date 16MAY99

Early Bar
Progress Bar

M008

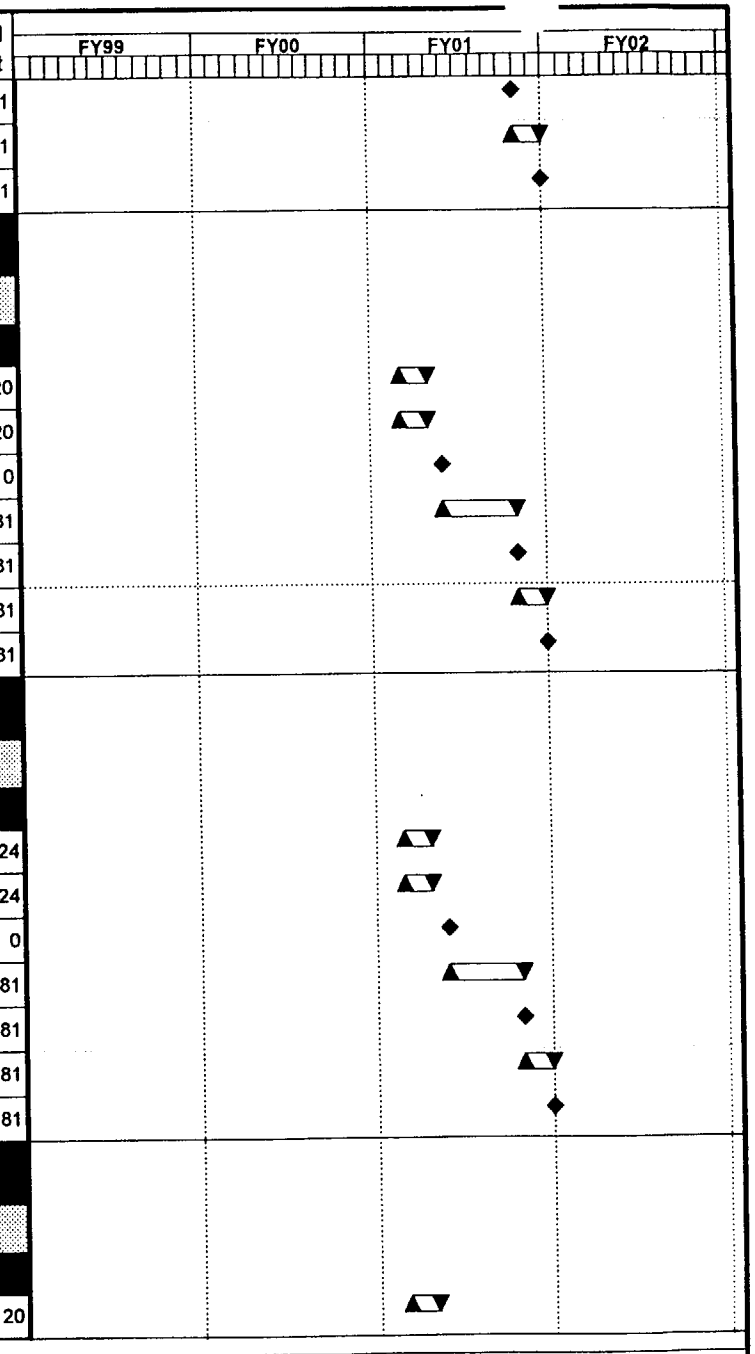
Sheet 1 of 12

CR-M&O M008 PMDQ/LADS
LA Activities (239) Activities
As of May 17,1999 @ 8:00 AM

(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
RPE00RM3	EBS PMR Rev-04 for LA		M3	0		31JUL01	181
RPE00S	DOE Review EBS PMR 04 for LA			42	01AUG01	28SEP01	181
RPE00SM3	Rev 05 EBS PMR for LA		M3	0		28SEP01	181
F WFD PMR							
Z9999 PMR Rev 02 thru Rev 05							
300 Regulatory & Licensing							
WPF00P	Revise WF PMR AP 3.10Q's for LA			41	04DEC00	31JAN01	20
WPF00Q	Prepare WF PMR REV-04A for LA			41	04DEC00	31JAN01	20
WPF00QM4	WF PMR Rev-04A for LA		M4	0		01MAR01*	0
WPF00R	M&O Review WF PMR Rev-04A for LA			106	02MAR01	31JUL01	181
WPF00RM3	WF PMR Rev-04 for LA		M3	0		31JUL01	181
WPF00S	DOE Review WF PMR 04 for LA			42	01AUG01	28SEP01	181
WPF00SM3	Rev 05 WF PMR for LA		M3	0		28SEP01	181
N NFE PMR							
Z9999 PMR Rev 02 thru Rev 05							
300 Regulatory & Licensing							
SPN00P	Revise NFE PMR AP 3.10Q's for LA			41	28NOV00	25JAN01	24
[illegible]	Prepare NFE PMR REV-04A for LA			41	28NOV00	25JAN01	24
[illegible]N00QM4	NFE PMR Rev-04A for LA		M4	[illegible]		01MAR01*	0
SPN00R	M&O Review NFE PMR Rev-04A for LA			106	02MAR01	31JUL01	181
SPN00RM3	NFE PMR Rev-04 for LA			0		31JUL01	181
SPN00S	DOE Review NFE PMR 04 for LA			42	01AUG01	28SEP01	181
SPN00SM3	Rev 05 NFE PMR for LA			0		28SEP01	181
U UZ PMR							
Z9999 PMR Rev 02 thru Rev 05							
300 Regulatory & Licensing							
SLU00P	Revise UZ PMR AP 3.10Q's for LA			41	04DEC00	31JAN01	20



Project Start 01OCT98
Project Finish 30SEP02
Data Date 01OCT98
Run Date 16MAY99

Early Bar
Progress Bar

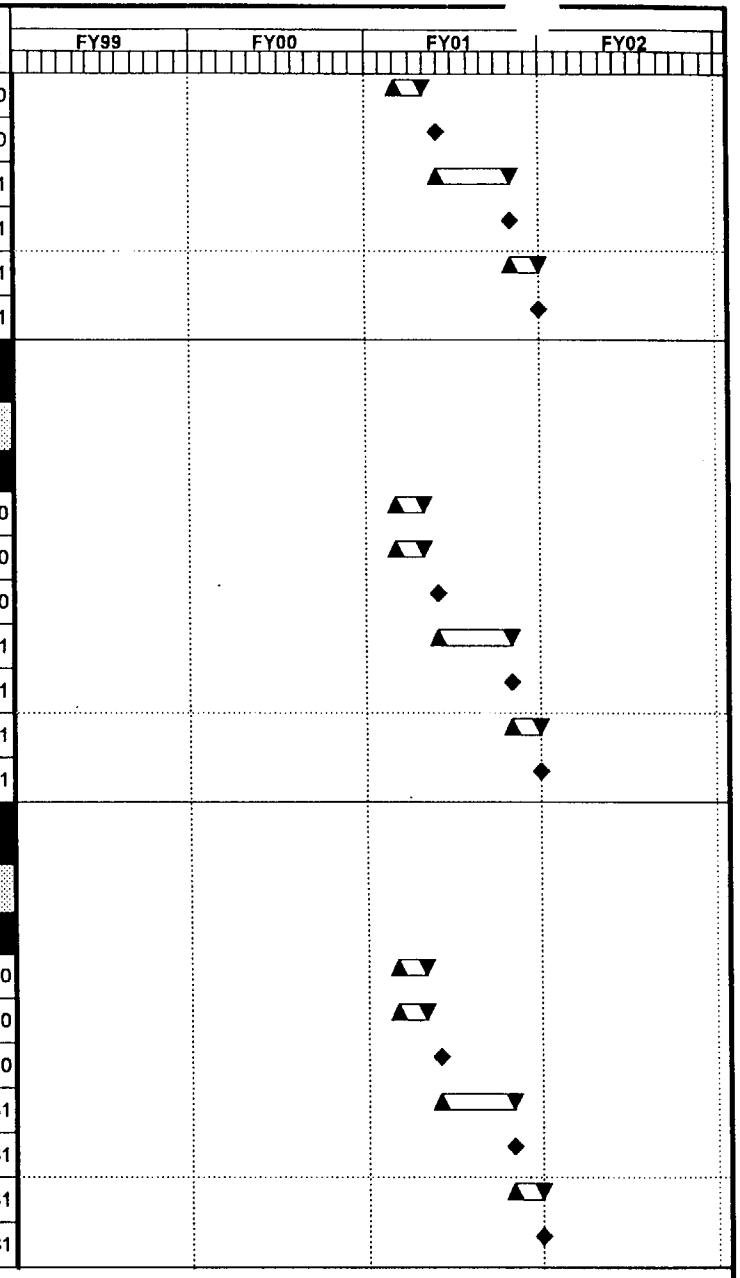
M008

CR-M&O M008 PMDQ/LADS
LA Activities (239) Activities
As of Ma[illegible]7,1999 @ 8:00 AM

(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
SLU00Q	Prepare UZ PMR REV-04A for LA			41	04DEC00	31JAN01	20
SLU00QM4	UZ PMR Rev-04A for LA		M4	0		01MAR01*	0
SLU00R	M&O Review UZ PMR Rev-04A for LA			106	02MAR01	31JUL01	181
SLU00RM3	UZ PMR Rev-04 for LA		M3	0		31JUL01	181
SLU00S	DOE Review UZ PMR 04 for LA			42	01AUG01	28SEP01	181
SLU00SM3	Rev 05 UZ PMR for LA		M3	0		28SEP01	181
S SZ PMR							
Z9999 PMR Rev 02 thru Rev 05							
300 Regulatory & Licensing							
SPS00P	Revise SZ PMR AP 3.10Q's for LA			41	04DEC00	31JAN01	20
SPS00Q	Prepare SZ PMR REV-04A for LA			41	04DEC00	31JAN01	20
SPS00QM4	SZ PMR Rev-04A for LA		M4	0		01MAR01*	0
SPS00R	M&O Review SZ PMR Rev-04A for LA			106	02MAR01	31JUL01	181
SPS00RM3	SZ PMR Rev-04 for LA		M3	0		31JUL01	181
SPS00S	DOE Review SZ PMR 04 for LA			42	01AUG01	28SEP01	181
SPS00SM3	Rev 05 SZ PMR for LA		M3	0		28SEP01	181
W WP PMR							
Z9999 PMR Rev 02 thru Rev 05							
300 Regulatory & Licensing							
WPW00P	Revise WP PMR AP 3.10Q's for LA			41	04DEC00	31JAN01	20
WPW00Q	Prepare WP PMR REV-04A for LA			41	04DEC00	31JAN01	20
WPW00QM4	WP PMR Rev-04A for LA		M4	0		01MAR01*	0
WPW00R	M&O Review WP PMR Rev-04A for LA			106	02MAR01	31JUL01	181
WPW00RM3	WP PMR Rev-04 for LA		M3	0		31JUL01	181
WPW00S	DOE Review WP PMR 04 for LA			42	01AUG01	28SEP01	181
WPW00SM3	Rev 05 WP PMR for LA		M3	0		28SEP01	181



Project Start 01OCT98
Project Finish 30SEP02
Data Date 01OCT98
Run Date 16MAY99

Early Bar
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M008

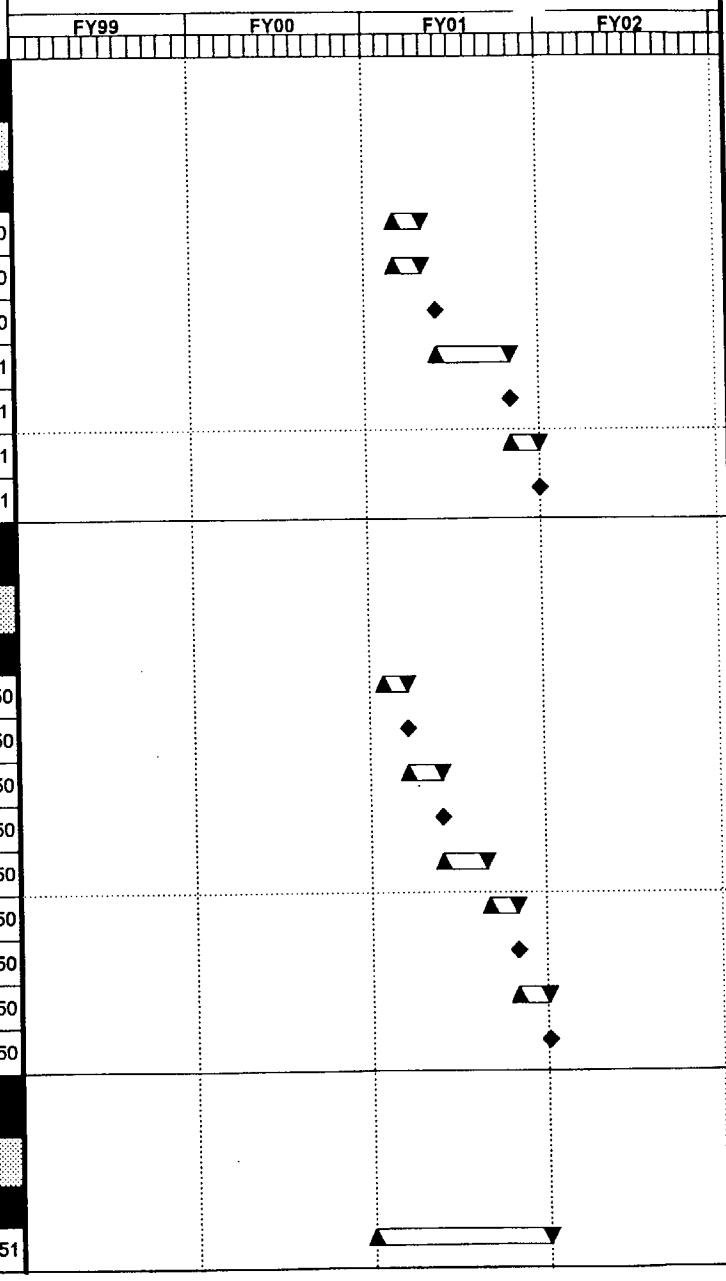
Sheet 3 of 12

CR-M&O M008 PMDQ/LADS
LA Activities (239) Activities
As of May 17,1999 @ 8:00 AM

(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
T Tectonics PMR							
Z9999 PMR Rev 02 thru Rev 05							
300 Regulatory & Licensing							
SLT00P	Revise Tec PMR AP 3.10Q's for LA			41	04DEC00	31JAN01	20
SLT00Q	Prepare Tec PMR REV-04A for LA			41	04DEC00	31JAN01	20
SLT00QM4	Tec PMR Rev-04A for LA		M4	0		01MAR01*	0
SLT00R	M&O Review Tec PMR Rev-04A for LA			106	02MAR01	31JUL01	181
SLT00RM3	Tec PMR Rev-04 for LA		M3	0		31JUL01	181
SLT00S	DOE Review Tec PMR 04 for LA			42	01AUG01	28SEP01	181
SLT00SM3	Rev 05 Tec PMR for LA		M3	0		28SEP01	181
P TSPA SR AP3.10Qs							
BASE Baseline Activities							
130 Performance Assessment Operations							
SL91964	Interpret / Document			32	31OCT00	18DEC00	250
SL924M4	TSPA Input to SR - Rev 01		M4	0		18DEC00	250
SL91972	M&O Review			50	19DEC00	01MAR01	250
SL924M3	TSPA-SR Final - Rev 01		M3	0		01MAR01	250
SL91080	Run Baseline TSPA - Rev 02			65	02MAR01*	01JUN01	250
SL91120	Document and Interpert Rev 02			42	04JUN01*	01AUG01	250
SL980M4	TSPA Input to LA Rev 02		M4	0		01AUG01	250
SL91125	Review and Revise Rev 02			42	02AUG01	01OCT01	250
SL980M3	TSPA - LA Final		M3	0		01OCT01*	250
A PMR Management & Intergration							
300 Regulatory & Licensing							
SLPMR03	PMR Management & Integration (FY01)			250	02OCT00	28SEP01	251



Project Start 01OCT98
Project Finish 30SEP02
Data Date 01OCT98
Run Date 16MAY99

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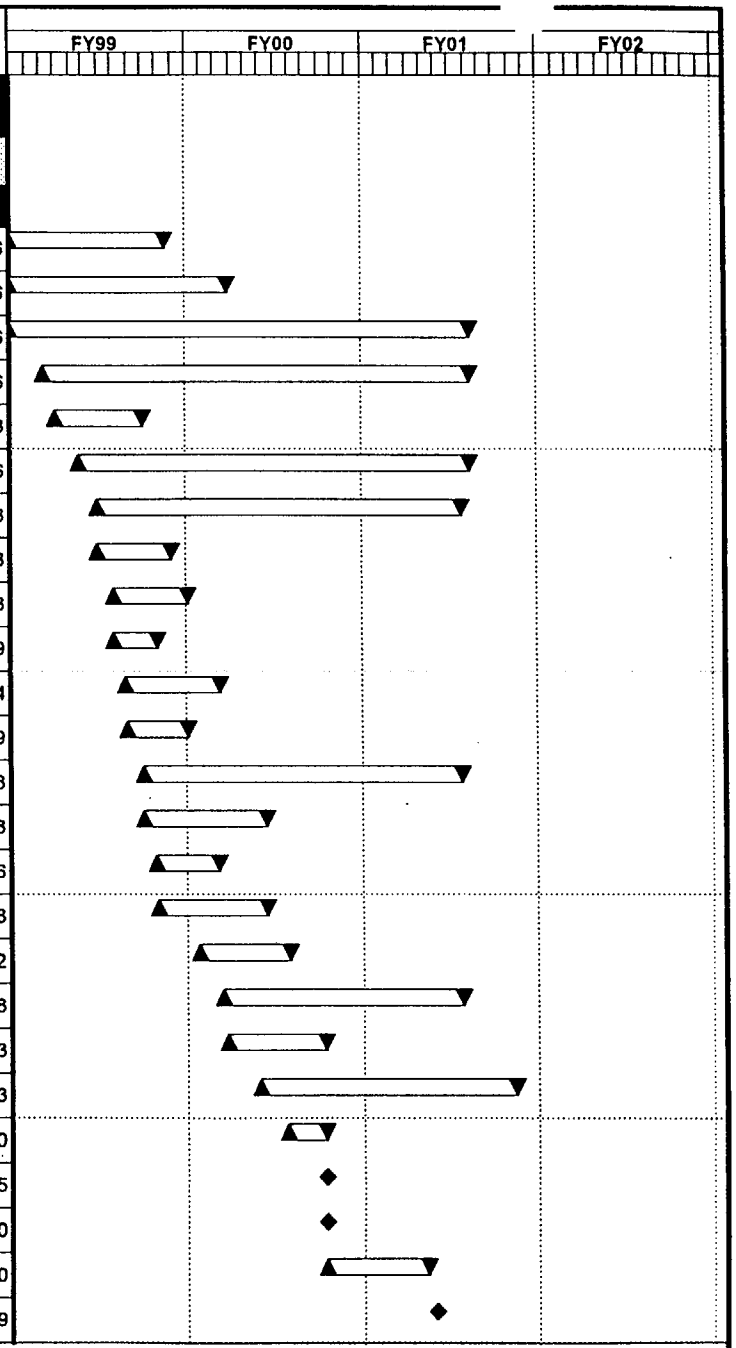
CR-M&O M008 PMDQ/LADS
LA Activities (239) Activities
As of Ma 17,1999 @ 8:00 AM

(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
M Systems Eng SDD's							
SA Summary Activities for SE							
160 Systems Engineering & Integration Office - LV							
SE1040	SDD Section 1 w/o (EDA II/CFR63)			217	01OCT98	19AUG99	346
SE1515	Compliance Packages			304	01OCT98	28DEC99	346
SE1699	TBX Resolution (ongoing)			652	01OCT98	15MAY01	346
SE1600	Maintenance of Issued Section I SDD's (Ongoing)			607	09DEC98	15MAY01	346
SE1800	Interface Requirements Analyses (IRA)			129	04JAN99*	06JUL99	493
SE1695	Maintenance of Compliance Packages (ongoing)			562	22FEB99	15MAY01	346
SE1698	Maintenance of ICD and Waste Accep Doc's (ongoin			522	01APR99	27APR01	358
SE1810	Program ICD's			109	01APR99*	02SEP99	358
SE1080	QAP3-12 Design inputs to Support DBE Analysis			109	03MAY99*	05OCT99	408
SE1520	CRD			65	03MAY99*	03AUG99	459
SE1000	SDD Sec 1 Revision (EDA II/CFR63) Key Systems			133	28MAY99	09DEC99	394
SE1525	MGR-RD			88	01JUN99*	04OCT99	439
SE1697	Maintenance of Classification Analysis (ongoing)			455	07JUL99	27APR01	358
SE1805	Interface Requirements Analyses (IRA) for SR/LA			175	07JUL99	17MAR00	493
SE1530	PDD/ 10CFR63			87	02AUG99*	07DEC99	396
SE1030	DBE Analysis Report (3.10Q) from 3.12 input			152	04AUG99	14MAR00	358
SE1822	CVM Package Development			130	25OCT99	01MAY00	462
SE1690	Maintenance of Issued DBE's (ongoing)			345	15DEC99	27APR01	358
SE1010	SDD Sec II (Key Systems)			143	22DEC99*	14JUL00	283
SE1610	Maintenance of Issued Section II SDD's (ongoing)			370	28FEB00	14AUG01	283
SE1500	Complete all Checking and Review			55	27APR00*	14JUL00	410
SE1070M4	All Analysis Issued to Support SR Hearings		M4	0		14JUL00	555
SE1510M4	Consideration Hearing Product issued to DOE		M4	0		14JUL00	410
SE1815	Final Waste Acceptance Documents			145	17JUL00	13FEB01	410
SE1680M4	Notification Hearing product issued to DOE		M4	0		01MAR01*	399



Project Start 01OCT98
Project Finish 30SEP02
Data Date 01OCT98
Run Date 15MAY99

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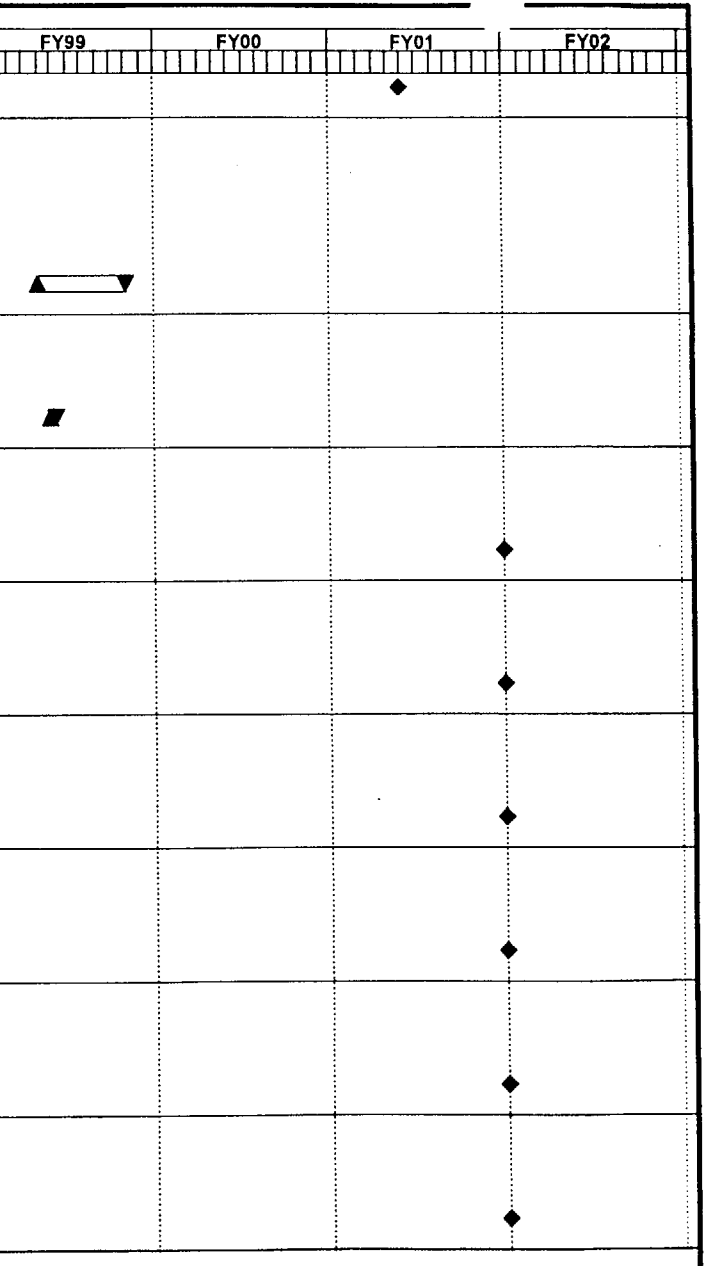
CR-M&O M008 PMDQ/LADS
LA Activities (239) Activities
As of May 17,1999 @ 8:00 AM

(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
SE1780M4	SR/LA product Issued to DOE		M4	0		01MAR01	399
X Detailed SR Schedule							
111							
160 Systems Engineering & Integration Office - LV							
SEF8146	SA Support for SDD Develop. and Maint. of SDDs			127	03FEB99*	03AUG99	793
AO							
300 Regulatory & Licensing							
SLSR5025	SR Annotated Outline Rev 1 Acceptance Review			10	01MAR99	12MAR99	893
BIO PMR							
150 Support Operations							
SLB276M4	Rec Bio PMR Rev 05 for License Application		M4	0		28SEP01	181
EBS PMR							
120 Engineered Barrier System Operations							
SLE816M4	Rec EBS PMR Rev 05 for License Application		M4	0		28SEP01	181
ISM PMR							
140 Natural Environment Program Operations							
SLM186M4	Rec ISM PMR Rev 05 for License Application		M4	0		28SEP01	181
NFE PMR							
140 Natural Environment Program Operations							
SLN546M4	Rec NFE PMR Rev 05 for Licesnse Application		M4	0		28SEP01	181
SZ PMR							
140 Natural Environment Program Operations							
SLS456M4	Rec SZ PMR Rev 05 for License Application		M4	0		28SEP01	181
TEC PMR Tectonics PMR							
150 Support Operations							
SL284M4	Rec Tectonics PMR Rev 05 for License Application		M4	0		28SEP01	181



Project Start 01OCT98
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LA Activities (239) Activities
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(Final) PP&C Engineering Scheduling

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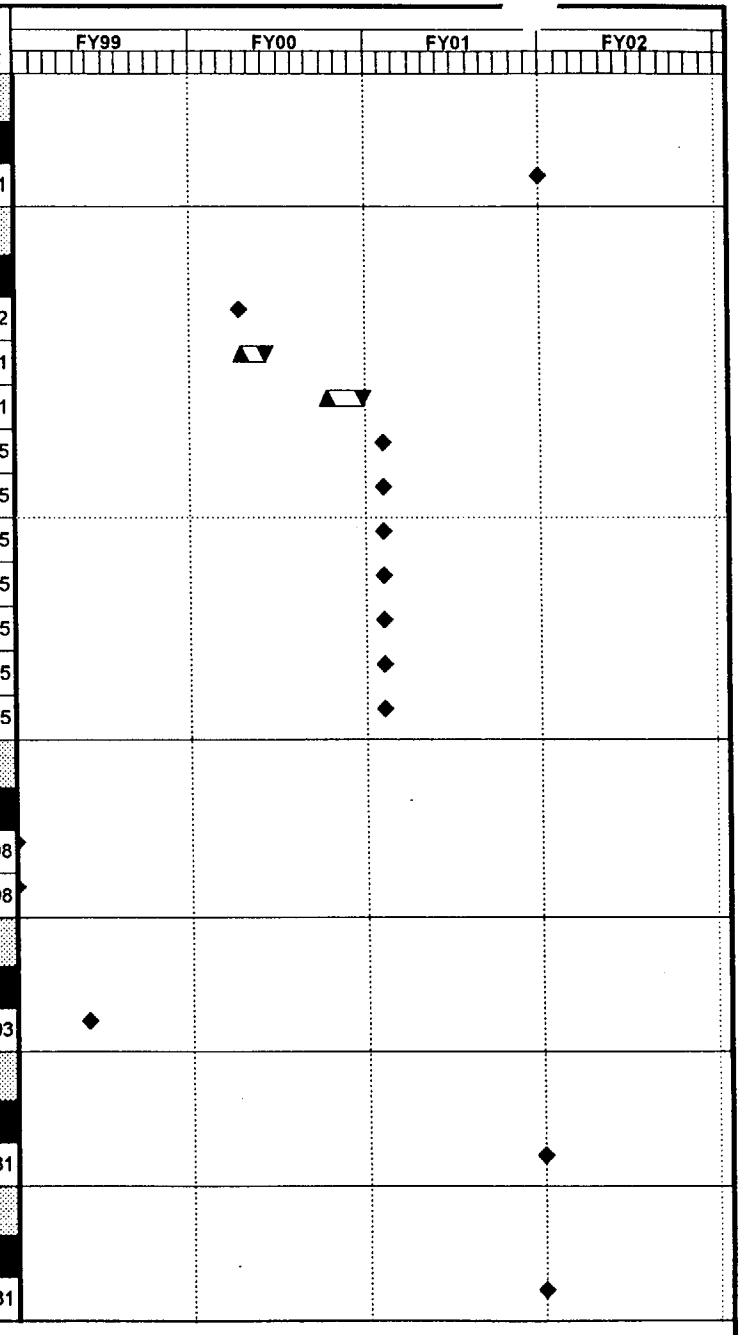
Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
UZ PMR							
140 Natural Environment Program Operations							
SLU366M4	Rec UZ PMR Rev 05 for License Application		M4	0		28SEP01	181
V1S2							
300 Regulatory & Licensing							
SLSU44M4	Rec Site Electrical Power System SDD Sec 2		M4	0		14JAN00*	682
SLR13120	YMSCO Conduct V1S2 Ref 30.12 Review as needed			35	18JAN00	07MAR00	631
SLR13165	WPM Incorporate V1S2 Ref Docs in WBIS			54	17JUL00	29SEP00	501
SLSU10M4	Rec Assembly Transfer System SDD Sec 2		M4	0		07NOV00*	475
SLSU11M4	Rec Canister Transfer System SDD Sec 2		M4	0		07NOV00*	475
SLSU12M4	Rec Waste Package Remediation System SDD Sec 2		M4	0		07NOV00*	475
SLSU13M4	Disposal Container Handling System SDD Sec 2		M4	0		07NOV00*	475
SLSU18M4	Rec Waste Handling Bldg Electr. Sys. SDD Sec 2		M4	0		07NOV00*	475
SLSU22M4	Waste Handling Bldg Ventilation Sys SDD Sec 2		M4	0		07NOV00*	475
SLSUCGM4	Rec Site Compressed Gas System SDD Sec 2		M4	0		07NOV00*	475
V1S4.1							
300 Regulatory & Licensing							
SLSR7AM4	Receive NOA for Draft EIS		M4	0		30SEP98	998
SLSR7DM4	Receive YMSCO Approved FEIS		M4	0		30SEP98	998
V4							
300 Regulatory & Licensing							
SDM4	Receive Site Description w/NRC Comments		M4	0		26FEB99*	903
WF PMR							
110 Waste Package Operations							
SLF726M4	Rec WF PMR Rev 05 for License Application		M4	0		28SEP01	181
WP PMR							
110 Waste Package Operations							
SLW636M4	Rec WP PMR Rev 05 for License Application		M4	0		28SEP01	181



Project Start 01OCT98
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LA Activities (239) Activities
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Date	Revision	Checked	Approved

Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
Z LADS/EDA2							
SA Summary Activities for SE							
160 Systems Engineering & Integration Office - LV							
SE1900	Revise Reference Design Description (RDD)			86	01JUN99*	30SEP99	607
K Working Draft License Application Outline							
300 Regulatory & Licensing							
SLWD0070	Licensing Develop WDLA Ch.3 Draft			99	01OCT98	04MAR99	899
SLWD0100	Licensing Develop WDLA Ch. 8 Draft			92	01OCT98	23FEB99	906
SLWDR8M4	Receive Draft WDLA CH 8		M4	0		23FEB99	906
SLWDR3M4	Receive Draft WDLA CH 3		M4	0		04MAR99	899
M2NF	DOE Completes Review of WDLA		M2	0		28JAN00*	422
L LA Schedule							
300 Regulatory & Licensing							
SLDI0005	Prepare Level of Design Detail Paper for LA			10	12MAY99*	25MAY99	147
SLDI0010	M&O Review Level of Design Detail Paper for LA			3	26MAY99	28MAY99	147
SLDI0015	Finalize Level of Design Detail Paper for LA			4	01JUN99	04JUN99	147
SLDI0020	QC Check/Prod./Level of Design Detail Paper f/LA			4	07JUN99	10JUN99	147
SLDI05M3	Submit Level of Design Detail Paper f/LA to DOE		M3	0		10JUN99	147
SLDI0025	DOE Rvw/Comm. Res.-Lvl of Dsgn Detail Paper f/LA			35	11JUN99	30JUL99	147
SLADLA01	Licensing Develop ADLA Ch.1 Draft - FY99			43	02AUG99	30SEP99	147
SLADLA02	Licensing Develop ADLA Ch.2 Draft - FY99			43	02AUG99	30SEP99	153
SLADLA03	Licensing Develop ADLA Ch.3 Draft - FY99			43	02AUG99	30SEP99	147
SLADLA04	Licensing Develop ADLA Ch. 4 Draft - FY99			43	02AUG99	30SEP99	153
SLADLA05	Licensing Develop ADLA Ch. 5 Draft - FY99			43	02AUG99	30SEP99	153
SLADLA06	Licensing Develop ADLA Ch. 6 Draft - FY99			43	02AUG99	30SEP99	153

FY99 | FY00 | FY01 | FY02

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LA Activities (239) Activities
As of Ma 7,1999 @ 8:00 AM

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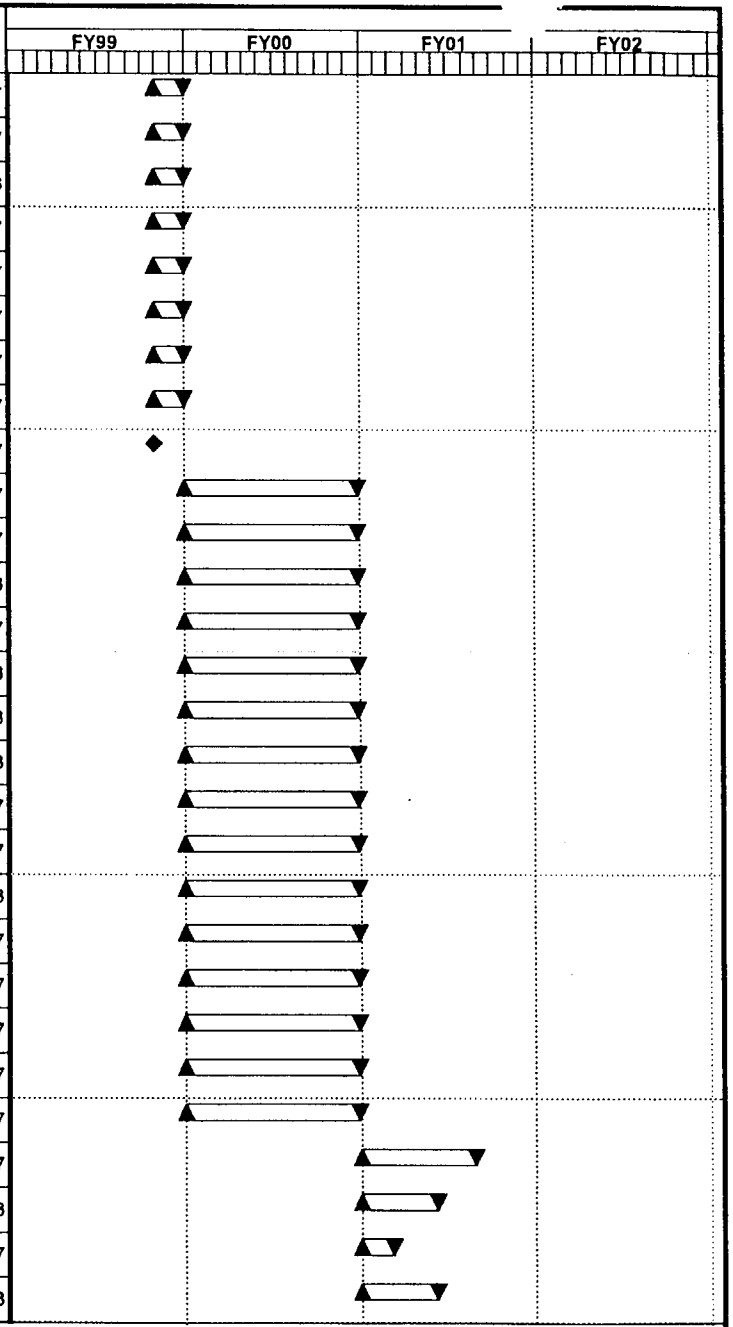
Date	Revision	Checked	Approved

Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
SLADLA07	Licensing Develop ADLA Ch. 7 Draft - FY99			43	02AUG99	30SEP99	147
SLADLA08	Licensing Develop ADLA Ch. 8 Draft - FY99			43	02AUG99	30SEP99	147
SLADLA09	Licensing Develop ADLA Ch. 9 Draft - FY99			43	02AUG99	30SEP99	153
SLADLA10	Licensing Develop ADLA Ch. 10 Draft - FY99			43	02AUG99	30SEP99	147
SLADLA11	Licensing Develop ADLA Ch. 11 Draft - FY99			43	02AUG99	30SEP99	147
SLADLA12	Licensing Develop ADLA Ch. 12 Draft - FY99			43	02AUG99	30SEP99	147
SLADLA13	Licensing Develop ADLA Ch. 13 Draft - FY99			43	02AUG99	30SEP99	147
SLADLA14	Licensing Develop ADLA Ch. 14 Draft - FY99			43	02AUG99	30SEP99	147
SLADLAM4	Start Preparing Acceptance Draft Lic Application		M4	0	02AUG99*		147
SLAD1007	LA Acceptance Draft Development			251	01OCT99	29SEP00	147
SLADLA01A	Licensing Develop ADLA Ch.1 Draft - FY00			251	01OCT99	29SEP00	147
SLADLA02A	Licensing Develop ADLA Ch.2 Draft - FY00			251	01OCT99	29SEP00	153
SLADLA03A	Licensing Develop ADLA Ch.3 Draft - FY00			251	01OCT99	29SEP00	147
SLADLA04A	Licensing Develop ADLA Ch. 4 Draft - FY00			251	01OCT99	29SEP00	153
SLADLA05A	Licensing Develop ADLA Ch. 5 Draft - FY00			251	01OCT99	29SEP00	153
SLADLA06A	Licensing Develop ADLA Ch. 6 Draft - FY00			251	01OCT99	29SEP00	153
SLADLA07A	Licensing Develop ADLA Ch. 7 Draft - FY00			251	01OCT99	29SEP00	147
SLADLA08A	Licensing Develop ADLA Ch. 8 Draft - FY00			251	01OCT99	29SEP00	147
SLADLA09A	Licensing Develop ADLA Ch. 9 Draft - FY00			251	01OCT99	29SEP00	153
SLADLA10A	Licensing Develop ADLA Ch. 10 Draft - FY00			251	01OCT99	29SEP00	147
SLADLA11A	Licensing Develop ADLA Ch. 11 Draft - FY00			251	01OCT99	29SEP00	147
SLADLA12A	Licensing Develop ADLA Ch. 12 Draft - FY00			251	01OCT99	29SEP00	147
SLADLA13A	Licensing Develop ADLA Ch. 13 Draft - FY00			251	01OCT99	29SEP00	147
SLADLA14A	Licensing Develop ADLA Ch. 14 Draft - FY00			251	01OCT99	29SEP00	147
SLADLA01B	Licensing Develop ADLA Ch.1 Draft - FY01			163	02OCT00	25MAY01	147
SLADLA02B	Licensing Develop ADLA Ch.2 Draft - FY01			108	02OCT00	09MAR01	153
SLADLA03B	Licensing Develo ADLA Ch.3 Draft - FY01			46	02OCT00	08DEC00	147
SLADLA04B	Licensing Develop ADLA Ch. 4 Draft - FY01			108	02OCT00	09MAR01	153



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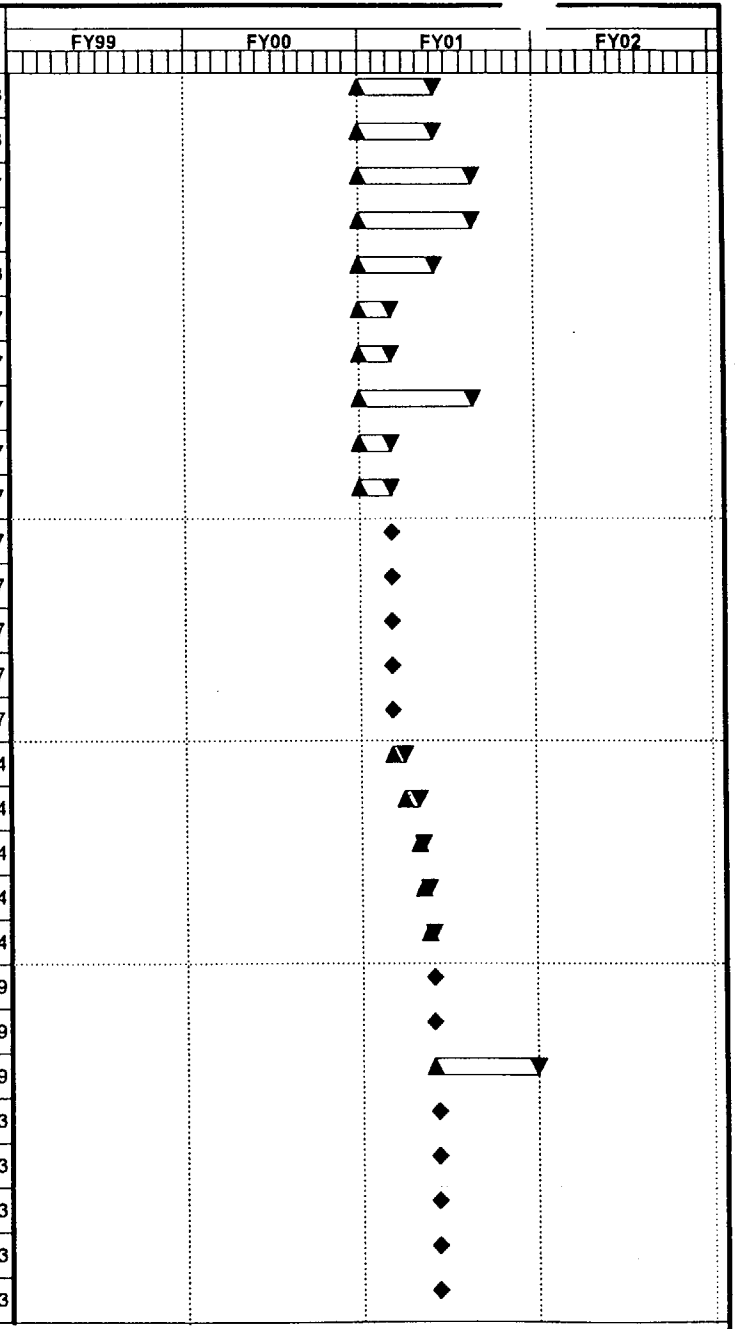
SLADLA05B	Licensing Develop ADLA Ch. 5 Draft - FY01			108	02OCT00	09MAR01	153
SLADLA06B	Licensing Develop ADLA Ch. 6 Draft - FY01			108	02OCT00	09MAR01	153
SLADLA07B	Licensing Develop ADLA Ch. 7 Draft- FY01			163	02OCT00	25MAY01	147
SLADLA08B	Licensing Develop ADLA Ch. 8 Draft - FY01			163	02OCT00	25MAY01	147
SLADLA09B	Licensing Develop ADLA Ch. 9 Draft - FY01			108	02OCT00	09MAR01	153
SLADLA10B	Licensing Develop ADLA Ch. 10 Draft - FY01			46	02OCT00	08DEC00	147
SLADLA11B	Licensing Develop ADLA Ch. 11 Draft - FY01			46	02OCT00	08DEC00	147
SLADLA12B	Licensing Develop ADLA Ch. 12 Draft - FY01			163	02OCT00	25MAY01	147
SLADLA13B	Licensing Develop ADLA Ch. 13 Draft - FY01			46	02OCT00	08DEC00	147
SLADLA14B	Licensing Develop ADLA Ch. 14 Draft - FY01			46	02OCT00	08DEC00	147
SLADR3M4	Receive Draft ADLA CH 3		M4	0		08DEC00	147
SLADRAM4	Receive Draft ADLA CH 10		M4	0		08DEC00	147
SLADRBM4	Receive Draft ADLA CH 11		M4	0		08DEC00	147
SLADRDM4	Receive Draft ADLA CH 13		M4	0		08DEC00	147
SLADREM4	Receive Draft ADLA CH 14		M4	0		08DEC00	147
SLAD2000	Compile/Repro ADLA Site & Programmatic Chapters			22	09DEC00	30DEC00	214
SLAD2005	Final QAP 3.5 Review/Incorp Comments S&P Chapter			32	31DEC00	31JAN01	214
SLAD2010	Package & Publish ADLA S&P Chapters			9	01FEB01	09FEB01	214
SLAD2020	Final ADLA QC Check S&P Chap. (Internal to Lic.)			13	10FEB01	22FEB01	214
SLAD2025	Repro ADLA S&P Chap. f/ QAP 6.2 Review Submision			7	23FEB01	01MAR01	214
M2NE	YMSCO Initiates Rvw-Draft LA by OCRWM/DOE Office		M2	0		01MAR01*	149
SLAD03M3	M&O Submit ADLA S& P Chap. QAP-6.2 Draft to DOE		M3	0		01MAR01	149
SLAD1045	DOE Staff Rvw of ADLA S & P Chapters-FY01			148	02MAR01	28SEP01	149
SLADR2M4	Receive Draft ADLA CH 2		M4	0		09MAR01	153
SLADR4M4	Receive Draft ADLA CH 4		M4	0		09MAR01	153
SLADR5M4	Receive Draft ADLA CH 5		M4	0		09MAR01	153
SLADR6M4	Receive Draft ADLA CH 6		M4	0		09MAR01	153
SLADR9M4	Receive Draft ADLA CH 9		M4	0		09MAR01	153



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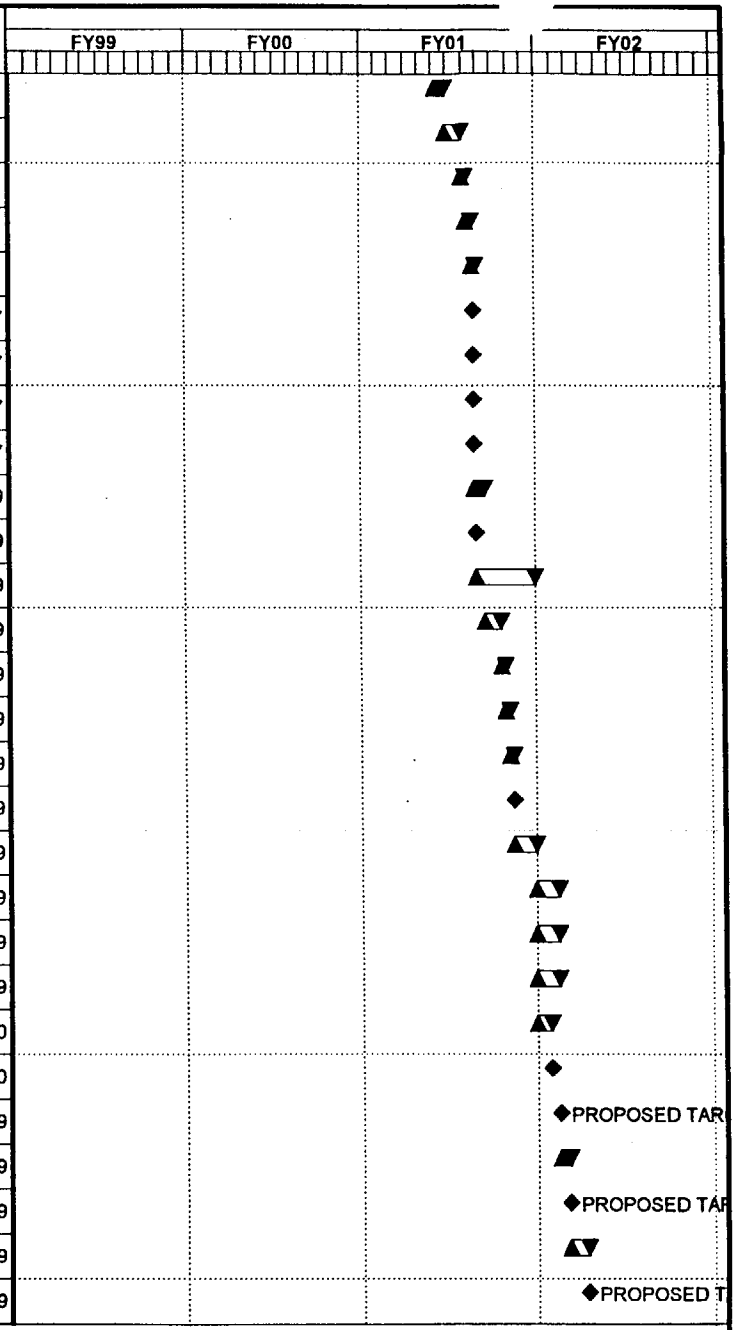
Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
SLAD3000	Compile/Repro ADLA Design/Engr. Chapters			22	10MAR01	31MAR01	221
SLAD3005	Final QAP 3.5 Review/Incorp Comments D&E Chapter			32	01APR01	02MAY01	221
SLAD3010	Package & Publish ADLA D&E Chapters			9	03MAY01	11MAY01	221
SLAD3020	Final ADLA QC Check D&E Chap. (Internal to Lic.)			13	12MAY01	24MAY01	221
SLAD3025	Repro ADLA D&E Chap. f/ QAP 6.2 Review Submision			6	25MAY01	30MAY01	221
SLADR1M4	Receive Draft ADLA CH 1		M4	0		25MAY01	147
SLADR7M4	Receive Draft ADLA CH 7		M4	0		25MAY01	147
SLADR8M4	Receive Draft ADLA CH 8		M4	0		25MAY01	147
SLADRCM4	Receive Draft ADLA CH 12		M4	0		25MAY01	147
SLAD4000	Compile/Repro ADLA Performance Chapters			22	26MAY01	16JUN01	219
SLAD04M3	M&O Submit ADLA D&E Chap. QAP-6.2 Draft to DOE		M3	0		31MAY01	149
SLAD2002	DOE Staff Rvw of ADLA Engr & Dsgn Chap.-FY01			84	01JUN01	28SEP01	149
SLAD4005	Final QAP 3.5 Review/Incorp Comments Per Chapter			32	17JUN01	18JUL01	219
SLAD4010	Package & Publish ADLA Perf. Chapters			9	19JUL01	27JUL01	219
SLAD4020	Final ADLA QC Check Per Chap. (Internal to Lic.)			11	28JUL01	07AUG01	219
SLAD4025	Repro ADLA Per Chap. f/ QAP 6.2 Review Submision			8	08AUG01	15AUG01	219
SLAD05M3	M&O Submit ADLA Perf. Chap. QAP-6.2 Draft to DOE		M3	0		15AUG01	149
SLAD3002	DOE Staff Rvw of ADLA Performance Chap.-FY01			31	16AUG01	28SEP01	149
SLAD150	DOE Staff Rvw of ADLA S & P Chapters-FY02			32	01OCT01	15NOV01	149
SLAD2003	DOE Staff Rvw of ADLA Engr. & Dsgn Chap.-FY02			32	01OCT01	15NOV01	149
SLAD3003	DOE Staff Rvw of ADLA Performance Chapters-FY02			32	01OCT01	15NOV01	149
SLWP0005	Prepare Work Prioritization Plan			21	01OCT01*	30OCT01	230
SLWP00M4	Complete Work Prioritization Plan		M4	0		30OCT01*	230
M2NV	DOE Completes Staff Review of Draft LA		M2	0		15NOV01	149
SLAD1191	Prepare/Package ADLA OCRWM Concurrence Draft			13	16NOV01	06DEC01	149
M2ND	YMSCO Submits Draft LA for OCRWM Concurrence		M2	0		06DEC01	149
SLAD1192	OCRWM Project & Office Mgr ADLA Concurrence Rvw			23	07DEC01	10JAN02	149
M2NC	Compl OCRWM Proj./Office Mgrs' Concurrence of LA		M2	0		10JAN02	149



Project Start 01OCT98
Project Finish 30SEP02
Data Date 01OCT98
Run Date 16MAY99

Early Bar
Progress Bar

M008

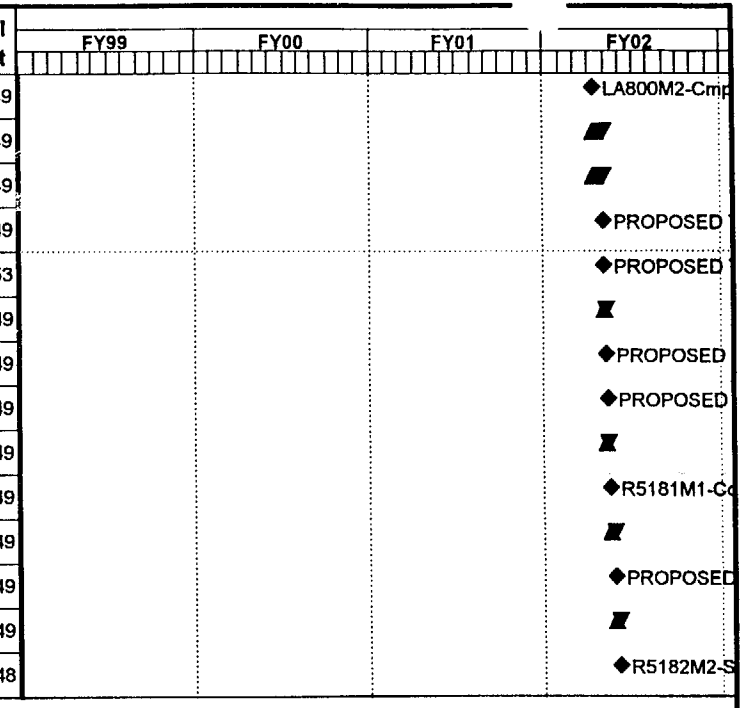
Sheet 11 of 12

CR-M&O M008 PMDQ/LADS
LA Activities (239) Activities
As of May 17,1999 @ 8:00 AM

(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

Activity ID	Activity Description	TRAC	MILE	Orig dur	Early Start	Early Finish	Total Float
M1KX	OCRWM Submits Draft LA to DOE Offices for Concur		M1	0		11JAN02	149
SLAD1201	DOE Concurrence Review of ADLA			14	14JAN02	31JAN02	149
SLAD1202	Navy Concurrence Review of ADLA			14	14JAN02	31JAN02	149
M1NR	Complete DOE and Navy Concurrence of Draft LA		M1	0		31JAN02	149
M2NA	YMSCO Submits LA to RW-1 for Acceptance		M2	0		31JAN02	153
SLAD1205	Prepare ADLA RW-1 Acceptance Copy			5	01FEB02	07FEB02	149
M2NS	YMSCO Completes Documentary Record for LA		M2	0		07FEB02	149
M1NB	Complete RW-1 Acceptance of LA		M1	0		08FEB02	149
SLAD1210	RW-1 Review ADLA for Acceptance			1	08FEB02	08FEB02	149
M1SC	RW-1 Submits the LA to S-1		M1	0		12FEB02	149
SLAD1215	Secretarial Review/Acceptance of ADLA			5	13FEB02	20FEB02	149
M0AW	DOE Signs the LA		M0	0		20FEB02	149
SLAD1220	Repro License Application for Submission to NRC			6	21FEB02	28FEB02	149
M0AM	Secretary Submit License Application to NRC		M0	0		01MAR02*	148



Project Start 01OCT99
Project Finish 30SEP02
Data Date 01OCT99
Run Date 15MAY99

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Early Bar
Progress Bar

M008

Sheet 12 of 12

CR-M&O M008 PMDQ/LADS
LA Activities (239) Activities
As of Ma[illegible]7,1999 @ 8:00 AM

(Final) PP&C Engineering Scheduling

Date	Revision	Checked	Approved

Transmitted with letter dtd 1/7/99

CR 99/008

Revise the Project Baseline to Add and Delete Work Scope, Budget, and Milestones for Process Models and Data Qualification (PMDQ) and Enhanced Design Alternative (EDA) II

Volume 3

Copy of Approved Change Request

102-8

Section 11
Responses to 3/25/99 Guidance Letter
Table of Contents

Summary of Responses to 3/25/99 Requirements

1) a)

Summary of Responses to 3/25/99 Requirements

This section contains responses to the requirements contained in the March 25, 1999, letter from Dr. J. Russell Dyer, YMSCO Project Manager, to Dr. D.R. Wilkins, M&O AGM, specifying guidance for this Change Request.

This section contains the following:

Requirements/Products Matrix — lists the requirements contained in the 3/25/99 guidance letter and where they are addressed in this CR submittal

PMR Description — describes the structure and content of the Process Model Reports that will be used to support/prepare the SR report and the LA

PMR Logic Diagrams — pictorial representations of how underlying AP-3.10Q analysis reports and data/model/code sets support each of the nine PMRs

PMR Annotated Outlines — outlines of the contents of each of the nine PMRs

AP-3.10Q Report Scope Statements — synopsis of the contents of each AP-3.10Q report

Key Documents Supporting SR/LA — table of how the PMRs, SDDs, and other key documents are used to support/build sections of the SR report and LA

PMR Cost Table — estimate of the cost of preparing each PMR and its supporting AP-3.10Q analyses

Data Qualification Plan and Status — status of the plan for qualifying the technical data, models, and software needed for SR/LA

Tiger Team and Their Goals — list of the Tiger Teams identified to date and their goals, which will determine the specific minimum necessary and sufficient data sets for SR/LA

Deliverable Deletion Rationale Matrix — documentation of concurrence of the disposition of deliverables being altered/deleted by this change request

Requirements/Products Matrix

1) b)

Item #	Requirements from 3/25/99 PMDQ CR Guidance Letter	CR Document Addressing Requirement
1	The PMRs should focus only on the documentation of the technical basis for the process models used in postclosure performance assessment.	PMR Description
2	They (PMRs) should contain no regulatory conclusions or compliance arguments, . . .	PMR Description
3	. . . they (PMRs) should not be prepared for conversion to topical reports.	PMR Description
4	The depth and breadth of scientific and engineering work that relates to the assessment of post closure performance and that will be used in preparing the SR Report and LA must be adequately represented in the PMRs, and in supporting Administrative Procedure (AP) 3.10Q analyses and other documents.	PMR Description
5	The PMRs and the AP-3.10Q analyses, as appropriate, must take full advantage of and adequately reflect the body of existing scientific work on the Project by direct reference, as is normally done within the scientific and technical community.	PMR Description, PMR Annotated Outlines
6	The PMRs must provide sufficient support for the conclusions and models presented to be credible and defensible, and to withstand rigorous technical review.	PMR Description, PMR Annotated Outlines
7	The PMRs should be based on the best available information and provide a roadmap to that information, both in the Technical Data Management System (TDMS) and available reports.	PMR Description, PMR Annotated Outlines
8	In order to adequately define the scope of the PMR effort, the CR needs to: contain an outline of each PMR that is sufficiently detailed to convey the scope of the document; . . .	PMR Annotated Outlines
9	In order to adequately define the scope of the PMR effort, the CR needs to: . . . Identify the number and scope of the AP-3.10Q analyses that may be required to support each PMR; . . .	PMR Logic Diagrams, AP-3.10Q Report Scope Statements
10	In order to adequately define the scope of the PMR effort, the CR needs to: . . . identify the data, including existing data, analyses, and interpretations, that are likely to be considered in preparing the PMRs and supporting APR-3.10Q analyses; . . .	PMR Logic Diagrams, AP-3.10Q Report Scope Statements
11	In order to adequately define the scope of the PMR effort, the CR needs to: . . . to the extent possible, indicate which data, analyses and interpretations contained in existing references are likely to require qualification or other action prior to use and provide a detailed plan for this effort; . . .	Data Qualification Plan and Status, Tiger Teams and Their Goals
12	In order to adequately define the scope of the PMR effort, the CR needs to: . . . provide a list of other documentation, data, and models that may be addressed or a schedule for providing the information in each PMR.	PMR Annotated Outlines, Schedule
13	An appropriately detailed cost estimate for the work required in preparing each PMR and the associated AP-3.10Q documentation must be provided so that there is a basis to evaluate the scope of the proposal.	PMR Cost Table
14	A schedule for development of the PMRs and the associated AP-3.10Q analyses and supporting data also needs to be provided.	Schedule

Item #	Requirements from 3/25/99 PMDQ CR Guidance Letter	CR Document Addressing Requirement
15	The linkages between each PMR and its supporting AP-3.10Q analyses, existing scientific data and analyses, and other information should be defined to the extent possible.	PMR Logic Diagrams, Schedule
16	The linkages between each PMR and its supporting AP-3.10Q analyses, existing scientific data and analyses, and other information should be defined to the extent possible.	AP-3.10Q Report Scope ements, Schedule
17	The relationship of the CR and the PMRs to plans development or completion of other documents, including the Seismic Hazard Topical Reports, the Disposal Criticality To al Report, and separate reports on disruptive events and natural analogs, also needs to be described.	Schedule
18	The schedule must indicate how the PMRs will support the process and schedule for development of the draft SR Re rt and draft LA chapters.	Schedule
19	DOE review of the CR will focus heavily on the details of the logic in the schedule.	Schedule
20	The CRWMS M&O should provide a matrix showi how the PMRs support preparation of the relevant postc sure sections of the SR Report and LA.	Key Documents Supporting SR/LA
21	The matrix should also indicate where other documents are required to provide the necessary information (e.g., TSPA Description).	Key Documents Supporting SR/LA
22	Since the proposed PMR process focuses entire the documentation needed for postclosure evaluations, the CR should indicate how the PMR process and other proposed changes relate to existing plans to provide the other information (e.g., on design and pre closure radiological safety) that is required for the SR Report and LA.	None. No significant impact anticipated.
23	The CR should clearly note any changes in the work planned to provide the information needed for design and preclosure safety analyses.	None. N nificant impact anticipate
24	The CR needs to provide DC with a detailed schedule and specific goals of the Tiger Team efforts related to each PMR, and an estimate of the costs associated with these efforts for each PMR so that there is a basis to understand the scope of the effort and to identify those areas that require the greatest expenditure of resources.	Schedule, Tiger Teams and Their Goals
25	The Tiger Team schedules need to integrated h the PMR development schedule so that the erall PMR schedule can be evaluated.	Schedule
26	Additional technical reviews, data qualification activities, and formal peer reviews that may be required, as identified by the Tiger Teams, should not be planned as part CR, but should be included in future CRs as the needs are ide .	N/A
27	The deletion or disposition of planned fiscal year (FY) 1998 and FY 1999 Level 3 Deliverables should be discussed with and must be agreed upon by the Yucca Mountain Site Characterization Office (YMSCO) Assistant Manager (AM) affected as part of CR development.	Deliverable Deletion Rationale Matrix

Item #	Requirements from 3/25/99 PMDQ CR Guidance Letter	CR Document Addressing Requirement
28	A rationale for each Level 3 deliverable deletion agreed upon by the affected YMSCO AM needs to be included in the CR. The rationale should include a discussion of where the data or information will be captured, a schedule for when this event will occur, and an estimate of the cost savings associated with deliverable deletion (i.e., a cost-benefit analysis for the deletion as opposed to completing it according to the present plan).	Deliverable Deletion Rationale Matrix
29	Absent a clear benefit to deleting the deliverable, the work should be completed as originally planned.	Deliverable Deletion Rationale Matrix
30	Rather than accept the proposed treatment of the PMRs as a new sub product, with a separate sub-product element for each PMR, as a basis for CR development, DOE prefers that the CR effort focus on the detailed integration of the schedule and scope for PMR development, and the relationship of the PMRs to other project documents and activities.	Schedule, PMR Description, PMR Logic Diagrams, Key Documents Supporting SR/LA
31	Once this (CR planning) effort has begun, it should be possible for the planning team to identify where the proposed activities logically fall in the Project Work Breakdown Structure. Two weeks after the receipt of this guidance, the planning team should report to Victor W. Trebules, Director, Office of Project Control, with a proposal for DOE approval regarding the planning structure for reporting and monitoring work related to these new activities.	Completed via 4/16/99 email from Harbert to Summerson
32	We (DOE) remain concerned that the cost estimate to re-focus the FY 1999 CRWMS M&O work plan on high priority tasks needed to develop the documentation and traceability required for the SR Report and the LA has grown since the original proposal presented on February 4, 1999. We suggest that the final cost associated with the CR be constrained to the $8.7 million estimate contained in the above-referenced letter.	Budget and Cost Back Up Tables
33	The CR needs to contain a detailed schedule which shows all necessary and appropriate technical feeds to the final Environmental Impact Statement (EIS) under the new construct, and most importantly, demonstrates how the CRWMS M&O will assure technical and design consistency between the final EIS and SR.	Schedule
34	The proposed schedule for PMR development (as indicated in the above-referenced letter) shows that verification and traceability activities will be completed by the end of FY 1999.	Schedule
35	Before approving the FY 2000 plan, the DOE will need to have a good understanding of what additional information must be collected or other work completed to support the PMRs.	Schedule
36	To approve the CR, DOE will also need to understand, in detail, the differences, if any, in scope, cost, or schedule, between the work discussed in Volume 4 of the VA and the work planned for FY 1999, 2000, and the out years to achieve SR and LA under this new construct.	VA Document Cross-walk (to be submitted week of 5/24/99)

PMR Description

1) c) i)

Description of Process Model Report Concept

Purpose

The purpose of a Process Model Report (PMR) is to document a synthesis of the necessary and sufficient technical information that the Project will be relying upon to support its site suitability evaluation and the licensing safety case pertaining to a particular process model. The technical information consists of data, analyses, models, software, and supporting documentation used to defend the applicability of the model for its intended purpose of evaluating the postclosure performance of the Yucca Mountain repository system.

Scope of Reports

A Process Model Report will be developed for each of the nine topics identified below:

1. Integrated Site Model
2. Unsaturated Zone Flow and Transport
3. Saturated Zone Flow and Transport
4. Near Field Environment
5. Waste Package Degradation
6. Waste Form Degradation
7. Engineered Barrier System Degradation and Flow/Transport
8. Biosphere
9. Tectonic Hazards

The Process Model Reports will incorporate the results of the model validation and traceability effort currently underway, as well as reflect the analyses and modeling documentation to be developed under the AP-3.10Q process, *Analyses and Models*. Each Process Model Report will address the following aspects related to the particular process model being addressed:

- Description of the model and submodels
- Abstraction of the model into TSPA
- Relevant data and data uncertainties
- Assumptions and bases
- Model results (outputs)
- Information on code verification/model validation
- Opposing views
- Information necessary to support regulatory evaluations

PMR Development

As indicated in the purpose statement above, each Process Model Report will be a synthesis report. These reports, estimated to be on the order of 200-300 pages each, will primarily

reference supporting AP-3.10Q analyses and modeling documentation, documents developed outside the Project, and other key documents (e.g., Topical Reports and other Process Model Reports). However, the intent is to minimize reference to other internal Project reports, to the extent practicable. Such reports may be considered for referencing on a case-by-case basis.

Figure 1 illustrates the PMR development concept. Each of the analyses and models that are related to a particular Process Model Report will be documented in accordance with AP-3.10Q. This documentation will be summarized in the Process Model Report, but will not be physically part of the report. The Process Model Report itself will be developed using procedure AP-3.11Q, *Technical Reports*.

In developing each Process Model Report, and the supporting analyses and models, the subject matter experts will be cognizant of existing documentation (internal and external) that is related to the process model being addressed. The information in these related documents will be evaluated and dispositioned in one of the following ways.

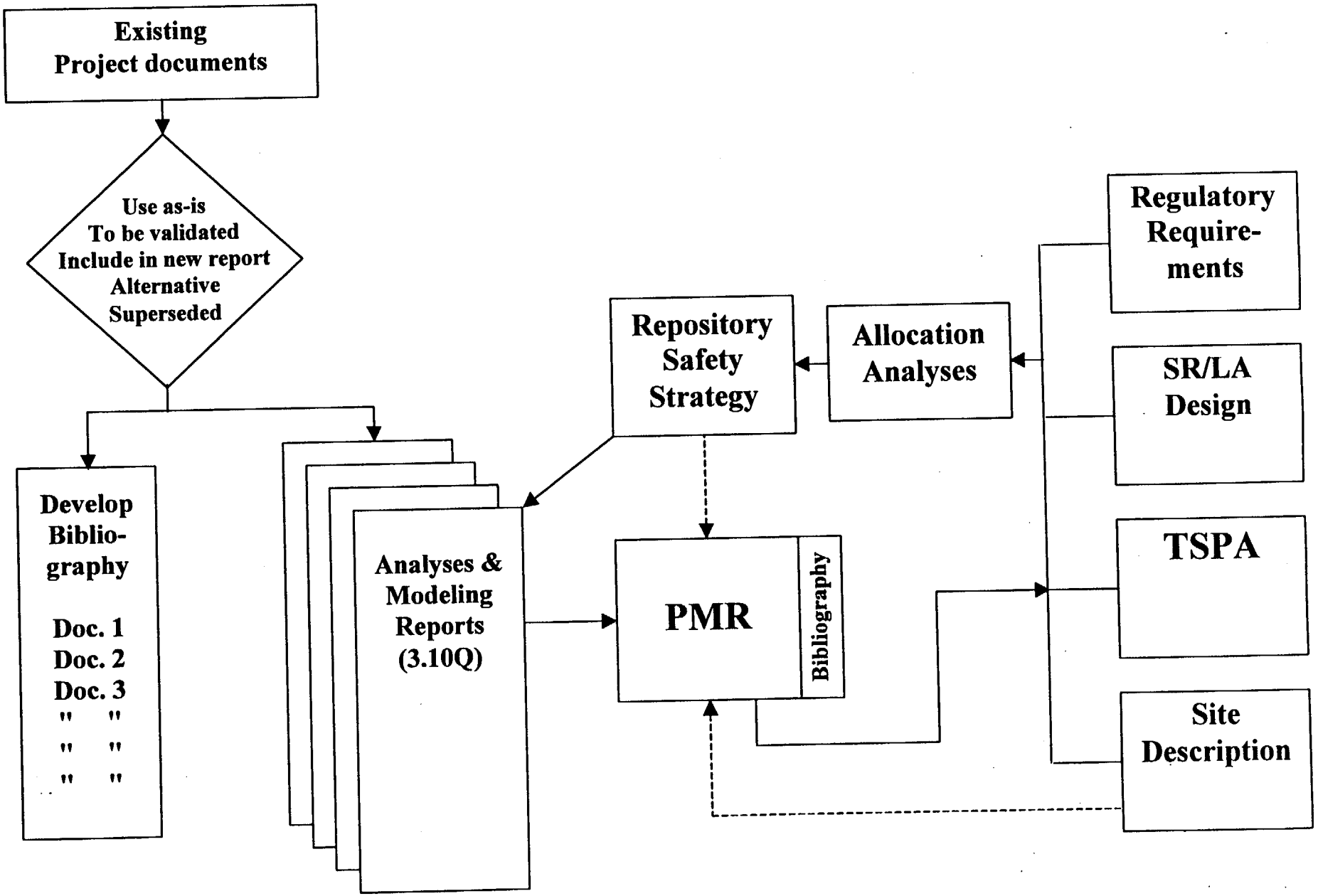
- Use as is
- To be validated
- Include in new analysis and modeling (3.10Q)/technical report (3.11Q)
- Alternative interpretation
- Superseded

The purpose of this evaluation is to provide objective evidence that the depth and breadth of the technical information available on a particular process model has been adequately considered. For further detail on this process, refer to Appendix A.

These Process Model Reports will be developed using the "To Be Verified (TBV)" tag for that information that needs further work (e.g., data that need to be qualified). The Process Model Reports will contain TBVs primarily because the subordinate AP-3.10Q analyses and model reports contain TBV information. The principal task in going from Rev. 00 of the analyses and model reports to subsequent revisions will be removing the TBVs and conducting appropriate controlled impact analyses per AP-3.10Q. The goal is to eliminate these TBVs as much as possible by the time the Site Recommendation is submitted to the President (July 2001).

There is also an iterative allocation process involved in the development of the PMRs and supporting analysis and model reports. The allocation process takes into account the regulatory requirements, the current SR/LA design, the TSPA results based on that design, and what is know about the site characteristics. This information allows an evaluation of the various components of the system to determine the importance of each of these components in supporting the postclosure safety case. This evaluation would be reflected in the Repository Safety Strategy and be used to drive the level of analysis or modeling needed to support each of the PMRs.

Figure 1 - PMR Development



PMR Team

The PMRs will be developed using an integrated matrix management concept that draws expertise from various elements of the M&O organization. The personnel listed below have been assigned responsibility for development of the PMRs:

PMR Manager – Mike Lugo
PMR Production Coordinator – Steve Kopelic

PMR	PMR Lead	PA Representative	Regulatory Representative
Integrated Site Model	Clinton Lum	Cliff Ho	Terry Crump
Unsaturated Zone Flow/Transport	Bo Bodvarsson	Cliff Ho	Martha Pendleton
Saturated Zone Flow/Transport	Al Eddebbarh	Bill Arnold	Augie Matthusen
Near Field Environment	Debra Bryan	Nick Francis	Pete Gaillard
Waste Package Degradation	Joe Farmer	Joon Lee	Ali Haghi
Waste Form Degradation	Christine Stockman	Rob Rechard	Mike Scott
EBS Degradation/Flow/Transport	Dwayne Chesnut	Bob McKinnon	Dale Geiger
Biosphere	John Schmitt	Tony Smith	Kayce Prince
Tectonic Hazards	Richard Quittmeyer	Rally Barnard	Terry Crump

APPENDIX A

Document Evaluation Process

Background

The purpose of the Process Model Reports (PMRs) is to document the technical basis supporting each Total System Performance Assessment (TSPA) process model and thereby support the postclosure site suitability evaluation and the postclosure safety case for licensing. The PMR development process is intended to ensure traceability of data, information, and references that form the basis to demonstrate compliance with postclosure requirements.

Each PMR has an associated suite of Analyses and Modeling Reports (AP-3.10Qs) that are intended to collect, evaluate, and interpret information (data, hypotheses and assumptions, and other details) related to the specific PMRs. A key component of the information is the identification of existing Project and external documents that may be relevant to each PMR. This appendix describes the process to be used to evaluate existing documents and determine their relevance to PMRs.

Summary of Document Evaluation Process

The purpose of the document evaluation process is to provide objective evidence of those existing documents that were reviewed for relevancy in preparing each PMR and complete an evaluation of the documents for disposition into one of five action status categories:

- **Use As Is**
- **To Be Validated**
- **Include In A New Analysis and Modeling Report (AP-3.10Q)/Technical Report (AP-3.11Q)**
- **Alternative Interpretation**
- **Superseded**

The disposition process will include development of annotations that describe the relevance of each document to its associated PMR. This process starts with the author of each PMR, Analysis and Model Report and Technical Report preparing a bibliography listing all documents that were used /considered /reviewed in preparing the Analysis and Model Report or Technical Report. The author will complete a form for each bibliographic entry that 1) identifies the document used/considered/reviewed, 2) indicates which of the five categories, identified above, applies to this document and 3) provides the rationale for assigning the document to the category indicated. Personnel formally assigned to check the Analysis and Model Reports, the Technical Reports, and the PMR leads are expected to add to the bibliographic record by providing information to complete the same form used by the Analysis and Model Report/ Technical Report authors. The authors, checkers and PMR leads are expected to be subject matter experts with sufficient project experience to be knowledgeable of the subject matter discussions that are

intended for the Site Recommendation and the License Application. The authors, checkers and PMR leads are also expected to be knowledgeable of the content of Project and external documents that may be relevant to the PMR topic.

The rationale for assigning a document to one of the five categories shall be based on the category descriptions below:

Use As Is: Documents in this category have been reviewed by a Project subject matter expert exercising professional judgment and found to contain information relevant to the PMR topic. The information is expected to support the safety case for the Site Recommendation (SR) or the License Application (LA). Alternatively, the document may not be needed for direct support of the safety case, but the information is needed to demonstrate adequate understanding of some natural or engineered component of the repository system, including information needed to address NRC Key Technical Issue (KTI) acceptance criteria. Review of the document has determined that the document complies with relevant quality and traceability requirements.

Annotations for documents in this category will identify the documents as relevant to a specified PMR, identify the information needed to support the SR or the LA; describe how the information is expected to support the SR or the LA, or describe how the information is needed to address KTI acceptance criteria. The annotation will also identify the procedure(s) used to develop the document and briefly describe the basis for considering the document suitable for use without modification.

To Be Validated: Documents in this category have been reviewed by a Project subject matter expert exercising professional judgment and found to contain information relevant to the PMR topic. The information is expected to support the safety case for the Site Recommendation or the License Application. Alternatively, the document may not be needed for direct support of the safety cases but may be used as collaborative information needed to demonstrate adequate understanding of some natural or engineered component of the repository system, including information needed to address NRC Key Technical Issue (KTI) acceptance criteria. Review of the document has determined that the document does not comply with relevant quality and traceability requirements. Therefore, the document must be updated to meet relevant quality requirements; this update is intended to be minor. If the update cannot be accomplished, then the information necessary to support the safety case needs to be validated and included in a new Analyses and Modeling Report (AP-3.10Q) or Technical Report (AP-3.11Q) as described below.

Annotations for documents in this category will identify the documents as relevant to a specified PMR; identify the information as needed to support the Site Recommendation or License Application; describe how the information is expected to support the Site Recommendation or the License Application or describe why the information is needed to address KTI acceptance criteria. The annotation will also describe how the

information will be updated to provide a fully validated document, including the procedure(s) that will be used to develop the upgrade.

Include In A New Analysis and Modeling Report (AP-3.10Q)/ Technical Report (AP-3.11Q): Documents in this category have been reviewed by a Project subject matter expert exercising professional judgment and found to contain information necessary to support a PMR topic. The information is also expected to be needed to support the safety case for the Site Recommendation or the License Application, or to address KTI acceptance criteria. The relevant information in the document must be extracted from an existing document that is not fully citable and recompiled in a new Analysis and Modeling/ Technical Report.

Annotations for documents in this category will identify the documents as relevant to a specified PMR, identify the information needed to support the SR or the LA; describe how the information is expected to support the SR or the LA; or describe how the information is needed to address KTI acceptance criteria. The annotation will also describe how the information will be updated to provide a validated Analysis and Model Report (AP-3.10Q) or Technical Report (AP-3.11Q), including the procedure(s) that will be used to develop the upgrade.

Alternative interpretation: Documents in this category have been reviewed by a Project subject matter expert exercising professional judgment and found to contain information relevant to the PMR topic, but representing alternative interpretations not endorsed by the Project. Documents in this category are expected to include those that represent viable alternative interpretations, but they may include interpretations that have been widely discounted by Project or other work.

Annotations for documents in this category will identify the documents as expressing an alternative interpretations not endorsed by the Project and describe the basis for the non-endorsement by the Project.

Superseded: Documents in this category may have been initially believed to be potentially relevant to a PMR. Upon review by a Project subject matter expert exercising professional judgment, these documents were found to contain information no longer relevant to the PMR topic.

Annotations for documents in this category will identify the document as not applicable to the PMR topic and briefly explain the basis for the classification of no longer considered relevant to the PMR topic.

Discussion

It is expected that the reviews, evaluations, and development of the annotated bibliographies will occur as part of the development of the Analyses and Modeling reports associated with the

various PMRs. The products of this process are expected to be nine comprehensive annotated bibliographies, one for each PMR, describing the disposition into one of five categories of all documents that were initially believed to be relevant to each PMR. The annotations will briefly describe the relevance of the document to a specific PMR, and the basis for updating the document or considering it suitable for use without modification. The annotated bibliographies will then be included with the appropriate PMRs to form a suite of fully validated documents to support the Site Recommendation and the License Application.

PMR Logic Diagrams

1) c) ii)

PMR Annotated Outlines

1) c) iii)

INTEGRATED SITE MODEL

PROCESS MODEL REPORT (PMR)

CHAPTER 1 INTRODUCTION

This section will provide the "up front" information necessary for the reader to understand the purposes of the ISM PMR report, its basic organization, and related issues. It also supports the reader who desires a quick look at the document without reviewing it in great detail.

This section also provides a high-level summary of how the ISM PMR relates to technical topics presented in the other PMRs. The section will contain introductory text that briefly describes the goal of the Yucca Mountain Project:

- To determine suitability of the Yucca Mountain site for disposal of high-level nuclear waste
- If it is found suitable, the goal is to then seek a license to construct and subsequently to operate and close a high-level waste disposal facility

1.0 INTRODUCTION

This section also explains in general why the Process Model Reports (PMR) are being developed, and why this specific PMR is being developed. This discussion will include a summary of previous treatment of the subject issue (background of previous modeling).

Finally, the section summarizes the layout of the ISM PMR.

1.1 OBJECTIVE

This section provides the objective of the PMR (what its production is intended to accomplish). Briefly and generically, the objective is to integrate and summarize information on the models, analyses, data, and abstractions that are intended to support Total System Performance Assessment (TSPA) on the PMR's subject. The document serves as an important reference to the license application and has a similar readership (primarily knowledgeable persons in technical and regulatory fields). Many of the objectives are common to all the PMRs, though one or more may also be specific to a given PMR.

1.2 SCOPE

This section explains the information presented in and the content of the PMR. It will be a high-level discussion and will use one or more flowcharts to show the evolution of information from data to TSPA output, showing in the flowcharts what parts of the evolution are included in the ISM PMR. The section also describes where to find relevant subject matter not included in the PMR (i.e., the AP3.10Qs). The discussion will include an illustration showing the relationship between the PMR and the constituent sub-models, documented under AP 3.10Q and a description of how the PMR will be used in addressing its subject in the Site Recommendation Report (SRR) and the License Application.

The scope of the ISM PMR will be to describe the framework for discussing the geologic properties of the site (e.g., stratigraphy, structural characteristics, geohydrologic rock properties, and mineralogy). The PMR describes how geophysical and hydrologic property information has been used to characterize the geologic properties of the site. The report also describes how the output from the ISM is used as input to the unsaturated zone (UZ) flow and transport model, the saturated zone (SZ) flow and transport model, tectonic hazards, and engineered barrier system (EBS) design.

1.3 QUALITY ASSURANCE

This section explains the quality assurance controls under which the ISM PMR was developed (QA controls under which both the report and models were prepared). The PMR is expected to be determined to be quality-affecting through QAP-2-0 analysis. As such it is to be developed under AP-3.11Q. The section also discusses the method through which non-Q data and references have been upgraded for incorporation in the PMR via the constituent models and analyses developed in compliance with AP-3.10Q. And it discusses how non-Q data referred to in the document are tracked with "TBVs." This section provides a general discussion with the more specific demonstrations of compliance with quality assurance requirements to follow in later chapters and to be discussed in the referenced AP-3.10Q analyses.

1.4 RELATIONSHIP TO OTHER PROCESS MODEL REPORTS AND PROJECT DOCUMENTS

This section discusses how this PMR relates to others in terms of interfaces and overlaps. It will include a list of all these PMRs and a summary-level purpose of each. The section explains how the ISM PMR relates to:

- Documents such as the Yucca Mountain Site Description, the SRR, the LA, and other documents considered applicable and appropriate by the PMR authors
- Other contributory or subsequent process mo

1.5 OVERVIEW DESCRIPTION AND RESULTS OF THE INTEGRATED SITE MODEL AND ITS COMPONENT MODELS

This section provides a high-level description of the models, the abstractions of the models, the results of abstractions and application of the models in the ISM PMR and supporting information that is contained in detail in chapters 3 through 6 and the referenced AP-3.10Q analyses. This is intended to support the reader who wants to get the gist of the report without examining it in great detail. The section also contains a summary of the chapter that integrates the PMR models, abstractions, and analyses (i.e., synthesis of ISM from the three component models).

1.5.1 Geologic Framework Model

This section provides a high-level description of the Geologic Framework Model, the abstractions of the model the results of abstractions and application of the model in the ISM PMR and supporting information that is contained in detail in chapters 3 through 6 and the referenced AP-3.10Q analyses.

1.5.2 Rock Properties Model

This section provides a high-level description of the Rock Properties Model, the abstractions of the model the results of abstractions and application of the model in the ISM PMR and supporting information that is contained in detail in chapters 3 through 6 and the referenced AP-3.10Q analyses.

1.5.3 3D Mineralogic Model

This section provides a high-level description of the 3D Mineralogic Model, the abstractions of the model the results of abstractions and application of the model in the ISM PMR and supporting information that is contained in detail in chapters 3 through 6 and the referenced AP-3.10Q analyses.

1.5.4 Integrated Site Model

The section also contains a summary description of the process that integrates the PMR models, abstractions, and analyses (i.e., synthesis of ISM from the three component models).

CHAPTER 2 EVOLUTION OF THE INTEGRATED SITE MODEL

This chapter provides perspective on the background against which the ISM PMR is being developed and describes the documentation structure of which the PMR is a part:

- First, the chapter explains the philosophy for developing the PMRs, and why this specific PMR is being developed. (This portion of the section will be largely common to all PMRs.)

- Second, the chapter provides a summary of previous versions of the model and how these earlier versions led to the current version (ISM)

- Finally, the section provides a description of the relationship between the PMR and the constituent sub-process models developed under AP3.10Q. Whereas Section 1.2 will use a flowchart to describe the information flow associated with the subject of the PMR, this chapter discusses the same subject but in terms of the document structure (AP 3.10Qs, the ISM PMR itself, and other documents, as applicable).

2.1 PHILOSOPHY OF PMR DEVELOPMENT

This section will provide a relatively high-level discussion generally discussing the philosophy for developing PMRs and why the ISM PMR is warranted.

2.2 INTEGRATED SITE MODEL DEVELOPMENT HISORY

This section will provide a relatively high-level discussion of the development of the integrated site model. It will include a flow diagram showing the ISM timeline, relevant developments since the inception of ISM, and significant changes (upgrades) to the model over time. Finally, it will provide a brief discussion of how the component model outputs are integrated to form ISM. The section will also tie the PMR with the related AP3.10Qs and will guide the reader to the sections of the PMR related to each of the sub-models.

<Note: Depending on the level of detail in the text, the subheadings may or may not be necessary.>

2.2.1 Geologic Framework Model

This section will contain a high-level discussion of the development of the Geologic Framework Model.

2.2.2 Rock Properties Model

This section will contain a high-level discussion of the development of the Rock Properties Model.

2.2.3 3D Mineralogic Model

This section will contain a high-level discussion of the development of the 3D Mineralogic Model.

2.2.4 Integrated Site Model

This section will document the relevant developments since the inception of ISM, and significant changes (upgrades) to the model over time. It will provide a brief discussion of how the component model outputs are integrated to form ISM. The section will also tie the PMR with the related AP3.10Qs and will guide the reader to the sections of the PMR related to each of the sub-models.

CHAPTER 3 INTEGRATED SITE MODEL

Section 3 provides a general discussion of each of the ISM model components, how each was constructed, and the results and uncertainties. It will not provide the detail the would be provided in the AP 3.10Q documents, but will be presented in sufficient detail to provide a strong general understanding of the model, its construction, and the uncertainties and limitations of the output.

3.1 SUMMARY OF COMPONENTS

This section will provide a roadmap of the PMR document.

3.2 GEOLOGIC FRAMEWORK MODEL

Subsections 3.2.1 through 3.2.8 provide summary descriptions of the Geologic Framework Model 3.1 (GFM3.1). All sections will refer back to the GFM3.1 analysis (AP-3.10Q) report.

<Note: The subheadings for Construction and Results are based on the current draft ISM report. They may be scaled back for the PMR as the level of detail for the PMR is defined.>

3.2.1 Introduction

Section 3.2.1 introduces GFM3.1 and illustrates the relationship between this component and the other ISM components. It also describes the layout of the section.

3.2.2 Geologic Framework Model Description

This section provides a description of the model consistent with the corresponding AP-3.10Q report, including its supporting codes, components, sub-models, and/or analyses.

3.2.3 Input Data and Qualification Status

This section summarizes the input data for construction of the GFM, and references the AP-3.10Q. The qualification status of these data is discussed, including methods used to qualify the data. The discussion also includes the qualification of software used to construct the model

3.2.4 Geologic Framework Model Validation

This section demonstrates the validity of the model for its intended application. It includes demonstration of the validity of the data used to support the model validation, as well as demonstration of the validity of the codes that support the models. Results of peer review used to support model validation are included.

Since model validation, per se, is not applicable to the ISM, a brief statement will be included here that the model will be peer reviewed. An explanation of why *model validation* is not applicable to this type of model will also be provided.

<Note: This explanation will also be provide for 3.3.4 and 3.4.4.>

3.2.5 Construction of the Model

This section summarizes the methodology by which the model was constructed.

<Note: This section is based on the "Methodologies" section in the current ISM documentation and in the AP3.10Qs.>

3.2.5.1 Overview of GFM3.1 Methodology

3.2.5.1.1 Grid Construction

3.2.5.1.2 Interpretive Contouring

3.2.5.2 Construction of Faults

3.2.5.3 Construction of Reference Horizons and Isochores

3.2.5.4 Assembly of Faults and Rock Layers

3.2.6 Model Results

This section provides the output of the model; this output is what serves as input to the end users (i.e., UZ or SZ flow and transport models).

3.2.6.1 Interpretation of the Rock Units

3.2.6.1.1 Alluvium and Post-Tiva Units

3.2.6.1.2 Tiva Canyon Tuff (Tpc)

3.2.6.1.3 Paintbrush Tuff nonwelded Unit (PTn)

3.2.6.1.4 Topopah Spring Tuff (Tpt)

3.2.6.1.5 Calico Hills Formation (Tac)

3.2.6.1.6 Prow Pass Tuff (Tcp)

3.2.6.1.7 Bullfrog Tuff (Tcb)

3.2.6.1.8 Tram Tuff (Tct)

3.2.6.1.9 Older Tertiary Unit (Tund)

3.2.6.1.10 Tertiary-Paleozoic Unconformity

3.2.6.2 Interpretation of Faults

3.2.6.2.1 Fault Curvature

3.2.6.2.2 Fault Patterns

3.2.6.2.3 Features of Individual Faults

3.2.6.2.4 Faulting and Deposition

3.2.7 Discussion of Uncertainties and Limitations

This section discusses the uncertainties in the model and the assumptions and how they were derived. It also describes the approach taken to dealing with the uncertainties in the performance assessment (PA).

A brief discussion will also be provided regarding the results of verification exercises that were undertaken during the development of GFM3.1. (Before their respective data were added to the model, elevation data for boreholes SD-6 and WT-24 were compared to the predicted results from the model to evaluate the estimated uncertainty window.)

<Note: In the "typical" PMR outline this section was positioned before Model Validation. It was moved to be after Results to be more consistent with the current ISM report.>

3.2.7.1 Uncertainty Estimates for Constrained Areas

3.2.7.2 Uncertainty Estimates for Less Constrained Areas

3.2.7.3 Limitations of Interpretation

3.2.8 Data Qualification

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.2.9 Alternative Interpretations (if applicable)

This section documents credible opposing views to the approaches and methods described in the PMR for the model under discussion. Depending on the best manner of addressing the subject as determined by the PMR authors,

The section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position. To the extent that compensatory measures have been or will be taken to deal with the opposing view, those measures are also described in this section.

The chapter or section also discusses findings of outside reviewers of the models and processes associated with the PMR, and it describes how the findings have been satisfactorily addressed.

Finally, the chapter or section discusses expert elicitation(s) applicable to the model and/or its abstraction, cross-referencing discussions in previous sections as appropriate.

3.3 ROCK PROPERTIES MODEL

The subsections of the section will be comparable to those in Section 3.2, reference to the Rock Properties Model 3.1 (RPM3.1) analysis (AP-3.10Q) report. The information provided in the following subsections will be consistent with the related sections in 3.2.

<Note: The subheadings in Sections 3.3.5 and 3.3.6 may be pared back after the necessary level of detail has been evaluated further.>

3.3.1 Introduction

Section 3.3.1 introduces the Rock Properties Model and illustrates the relationship between this component model and the other ISM components. It also describes the layout of the section.

3.3.2 Rock Properties Model Description

This section provides a description of the model consistent with the corresponding AP-3.10Q report, including its supporting codes, components, sub-models, and/or analysis.

3.3.3 Input Data and Qualification Status

This section summarizes the input data for construction of the RPM, and references the AP-3.10Q. The qualification status of these data is discussed, including methods used to qualify the data. The discussion also includes the qualification of software used to construct the model

3.3.3.1 Laboratory Core Porosity Data

3.3.3.2 Computed Petrophysical Porosity Data

3.3.3.3 Laboratory-Measured Secondary Property Data

3.3.3.4 X-ray Diffraction Indicators of Zeolite Alteration

3.3.3.5 Petrophysical Indicators of Hydrous-phase Mineral Alteration

3.3.3.6 Observed (Measured) Lithostratigraphic Contacts

3.3.3.7 Modeled Lithostratigraphic Contacts

3.3.4 Model Validation (Not applicable, see note in 3.2.4)

This section is not applicable; see not in 3.2.4.

3.3.5 Construction of the Model

This section summarizes the methodology by which the model was constructed.

3.3.5.1 Conceptual Model

3.3.5.2 Methodology Overview

3.3.5.3 Simulation of Porosity

3.3.5.4 Modeling of Derivative Properties

3.3.5.5 Calibration and Modeling of Hydrous-phase Mineral Alteration

3.3.5.6 Post-processing of Simulated Models

3.3.6 Model Results

This section provides the output of the model; this output is what serves as input to the end users (i.e., UZ or SZ flow and transport models).

3.3.6.1 Paintbrush Tuff Nonwelded Unit (PTn)

3.3.6.2 Welded Topopah Spring Tuff Unit (TSw)

3.3.6.3 Calico Hills Nonwelded Unit (CHn)

3.3.6.4 Prow Pass Tuff (Tcp)

3.3.7 Discussion of RPM3.1 Uncertainties and Limitations

This section discusses the uncertainties in the model and the assumptions and how they were derived. It also describes the approach taken to dealing with the uncertainties in the performance assessment (PA).

A brief discussion will also be provided regarding the results of verification exercises that were undertaken during the development of RPM3.1. (Before their respective data were added to the model, elevation data for boreholes SD-6 and WT-24 were compared to the predicted results from the model to evaluate the estimated uncertainty window.)

<Note: In the "typical" PMR outline this section was positioned before Model Validation. It was moved to be after Results to be more consistent with the current ISM report.>

3.3.8 Data Qualification

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.3.9 Alternative Interpretations

This section documents credible opposing views to the approaches and methods described in the PMR for the model under discussion. Depending on the best manner of addressing the subject as determined by the PMR authors,

The chapter or section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position. To the extent that compensatory measures have been or will be taken to deal with the opposing view, those measures are also described in this section.

The chapter or section also discusses findings of outside reviewers of the models and processes associated with the PMR, and it describes how the findings have been satisfactorily addressed.

Finally, the chapter or section discusses expert elicitation(s) applicable to the model and/or its abstraction, cross-referencing discussions in previous sections as appropriate.

3.4 3D MINERALOGIC MODEL

The subsections of the section will be comparable to those in Section 3.2, with reference to the Mineralogy Model 3.1 (MM3.1) analysis (AP-3.10Q) report. The content of the subheadings provided in this section will be consistent with what was described for 3.2.

<Note: As noted in Sections 3.2 and 3.3, there may be fewer subheadings in the Construction and Results sections.>

3.4.1 Introduction

Section 3.4.1 introduces the 3D Mineralogic Model and illustrates the relationship between this component model and the other ISM components. It also describes the layout of the section.

3.4.2 MM3.1 Model Description

This section provides a description of the model consistent with the corresponding AP-3.10Q report, including its supporting codes, components, sub-models, and/or analysis.

3.4.3 Input Data and Qualification Status

This section summarizes the input data for construction of the 3D Mineralogic Model, and references the AP-3.10Q. The qualification status of these data is discussed, including methods used to qualify the data. The discussion also includes the qualification of software used to construct the model

3.4.4 Model Validation

This section is not applicable; see not in 3.2.4.

3.4.5 Construction of the Model

This section summarizes the methodology by which the model was constructed.

3.4.5.1 Stratigraphic Framework for the MM3.1

3.4.5.2 Modification of the GFM Files

3.4.5.3 Creation of the Borehole Model

3.4.5.4 Mineral Distributions

3.4.6 Model Results

This section provides the output of the model; this output is what serves as input to the end users (i.e., UZ or SZ flow and transport models).

3.4.6.1 Sorptive Zeolite Distribution

3.4.6.2 Smectite + Illite Distribution

3.4.6.3 Volcanic Glass Distribution

3.4.6.4 Silica Polymorph Distribution

3.4.7 Discussion of the MM3.1 Model Uncertainties and Limitations

This section discusses the uncertainties in the model and the assumptions and how they were derived. It also describes the approach taken to dealing with the uncertainties in the performance assessment (PA).

A brief discussion will also be provided regarding the results of verification exercises that were undertaken during the development of MM3.1. (Before their respective data were added to the model, elevation data for boreholes SD-6 and WT-24 were compared to the predicted results from the model to evaluate the estimated uncertainty window.)

<Note: In the "typical" PMR outline this section was positioned before Model Validation. It was moved to be after Results to be more consistent with the current ISM report.>

3.4.8 Data Qualification

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.4.9 Alternative Interpretations

This section documents credible opposing views to the approaches and methods described in the PMR for the model under discussion. Depending on the best manner of addressing the subject as determined by the PMR authors,

The chapter or section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position. To the extent that compensatory measures have been or will be taken to deal with the opposing view, those measures are also described in this section.

The chapter or section also discusses findings of outside reviewers of the models and processes associated with the PMR, and it describes how the findings have been satisfactorily addressed.

Finally, the chapter or section discusses expert elicitation(s) applicable to the model and/or its abstraction, cross-referencing discussions in previous sections as appropriate.

CHAPTER 4 RELATIONSHIP WITH THE NUCLEAR REGULATORY COMMISSION (NRC) ISSUE RESOLUTION STATUS REPORTS

The NRC has indicated it plans to structure its review of issues within the PMRs with respect to the NRC's designated Key Technical Issues (KTIs) as described in the corresponding Issue Resolution Status Reports (IRSRs). Therefore, response to KTIs associated with ISM will be provided in this section

4.1 INTRODUCTION

This introduction summarizes the NRC's KTI and IRSR effort. The NRC staff has issued various IRSRs that describe the status of the KTIs from the NRC's perspective and provide subissues and acceptance criteria.

Review of the IRSRs, Revision 1, indicates that subissues associated with two KTIs are relevant to the ISM PMR. These are:

Structural Deformation and Seismicity
Unsaturated and Saturated Flow

These two KTIs will be described in the introduction. Subissues associated with these two KTIs are addressed in Sections 5.2 and 5.3, respectively.

<Note: The potentially applicable KTIs are currently under review and the topics addressed in this section could be modified accordingly.>

4.2 RELATIONSHIP OF ISM PMR TO STRUCTURAL DEFORMATION AND SEISMICITY KTI

This subsection (and the subsequent subsection) identifies a Key Technical Issue, its sub-issues, and associated acceptance criteria that are related to the PMR. The subsections discus how the PMR addresses the acceptance criteria for each sub-issue the KTI. In many cases a given PMR only partially addresses a given KTI, and that fact is noted, as appropriate.

The sub-issues addressed under this KTI are listed in the following subsections. For each sub-issue, there will be a brief narrative describing the sub-issue and how it applies to the ISM. If it is believed that the sub-issue does *not* apply to the ISM, that will also be explained. Each applicable NRC criterion will then be stated in bullet format followed by a response to the comment.

4.2.1 Faulting

This section will be a brief narrative describing how faulting applies to the ISM. If it is believed that the sub-issue does *not* apply to the ISM, that will also be explained.

4.2.2 Seismicity

This section will be a brief narrative describing how seismicity applies to the ISM. If it is believed that the sub-issue does *not* apply to the ISM, that will also be explained.

4.2.3 Fracturing and Structural Framework of the Geologic Setting

This section will be a brief narrative describing how fracturing and the structural framework apply to the ISM. If it is believed that the sub-issue does *not* apply to the ISM, that will also be explained.

4.2.4 Tectonics and Crustal Conditions

This section will be a brief narrative describing how tectonics and crustal conditions applies to the ISM. If it is believed that the sub-issue does *not* apply to the ISM, that will also be explained.

4.3 RELATIONSHIP OF ISM PMR TO UNSATRUATED AND SATURATED FLOW UNDER ISOTHERMAL CONDITIONS KTI

This section will provide discussion of the subject KTI in a manner consistent with Section 5.2. The sub-issues addressed under this KTI are listed in the following subsections.

4.3.1 Present-Day Shallow Infiltration

This section will be a brief narrative describing how present-day shallow infiltration applies to the ISM. If it is believed that the sub-issue does *not* apply to the ISM, that will also be explained.

4.3.2 Saturated Zone Ambient Flow Conditions and Dilution Processes

This section will be a brief narrative describing a how saturated zone ambient flow conditions and dilution process applies to the ISM. If it is believed that the sub-issue does *not* apply to the ISM, that will also be explained.

REFERENCES

This chapter will contain the complete reference list for the document. Those that are considered as "directly relied upon" will be marked with an asterisk.

APPENDICES

The appendices will contain supporting information deemed appropriate for inclusion in the PMR but at too great a level of detail for the body of the report.

UNSATURATED ZONE FLOW AND TRANSPORT PROCESS MODEL REPORT

CHAPTER 1 INTRODUCTION

This chapter will provide "up front" information describing the purposes of the report, its basic organization, and related issues. This will also provide a high-level summary of how the UZ Flow and Transport (UZFT) PMR relates to technical topics presented in the other PMRs (and non-PMRs as appropriate), and key Project documents including topical reports, the Environmental Impact Statement (EIS), the Site Recommendation Report (SRR), and the License Application (LA).

1.1 OBJECTIVES

This section provides the objectives of the UZFT PMR (what its production is intended to accomplish). This will include the objective to compile in one place, as a stand-alone report, a synthesis of all the necessary and sufficient technical information, related to UZFT, that the Project will be relying upon to make its site suitability evaluation and ultimately the licensing argument pertaining to a particular process model. It will also include objectives common to all the PMRs.

1.2 SCOPE

This subsection explains the scope of the UZFT PMR. Flowcharts may be used to show the evolution of information from data to TSPA output. The general scope is as follows:

1.2.1 Scope of UZ Flow and Transport PMR

The UZ Flow and Transport PMR describes the processes affecting the amount of water entering the unsaturated zone above the repository and contacting wastes in the repository, and the movement of water with dissolved radionuclides or colloidal particles through the unsaturated zone below the repository. The purpose of the model is to describe the spatial and temporal distribution of water flow through the unsaturated zone and the spatial and temporal distribution of water seepage into the underground openings of the repository. The PMR also describes inputs from other PMRs and outputs from the UZ Flow and Transport model to the SZ Flow and Transport Model, EBS design and TSPA. The emphasis of the discussion of model inputs and outputs is on information needed for the assessment of postclosure performance.

1.2.2 Features, Events, and Processes (FEPs)

This subsection describes the approach used to include or exclude FEPs. It describes how FEPs were used to develop the models and submodels for UZ flow and transport. This subsection is supported by an Analysis and Model (AP-3.10Q) report.

1.2.3 Key Issues for UZ Flow and Transport

The subsection summarizes key issues that have been identified as part of the Peer Reviews of VA and the UZFT Model, Expert Elicitation, NRC IRSRs and KTIs, and from the UZ Model Workshop.

1.2.3.1 Summary of Key Issues from TSPA-VA

1.2.3.2 Summary of TSPA Peer Review Panel

1.2.3.3 Summary of Expert Elicitation

1.2.3.4 Summary of NRC IRSRs and KTIs

1.2.3.5 Summary of PA Workshop on UZ Flow and Transport (FY97 & FY99)

1.3 QUALITY ASSURANCE STATUS OF DATA AND SOFTWARE

This section explains the quality assurance controls under which the UZF&T PMR has been developed. The UZF&T PMR is expected to be designated as quality-affecting through QAP-2-0 analysis. As such the UZF&T PMR is developed under AP-3.11Q. The section also discusses the method through which non-Q data and references have been upgraded for incorporation in the UZF&T PMR via the constituent models and analyses developed in compliance with AP-3.10Q. In the case of the first version of the UZF&T PMR, discussions include how non-Q data referenced in the document are tracked with "TBVs." This section provides a general discussion, with the more specific demonstrations of compliance with quality assurance requirements to follow in later chapters and to be discussed in the referenced AP-3.10Q analyses.

1.3.1 Field Data (QA status)

Tables for the following field data will summarize their Q-status and provide traceability information including DTNs.

1.3.1.1 Infiltration/climate data

1.3.1.2 Matrix properties

1.3.1.3 Fracture properties

1.3.1.4 Pneumatic data

1.3.1.5 Saturation/Moisture tension data

1.3.1.6 Geochemical data

1.3.1.7 Temperature data

1.3.2 Developed Data (QA status)

Tables for the following parameter and data sets will summarize their Q-status and provide traceability information including DTNs.

1.3.2.1 Inverse models and parameter sets

1.3.2.2 Flow fields

1.3.2.3 Pre- and post-processed data

1.3.3 Software (QA status)

Tables for the following software will summarize their Q-status, SCMS ID, and version numbers.

1.3.3.1 ITOUGH2

1.3.3.2 TOUGH2

1.3.3.3 TOUGHREACT

1.3.3.4 EOS9nT

1.3.3.5 T2R3D

1.3.3.6 FEHM

1.4 RELATIONSHIP TO OTHER PROCESS MODEL REPORTS & KEY PROJECT DOCUMENTS

This section discusses how the UZFT PMR relates to the other PMRs in terms of interfaces and overlaps. It includes a list of all the PMRs and a summary-level purpose and description of each.

The section also explains how the UZFT PMR relates to documents such as the Yucca Mountain Site Description, the Natural Analogs report, the Natural Resources report, topical reports, the SRR, the LA, and other documents considered applicable.

1.5 OVERVIEW DESCRIPTION & RESULTS OF THE UZ FLOW AND TRANSPORT MODEL AND ABSTRACTION FOR TSPA-SR

This section provides a high-level description of the models, the abstractions of the models, the results of abstractions, and application of the models in the PMR. This section summarizes the information that is provided in more detail in Chapter 3 and in much greater detail in the reference AP-3.10Q analyses.

1.5.1 Overview of models of climate, infiltration, UZ flow & transport, seepage, and coupled processes

This section provides an overview of the models and submodels developed and utilized.

1.5.2 Results of UZ flow and transport models

This section provides a summary of the results presented in Section 3.

1.5.3 Results of abstractions for TSPA-SR

This section provides a summary of the results presented in Section 3.6.

1.5.4 Implications for performance

This section provides a summary of the results presented in Section 3.8.

CHAPTER 2 EVOLUTION OF THE UZ FLOW & TRANSPORT PMR

This chapter provides perspective on the background against which the UZFT PMR is being developed and describes its documentation structure. It provides a summary of 1) previous treatment of UZFT (background of previous modeling and abstraction), 2) current treatment of UZFT, 3) conceptual models used in the development of the models, submodels, and abstractions, and 4) the numerical approaches utilized to implement these conceptual models.

2.1 PREVIOUS TREATMENT OF UZ FLOW AND TRANSPORT (CITATIONS TO PREVIOUS NEPO AND PA REPORTS).

This section summarizes previous treatments of UZFT and references past NEPO and PA reports. It will also provide a discussion of the treatment of UZFT for VA.

2.2 SYNOPSIS OF CURRENT TREATMENT AND CHANGES FROM PREVIOUS EFFORTS

This section discusses the current treatment of UZFT and how it was changed from previous efforts. In particular any differences from VA will be discussed.

2.3 CONCEPTUAL MODELS FOR UZ FLOW AND TRANSPORT

The primary conceptual models for UZFT are discussed in this section. These include conceptual models of geology, UZ hydrology and transport, and site geochemistry.

2.3.1 Geology

This subsection provides a general discussion of the conceptual approach of incorporating GFM and ISM. In particular, a discussion on the approach to providing a distribution of vitric and zeolitic zones and their properties is provided.

2.3.1.1 Geologic Framework Model (GFM 3.1)

2.3.1.2 Mineralogical/Petrologic Model

2.3.1.3 Vitric/zeolitic distributions and properties

2.3.2 UZ Hydrology and Transport

This subsection provides a presentation of the basic conceptual models as it relates to the major components of flow and transport. Each of the components is addressed separately.

2.3.2.1 Climate

2.3.2.1 Infiltration

2.3.2.3 Fracture and Matrix components of flow & transport

2.3.2.4 Fracture/Matrix interaction

2.3.2.6 Effects of major faults

2.3.2.6 Transient flow

2.3.2.7 Flow focusing processes

2.3.2.8 Perched water

2.3.2.9 Effects of fracture and matrix heterogeneities

2.3.2.10 Seepage into drifts

2.3.2.11 Radionuclide transport processes

2.3.2.12 Gas flow processes

2.3.2.13 Effects of coupled processes (THMC)

2.3.3 Geochemical Conceptual Model

This subsection provides a discussion of the conceptual model for geochemistry incorporating the basic understanding of site geochemistry processes as supported by field data and observations.

2.3.3.1 Geochemical database

2.3.3.2 Geochemical properties (solubilities/sorption)

2.3.3.3 Measurement accuracy

2.3.3.4 Geochemical conceptual models

2.4 NUMERICAL APPROACHES FOR UZ FLOW AND TRANSPORT

This section discusses the numerical modeling approaches used to implement the conceptual models in Section 2.3.

2.4.1 Numerical Approaches for UZ Flow and Transport

The alternative numerical approaches are discussed and the basis for selecting certain approaches is presented.

2.4.1.1 Continuum approaches

2.4.1.2 Discrete fracture approach

2.4.1.3 Fracture network approach

2.4.1.4 Transport modeling including particle tracking

2.4.2 Description of Numerical Codes

The primary software codes used as part of the model and submodels for UZFT are presented in this subsection.

2.4.2.1 ITOUGH2

2.4.2.2 TOUGH2

2.4.2.3 TOUGHREACT

2.4.2.4 EOS9nT

2.4.2.5 T2R3D

2.4.2.6 FEHM

2.4.3 Grid Generation

This subsection discusses the development of the 3-D grid and the extraction and conversions of grid for use in modeling and abstractions. It references AP-3.10Q reports on these individual topics.

2.4.3.1 QA Status of Software and Data

2.4.3.2 Development of the 3-D Site-Scale Model Grid

2.4.3.3 Extraction of 1-D and 2-D Grids

2.4.3.4 Interface Between TOUGH2 and FEHM

CHAPTER 3 UZ FLOW & TRANSPORT MODEL AND ABSTRACTIONS

This chapter presents the models, submodels and data sets that are the principal components of UZFT and shows the relationship among the various components.

3.1 INTRODUCTION

This section gives an overview of the Chapter.

3.2 UZ MODEL PROPERTY SETS AND CALIBRATION MODELS

This section presents the individual models that feed the UZFT Model and the submodels that make up the overall UZFT Model. Each of these subsections is supported by one or more AP-3.10Q reports.

3.2.1 Available Data for UZ Flow and Transport

This subsection summarizes all the available field data incorporated into the models or utilized in model validation.

3.2.1.1 Boreholes (LBNL)

3.2.1.2 ESF (LBNL)

3.2.1.3 Field Studies

3.2.1.4 Natural Analogues (LBNL)

3.2.2 Hydrologic Properties for Site-Scale Model

This subsection presents initial estimates of hydrologic properties based on measurements and describes how final estimates of these properties are developed by calibration to field data. The calibration of the model on saturation, water potential, pneumatic, temperature, and geochemical data is discussed. This includes discussing the inverse-modeling techniques applied to iteratively adjust model parameters, forward calibration techniques for calibrations on temperature and geochemical data, and forward calibration techniques utilizing perched water models. This subsection is supported by several AP3.10Q reports.

3.2.2.1 Matrix property data

3.2.2.2 Fracture property data

3.2.1.3 Fault property data

3.2.1.4 Model Calibration

3.2.3 Hydrologic Properties for Drift-Scale Seepage Model

This subsection presents estimates of hydrologic properties based on calibrations to in-situ field data.

3.2.4 Transport Properties

This subsection presents estimates of transport properties based on laboratory measurements and field data.

3.2.4.1 Diffusion coefficients

3.2.4.2 Sorption parameters

3.2.4.3 Colloid transport parameters

3.3 UZ FLOW AND TRANSPORT SUBMODEL COMPONENTS

This section presents the individual models that feed the UZFT Model and the submodels that make up the overall UZFT Model. Each of these subsections is supported by one or more AP-3.10Q reports.

3.3.1 Climate Model (USGS)

This subsection summarizes the assumptions, approach, and results used in developing the Climate Model to evaluate potential future climatic changes for inputs into the Infiltration Model.

3.3.1.1 Introduction

3.3.1.2 Available data

3.3.1.3 Assumptions

3.3.1.4 Approach

3.3.1.5 Results for base-case

3.3.2 Infiltration Model (USGS)

This subsection summarizes the assumptions, approach, and results for the Infiltration Model used to develop the 1999 infiltration map used by the UZFT Model.

3.3.2.1 Introduction

3.3.2.2 Available data

3.3.2.3 Assumptions

3.3.2.4 Approach

3.3.2.5 Sensitivity Analyses

3.3.2.6 Analysis of Infiltration Uncertainties (PA)

3.3.2.7 Results for base-case

3.3.3 UZ Flow Model Components

This subsection presents the submodels of the UZFT Model. This includes models that simulate and investigate fracture/matrix interaction, the potential for flow focusing within the PTn hydrogeologic unit, the influence of faults with comparisons to field data, flow within the CHn hydrogeologic unit and the potential effect of zeolitic alteration on flow, and the perched water phenomena utilizing field data including locations of perched water and pumping testing data with comparisons to perched water residence times. Each of these submodels is supported by an AP-3.10Q report.

3.3.3.1 Fracture/Matrix Model (LBNL)

3.3.3.2 PTn Flow Model (LBNL)

3.3.3.3 Effects of Major Faults (LBNL)

3.3.3.4 Calico Hills Model (LBNL)

3.3.3.5 Perched Water Model (LBNL)

3.3.4 Model of Seepage into Drifts (LBNL)

This subsection presents the assumptions, approaches, results, and sensitivity analyses for seepage modeling on the drift-scale. This section is supported by several AP-3.10Q reports.

3.3.4.1 Introduction

3.3.4.2 QA

3.3.4.3 Model domain

3.3.4.4 Available field data

3.3.4.5 Conceptual models

3.3.4.6 Field testing

3.3.4.7 Numerical Model

3.3.4.8 Sensitivity analyses

3.3.4.9 Summary

3.3.5 UZ Transport Model Components (LBNL, LANL, PA)

This subsection presents the model components for modeling transport. It includes assumptions, approaches, results, and sensitivity analyses. It is supported by several AP-3.10Q reports.

3.3.5.1 Introduction

3.3.5.2 QA

3.3.5.3 Model domain

3.3.5.4 Available field data

3.3.5.5 Conceptual models

3.3.5.6 Field testing

3.3.5.7 Numerical Model (LBNL, LANL, PA)

3.3.5.8 Sensitivity analyses

3.3.5.9 Summary

3.3.6 Coupled Processes Model (LBNL, PA)

This subsection discusses coupled process models for the drift-scale and the mountain-scale. The assumptions, approaches and incorporation of these coupled processes into models are also discussed. The models discussed simulate reaction-transport processes for non-isothermal multicomponent, multiphase, and multispecies systems. Changes in flow and transport due to changes in permeability, porosity, and unsaturated flow parameters as a function of rock-water interaction are evaluated on different scales. This subsection is supported by AP-3.10Q reports for individual coupled process models.

3.3.6.1 Introduction

3.3.6.2 QA

3.3.6.3 Model domain

3.3.6.4 Available field data

3.3.6.5 Conceptual models

3.3.6.6 Numerical Model

3.3.6.7 Durable Property Changes

3.3.6.8 Incorporation into UZ Flow and Transport Model

3.3.6.9 Incorporation into Drift-Scale Seepage Model

3.3.6.10 Sensitivity analyses

3.3.6.11 Summary

3.4 INTEGRATED UZ FLOW AND TRANSPORT MODEL FOR TSPA-SR (LBNL)

This section presents the integrated model, including all assumptions, abstractions, and uncertainties.

3.4.1 QA Status of data and computer software

This subsection lists the data, model output, and software used to develop the integrated flow and transport model. It also lists the quality status and provides traceability information including data tracking numbers.

3.4.2 Available data and incorporation in model calibration studies

This subsection provides a summary list of the available data and how it was used to calibrate the model. Computations performed to compile data are also discussed.

3.4.3 Description of the integrated UZ flow model

A summary description of the integrated model is provided here. This includes conceptual models used in its development and references to AP3.10Q reports regarding conceptual model development.

3.4.4 Assumptions

The assumptions used in the development of the integrated model are provided here. Also any caveats, constraints, and limitations of the model are discussed.

3.4.5 Multi-dimensional model calibration with borehole saturation and water potential data

This subsection presents the results of multi-dimensional calibrations on borehole data. This includes 2-D inversions for lower layers (below Topopah Springs) and faults and 3-D forward calibrations on observations including saturations, water potentials, and pressures. The effect of multi-dimensional calibrations on model parameters is also evaluated.

3.4.6 3-D, dual-k, perched water model

This subsection discusses the full integration of the model including the dual-k approach and perched water model. Results are presented for selected scenarios and percolation flux and breakthrough curves at the water table are presented. This section also discusses groundwater travel time from the repository horizon to the water table.

3.4.7 Uncertainties and recommendation for additional data collection and modeling

This subsection discusses the overall uncertainties in the integrated model. It identifies the areas and issues of most concern and provides recommendations of additional data collection and modeling to reduce these uncertainties.

3.5 UZ FLOW AND TRANSPORT MODEL VALIDATION

This section provides documentation for demonstrating the validity of the model per Quality Assurance Requirements and Description (DOE/RW-0333P) Glossary and AP-3.10Q. Results of expert elicitation used to support model validation are included. The discussion summarizes use of natural and man-made analogues in the model validation.

3.6 ABSTRACTIONS AND RESULTS FOR TSPA-SR

This section describes the method of abstracting the UZFT model into the TSPA. Results of expert elicitation and abstraction workshops are also included. Discussions include any assumptions needed to support the abstraction and descriptions of the approach taken to deal with the uncertainties in the model abstraction process.

3.6.1 Base-Case Analyses, Results, and Abstractions for TSPA-SR

This subsection presents the abstractions and results for the base-case. Flux and cumulative breakthrough curves at the water table are provided and evaluated to provide insight into subsystem performance for the unsaturated zone. It is supported by an AP-3.10Q report. Groundwater travel times from the potential repository horizon to the water table are discussed in subsection 3.6.1.4.3.

3.6.1.1 Define base-case runs (PA)

3.6.1.2 Site-Scale UZ Flow

3.6.1.3 Seepage into Drifts

3.6.1.4 Site-Scale UZ Transport (PA)

3.6.2 Sensitivity Analyses, Results, and Abstractions for TSPA-SR

This subsection presents the sensitivity analyses performed. For site-scale UZ Flow, This includes analysis of the effects of altered property sets, different climate and infiltration ranges, longer time frames, variations of parameter sets, and alternative conceptual models. It is supported by an AP-3.10Q report.

3.6.2.1 Site-Scale UZ Flow (LBNL, PA)

3.6.2.2 Seepage into Drifts (LBNL, PA)

3.6.2.3 Site-Scale UZ Transport (PA)

3.6.3 Validation of Abstractions

This section contains a demonstration of the validity of the abstractions. Results of peer reviews or other evaluations of the model abstraction process are included. The discussion summarizes use of natural and man-made analogues in validating the abstraction as appropriate.

3.7 DATA QUALIFICATION

This section demonstrates the qualification of any previously non-qualified data needed to support the use of the model and its sub-models.

3.8 SUMMARY OF IMPACT ON PERFORMANCE

This section discusses the results of each of the major components and their impact on performance. It also discusses uncertainties, assumptions, and limitations.

3.8.1 Climate

This subsection discusses the effect of different climate model assumptions on the overall performance.

3.8.2 Infiltration

The range of infiltration rates and the assumptions regarding surface runoff and channeling are discussed in terms of the resulting effect on performance.

3.8.3 UZ Flow

This subsection discusses the important findings relating to flow in the unsaturated zone and which components of flow and key assumptions in flow conceptual models have the greatest impact on performance.

3.8.4 Seepage

Seepage into drifts and the impact of conceptual models and ranges of parameters utilized is discussed. Its impact is evaluated in the context of performance of the entire natural system.

3.8.5 UZ Transport

This subsection discusses the effect of the key assumptions relating to transport properties and conceptual models on performance. The uncertainties in the modeling of UZ transport are also discussed in terms of the resulting potential impact on performance.

3.8.6 Coupled Processes

The importance of coupled processes and durable changes in rock properties are discussed. This includes thermal and mechanical processes at the drift and mountain scale. The overall impact is evaluated in terms of its effect on transport relative to transport under ambient conditions.

3.8.6.1 UZ Flow

3.8.6.2 Drift-Scale Seepage

3.8.6.3 UZ Transport

3.9 SUMMARY OF OTHER VIEWS & ALTERNATIVE CONCEPTUAL MODELS

This section documents credible opposing views to the approaches and methods utilized for UZFT and alternative conceptual models. The section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position.

CHAPTER 4 RELATIONSHIP WITH NRC IRSR

This chapter presents the NRC's designated Key Technical Issues (KTI) and Issue Resolution Status Reports (IRSR) and how these have been addressed in the PMR.

4.1 SUMMARY OF KTI'S AND IRSR'S

This section summarizes the NRC's KTI and IRSR effort.

4.2 RELATIONSHIP OF PMR TO KTI'S

This section of the PMR describes how each KTI and its constituent subissues and acceptance criteria have been addressed through the PMR. Each of the subsections identifies a Key Technical Issue, its subissues, and associated acceptance criteria that are related to the PMR. The subsections discuss how the PMR addresses the acceptance criteria identified for each subissue of each KTI.

REFERENCES

Complete references including accession numbe are included here.

APPENDIX A: UZ FLOW AND TRANSPORT ISSUES WHITE PAPER

APPENDIX B: UZ TRANSPORT/AN OPINION

SATURATED-ZONE FLOW AND TRANSPORT MODEL PROCESS MODEL REPORT

CHAPTER 1.0 INTRODUCTION

This chapter provides the "up front" information necessary for the reader to understand the purposes of the report, its basic organization, and related issues. It also supports the reader who desires a quick look at the document without reviewing it in great detail. This chapter provides a high-level summary of how the Saturated Zone (SZ) Flow and Transport Process Model (PMR) relates to technical topics presented in the other PMRs (and non-PMRs as appropriate), and key Project documents including topical reports, the Environmental Impact Statement (EIS), the Site Recommendation Report (SRR), and the License Application (LA).

1.0 INTRODUCTION

Section 1.0 contains introductory text that briefly describes the goal of the Yucca Mountain Project, which is to determine suitability of the Yucca Mountain site for disposal of high-level nuclear waste. If the site is found suitable, the goal is to then seek a license to construct and subsequently to operate and eventually close a high-level waste disposal facility. It goes on to briefly describe the role of the SZ PMR in meeting those goals. Finally, the section summarizes the layout of the SZ PMR.

1.1 OBJECTIVE

This section provides the objectives of the SZ PMR Briefly, the main objective is to compile a stand-alone report that is a synthesis of all the necessary and sufficient technical information related to the saturated zone that the Project will be relying upon to make its site suitability evaluation. Also much of this information may be used in a license application. The technical information consists of data, analyses, models, software and supporting documents used to develop the SZ PMR model and defend the applicability of the model to evaluate postclosure performance of the Yucca Mountain repository. The SZ PMR serves as an important reference for Total System Performance Assessment (TSPA) and key program milestone documents (EIS, SRR, and LA) and is written for a readership of knowledgeable persons in technical and regulatory fields.

1.2 SCOPE

This section explains the information presented in and the content of the SZ PMR. It uses flowcharts to show the evolution of information from data to TSPA output and the evolution of information within the SZ the PMR. The section also describes where to find relevant subject matter not included in the SZ PMR. References to related discussions in Chapter 2 are provided.

The SZ Flow and Transport PMR describes the processes that control the movement of water with dissolved radionuclides or colloidal particles through the saturated zone below the repository and produce reductions in radionuclide concentrations in the saturated zone. The purpose of the model is to describe the spatial and temporal distribution of water flow through the saturated zone to the point of uptake by the critical exposure group. The PMR also describes inputs from other PMRs and outputs from the model to the Biosphere PMR and TSPA. The discussion of model inputs and outputs is on information needed for the assessment of postclosure performance.

1.3 QUALITY ASSURANCE

This section explains the quality assurance controls under which the SZ PMR has been developed. The PMR is expected to be designated as quality-affecting through QAP-2-0 analysis. As such the SZ PMR is developed under AP-3.11Q. The section also discusses the method through which non-Q data and references have been upgraded for incorporation in the PMR via the constituent models and analyses developed in compliance with AP-3.10Q. In the case of the first version of the PMR, discussions include how non-Q data referenced in the document are tracked with "TBVs." This section provides a general discussion, with the more specific demonstrations of compliance with quality assurance requirements to follow in later chapters and to be discussed in the referenced AP-3.10Q analyses.

1.4 RELATIONSHIP TO OTHER PROCESS MODEL REPORTS AND KEY PROJECT DOCUMENTS

This section discusses how the SZ PMR relates to the others in terms of interfaces and overlaps. It includes a list of all the PMRs and a summary-level purpose and description of each. The section explains how this PMR relates to documents such as the Yucca Mountain Site Description, the Natural Analogs report, the Natural Resources report, topical reports, the SRR, the LA, and other applicable and appropriate documents. It also describes the relationship between the subject matter of this PMR and other contributory or subsequent process models. This discussion may overlap with some of the information under Section 1.2, "Scope" above.

1.4.1 Integrated Site Model PMR

The Integrated Site Model (ISM) PMR describes the framework for discussing the geologic properties of the site (e.g., stratigraphy, structural characteristics, and rock properties) that is provided by the ISM. The ISM PMR describes how geophysical and hydrologic properties information has been used to characterize the geologic properties of the site. The report also describes how the output from the ISM is used as input to the unsaturated zone (UZ) flow and transport model, the saturated zone flow and transport model, tectonic hazards, and Engineered Barrier System design. The Saturated Zone Flow and Transport Process Model Report will use geologic properties information developed and documented in the ISM PMR to establish the baseline site framework.

This section describes how the geologic material properties in the ISM model were utilized in the SZ flow and transport model component of the TSPA. Material properties in the ISM that will be used in the SZ site-scale model include matrix porosity and bulk density

1.4.2 Unsaturated Zone Flow and Transport PMR

The Unsaturated Zone Flow and Transport Process Model Report describes the processes affecting the amount of water entering and flowing through the unsaturated zone above the repository, contacting wastes in the repository, and the movement of water with dissolved radionuclides or colloidal particles through the unsaturated zone below the repository. The purpose of the model is to describe the spatial and temporal distribution of water flow through the unsaturated zone and the spatial and temporal distribution of water seepage into the underground openings of the repository. The PMR also describes inputs from other PMRs and outputs from the Unsaturated Zone Flow and Transport model to the Saturated Zone Flow and Transport Model, Engineered Barrier System design and Total System Performance Assessment. The emphasis of the discussion of model inputs and outputs is on information needed for the assessment of postclosure performance. The Saturated Zone Flow and Transport Model will receive inputs of spatial and temporal distribution of recharge and radionuclide transport from the Unsaturated Zone and Transport Model.

This section describes the interface between the UZ site-scale model and the SZ site-scale model, both in terms of groundwater flow and in terms of radionuclide transport. Recharge boundary conditions for the SZ model will be specified based on the groundwater flux simulated at the base of the UZ model. Coupling of the radionuclide transport between the UZ and the SZ will be accomplished with the convolution integral method.

1.4.3 Biosphere PMR

The Biosphere Process Model Report addresses the characteristics that describe the lifestyle and habits of individuals who potentially could be exposed to radioactive material at some time during the postclosure performance period. The Biosphere PMR describes the reference biosphere and the characteristics of the critical group including pathways, location and behavior representative of current conditions, and biosphere transport and uptake. The Biosphere Process Model Report will receive information feeds from the Saturated Zone Flow and Transport Model of amount of groundwater flow from the Yucca Mountain site and the spatial and temporal distribution of radionuclides transported.

This section will describe the conceptual model and regulatory basis for the coupling of the radionuclides at the 20 km boundary in the SZ and the biosphere model.

1.5 OVERVIEW DESCRIPTION AND RESULTS OF MODELS AND ABSTRACTION

This section provides a high-level description of the SZ model, the abstractions of the model, the results of abstractions, and application of the models in the PMR. This section basically summarizes the information that is provided in more detail in Chapter 3 and in much greater

detail in the reference AP-3.10Q analyses. The section also contains a summary of Chapter 4 that integrates all the PMR models, abstractions, and analyses. The section is intended to support the reader who wants to get the gist of the report without examining it in great detail.

CHAPTER 2.0 EVOLUTION OF THE SZ PROCESS MODEL

This chapter provides perspective on the background information from which the PMR is being developed and describes the overall documentation structure of which the PMR is a part.

Next, the chapter provides a summary of previous treatment of the SZ (background of previous modeling and abstraction).

The chapter then summarizes the development of the SZ process model and abstractions and describes the conceptual approach. It provides references to sections of Chapter 3 that contain the descriptions of the technical details associated with the development of the SZ process models and abstractions.

2.1 OVERVIEW AND DEVELOPMENT APPROACH

This section will explain the philosophy for developing the PMRs, and why the SZ PMR is being developed.

2.2 SZ BASELINE

This section will discuss how the SZ baseline was established. This will include discussion on the hydrogeologic baseline, water level, geochemistry, and transport parameters.

2.3 PREVIOUS SZ MODELING

This chapter provides information on previous modeling developed at various scales to simulate groundwater flow and transport in the vicinity of Yucca Mountain. Implications of the present SZ methodology relative to previous approaches will be discussed.

2.4 PREVIOUS TSPA MODELING

This section will summarize how the transport of radionuclides in the SZ has been handled in previous TSPA analyses. Implications of the present SZ methodology relative to previous approaches will be discussed.

2.5 RELATIONSHIP OF SZ PMR TO SUPPORTING ANALYSIS DOCUMENT

The discussion includes a description of the relationship among the SZ PMR and the constituent sub-process models, abstraction models, and analyses (as applicable) developed under AP 3.10Q procedure. Whereas section 1.2 uses a flowchart to describe the information flow associated

with the subject of the PMR, this chapter discusses the same subject, but in terms of the document structure (AP-3.10Q analysis packages, the PMR itself, and other documents as applicable).

CHAPTER 3.0 SATURATED-ZONE FLOW AND TRANSPORT MODEL AND ABSTRACTIONS FOR TSPA-SR

Chapter 3 describes the SZ site-scale flow and transport model, abstractions, and analyses. Discussions will include the relationships among the models, abstractions, data, and analyses.

3.0 INTRODUCTION

Section 3.0 identifies and introduces the models that are the principal subject of the chapter and shows the relationship among the various components that are discussed in the chapter. The bases for the scopes of the models (number of processes and/or sub-models included) are explained in terms of the conceptual models that provide the bases for the process models. This section also describes the layout of the chapter discussion of those components.

Sections 3.1 through 3.4 provide primary descriptions of the SZ model components. The SZ process model and other models will feed the SZ abstracted models.

3.1 SATURATED ZONE FLOW AND TRANSPORT CHARACTERIZATION

Section 3.1 describes the SZ system at the regional and site scales. It summarizes the geologic, hydrologic, hydrochemical, and transport data.

3.1.1 Description of the SZ System

This section presents the regional and site scale setting for the SZ system including geology, hydrology and hydrochemistry.

3.1.1.1 Regional Flow System

3.1.1.1.1 Geologic Setting

3.1.1.1.2 Hydrologic Setting

3.1.1.1.3 Hydrochemistry

3.1.1.2 Site-Scale Flow System

3.1.1.2.1 Geologic Setting

3.1.1.2.2 Hydrologic Setting

3.1.1.2.3 Hydrochemistry

3.1.2 Summary of Hydrologic Data

This section will summarize the hydrologic data including water level data, hydraulic well testing data including the C-well testing. It will also summarize the recharge and infiltration studies.

3.1.2.1 Water Level Measurements

3.1.2.2 Hydraulic Well Tests

3.1.2.3 Infiltration and Recharge

3.1.3 Summary of Hydrochemical Data

This section will summarize all the hydrochemical data and tests including tracer tests and oxidation potential.

3.1.3.1 Spatial Patterns of Groundwater Chemistry

3.1.3.2 Tracer Tests

3.1.3.3 Oxidation Potential

3.1.4 Summary of Laboratory Data

This section will summarize the laboratory and experiment data used in the SZ flow and transport model including sorption, matrix diffusion, and colloid facilitated transport experiments.

3.1.4.1 Sorption Experiments

3.1.4.2 Matrix Diffusion Experiments

3.1.4.3 Colloid-Facilitated Transport Experiments

3.2 CONCEPTUAL MODEL OF THE SATURATED ZONE SITE-SCALE FLOW AND TRANSPORT SYSTEM

This section will describe the SZ site-scale flow and transport conceptual model that form the basis of the numerical model of SZ flow and transport in the site-scale model. This will include

the hydrogeologic framework model, the boundary conditions used in the model, contaminant transport processes considered at Yucca Mountain, other alternative conceptual models, and climate changes. When possible, justification for the various components of the conceptual model will be made by referring to observations at the Yucca Mountain site.

3.2.1 Hydrogeologic Framework

The hydrogeologic Framework model will identify the different units used in the model and their properties. It will describe the hydrologic features, the role of faults in flow and transport. It will discuss the conceptual relationship between the geologic setting and the distribution of hydrologic properties in the SZ site-scale flow and transport model. Justification of the conceptual model will be documented in this section

3.2.1.1 Hydrogeologic Units

3.2.1.2.1 Hydrologic Features

3.2.1.2.2 Role of Faults

3.2.1.2.3 Heterogeneity

3.2.1.2.4 Large, Moderate, and Low Hydraulic Gradients

3.2.2 Boundary Conditions

This section will discuss the conceptual basis and assumptions associated with the boundary conditions used in the SZ site-scale flow model. The relationship with the regional groundwater flow system will be discussed. Recharge to and discharge from the model will be discussed.

3.2.2.1 Lateral Boundaries

3.2.2.2 Recharge

3.2.2.3 Discharge

3.2.3 Solute Transport Processes

The conceptual basis and assumptions in the radionuclide transport model for the SZ site-scale model will be discussed in this section. Justification for the representation of these processes in the model will be presented. Discussions in this section (or an appropriate subsection) will include a description of the average groundwater travel time from the water table below the potential repository to the compliance point. Discussions in this section will include information about groundwater travel time between the repository horizon and the water table that will be provided in Sections 3.4.6 and 3.6.1.4.3 of the UZ PMR so that the discussion will summarize average groundwater travel time between the repository horizon and the compliance point.

3.2.3.1 Advecti

3.2.3.2 Matrix Diffusion

3.2.3.3 Sorption

3.2.3.4 Hydrodynamic Dispersion

3.2.3.5 Colloid-Facilitated Transport

3.2.4 Alternative Conceptual Models

This section will present the alternative conceptual models of the SZ flow system that have been considered in the SZ site-scale flow model. Potential implications for repository performance will be discussed.

3.2.4.1 Large Hydraulic Gradient

3.2.4.2 Perched Water Table

3.2.5 Climate Change

The conceptualization of climate change processes and their impact on the SZ flow system will be presented in this section. Consistency with other components of the TSPA analysis will also be discussed.

3.2.5.1 Changes in Water Table Elevation

3.2.5.2 Changes in the SZ Flow System

3.2.5.2.1 Groundwater Flux

3.2.5.2.2 Recharge and Discharge

3.3 MATHEMATICAL AND NUMERICAL MODELING APPROACH

This section will describe the implementation of the conceptual model of SZ flow and transport into the numerical model.

3.3.1 Mathematical Model of Groundwater Flow

The equations of groundwater flow, as used by the SZ site-scale model in the FEHM computer code, will be presented in this section. Relationship of this mathematical representation to the conceptual model will be documented.

3.3.2 Mathematical Model of Radionuclide Transport

The equations of radionuclide transport in groundwater, as used by the SZ site-scale model in the FEHM computer code, will be presented in this section. Relationship of this mathematical representation to the conceptual model will be documented.

3.3.2.1 Advection-Dispersion

3.3.2.2 Matrix Diffusion

3.3.2.3 Sorption

3.3.2.4 Hydrodynamic Dispersion

3.3.2.5 Colloid-Facilitated Transport

3.3.3 Numerical Implementation of Groundwater Flow Equations in FEHM

This section will document the numerical solution methods used in FEHM to solve the groundwater flow equations

3.3.4 Particle Tracking Method for Radionuclide Transport in FEHM

This section will document the numerical solution methods used in FEHM to solve the radionuclide transport equations. This will cover the advection component, the random walk algorithm used to solve for dispersion, and the sorption and matrix-diffusion sub-models.

3.3.4.1 Random-Walk Algorithm

3.3.4.2 Sorption and Matrix-Diffusion Sub-models

3.3.5 Hydrogeologic Framework Model

This section will describe the representation of the geology in the grid of the SZ site-scale model. Implications of the resolution of the geology in the grid will be discussed.

3.3.6 Grid Generation

The design and geometry of the numerical grid will be discussed in this section. Justification for the grid geometry will be presented

3.3.7 Flow-Model Construction

This section will describe the interrelationship among the components of the numerical model. The relationship to the grid generation will be discussed.

3.3.8 Heterogeneity and Geostatistical Simulation

This section will document the results of sub-grid block modeling of heterogeneity and the resulting conclusions regarding dispersion in radionuclide transport.

3.3.9 Regional-Scale Flow Modeling

This section will describe the implementation of results from the SZ regional-scale flow model in the SZ site-scale flow model.

3.3.9.1 Groundwater Flux at Site-Scale Model Boundaries

3.3.9.2 Response to Climate Change

3.4 MODEL VALIDATION ACTIVITIES

This section will describe the model validation activities including calibration to water level, calibration to hydrochemical observations, calibration to pump tests at the C-wells. The use of natural analogues in calibration and validation will be discussed. Uncertainty in the process model will also be discussed in this section.

3.4.1 Calibration to Water Levels

This section will describe the results of calibration efforts using optimization methods to obtain best fit to hydraulic-head (water level) data. A number of conceptual models will be evaluated using regression methods.

3.4.1.1 Model Inversion Methodology

3.4.1.2 Calibration Results

3.4.2 Calibration to Hydrochemical Observations

This section will document how geochemical and isotopic data and analysis is used to constrain rates and directions of ground-water flow near Yucca Mountain and the timing and magnitude of recharge in the Yucca Mountain vicinity.

3.4.3 Calibration to Pump Tests at the C-Wells

This subheading will summarize the calibration process of the SZ model to the C-Wells hydraulic testing.

3.4.4 Natural Analogues

This chapter will summarize the data from natural analogue sites relevant to SZ flow and transport processes. The analysis will include a literature review of existing studies (from the international community and the U.S.), including retardation in saturated alluvium, dispersion and dilution in contaminant plumes, colloid transport, and other radionuclide transport in the SZ. Modeling simulations are presented for use of Hanford data on transport of tritium in saturated alluvium as a test of modeling dispersion in the SZ flow and transport model. Recommendations are made for application of SZ process analogues to PA and possibly to design.

3.4.5 Process Model Uncertainty

This section will discuss uncertainty in the model parameters used. It will discuss uncertainty in the processes simulated in the model. Results of sensitivity analysis will be discussed.

3.5 ASSUMPTIONS, USES AND LIMITATIONS OF THE SATURATED ZONE SITE-SCALE MODEL

This section will describe the different assumptions made in the flow and transport model. The discussion will cover the use and limitation of the site-scale flow and transport model.

3.5.1 Groundwater Flow Processes

This subheading will discuss the assumptions and limitations associated with groundwater flow processes.

3.5.2 Radionuclide Transport Processes

This subheading will discuss the assumptions and limitations associated with radionuclide transport processes.

3.5.3 Uses in Site Characterization Activities

This section will discuss the SZ site-scale flow and transport model in site characterization activities.

3.5.4 Modeling Limitations

This section will list all modeling limitations including the non-uniqueness in the solution and calibration and other limitation in data and representation of processes.

3.6 SYNTHESIS OF SZ MODEL AND MODEL ABSTRACTIONS

This chapter synthesizes the information from the various PMRs into a coherent discussion of how the Saturated Zone is satisfactorily addressed.

3.6.1 Introduction

The chapter begins with an introduction that briefly describes why a synthesis of related information in the various process models is needed. Cross-references are made to the locations in other PMRs where models, abstractions, and analyses related to the SZ are discussed in more detail.

3.6.2 Results of Synthesis

This section provides a detailed description of how the component parts (models, abstractions, and analyses) of the Project's approach to addressing the process are used together to predict the effect of each process on repository performance. This section focuses on the technical description that shows the process is addressed with acceptable levels of uncertainty. Some aspects of showing the validity of the overall method may need to be captured in subsections.

3.6.3 Analysis Approach To Saturated Zone Flow And Transport For Total Systems Performance Assessment Analyses

This sub-heading will document the incorporation of the SZ site-scale flow and transport modeling results into the TSPA analyses.

3.6.3.1 General Approach

An overview of the structure of the TSPA calculations will be presented in this section

3.6.3.2 TSPA Three-Dimensional Flow and Transport Model

This section will discuss the specific SZ flow and transport calculations performed with the SZ site-scale model for TSPA.

3.6.3.3 Abstraction of Radionuclide Transport

This section will describe the simplifications of the SZ site-scale model implemented for incorporation into TSPA analyses. The conceptual basis and justification for these abstractions will be discussed

3.6.3.3.1 Convolution Integral Method

3.6.3.3.2 Alternative Climate States

3.6.3.3.3 Assumptions

3.6.3.3.4 Dilution in Water Supply

3.6.3.4 Coupling of SZ Flow and Transport with Other Components of TSPA Analyses

This section will describe the details of the coupling between SZ flow and transport with UZ transport and the biosphere components of TSPA.

3.6.3.4.1 Unsaturated-Zone Flow and Transport

3.6.3.4.2 Biosphere

3.6.3.4.3 Implementation with the RIP Computer Code

3.7 SATURATED ZONE FLOW AND TRANSPORT BASE CASE

This sub-heading will document the set of probabilistic analyses for SZ flow and transport that constitute the base case for TSPA.

3.7.1 Description of the Base Case

This section will summarize those FEPs for SZ flow and transport that are explicitly or implicitly included in the base case.

3.7.1.1 Features, Events, and Processes Considered

3.7.1.2 Uncertainty

3.7.2 Parameter Uncertainty Distributions

The uncertainty distributions for stochastic parameters used in the base case will be presented in this section. A summary of the basis for uncertainty distributions will be documented.

3.7.3 Probabilistic Analyses

This section will describe those aspects of the analysis of SZ flow and transport that are handled probabilistically in the TSPA.

3.7.4 Results

The base case results (i.e., the SZ unit breakthrough curves at 20 km distance) will be presented in this section.

3.7.5 Interpretations

This section will include a discussion of the base case results. Implications for repository performance calculations will be examined.

3.8 DATA QUALIFICATION

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.9 SUMMARY OF OTHER VIEWS & ALTERNATIVE CONCEPTUAL MODELS

This section discusses the review comments and criticisms resulting from the PA Peer Review of TSPA-VA. A description of how these issues were addressed in the TSPA will be provided. Discussions will also include how the major issues identified in the SZ expert elicitation were handled in the SZ site-scale flow and transport model and in TSPA analyses. Issues regarding SZ flow and transport processes raised in the FY99 SZ workshop will be summarized in this section.

CHAPTER 4.0 RELATIONSHIP WITH THE NUCLEAR REGULATORY COMMISSION (NRC) ISSUE RESOLUTION STATUS REPORTS

Because the NRC has indicated it plans to structure its review of issues that are subjects of PMRs around the NRC's designated Key Technical Issues (KTI) and Issue Resolution Status Reports (IRSR), this chapter of the SZ PMR describes how the acceptance criteria in the IRSRs have been addressed.

4.1 INTRODUCTION

This introductory subsection summarizes the NRC's KTI and IRSR effort. The NRC has determined that resolution of its designated KTIs is crucial to licensing the repository. The NRC staff has issued various IRSRs that describe the status of the KTIs from the NRC's perspective and provide subissues and acceptance criteria. Some of the KTIs may correspond to, or overlap with, the issues and processes that the PMR addresses. This section of the PMR describes how each KTI and its constituent subissues and acceptance criteria have been addressed through the PMR.

Each subsection that follows identifies a Key Technical Issue, its subissues, and associated acceptance criteria that are related to the PMR. The subsections discuss how the PMR addresses the acceptance criteria identified for each subissue of each KTI. In many cases a given PMR only partially addresses a given KTI, and that fact is noted as appropriate.

4.2 NRC IRSRS AND KTIS

This section identifies a Key Technical Issue, its subissues, and associated acceptance criteria that are related to the PMR. The section discusses how the PMR addresses the acceptance criteria identified for each subissue of each KTI. In many cases a given PMR only partially addresses a given KTI, and that fact is noted as appropriate.

The discussions include how key issues and uncertainties identified in TSPA-VA were addressed in the present modeling of SZ flow and transport.

REFERENCES

This chapter contains the complete reference list for the document.

APPENDICES

The appendices contain supporting information deemed appropriate for inclusion in the PMR (if any) but at too great a level of detail for the body of the report.

NEAR-FIELD ENVIRONMENT PROCESS MODEL REPORT (PMR)

CHAPTER 1.0 INTRODUCTION

This chapter provides the "up front" information necessary for the reader to understand the purposes of the report, its basic organization, and related issues. It also supports the reader who desires a quick look at the document without reviewing it in detail. This chapter also provides a high-level summary of how the Near-Field Environment (NFE) PMR relates to technical topics presented in the other PMRs (and non-PMRs as appropriate), and key Project documents including topical reports, the Environmental Impact Statement (EIS), the Site Recommendation Report (SRR), and the License Application (LA).

1.0 INTRODUCTION

Section 1.0 contains introductory text that briefly describes the goal of the Yucca Mountain Project, which is to determine suitability of the Yucca Mountain site for disposal of high-level nuclear waste. If the site is found suitable, the goal is to then seek a license to construct and subsequently to operate and eventually close a high-level waste disposal facility. It goes on to briefly describe the role of the PMR in meeting those goals. Finally, the section summarizes the layout of the PMR.

1.1 OBJECTIVE

This section provides the objective (or objectives) of the NFE PMR (what its production is intended to accomplish). Briefly, the objective is to compile in one place, as a stand-alone report, a synthesis of all the necessary and sufficient technical information, related to the near-field environment, that the Project will be relying upon to make its site suitability evaluation and ultimately the licensing argument pertaining to a particular process model. The technical information consists of data, analyses, models, software and supporting documents used to develop the PMR model (or models) and defend the applicability of the model for its intended purpose. The PMR serves as an important reference for Total System Performance Assessment (TSPA) and key Program milestone documents (EIS, SRR, and LA) and is written for a readership of knowledgeable persons in technical and regulatory fields. Many of the objectives are common to all the PMRs, though one or more may also be specific to a given PMR.

1.2 SCOPE

This section explains the information presented in and the content of the PMR. It uses one or more flowcharts to show the evolution of information from data to TSPA output, showing in the flowcharts what parts of the evolution are included in the PMR. The section also describes where to find relevant subject matter not included in the PMR. References to related discussions in Chapter 2 are provided.

In summary, the NFE PMR will describe processes important to limiting the amount of water that could contact waste. Processes include the effects of heat from the waste on water flow through the unsaturated zone at the emplacement drift wall, temperature and humidity (thermodynamic environment) in the engineered barriers, and the chemical reactions and products and mechanical interactions in the near-field host rock surrounding the emplacement drifts. In-drift water chemistry and gas compositions are also described. The PMR also will describe inputs from other PMRs and outputs from the model to the UZ Flow and Transport model, EBS design, and TSPA. The emphasis of the discussion of model inputs and outputs is on information needed for the assessment of postclosure performance.

1.3 QUALITY ASSURANCE

This section provides a general discussion of the quality assurance controls under which the PMR has been developed. The PMR is expected to be designated as quality affecting through QAP-2-0 analysis. As such the PMR is developed under AP-3.11Q. The section also discusses the method through which non-Q data and references have been upgraded for incorporation in the PMR via the constituent models and analyses developed in compliance with AP-3.10Q. The first version of the PMR will discuss how non-Q data referenced in the document are tracked with "TBVs."

In addition, the QA status of data and software will be discussed. This will include a table of the QA status of natural systems input data, a table of the QA status of design input data, and a table of the QA status of software. Specific demonstrations of compliance with quality assurance requirements will follow in later chapters and will be discussed in the referenced AP-3.10Q analyses.

1.4 RELATIONSHIP TO OTHER PROCESS MODEL REPORTS AND KEY PROJECT DOCUMENTS

This section discusses how this PMR relates to the other PMRs in terms of interfaces, ties, and overlaps. It includes a list of all the PMRs and a summary-level purpose and description of each. The section explains how this PMR relates to documents such as the Yucca Mountain Site Description, the Natural Analogs report, the Natural Resources report, topical reports, the SRR, the LA, and other documents as considered applicable and appropriate by the PMR authors. It also describes the relationship between the subject matter of this PMR and other contributory or subsequent process models. This discussion may overlap with some of the information under Section 1.2, "Scope" above. The following represent data/information feeds to and or from the NFE PMR.

- UZ Flow and Transport PMR
- Repository Design Documents
- EBS PMR
- Waste Package Degradation PMR

1.5 OVERVIEW DESCRIPTION AND RESULTS OF MODELS AND ABSTRACTION

This section provides a high-level overview of the NFE models, the results of the models, the abstractions of the models, the results of the abstractions, application of the models in the PMR, and the implications for repository performance. This section basically summarizes the information that is provided in more detail in Chapter 3 and in much greater detail in the reference AP-3.10Q analyses. The section also contains a summary of Chapter 4 that integrates the PMR models, abstractions, and analyses. The section is intended to support the reader who wants to get the gist of the report without examining it in detail.

CHAPTER 2.0 EVOLUTION OF THE PROCESS MODEL(S)

2.1 OVERVIEW

Provide background against which the PMR is being developed. Describes the documentation structure of which the PMR is a part, explain the philosophy for developing the PMRs, and describe why this specific PMR is being developed.

Summarize the development of the specific process models and abstractions by describing the conceptual approach used to develop the process models and abstractions. Provide references to sections of Chapter 3 that contain the descriptions of the technical details associated with the development of the process models and abstractions.

2.2 PREVIOUS NEAR-FIELD MODELING

The chapter provides a summary of the previous treatment of the near-field environment (background of previous modeling and abstraction). Included in this description is the treatment of the near-field environment in previous TSPAs

2.3 NEAR-FIELD ENVIRONMENT WORKSHOPS

This section provides a description of the conduct and results of performance assessment workshops on the near-field environment. This includes a brief overview and description of the purpose of the workshop.

2.4 FEATURES, EVENTS, AND PROCESSES ASSOCIATED WITH THE NFE PMR

This section describes the results of screening the features, events, and processes. Describe the features, events, and processes included; the features, events, and processes

excluded and include the basis for eliminating features, events, and processes. Document the rationale for the elimination or retention of any scenario considered.

CHAPTER 3.0 MODELS AND ABSTRACTIONS

Chapter 3 describes the development of the process-level models, model abstractions, and supporting analyses that address the near-field environment process. Discussions will include the relationships among the process-level models, model abstractions, data, and supporting analyses.

3.0 INTRODUCTION

Section 3.0 identifies and introduces the models that are the principal subject of the chapter and shows the relationship among the various components that are discussed in the chapter.

3.1 ESF AND LBT FIELD THERMAL TESTING RESULTS

The ESF thermal tests and the large block test will be used to help specify appropriate conceptual flow models, thermal perturbations to hydrologic flow properties, coupled process data specifications and initial conditions, and assessments of implementation of ambient flow hydrologic properties in thermally driven models. This includes experimentally determined data taken from the single heater test and drift-scale test at the ESF and the large block test.

3.1.1 Single Heater Test

This includes experimentally determined data taken from the single heater test.

3.1.2 Drift-Scale Heater Test

This includes experimentally determined data taken from the drift-scale test at the ESF.

3.1.3 Large Block Test

This includes experimentally determined data taken from the large block test.

3.2 HOW THE UZ FLOW AND TRANSPORT INPUTS ARE APPLIED IN THE NFE MODELS

A description of how hydrologic flow properties, geologic framework model, infiltration rates, climate states, and conceptual flow models as implemented in the UZFT PMR are applied in the process-level models featured in this PMR.

3.3 HOW THE REPOSITORY DESIGN INPUTS ARE APPLIED IN THE NFE MODELS

A description of how design specifications for the reference repository design are implemented in the process-level models featured in this PMR. This includes determination of discrete waste package layouts, repository area/elevation/location, individual decay heat curves, and repository-averaged heat output for all wastes.

3.4 MODEL DESCRIPTIONS

The bases for the scopes of the models (number of processes and/or sub-models included) are explained in terms of the conceptual models that provide the bases for the process models. This section also describes the layout of the chapter discussion of those components. Sections 3.4 through 3.7 provide the primary descriptions of the Near-Field Environment process model components. These models will feed the NFE abstracted models.

3.4.1 Impact on Emplacement Drift Thermodynamic Environment

A description of the process-level models used to develop the temperature, relative humidity, and air mass fraction at the drip-shield surface and the waste package surface. The models will be able to provide a determination of how near-field host rock THC processes impact the near-field drift environment.

3.4.1.1 Introduction

3.4.1.2 QA

3.4.2.3 Importance Of Concept

3.4.3.4 Model Assumptions

3.4.4.5 Relevant Data

3.4.5.6 Process-Level Models, Methodology, And Approach

3.4.6.7 Model Limitations/Uncertainties

3.4.7.8 Results For Base Case

3.4.8.9 Sensitivity Analysis

3.4.8.10 Summary

3.4.2 Impact On Emplacement Drift Seepage Water Chemical Content And Gas Compositions

A description of the process-level thermal-hydrologic-chemical models used to develop the incoming (into the drift) water chemistry and gas-phase compositions. This model is dependent on the THC parameters and physical processes in the near-field rock directly surrounding the emplacement drifts.

3.4.2.1 Introduction

3.4.2.2 QA

3.4.2.3 Importance Of Concept

3.4.2.4 Model Assumptions

3.4.2.5 Relevant Data

3.4.2.6 Process-Level Models, Methodology, And Approach

3.4.2.7 Model Limitations/Uncertainties

3.4.2.8 Results For Base Case

3.4.2.9 Sensitivity Analysis

3.4.2.10 Summary

3.4.3 THM Processes in the Near- Field Host Rock

A description of the process-level models used to determine the impact of thermal-hydrologic-mechanical effects on near-field quantities such as the flow properties used in drift seepage calculations and drift thermodynamic environment calculations.

3.4.3.1 Introduction

3.4.3.2 QA

3.4.3.3 Importance Of Concept

3.4.3.4 Model Assumptions

3.4.3.5 Relevant Data

3.4.3.6 Process-Level Models, Methodology, And Approach

3.4.3.7 Model Limitations/Uncertainties

3.4.3.8 Results For Base Case

3.4.3.9 Sensitivity Analysis

3.4.3.10 Summary

3.4.4 Thermal Effects on Emplacement Drift Seepage

A description of the process-level models and methods applied to determine the impact of thermal effects on emplacement drift seepage. This will be performed using the percolation flux above the crown of the drift at different repository locations (a function of the number of repository subregions determined by TSPA) for different waste package types (commercial, high-level waste, and DOE SNF).

3.4.4.1 Introduction

3.4.4.2 QA

3.4.4.3 Importance Of Concept

3.4.4.4 Model Assumptions

3.4.4.5 Relevant Data

3.4.4.6 Process-Level Models, Methodology, And Approach

3.4.4.7 Model Limitations/Uncertainties

3.4.4.8 Results For Base Case

3.4.4.9 Sensitivity Analysis

3.4.4.10 Summary

3.4.5 TH Multiscale Model and Abstraction Method--Assumption Testing and Analysis Introduction

A series of heat transfer and fluid flow analyses used to justify the model assumptions and simplifications as applied in the near-field process-level models and sub-models. NRC and other review comments made during TSPA-VA drive these analyses.

3.4.5.1 Introduction

3.4.5.2 QA

3.4.5.3 Importance Of Concept

3.4.5.4 Model Assumptions

3.4.5.5 Relevant Data

3.4.5.6 Process-Level Models, Methodology, And Approach

3.4.5.7 Model Limitations/Uncertainties

3.4.5.8 Results For Base Case

3.4.5.9 Sensitivity Analysis

3.4.5.10 Summary

3.4.6 THC Processes in the Near-Field Host Rock

This section describes the base case analyses, results, and PA abstractions as obtained from the process-level model analyses for the THC Process in the Near-Field Host Rock as described below, including temperature, relative humidity, air mass fraction, seepage quantities and chemistry. This section will also define what the base case runs for the near-field environment including climate states, infiltration rates, property sets, and rock-mineral-water specifications in the chemical models. Base case runs defined by the repository design include areal mass loading, repository layout and configuration, and waste package heat output and layout representation.

3.4.6.1 Thermodynamic Environment In The Emplacement Drift

3.4.6.1.1 Temperature

3.4.6.1.2 Relative Humidity

3.4.6.1.3 Air Mass Fraction

3.4.6.2 Seepage Water Content And Gas Composition

3.4.6.2.1 Chemical Content Of Entering Water

3.4.6.2.2 Gas Chemical Content

3.4.6.3 PA Abstraction Results

3.4.7 THM Processes in the Near-Field Host Rock

Describes the thermo-hydrological-mechanical base case analyses, results, and PA abstractions as obtained from the process-level model analyses for these coupled processes as previously described. This section will also define what the base case runs for the near-field environment including climate states, infiltration rates, property sets, and rock-mineral-water specifications in the chemical models. Base case runs defined by the repository design include areal mass loading, repository layout and configuration, and waste package heat output and layout representation.

3.4.7.1 Alteration of the large-scale processes

3.4.7.1.1 Gas Phase Flux Values

3.4.7.1.2 Air Mass Fraction

3.4.7.1.3 Liquid Phase Flux Below The Repository

3.4.7.2 Alteration Of Near-Field Processes

3.4.7.3 PA Abstraction Results

3.4.8 Thermal Effects on Emplacement Drift Seepage

The thermal effects on drift seepage are described for the base case analyses, results, and PA abstractions as obtained from the process-level model analyses previously described. This section will also define what the base case runs for the near-field environment including climate states, infiltration rates, property sets, and rock-mineral-water specifications in the chemical models. Base case runs defined by the repository design include areal mass loading, repository layout and configuration, and waste package heat output and layout representation.

3.4.8.1 Waste Package Variability

3.4.8.2 Thermal Alteration On Seepage Quantities

3.4.8.2.1 Thermal Factor On Seepage Fraction

3.4.8.2.2 Thermal Factor On Seepage Volume Flow Rate

3.4.8.3 PA Abstraction Results

3.4.9 THC Processes In The Near-Field Host Rock

This section provides a description of the THC sensitivity models and analyses that were performed to consider variability in properties and possible materials that were not directly addressed in the base case analyses discussed in **3.4.6**. This section will document the sensitivity analyses results, and PA abstractions.

3.4.9.1 Consideration Of Additional/Different Minerals

3.4.9.2 Consideration Of Different/Bounding Chemical Reaction Kinetics

3.4.9.3 Consideration Of Ranges Of Reactive Mineral Surface Areas

3.4.9.4 PA Abstraction Results

3.4.10 THM Processes In The Near-Field Host Rock

This section provides a description of the sensitivity models and analyses for thermal-hydrological-mechanical processes that were performed to consider differing constitutive formulations or conceptualizations and geologic interpretations from those used in the base-case analyses discussed in **3.4.7**. This section will document the sensitivity analyses results, and PA abstractions.

3.4.10.1 Consideration Of Bounding Constitutive Relationships Between Thermal Stress And Flow Properties

3.4.10.2 Consideration Of Rockfall Effects On Emplacement Drift Thermodynamic Environment

3.4.10.3 PA Abstraction Results

3.4.11 Thermal Effects On Emplacement Drift Seepage

This section provides a description of the sensitivity models and analyses for thermal effects on drift seepage to consider design options that were not considered in the base-

case described in section3.4.8. This section will document the sensitivity analyses results, and PA abstractions.

3.4.11.1 Alternative Consideration Of Waste Package Variability

3.4.11.2 Alternative Consideration Of Repository Location

3.4.11.3 Rockfall On T And RH In Drift (If No Backfill)

3.4.11.4 PA Abstraction Results

3.5 DATA QUALIFICATION

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.6 SUMMARY OF OTHER VIEWS & ALTERNATIVE CONCEPTUAL MODELS

This section documents credible opposing views to the approaches and methods described in the PMR for the model under discussion. The section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position. To the extent that compensatory measures have been or will be taken to deal with the opposing view, those measures are also described in this section.

The chapter or section also discusses findings of reviewers external to the Project of the models and processes associated with the PMR, and it describes how the findings have been satisfactorily addressed.

3.5.1 Expert Elicitation

Expert elicitation was used to solicit the judgement of nationally and internationally recognized scientists in quantifying uncertainty in the parameter values used in near-field environment models. This section summarizes the results of the expert elicitations.

3.5.2 TSPA Peer Review Panel on TSPA-VA

This section summarizes the comments of the TSPA Peer Review panel on the TSPA-VA.

3.5.3 MTS Technical Comments on TSPA-VA

This section summarizes the comments of the MTS on the TSPA-VA.

CHAPTER 4.0 RELATIONSHIP WITH THE NUCLEAR REGULATORY COMMISSION (NRC) ISSUE RESOLUTION STATUS REPORTS

Because the NRC has indicated it plans to structure its review of issues that are subjects of PMRs around the NRC's designated Key Technical Issues (KTI) and Issue Resolution Status Reports (IRSR), this chapter of the PMR describes how the acceptance criteria in the IRSRs have been addressed.

5.0 INTRODUCTION

This introductory subsection summarizes how the information in this PMR addresses various NRC Key Technical Issues (KTIs) as described in the related Issue Resolution Status Reports (IRSRs).

5.1 NRC IRSRS AND KTIS

The NRC has determined that resolution of its designated KTIs is crucial to licensing the repository. The NRC staff has issued various IRSRs that describe the status of the KTIs from the NRC's perspective. They also provide subissues and acceptance criteria for each KTI. Some of the KTIs may correspond to, or overlap with, the issues and processes that the PMR addresses. This section of the PMR describes how each KTI and its constituent subissues and acceptance criteria have been addressed through the PMR. Each subsection identifies a Key Technical Issue, its subissues, and associated acceptance criteria that are related to the PMR. The subsections discuss how the PMR addresses the acceptance criteria identified for each subissue of each KTI. In many cases, a given PMR only partially addresses a given KTI, and that fact is noted as appropriate.

REFERENCES

This chapter contains the complete reference list for the document.

APPENDICES

The appendices contain supporting information deemed appropriate for inclusion in the PMR (if any) but at too great a level of detail for the body of the report.

WASTE PACKAGE DEGRADATION

PROCESS MODEL REPORT

CHAPTER 1.0 INTRODUCTION

This chapter provides the "up front" information necessary for the reader to understand the purposes of the report, its basic organization, and related issues. This chapter also provides a high-level summary of how the Waste Package Degradation PMR relates to technical topics presented in the other PMRs (and non-PMRs as appropriate), and key Project documents including topical reports, the Environmental Impact Statement (EIS), the Site Recommendation Report (SRR), and the License Application (LA).

1.0 INTRODUCTION

Section 1.0 contains introductory text that briefly describes the goal of the Yucca Mountain Project, which is to determine suitability of the Yucca Mountain site for disposal of high-level nuclear waste. If the site is found suitable, the goal is to then seek a license to construct and subsequently to operate and eventually close a high-level waste disposal facility. It goes on to briefly describe the role of the PMR in meeting those goals. Finally, the section summarizes the layout of the PMR.

1.1 OBJECTIVE

This section provides the objective (or objectives) of the PMR (what its production is intended to accomplish). Briefly and generically, the objective is to compile in one place, as a stand-alone report, a synthesis of all the necessary and sufficient technical information, related to the PMR topic, that the Project will be relying upon to make its site suitability evaluation and ultimately the licensing argument pertaining to a particular process model. The technical information consists of data, analyses, models, software and supporting documents used to develop the PMR model (or models) and defend the applicability of the model for its intended purpose of evaluating aspect(s) of postclosure performance of the Yucca Mountain repository system. The PMR serves as an important reference for Total System Performance Assessment (TSPA) and key Program milestone documents (EIS, SRR, and LA) and is written for a readership of knowledgeable persons in technical and regulatory fields. Many of the objectives are common to all the PMRs, though one or more may also be specific to a given PMR.

1.2 SCOPE

The Waste Package Degradation PMR describes processes that will lead to waste package degradation (for example, the corrosion of the waste package materials within

the near-field environment). This PMR provides information about the thermal, hydrologic, and geochemical processes acting on waste package surfaces that are important environmental factors affecting waste package lifetime. The PMR describes inputs from other PMRs, such as the Unsaturated Zone (UZ) Flow and Transport and Near-Field PMRs, and outputs to the UZ Flow and Transport model, EBS design and TSPA. The emphasis of the discussion of model inputs and outputs is on information needed for the assessment of postclosure performance.

This section also describes where to find relevant subject matter not included in the PMR. References to related discussions in Chapter 2 are provided.

1.3 QUALITY ASSURANCE

This section explains the quality assurance controls under which the PMR has been developed. The PMR is expected to be designated as quality-affecting through QAP-2-0 analysis. As such the PMR is developed under AP-3.11Q. The section also discusses the method through which non-Q data and references have been upgraded for incorporation in the PMR via the constituent models and analyses developed in compliance with AP-3.10Q. In the case of the first version of the PMR, discussions include how non-Q data referenced in the document are tracked with "TBVs." This section provides a general discussion, with the more specific demonstrations of compliance with quality assurance requirements to follow in later chapters and to be discussed in the referenced AP-3.10Q analyses.

1.4 RELATIONSHIP TO OTHER PROCESS MODEL REPORTS AND KEY PROJECT DOCUMENTS

This section discusses how this PMR relates to the other PMR in terms of interfaces and overlaps. It includes a list of all the related PMRs and a summary-level purpose and description of each. The section explains how this PMR relates to documents such as the Yucca Mountain Site Description, the Natural Analogs report, the Natural Resources report, topical reports, the SRR, the LA, and other documents as considered applicable and appropriate by the PMR authors. It also describes the relationship between the subject matter of this PMR and other contributory or subsequent process models. This discussion may overlap with some of the information under Section 1.2, "Scope" above.

1.5 OVERVIEW DESCRIPTION AND RESULTS OF MODELS AND ABSTRACTION

This section provides a high-level description of the models, the abstractions of the models, the results of abstractions, and application of the models in the PMR. This section basically summarizes the information that is provided in more detail in Chapter 3 and in much greater detail in the reference AP-3.10Q analyses. The section also contains a summary of Chapter 4 that integrates the PMR models, abstractions, and analyses. The

section is intended to support the reader who wants to get the gist of the report without examining it in great detail.

CHAPTER 2.0 EVOLUTION OF THE PROCESS MODEL(S)

This chapter provides perspective on the background against which the PMR is being developed and describes the documentation structure of which the PMR is a part.

First, the chapter explains the philosophy for developing the PMRs, and why this specific PMR is being developed.

Next, the chapter provides a summary of previous treatment of the subject issue (background of previous modeling and abstraction).

The chapter then summarizes the development of the specific process models and abstractions that are its subject by describing the conceptual approach used to develop the process models and abstractions. It provides references to sections of Chapter 3 that contain the descriptions of the technical details associated with the development of the process models and abstractions.

The discussion includes a description of the relationship between the PMR and the constituent sub-process models, abstraction models, and analyses (as applicable) developed under AP 3.10Q. Whereas section 1.2 uses a flowchart to describe the information flow associated with the subject of the PMR, this chapter discusses the same subject but in terms of the document structure (AP-3.10Qs, the PMR itself, and other documents as applicable).

CHAPTER 3.0 MODELS AND ABSTRACTIONS

Chapter 3 describes the models, abstractions, and analyses that address the process that is the subject of the PMR. Discussions will include the relationships among the models, abstractions, data, and analyses.

3.0 INTRODUCTION

Section 3.0 identifies and introduces the models that are the principal subject of the chapter and shows the relationship among the various components that are discussed in the chapter. The bases for the scopes of the models (number of processes and/or sub-models included) are explained in terms of the conceptual models that provide the bases for the process models. This section also describes the layout of the chapter discussion of those components.

3.1 MODEL DESCRIPTIONS

This section describes the set of models that is the subject of the PMR consistent with the corresponding AP-3.10Q reports, including its supporting codes, components, sub-models, and/or analyses. Sub-models that make up the model are identified. The section summarizes the development of the process models as described in greater detail in the corresponding AP-3.10Q report. Discussions in this section will include descriptions of data feeds from AP-3.10Q analyses and reports external to but summarized in this PMR.

3.1.1 Overview of Waste Package and EBS Design

This section provides an overview of the information on the waste package and EBS designs relevant to the waste package materials degradation modeling such as: 1) Waste package materials and design specification, 2) Waste package fabrication process including closure weld, 3) Waste Package Support in Emplacement Drift and 4) Waste Package Drip Shield- drip shield materials, design specification, fabrication process, and emplacement process in drift.

3.1.1.1 Discussion of Relevant Data and data Uncertainties

3.1.1.2 Model Assumptions

3.1.1.3 Model Description

3.1.1.4 Model Results

3.1.2 Juvenile Failures

AP3.10Q on 1) the probability of waste package materials defect and their uncertainty and variability, 2) waste package fabrication process including closure weld, the probability of waste package fabrication defect and their uncertainty and variability, and 3) consequence of the defect on waste package failure (e.g., number of failure sites and opening size distribution) and their uncertainty and variability.

3.1.2.1 Discussion of Relevant Data and Data Uncertainties

3.1.2.2 Model Assumptions

3.1.2.3 Model Description

3.1.2.4 Model Results

3.1.3 Environment on the Surface of the Waste Package Barrier Materials

AP3.10Qs on models and analyses for each of the WP barriers (and drip shield if used) for 1) local corrosion condition evolution as a function of time and space/location in the presence and absence of drips, and 2) uncertainty and variability of the corrosion conditions

3.1.3.1 Discussion of Relevant Data and data Uncertainties

3.1.3.2 Model Assumptions

3.1.3.3 Model Description

3.1.3.4 Model Results

3.1.4 Phase Stability and Aging

AP3.10Qs on models and analyses for each of the WP barriers (and drip shield if used) for 1) degradation process resulting from long-term exposure to elevated temperatures, 2) degradation rate as a function of exposure conditions, 3) failure mode characteristics (e.g., number failure sites and opening size), and 4) uncertainty and variability of the above degradation process

3.1.4.1 Discussion of Relevant Data and data Uncertainties

3.1.4.2 Model Assumptions

3.1.4.3 Model Description

3.1.4.4 Model Results

3.1.5 General Corrosion

AP3.10Qs on models and analyses for each of the WP barriers (and drip shield if used). The process model for this will incorporate the following sub-models.
Dry Oxidation: Models and analyses for each of the WP barriers (and drip shield if used) for 1) degradation process from dry oxidation, 2) degradation rate as a function of exposure conditions, 3) failure mode characteristics (e.g., number failure sites and opening size), and 4) uncertainty and variability of the above degradation process.

Humid air corrosion: Models and analyses for each of the WP barriers (and drip shield if used) for 1) RH and T thresholds for corrosion initiation in the presence and absence of drips, and 2) uncertainty and variability of the thresholds.

Aqueous corrosion: Models and analyses for each of the WP barriers (and drip shield if used) for 1) general corrosion degradation process, 2) general corrosion rate as a function of time and local corrosion conditions, 3) failure mode characteristics (e.g., number failure sites and opening size), and 4) uncertainty and variability of the corrosion rate

3.1.5.1 Discussion of Relevant Data and data Uncertainties

3.1.5.2 Model Assumptions

3.1.5.3 Model Description

3.1.5.4 Model Results

3.1.6 Localized Corrosion

Analyses for each of the WP barriers (and drip shield if used) for the thresholds of localized corrosion initiation in the presence and absence of drips, and uncertainty and variability of the thresholds.

AP3.10Qs on models and analyses for each of the WP barriers (and drip shield if used) for 1) localized corrosion degradation process, 2) localized corrosion rate as a function of time and local corrosion conditions, 3) failure mode characteristics (e.g., number failure sites and opening size), and 4) uncertainty and variability of the corrosion rate

3.1.6.1 Discussion of Relevant Data and data Uncertainties

3.1.6.2 Model Assumptions

3.1.6.3 Model Description

3.1.6.4 Model Results

3.1.7 Stress Corrosion Cracking (SCC)

Analyses for each of the WP barriers (and drip shield if used) for the thresholds of SCC initiation in the presence and absence of drips, and uncertainty and variability of the thresholds.

AP3.10Qs on models and analyses for each of th. WP barriers (and drip shield if used) for 1) SCC process, 2) SCC rate as a function of time and local corrosion and stress conditions, 3) failure mode characteristics (e.g., number failure sites and opening size), and 4) uncertainty and variability of the corrosion rate.

3.1.7.1 Discussion of Relevant Data and data Uncertainties

3.1.7.2 Model Assumptions

3.1.7.3 Model Description

3.1.7.4 Model Results

3.1.8 Hydrogen Induced Cracking

Analyses for each of the WP barriers (and drip shield if used) for the thresholds of crack initiation by HIC in the presence and absence of drips, and uncertainty and variability of the thresholds

AP3.10Qs on models and analyses for each of the WP barriers (and drip shield if used) for 1) HIC process, 2) HIC crack propagation rate as a function of time and local corrosion and stress conditions, 3) failure mode characteristics (e.g., number failure sites and opening size), and 4) uncertainty and variability of the corrosion rate

3.1.8.1 Discussion of Relevant Data and data Uncertainties

3.1.8.2 Model Assumptions

3.1.8.3 Model Description

3.1.8.4 Model Results

3.1.9 Galvanic Coupling Effects

AP3.10Qs (if needed) on models and analyses for each of the WP barriers (and drip shield if used) for 1) galvanic coupling process, 2) its effects on local corrosion conditions and corrosion processes, and 3) uncertainty and variability of the galvanic coupling effect

3.1.9.1 Discussion of Relevant Data and data Uncertainties

3.1.9.2 Model Assumptions

3.1.9.3 Model Description

3.1.9.4 Model Results

3.1.10 Mechanical Failures due to Rockfall cluding seismically-i ced)

Analyses for rockfall frequency and rock size distribution as a function of time, and uncertainty and variability of the parameters. AP3.10Qs on models and analyses for 1) critical rock size to fail (cause through-crack) waste package as a fur ion of remaining waste package structural compoments (e.g., barrier thickness,) failure mode characteristics (e.g., number failure sites and opening size), and 3) uncertainty and variability of the rock-fall failure processes

3.1.10.1 Discussion of Relevant Data and data Uncertainties

3.1.10.2 Model Assumptions

3.1.10.3 Model Description

3.1.10.4 Model Results

3.1.11 Failure by Non-Conventional Degradation Processes

Analyses for waste package failure that is caused by non-conventional degradation processes, presenting 1) description of likely p cesses causing the failure, 2) probability of the fail e, 3) time r riod (or distribution) a. the fa ure, 4) failure mode characteristics (e.g., number failure s and opening size), and 5) uncertainty and variability of the failure processes

3.2 INTEGRATED MODEL DEVELOPMENT

This section discusses the uncertainties in the model/sub-models and the assumptions and bases thereof associated with the uncertainties.

3.2.1 Model Uncertainties

This Section discusses the uncertainties in the process model that is the topic of this PMR and the assumptions and bases thereof associated with the uncertainties.

3.2.2 Model Validation

This section demonstrates the validity of the model [See Quality Assurance Requirements and Description (DOE/RW-0333P) Glossary and AP-3.10Q for definitions of model validation] and its sub-models and discusses the suitability of the model for its intended application. It includes demonstration of the validity of the data used to support the model validation, as well as demonstration of the validity of the codes that support the

models. Results of expert elicitations used to support model validation are included. The discussion summarizes use of natural and man-made analogues in the model validation as appropriate.

3.2.3 Abstraction of the Models

This section describes the method of abstracting the model and its sub-models into the TSPA. Abstraction of the process-level models described in Section 3.1 will be developed only for those corrosion modes and processes that the detailed analysis shows they have significant effects on waste package performance and warrants their inclusion in the TSPA. Results of expert elicitations and abstraction workshops are included as appropriate. Discussions include any assumptions needed to support the abstraction and descriptions of the approach taken to deal with the uncertainties in the model abstraction process. Details of the model abstraction process will be documented in the corresponding AP-3.10Q reports. The abstracted models will be implemented in the waste package degradation model.

3.2.4 Validity of the Abstraction

This section contains a demonstration of the validity of the abstraction. Results of peer reviews or other evaluations of the model abstraction process are included. If the peer reviews or other evaluations were not favorable, cross-references are provided to discussions of such results in Section 3.4. The discussion summarizes use of natural and man-made analogues in validating the abstraction as appropriate.

3.3 DATA QUALIFICATION

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.4 SUMMARY OF OTHER VIEWS & ALTERNATIVE CONCEPTUAL MODELS

This section documents credible opposing views to the approaches and methods described in the PMR for the model under discussion. The section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position. To the extent that compensatory measures have been or will be taken to deal with the opposing view, those measures are also described in this section.

The chapter or section also discusses findings of reviewers external to the Project of the models and processes associated with the PMR, and it describes how the findings have been satisfactorily addressed.

CHAPTER 4.0 RELATIONSHIP WITH THE NUCLEAR REGULATORY COMMISSION (NRC) ISSUE RESOLUTION STATUS REPORTS

Because the NRC has indicated it plans to structure its review of issues that are subjects of PMRs around the NRC's designated Key Technical Issues (KTI) and Issue Resolution Status Reports (IRSR), this chapter of the PMR describes how the acceptance criteria in the IRSRs specific to the waste package have been addressed.

4.1 INTRODUCTION

This introductory subsection summarizes the NRC's Container Lifetime and Source Term (CLST) KTI and IRSR effort. The NRC has determined that resolution of its designated KTIs is crucial to licensing the repository. The NRC staff has issued an IRSR that describe the status of the CLST KTI from the NRC's perspective and provide subissues and acceptance criteria. This section of the PMR describes how CLST KTI and its constituent subissues and acceptance criteria have been addressed through the PMR.

4.2 THROUGH 4.X RELATIONSHIP OF PMR TO KTIS

Each subsection that follows identifies a Key Technical Issue, its subissues, and associated acceptance criteria that are related to the PMR. The subsections discuss how the PMR addresses the acceptance criteria identified for each subissue of each KTI. In many cases a given PMR only partially addresses a given KTI, and that fact is noted as appropriate.

REFERENCES

This chapter contains the complete reference list for the document.

APPENDICES

The appendices contain supporting information deemed appropriate for inclusion in the PMR (if any) but at too great a level of detail for the body of the report.

WASTE FORM DEGRADATION PROCESS MODEL REPORT

CHAPTER 1 INTRODUCTION

This chapter provides the "up front" information necessary for the reader to understand the purposes of the report, its basic organization, and related issues. It also supports the reader who desires a quick look at the document without reviewing it in great detail. This chapter also provides a high-level summary of how the WF PMR relates to technical topics presented in the other PMRs (and non-PMRs as appropriate), and key Project documents including topical reports, the Environmental Impact Statement (EIS), the Site Recommendation Report (SRR), and the License Application (LA).

1.0 INTRODUCTION

Section 1.0 contains introductory text that briefly describes the goal of the Yucca Mountain Project, which is to determine suitability of the Yucca Mountain site for disposal of high-level nuclear waste. If the site is found suitable, the goal is to then seek a license to construct and subsequently to operate and eventually close a high-level waste disposal facility. It goes on to briefly describe the role of the WF PMR in meeting those goals. Finally, the section summarizes the layout of the WF PMR.

1.1 OBJECTIVE

This section provides the objective (or objectives) of the WF PMR (what its production is intended to accomplish). Briefly and generically, the objective is to compile in one place, as a stand-alone report, a synthesis of all the necessary and sufficient technical information, related to the WF PMR topic, that the Project will be relying upon to make its site suitability evaluation and ultimately the licensing argument pertaining to a particular process model. The technical information consists of data, analyses, models, software and supporting documents used to develop the WF PMR model (or models) and defend the applicability of the model for its intended purpose of evaluating aspect(s) of postclosure performance of the Yucca Mountain repository system. The WF PMR serves as an important reference for Total System Performance Assessment (TSPA) and key Program milestone documents (EIS, SRR, and LA) and is written for a readership of knowledgeable persons in technical and regulatory fields. Many of the objectives are common to all the PMRs, though one or more may also be specific to a given PMR.

1.2 SCOPE

This section explains the information presented in and the content of the WF PMR. It uses one or more flowcharts to show the evolution of information from data to TSPA output, showing in the flowcharts what parts of the evolution are included in the WF PMR. The section also

describes where to find relevant subject matter not included in the WF PMR. References to related discussions in Chapter 2 are provided.

The Waste Form Degradation PMR describes the waste characteristics that are expected to minimize the rate of release of radionuclides. Discussions include cladding degradation and waste form dissolution. The WF PMR describes the manner in which the waste forms will break down and how the manner of break down is expected to affect the release of radionuclides to the immediately surrounding environment. The WF PMR also describes inputs from other PMRs, especially the Waste Package Degradation PMR, and outputs to the UZ Flow and Transport , EBS design, and TSPA. The emphasis of the discussion of model inputs and outputs is on information needed for the assessment of postclosure performance.

1.3 QUALITY ASSURANCE

This section explains the quality assurance controls under which the WF PMR has been developed. The WF PMR is expected to be designated as quality-affecting through QAP-2-0 analysis. As such the WF PMR is developed under AP-3.11Q. The section also discusses the method through which non-Q data and references have been upgraded for incorporation in the WF PMR via the constituent models and analyses developed in compliance with AP-3.10Q. In the case of the first version of the WF PMR, discussions include how non-Q data referenced in the document are tracked with "TBVs." This section provides a general discussion, with the more specific demonstrations of compliance with quality assurance requirements to follow in later chapters and to be discussed in the referenced AP-3.10Q analyses.

1.4 RELATIONSHIP TO OTHER PROCESS MODEL REPORTS AND KEY PROJECT DOCUMENTS

This section discusses how the WF PMR relates to the others in terms of interfaces and overlaps. It includes a list of all the PMRs and a summary-level purpose and description of each. The section explains how the WF PMR relates to documents such as the Yucca Mountain Site Description, the Natural Analogs report, the Natural Resources report, topical reports, the SRR, the LA, and other documents as considered applicable and appropriate by the WF PMR authors. It also describes the relationship between the subject matter of the WF PMR and other contributory or subsequent process models. This discussion may overlap with some of the information under Section 1.2, "Scope" above.

1.5 OVERVIEW DESCRIPTION AND RESULTS OF MODELS AND ABSTRACTION

This section provides a high-level description of the models, the abstractions of the models, the results of abstractions, and application of the models in the WF PMR. This section basically summarizes the information that is provided in more detail in Chapter 3 and in much greater detail in the reference AP-3.10Q analyses. The section also contains a summary of Chapter 4 that integrates the WF PMR models, abstractions, and analyses. The section is intended to support the reader who wants to get the gist of the report without examining it in great detail.

CHAPTER 2 EVOLUTION OF THE PROCESS MODEL(S)

This chapter provides perspective on the background against which the WF PMR is being developed and describes the documentation structure of which the WF PMR is a part.

First, the chapter explains the philosophy for developing the PMRs, and why the WF PMR is being developed.

Next, the chapter provides a summary of previous treatment of the subject issue (background of previous modeling and abstraction).

The chapter then summarizes the development of the specific process models and abstractions that are its subject by describing the conceptual approach used to develop the process models and abstractions. It provides references to sections of Chapter 3 that contain the descriptions of the technical details associated with the development of the process models and abstractions.

The discussion includes a description of the relationship between the WF PMR and the constituent sub-process models, abstraction models, and analyses (as applicable) developed under AP 3.10Q. Whereas section 1.2 uses a flowchart to describe the information flow associated with the subject of the WF PMR, this chapter discusses the same subject but in terms of the document structure (AP-3.10Qs, the WF PMR itself, and other documents as applicable).

This chapter will also include a section on the FEP (Features, Events and Processes) screening process. The section will discuss the process and provide a table of FEPs covered in the WF PMR. The table will include pointers to sections in chapter 3 where the include/exclude decision for each FEP is summarized.

CHAPTER 3 MODELS AND ABSTRACTIONS

Chapter 3 describes the models, abstractions, and analyses that address the process that is the subject of the WF PMR. Discussions will include the relationships among the models, abstractions, data, and analyses.

3.0 INTRODUCTION

Section 3.0 identifies and introduces the models that are the principal subject of the chapter and shows the relationship among the various components that are discussed in the chapter. The bases for the scopes of the models (number of processes and/or sub-models included) are

explained in terms of the conceptual models that provide the bases for the process models. This section also describes the layout of the chapter discussion of those components.

3.1 INVENTORY

This section summarizes the analyses performed to obtain inventory of the radionuclides for release and transport modeling in TSPA-SR.

3.1.1 General Description of the Waste Types

This sub-section provides a general description of the broad range of waste types including waste characteristics such as burn-up, enrichment, disposal options, etc.

3.1.2 Groupings of waste types for TSPA calculations

The three types modeled in the TSPA-VA were CSNF, HLW and DSNF. This subsection presents the new analyses for the waste groups modeled with cross-references to the types used for heat generation curves in TH modeling.

3.1.3 Tables of Isotope Inventory Per Package for Each Group

This section presents the results of the binning of the waste streams into groups, including uncertainty discussion, and data QA tracking.

3.1.4 Selection of Isotopes for Inclusion Within TSPA Calculations

This section summarizes the sensitivity analysis and selection of most important isotopes for the three types of TSPA calculations (Safety case, Human Intrusion, Disruptive Events), including uncertainty discussion, and comparison to important isotope lists in other PA's.

3.2 COMMERCIAL SPENT NUCLEAR FUEL (CSNF) CLAD DEGRADATION

This section presents the analysis of all the possible degradation modes of CSNF clad, and the models used to describe these degradation modes within the TSPA-SR.

3.2.1 Initial State Of Clad

This subsection describes the initial state of the clad as the fuel assemblies are removed from the reactor. It includes discussion data QA and uncertainty. From the literature failure rates, the fraction of fuel with failed cladding will be derived for the initially failed clad model. A discussion of clad that has damage but has not failed will be included.

3.2.2 In-WP Temperature History

This subsection summarizes the calculation of expected and extreme-case temperature histories, with cross-reference to TH model. It will include discussion of uncertainty, validation, abstraction, validation of abstraction, results, data QA.

3.2.3 Screened-Out Failure Modes

This subsection briefly summarizes the analyses that were used to screen out unlikely failure modes such as general dry oxidation, general wet oxidation, creep, SCC, etc. For each analysis there will be a description, followed by discussions of uncertainty, validation, data QA, and other views.

3.2.4 Mechanical failure models

This subsection discusses the failure mechanisms and calculation of clad failure rates due to mechanical effects such as rock fall and seismic effects. This section includes uncertainty ranges, validation, abstraction, validation of abstraction, results, data QA, and other views.

3.2.5 Local Corrosion Failure Models

This section describes the failure of clad that may occur due to localized corrosion of the clad. A model will be developed, based primarily on literature data for localized corrosion as a function of in-WP chemistry. The model will include all probable forms of localized corrosion, for example: pitting, crevice. This section will contain a description of each corrosion type, with discussion of uncertainty, validation, abstraction, validation of abstraction, results, data QA, other views.

3.2.6 Hydride-Related Failure Model(s)

This subsection will summarize the processes by which hydrogen may degrade clad performance. It will include a description, and discussion of uncertainty, validation, abstraction, validation of abstraction, results, data QA, and other views.

3.2.7 Dry Unzipping

This subsection will describe the process of clad unzipping that may occur in clad which has a through-wall defect and is exposed to a hot dry air environment, as might occur within a waste package that undergoes juvenile failure. As the fuel inside the clad is oxidized, it expands and may unzip the clad. This section will include a model description, and a discussion of uncertainty, validation, abstraction, validation of abstraction, results, data QA, and other views.

3.2.8 Wet Unzipping

This subsection will summarize the issues and uncertainty of clad unzipping under high humidity conditions. Scenarios will be described that span the range of possible fuel-clad behavior.

Models for the scenarios will be described with discussion of uncertainty, validation, abstraction, validation of abstraction, results, data QA, and other views.

3.2.9 Abstracted Clad Model

This subsection will combine all clad degradation models with the in-WP geochemistry model results to produce history of containment and surface area, which are presented as intermediate results for the various scenarios. From an analyses of the scenarios, two abstracted clad models will be developed: 1) a best estimate for the million year TSPA for the EIS and 2) the best defendable range for the 10,000 year TSPA for the license application. Validity of these abstractions will be discussed along with other views not already discussed.

3.3 CSNF WASTE FORM DEGRADATION

This section will summarize the data and models for commercial fuel degradation.

3.3.1 Discussion Of CSNF Dissolution Data

This subsection will discusses the data, uncertainties, and data QA tracking for all relevant data. It will include: inventory distribution within fuel, flow through experiments, unsaturated Drip Tests, batch tests, electrochemical tests, and natural analogues.

3.3.2 CSNF Dissolution Model

This subsection will describe the selection and derivation of a Q dissolution model, which is a function of In-WP chemistry. This model will be based on the Q flow through experiments. (Note: this process level model is the abstracted model as well) Validation will include discussion of mechanisms and comparison with other Q and non-Q data and other views.

3.3.3 Results

This subsection will combine the CSNF dissolution model with the in-WP geochemistry and clad models to provide intermediate results. Further results will be provided in the In-Package Source Term and Radionuclide transport section.

3.4 DSNF, NAVY, PU DISPOSITION WASTES DEGRADATION

This section will discuss the degradation of all wastes other than CNSF and high level waste glass.

3.4.1 Description

This section will describe each waste group, covering the same issues as covered in 3.1-3.3 for CSNF as applicable, including: special inventory issues such as unusual inventory or inventory

distribution, clad or canister degradation models as applicable, waste form degradation including surface area, and other issues specific to the waste form such as pyrophoricity

3.4.2 Uncertainty/Abstraction/Validation/Data QA

This subsection will describe how limited Q data and uncertainty are handled by using bounding abstracted models. It will discuss the validity of the bounding abstractions.

3.4.3 Results

This subsection will present the results from each waste group and comparisons between groups and CSNF. It will address other views.

3.5 HLW GLASS DEGRADATION

This subsection will discuss degradation of high level waste glass, and the model abstraction to be used in TSPA-SR.

3.5.1 Description/Uncertainty

This subsection will describe the processes and uncertainty of degradation of HLW glass in aqueous and vapor phase conditions, including the effects of glass composition, solution chemistry, and a discussion of the surface area undergoing active degradation within a defected pour canister.

3.5.2 Abstracted Degradation Model(s)

This subsection describes the abstraction of above HLW degradation models into one or two models for degradation of glass under aqueous and vapor conditions. It will include a discussion of data QA and validation of abstraction(s), natural analogues and other views.

3.5.3 Results

This subsection will combine the HLW degradation model(s) with the in-WP geochemistry results to produce subsystem results.

3.6 DISSOLVED RADIONUCLIDE CONCENTRATION LIMITS

This subsection summarizes the concentration limits applied at the waste form in the TSPA-SR.

3.6.1 Pure Phase Solubility Models

This subsection summarizes pure phase solubility models as a (In-WP chem.) or distribution as applicable, including models for Tc, I, Np, Pu, U, Se, Pd, Am, Pa, C. It includes description, uncertainty, validation, abstraction, abstraction validation, results, data QA and other views.

3.6.2 Mixed Phase Concentration Limit Models

This subsection describes secondary phase model(s) which provide radionuclide (RN) concentration limits as a function of in-WP chemistry in systems where RN concentrations are controlled by mixed phases. For selected elements, the pure phase solubility range may be extended uncertainty limits or replacing for key elements as deemed appropriate. Description, uncertainty, validation, abstraction, abstraction validation, results, data QA, natural analogues and other views.

3.7 COLLOID-ASSOCIATED RADIONUCLIDE CONCENTRATION LIMITS

This section summarizes the source term for colloid associated radionuclides.

3.7.1 Selection of Isotopes

This subsection describes the selection of isotopes for which colloid assisted transport is important to system performance.

3.7.2 WF Colloid Formation

This section provides the mechanistic basis for WF colloid formation. It includes formation for glass, CSNF, and DSNF derived colloids. (for colloids formed outside the WP see the EBS PMR). This subsection includes a description, mechanistic discussion and uncertainty discussion.

3.7.3 WF Colloid Stability

This section discusses colloid stability and provides a model or a pointer to the model (in the EBS PMR) for colloid concentration as a function of in-WP chemistry. This section will be closely coordinated with the EBS PMR, so that efforts are not duplicated and models are not presented in detail in more than one place. If the EBS colloid concentration model is found to adequately describe the concentration of WF colloids in WP chemistries, this section will have a brief summary of the appropriate EBS PMR section, and justification of why the model is appropriate for WF colloids in the WP as well. If a separate model is required, this will be the location where is it summarized and discussed including, uncertainty, validation, abstraction, and validation of abstraction. The colloid concentration model will be combined with the in-WP chemistry abstraction to obtain colloid concentration results. Data QA and other views will also be discussed.

3.7.4 Attachment/Detachment of Radionuclides to Colloids

This subsection describes the mechanisms and data for attachment/detachment of radionuclides to colloids. Data as well as conceptual model uncertainty will be discussed. Validation issues will be addressed.

3.7.4 Abstraction

This subsection will discuss the abstraction of the data and conceptual models into effective Kd's and irreversible fraction ranges within the TSPA RIP model. Validation and uncertainty in these parameters will be discussed. These parameters, combined with colloid concentration model, in-package chemistry and derived solubilities will be used to obtain the intermediate result of colloidal RN concentration limits. These concentration limits will be compared with observed concentrations from drip and batch tests, and natural/anthropogenic analogues. Data QA and other views will be discussed.

3.8 IN-PACKAGE GEOCHEMISTRY

This section will include a generic in-package geochemistry introduction, description, links to the EBS PMR and the WP PMR, links to other WF processes, uncertainty, and other views.

3.8.1 CSNF Geochemistry

This subsection discusses the in-package chemistry model as a function of the clad abstraction, dissolution rates, flow, etc. Extremes of uncertain parameters such as dissolution rates, flow rates, etc. will be sampled to produce the inputs for a limited number of scenarios. Because the chemistry is a function of the clad model, and the clad localized corrosion model is a function of chemistry, iteration with the clad model may be necessary. After the calculations are run, the results will be inspected for logical binning of results as a function of the inputs. The abstracted chemistry model will be built from these results. A discussion of uncertainty and validation will be included. Data QA and other views will also be included.

3.8.2 Co-Disposal Geochemistry

This subsection discusses the in-package chemistry model as a function of the clad abstraction, dissolution rates (metal, glass, fuel), flow, etc. Extremes of uncertain parameters such as dissolution rates, flow rates, etc. will be sampled to produce the inputs for a limited number of scenarios. Because the chemistry is a function of the other models and these models are in turn a function of chemistry, iteration with other models may be necessary. After the calculations are run, the results will be inspected for logical binning of results as a function of the inputs. The abstracted chemistry model will be built from these results. A discussion of uncertainty and validation will be included. Data QA and other views will also be included.

3.9 IN-PACKAGE SOURCE TERM AND RADIONUCLIDE TRANSPORT ABSTRACTION

This section describes how all the WF models are combined with conceptual models of in-package transport to provide the source term for the TSPA-SR calculations.

3.9.1 Description of In-Package Transport

This subsection includes a description of in-package transport including uncertainty and data QA. Scenarios will be described: flow-through, bathtub, others. Links to WP PMR and EBS PMR will be described. The physical description of WP internals as function of time will be summarized. The fraction of waste in advective versus diffusive pathways as a function of time with links to WP PMR will be discussed. Pathway descriptions as function of time (basket condition, pathway volume, pathway porosity, pathway saturation, pathway connections areas, sorption onto corrosion products will be discussed. Uncertainty and validation will be discussed in each area. Abstraction of in-package transport for 10,000-year license application and 1 million-year EIS TSPA will be discussed.

3.9.2 Integrated Abstracted Model for 10,000 Year License Application

This subsection describes the abstracted models used for the 10,000 year TSPA-SR and TSPA-LA calculations. For processes that continue to have significant uncertainty, but that are relatively less important in the 10,000-year time frame, bounding cases may be adopted. Bounding cases will only be adopted for processes that can not be more realistically modeled and defended as technically correct at this time.

Releases from the waste package will be reported as intermediate results. These releases will be compared to WP releases predicted by others.

3.9.3 Integrated Abstracted Model for 1,000,000 Year EIS Calculations

This subsection describes the abstracted models used for the 1,000,000-year EIS TSPA calculations. For these runs, best estimates will be used for the models.

Releases from the waste package will be reported as intermediate results. The first 10,000 years of these releases will be compared to the releases reported in Section 3.9.2. Releases for the full 1 million-year run will also be reported and compared with other views.

3.10 DATA QUALIFICATION

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.11 SUMMARY OF OTHER VIEWS & ALTERNATIVE CONCEPTUAL MODELS

This section documents credible opposing views to the approaches and methods described in the PMR for the model under discussion. The section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position. To the extent that compensatory measures have been or will be taken to deal with the opposing view, those measures are also described in this section.

The chapter or section also discusses findings of reviewers external to the Project of the models and processes associated with the PMR, and it describes how the findings have been satisfactorily addressed.

CHAPTER 4 RELATIONSHIP WITH THE NUCLEAR REGULATORY COMMISSION (NRC) ISSUE RESOLUTION STATUS REPORTS

Because the NRC has indicated it plans to structure its review of issues that are subjects of PMRs around the NRC's designated Key Technical Issues (KTI) and Issue Resolution Status Reports (IRSR), this chapter of the PMR describes how the acceptance criteria in the IRSRs have been addressed.

4.1 INTRODUCTION

This introductory subsection summarizes the NRC's KTI and IRSR effort. The NRC has determined that resolution of its designated KTIs is crucial to licensing the repository. The NRC staff has issued various IRSRs that describe the status of the KTIs from the NRC's perspective and provide subissues and acceptance criteria. Some of the KTIs may correspond to, or overlap with, the issues and processes that the PMR addresses. This section of the PMR describes how each KTI and its constituent subissues and acceptance criteria have been addressed through the PMR.

Sections below identify the acceptance criteria and discuss how the WF PMR addresses the acceptance criteria. In cases where the WF PMR only partially addresses a given KTI, that fact is noted as appropriate.

4.2 KTI: CONTAINER LIFE AND SOURCE TERM (CLST)

This section lists the CLST acceptance criteria and where the PMR addresses each.

4.2.1 Nine General Acceptance Criteria

This section lists the CLST general acceptance criteria and where the PMR addresses each.

4.2.2 Seven Acceptance Criteria for Subissue 3:

This section addresses the acceptance criteria for Subissue 3: What is the rate of degradation of spent fuel and the rate at which radionuclides in spent fuel are released from the engineered barrier subsystem?

4.2.3 Seven Acceptance Criteria for Subissue 4:

This section addresses the acceptance criteria for Subissue 4: What is the rate of degradation of high-level waste glass and the rate at which radionuclides in high-level waste glass are released from the engineered barrier subsystem?

4.3 KTI: EVOLUTION OF NEAR FIELD ENVIRONMENT (ENFE)

This section lists the ENFE acceptance criteria and where the PMR addresses each.

4.3.1 Subissue 3: Effects of Coupled THC Processes on the Chemical Environment for Radionuclide Release

This section addresses the acceptance criteria for Subissue 3: The effects of coupled THC processes on the chemical environment for radionuclide release. Discussion of acceptance criteria outlined in section 4.3 of the ENFE KTI and identifies where these criteria are addressed in the WF PMR.

4.3.2 Subissue 4: Effects of Coupled THC Processes on Radionuclide Transport Through Engineered and Natural Barriers

This section addresses the acceptance criteria for Subissue 4: The effects of coupled THC processes on radionuclide transport through engineered and natural barriers. Discussion of acceptance criteria outlined in section 4.4 of the ENFE KTI that apply to In-Package transport.

REFERENCES

This chapter contains the complete reference list for the document.

APPENDICES

The appendices contain supporting information deemed appropriate for inclusion in the PMR (if any) but at too great a level of detail for the body of the report.

EBS DEGRADATION, FLOW AND TRANSPORT

PROCESS MODEL REPORT

CHAPTER 1 INTRODUCTION

This chapter provides the "up front" information necessary for the reader to understand the purposes for the report, the basic organization, and related issues. It also supports the reader who desires a quick look at the document without reviewing it in great detail. This chapter also provides a high-level summary of how the EBS PMR relates to technical topics presented in the other PMRs, and other key Project documents such as topical reports, the Environmental Impact Statement (EIS), the Site Recommendation Report (SRR), and the License Application (LA).

1.1 OBJECTIVE

This section describes the objectives of the PMR. Briefly and generically, the objective is to compile a stand-alone report that contains a synthesis of the necessary and sufficient technical information related to the EBS, that the Project will rely on to make its site suitability evaluation, and eventually to support the licensing arguments. The technical information will consist of data, analyses, models, software and supporting documents used to develop the EBS models and defend the applicability of the models for evaluating postclosure performance of the Yucca Mountain repository. The PMR will serve as an important reference for Total System Performance Assessment (TSPA) and key Program milestone documents (EIS, SRR, and LA) and will be written for a readership of knowledgeable persons in technical and regulatory fields. Some of these objectives are common to all the PMRs, and the PMRs together are intended to document all of the necessary and sufficient technical information to support the objectives.

1.2 SCOPE

This section will explain in general terms, the technical information presented in the EBS PMR. It will use graphical features to show the evolution of information from data collection, to TSPA output, and what aspects of the evolution are included in the EBS PMR. The section will also describe where to find relevant subject matter not included in the PMR. References to related discussions in Chapter 2 are provided.

1.3 QUALITY ASSURANCE

This section will explain the quality assurance controls under which the PMR will be developed. The PMR is expected to be designated as quality-affecting through QAP-2-0 analysis. As such the PMR will be developed under AP-3.11Q. This section will also

discuss the methods by which non-Q data and references will be incorporated in the PMR, and in specific instances, qualified for direct application in licensing arguments.

For Revision 00 of the EBS PMR, this section will describe how non-Q data referenced in the document will be tracked with "TBVs." This will be only a general discussion, with more specific demonstrations of compliance with tracking requirements to follow in later chapters of the PMR and in the referenced AP-3.10Q modeling and analysis reports.

1.4 RELATIONSHIP TO OTHER PROCESS MODEL REPORTS AND KEY PROJECT DOCUMENTS

This section will discuss how this PMR interfaces with the other PMRs. It will include a list of all the PMRs and a summary-level description of each one. The section will explain how the EBS PMR relates to documents such as the Yucca Mountain Site Description, the Natural Analogs report, the Natural Resources report, topical reports, the SRR, the LA, and other documents as considered applicable and appropriate by the PMR authors. It will also describe the relationship between the subject matter of this PMR and ancillary process models. (This discussion may overlap with some of the information under Section 1.2 above.)

1.5 OVERVIEW DESCRIPTION AND RESULTS OF MODELS AND ABSTRACTION

This section will provide a high-level description of the individual models presented in the PMR, and application of the models to design analyses and TSPA. It will describe the model abstractions, and how the EBS process models are implemented in the overall TSPA model. This section will be a summary of the information that is developed in more detail in Chapter 3 and in the referenced AP-3.10Q reports. The section will also contain a summary of Chapter 4 that integrates the PMR models, abstractions, and analyses. This section is to be provided for the reader who needs an overview of the PMR without examining it in great detail.

CHAPTER 2 EVOLUTION OF THE EBS PROCESS MODELS

This chapter will provide perspective on the background against which the EBS PMR and its support models and documentation have been developed.

2.1 EBS PMR DEVELOPMENT PHILOSOPHY

This section will include an explanation of the philosophy for developing the PMRs, and why this specific PMR has been developed.

2.2 PAST EBS MODELING, ANALYSES AND ABSTRACTIONS

This section will discuss previous treatment of EBS performance in design analyses and TSPA.

2.3 EBS PROCESS MODEL DEVELOPMENT

This chapter will summarize the development of process models and abstractions, starting with the conceptual approach used to develop the models and documentation. It will provide references to parts of Chapter 3 that contain the technical details.

2.4 EBS FEATURES, EVENTS AND PROCESSES

This section will discuss in detail the FEPs that have been screened and analyzed in conjunction with development and application of the EBS process models. The discussion will include the process by which the appropriate FEPs were identified, and the methods used for screening (i.e., for determining whether the FEPs are important to EBS performance). The results of screening will be presented as a list of FEPs for which analysis is required, associated with development and application of the EBS process models.

2.5 EBS BASELINE

This section will describe this most recent baseline engineered configurations and other technical information which affect the EBS PMR. These will include:

- Repository Drift Configuration and Operations
- Waste Head and Radiation Output
- Physical Setting
- Hydrologic Setting
- Geochemical Setting

CHAPTER 3 MODELS AND ABSTRACTIONS

This chapter will identify and introduce the models that are the principal subject of the PMR and describe the relationships among them. The number and types of sub-models, and their applications will be explained.

3.1 MODEL DESCRIPTION

This section will provide in-depth description of the models and sub-models which constitute the EBS PMR, based on AP-3.10Q reports, supporting data, software documentation, and other information from project documents and the open literature. For each principal sub-model, a discussion of alternative conceptual models is provided, and the abstraction process is described.

3.1.1 Water Distribution And Removal

Under some conditions, liquid water will seep into emplacement drifts through fractures in the host rock and move generally downward, potentially contacting waste packages. After waste packages are breached by corrosion, some of this seepage water will contact waste, dissolve or suspend radionuclides, and ultimately carry radionuclides through the EBS to the near-field host rock.

Lateral diversion of liquid water within the drift will occur at the inner drift surface, and more significantly from the operation of engineered structures such as drip shields, capillary barriers, and the outer surface of a penetrated waste package. If most of the seepage flux can be diverted laterally and removed from the drifts before contacting waste, the rates of radionuclide releases from the EBS can be limited, resulting in proportional reduction of dose release at the accessible environment.

This process model will quantify the fraction of liquid water entering the drift that can be prevented from contacting waste by the combined effects of engineered controls on water distribution and removal. The approach must be flexible enough to analyze different design solutions for water diversion, such as drip shields alone, drip shields with backfill, and capillary barriers with or without drip shields. Water can be removed during preclosure operation by evaporation from ventilation, and after closure by drainage into the fractured host rock. Engineered drain holes may be required to assure that adequate drainage survives the thermal pulse.

Processes will include heat transfer by radiation, convection, and conduction, phase changes (vaporization and condensation), and THC coupled processes that may change flow pathways within the EBS. Supporting models will include isothermal and thermally perturbed seepage and THC fracture plugging below the emplacement drifts.

This section will provide in-depth description of the Water Distribution and Removal Model.

3.1.1.1 Water Distribution and Removal model: Discussion of Relevant Data and Data Uncertainties

3.1.1.1.1 Physical/Chemical Characteristics of EBS Materials

3.1.1.1.2 Inputs from Near-Field Environment Process Models

3.1.1.2 Water Distribution and Removal Model Assumptions

3.1.1.3 Water Distribution and Removal Model Description

3.1.1.3.1 Conceptual Model Development

3.1.1.3.1.1 Rationale and Alternative Conceptual Models

3.1.1.3.1.2 Alternative Means for Controlling Water Distribution Within the Drift

3.1.1.3.1.3 Alternative Means for Removing Water From the Drift

3.1.1.3.1.4 Physical and Chemical Environment for Performance of Water Distribution and Removal Subsystems

3.1.1.3.1.5 Performance Measures for Water Distribution and Removal

3.1.1.3.2 Conceptual Design for Water Diversion/Removal Subsystem

3.1.1.3.2.1 Diversion Features

3.1.1.3.2.2 Drainage

3.1.1.3.2.3 THC Effects of Backfill and Invert Materials

3.1.1.3.2.4 Ventilation

3.1.1.3.3.5 Drift Collapse

3.1.1.3.3 Conceptual Description of Effects from Degradation Modes and Coupled Processes

3.1.1.3.3.1 Backfill Degradation

3.1.1.3.3.2 Rockfall

3.1.1.3.3.3 Steel/Corrosion Products

3.1.1.3.3.4 Concrete and Other Cementitious Materials

3.1.1.3.4 Bounding Analyses for Subsystem Performance

3.1.1.3.4.1 Expected Evolution of Water Diversion/Removal Subsystem Performance

3.1.1.3.4.2 Bounding Analysis of Subsystem Degradation Modes and Effects

3.1.1.3.5 Summary of Numerical Model Development and Implementation

3.1.1.3.5.1 Dual-Permeability, Continuum Thermal-Hydrologic Model (NUFT)

3.1.1.3.5.2 Fully Coupled Reactive Transport Model (NUFT-THC)

3.1.1.4 Water Distribution and Removal Model Results

3.1.1.4.1 Calculated Water Distribution and Removal Performance for Baseline Model

3.1.1.4.1.1 Calculated Measures of Water Distribution and Removal Performance

3.1.1.4.1.2 Drift-Wall Benchmark with Near-Field Environment Process Models

3.1.1.4.1.3 Thermal-Hydrologic Conditions at the Surface of the Drip Shield and Waste Package

3.1.1.4.1.4 Waste Package Surface Benchmark with Waste Package Process Models

3.1.1.4.1.5 Sensitivity to Spatial and Temporal Variation of Seepage and Subsystem Degradation Modes

3.1.1.4.1.6 Predicted Flow Rates into Breached Drip Shields and Waste Packages

3.1.1.4.2 Thermal-Hydrologic Processes Within Partially Failed Waste Packages

3.1.1.4.3 Flow Conditions Along Potential Radionuclide Transport Pathways in the EBS

3.1.1.4.3.1 Hydrologic Conditions Along Advective and Diffusive Pathways

3.1.1.4.3.2 Sensitivity to Spatially and Temporally Variable Seepage and Subsystem Degradation Modes

3.1.1.4.3.3 Sensitivity to Drainage Performance

3.1.1.4.4 Sensitivity of Calculated Results to THC Coupled Processes in the EBS

3.1.2 Physical And Chemical Environment Model

The objective of the Physical and Chemical Environment Model is to determine the changes in aqueous chemistry resulting from the interaction of heat and introduced materials with water seeping into the drift, taking into account the variation in seepage and drainage fluxes, the effects of temperature changes on chemical equilibria and rate processes, and physical processes such as evaporation and condensation.

This section will provide in-depth description of the EBS Physical and Chemical Environment Model.

3.1.2.1 Physical And Chemical Environment Model: Discussion Of Relevant Data And Data Uncertainties

3.1.2.1.1 Characterization of Corrosion and Alternation Products for Candidate EBS Materials

3.1.2.1.2 Data on Carbonation and Leaching of Cementitious Materials

3.1.2.1.3 Test Data on Formation and Redissolution of Precipitates

3.1.2.1.4 Test Data on Microbial Interaction with Candidate EBS Materials

3.1.2.1.5 Fluxes from In-Drift Flow Fields (from the EBS Water Distribution and Removal Model)

3.1.2.1.6 TH Conditions at the Drip Shield and Waste Package (from Water Distribution and Removal Model)

3.1.2.1.7 Rockfall Description (from Drift Stability Model)

3.1.2.1.8 Inputs from the Waste Package Degradation and Waste Form Degradation Process Models

3.1.2.1.9 Inputs from the Near-Field Environment Process Models

3.1.2.1.10 Inputs from the Waste Package and EBS Design Organizations

3.1.2.2 Physical And Chemical Environment Model Assumptions

3.1.2.3 Physical And Chemical Environment Model Descriptions

3.1.2.3.1 Conceptual Model Development

3.1.2.3.1.1 Seepage Flux and Composition Cenceptual Basis

3.1.2.3.1.2 Gas-Phase Composition Conceptual Basis

3.1.2.3.1.3 Conceptual Models for Introduced Material Interactions

3.1.2.3.1.4 Conceptual Models for Formation and Redissolution of Precipitates and Salts

3.1.2.3.1.5 Conceptual Models for Thermal-Hydrologic-Chemical Coupled Processes

3.1.2.3.1.6 Conceptual Basis for Estimating Colloid Concentration and Radionuclide Affinities

3.1.2.3.1.7 Conceptual Basis for Analyzing Microbial Interaction with Introduced Materials

3.1.2.3.1.8 Conceptual Basis for Analyzing Rockfall Effects on the EBS and Drip Shields

3.1.2.3.2 Alternative Conceptual Models

3.1.2.3.3 Performance Measures for the Physical/Chemical Environment

3.1.2.3.4 Bounding Analyses for the Physical/Chemical Environment

3.1.2.3.4.1 Bounding Composition for Mobile Water in the EBS

3.1.2.3.4.2 Bounding Model for Occurrence of Precipitates and Salts on the Drip Shield and Waste Package

3.1.2.3.4.3 Bounding Analysis of the Potential for Colloid Transport of Radionuclides in the EBS

3.1.2.3.4.4 Bounding Analysis of Thermal-Hydrologic-Chemical Coupled Process Effects

3.1.2.3.4.5 Bounding Analysis of Rockfall Effects on the EBS and Drip Shield

3.1.2.3.5 Modeling Approaches for the Physical/Chemical Environment

3.1.2.3.5.1 Representation of the EBS by Discrete Cells

3.1.2.3.5.2 Evaluation by Fully Coupled Reactive Transport Modeling

3.1.2.3.5.3 Empirical Approaches to Evaporative Precipitation and Redissolution, Colloid Formation, and Microbial Processes

3.1.2.3.5.4 Mechanical Analysis of Rockfall Effects on EBS and Drip Shield

3.1.2.3.6 Summary of Numerical Model Development and Implementation

3.1.2.3.6.1 EQ3/6

3.1.2.3.6.2 Dual-Permeability TH Model (NUFT)

3.1.2.3.6.3 Fully-Coupled Reactive Transport (NUFT-THC)

3.1.2.3.6.4 Chemical Equilibrium and Reaction/Mass Transfer Models

3.1.2.3.6.5 Structural Analysis fo the Drip Shield (ANSYS)

3.1.2.4 Physical/Chemical Environment Process Model Results

3.1.2.4.1 Model Results for Baseline Model

3.1.2.4.1.1 Drift-Wall Benchmarks with Near-Field Environment Process Models

3.1.2.4.1.2 Physical/Chemical Environment at the Surface of the Drip Shield and Waste Package

3.1.2.4.1.3 Composition of Water Entering Breached Waste Packages

3.1.2.4.1.4 Sensitivity to Spatially and Temporally Variable Seepage

3.1.2.4.1.5 Effects from Rockfall on the Drip Shield

3.1.2.4.1.6 Effects from Other EBS Degradation Modes

3.1.2.4.2 Physical/Chemical Environment Along Potential Transport Pathways in the EBS

3.1.2.4.2.1 Physical and Chemical Environment in the Invert

3.1.2.4.2.2 Sensitivity to Spatially and Temporally Variable Seepage

3.1.2.4.2.3 Sensitivity to EBS Degradation Modes

3.1.2.4.3 Fully-Coupled Reactive Transport Model Results for Baseline Model

3.1.2.4.4 Sensitivity of Calculated Results to THC Coupled Processes in the EBS

3.1.3 EBS Radionuclide Migration Model

This model will provide a description of radionuclide transport within the emplacement drift, as a result of releases from one or more breached waste package. The description will include advective and diffusive transport as well as the potential for retardation due to sorption and precipitation. The analysis will use input from the WP and WF PMRs, and will rely on input from the EBS Water Distribution and Removal Model and the EBS Physical and Chemical Environment Model. Analysis of radionuclide retardation through altered materials, with upstream changes in material characteristics, will be provided for the EBS Degradation Mode Analysis. A model for invert diffusion behavior will be developed using existing analytical information, supplemented by existing and new test data.This analysis will provide input data, including breakthrough curves expressed as transport response to unit releases, to the Near Field Environment and Unsaturated Zone PMRs.

This section will provide in-depth description of the EBS Radionuclide Migration Model.

3.1.3.1 EBS Radionuclide Model: Discussion Of Relevant Data And Data Uncertainties

3.1.3.1.1 EBS Flow Paths and Flow Rates Abstracted from In-Drift Flow Fields

3.1.3.1.2 Physical/Chemical Conditions Along Potential Transport Pathways (from the EBS Physical/Chemical Environment Model)

3.1.3.1.3 Invert/Getter Physical, Hydrologic and Chemical Properties

3.1.3.1.4 Physical, Hydrologic and Chemical Properties of EBS Drainage Features

3.1.3.1.5 Dissolved and Colloidal Radionuclide Releases from Waste Packages (from the WP/WF internal transport model, from WPO)

3.1.3.2 EBS Radionuclide Model Assumptions

3.1.3.3 EBS Radionuclide Model Description

3.1.3.3.1 Conceptual Model Development for EBS Radionuclide Migration

3.1.3.3.1.1 Transport Pathways

3.1.3.3.1.2 Physical and chemical Environment for Transport

3.1.3.3.1.3 Colloidal Transport Processes

3.1.3.3.1.4 Microbially Mediated Transport

3.1.3.3.2 Alternative conceptual Models

3.1.3.3.3 Performance Measures for Radionuclide Transport

3.1.3.3.4 Effects of EBS Degradation Modes and Coupled Processes on Radionuclide Transport

3.1.3.3.5 Bounding Analyses for the Physical/Chemical Environment

3.1.3.3.5.1 Expected Response to a Unity Release from the Waste Package

3.1.3.3.5.2 Bounding Analysis of EBS Degradation Modes and Effects on Radionuclide Migration

3.1.3.3.6 Modeling Approaches for EBS Transport

3.1.3.3.6.1 Representation of the EBS by Discrete Cells for Transport Modeling

3.1.3.3.7 Summary of Numerical Model Development and Implementation

3.1.3.3.7.1 Chemical Equilibrium and Reaction/Mass Transfer Models (EQ3/6)

3.1.3.3.7.2 Fully-Coupled Reactive Transport (NUFT-THC)

3.1.3.4 EBS Radionuclide Migration Model Results

3.1.3.4.1 Network Model Results for Baseline Model

3.1.3.4.1.1 Response at the EBS Boundary, to a Unit Release from the Waste Package

3.1.3.4.1.2 Radionuclide Source Term at the EBS Boundary

3.1.3.4.1.3 Sensitivity to Physical/Chemical Environment Conditions

3.1.3.4.1.4 Sensitivity to Subsystem Degradation Modes

3.1.3.4.1.5 Sensitivity to Conditions Calculated from Fully Coupled Reactive Transport Simulations

3.1.3.4.2 Sensitivity of Calculated Results to THC Coupled Processes in the EBS

3.1.3.4.3 Sensitivity of EBS Releases to Colloidal Processes

3.1.4 EBS Degradation Mode Analysis

This analysis will interactively integrate and reanalyze the FEPs and failure modes that will be investigated within each of the principal EBS models: the Water Distribution and Removal Model, Physical and Chemical Environment Model and EBS Radionuclide Transport Model. For the important FEPs and failure modes, initiating conditions/events will be identified. The analysis will also address coupling among failure modes of the multiple-barrier system, sensitivities to initiating events and the potential effects of coupled degradation modes.

This section identifies the EBS Degradation Mode Analysis and describes how it relates to the EBS PMR.

3.1.4.1 EBS Degradation Mode Analysis: Discussion Of Relevant Data And Data Uncertainties

3.1.4.2 EBS Degradation Mode Analysis Assumptions

3.1.4.3 EBS Degradation Mode Analysis Description

3.1.4.3.1 Potential EBS Degradation Modes and their Effects

3.1.4.3.1.1 Water Diversion/Removal Subsystem

3.1.4.3.1.2 Physical/Chemical Environment

3.1.4.3.1.3 EBS Invert/Getter Subsystem

3.1.4.3.2 Sensitivity to Initiating Events and Degradation Processes

3.1.4.3.2.1 Nature and Rates of Continuous Degradation Processes

3.1.4.3.2.2 Nature and Probability of Disruption by Rock Fall

3.1.4.3.2.3 Nature and Probability of Disruption by Seismic Motion

3.1.4.3.3 Potential Effects from Coupled Degradation Modes

3.1.4.3.3.1 Water diversion/Removal Subsystem

3.1.4.3.3.2 Physical/Chemical Environment with Diversion/Removal Subsystem Degradation

3.1.4.3.3.3 EBS Transport with Diversion/Removal Subsystem Degradation

3.1.4.4 EBS Degradation Mode Analysis Results

3.2 INTEGRATED MODEL DEVELOPMENT

This section describes the approach to developing the model that is the subject of the PMR, consistent with the corresponding AP-3.10Q report(s), including its supporting codes, components, sub-models, and/or analyses. The descriptions include how the sub-models described in the previous subsections are incorporated in the process model. The section describes the development of the conceptual models that form the basis for the process model and describes the development of the model from the conceptual model(s) as described in greater detail in the corresponding AP-3.10Q report(s). Discussions in this section will include summaries of data feeds from AP-3.10Q analyses and reports external to but summarized in this PMR.

3.2.1 Model Uncertainties

This section discusses the uncertainties in the process model that is the topic of this PMR and the assumptions and bases thereof associated with the uncertainties.

3.2.2 Model Validation

This section demonstrates the validity of the model [See Quality Assurance Requirements and Description (DOE/RW-0333P) Glossary and AP-3.10Q for definitions of model validation] and its sub-models and discusses the suitability of the model for its intended application. It includes demonstration of the validity of the data used to support the model validation, as well as demonstration of the validity of the codes that support the models. Results of expert elicitations used to support model validation are included. The discussion summarizes use of natural and man-made analogues in the model validation as appropriate.

3.2.2.1 Water Distribution And Removal Model Validation

3.2.2.1.1 Previous Reported Testing of Diversion and Drainage Concepts

3.2.2.1.2 Laboratory-Scale Tests

3.2.2.1.3 Pilot-Scale Tests

3.2.2.1.4 Ongoing and Planned Tests

3.2.2.2 Physical And Chemical Removal Model Validation

3.2.2.2.1 Testing Introduced Materials for the EBS Environment

3.2.2.2.2 Coupled Process Laboratory Testing at Elevated Temperature

3.2.2.2.3 Ongoing and Planned Tests

3.2.2.3 EBS Radionuclide Migration Removal Model Validation

3.2.2.3.1 Testing Introduced Materials For The EBS Environment

3.2.2.3.2 Coupled Process Laboratory Testing at Elevated Temperature

3.2.2.3.3 Testing of Diffusion Barrier Materials

3.2.2.3.4 Ongoing And Planned Tests

3.2.2.4 EBS Degradation Mode Analysis Validation

3.2.3 Abstraction of the Models

This section describes the method of abstracting the model into the TSPA. Results of expert elicitations and abstraction workshops are included as appropriate. Discussions include any assumptions needed to support the abstraction and descriptions of the approach taken to deal with the uncertainties in the model abstraction process.

3.2.3.1 Water Distribution And Removal Abstraction

3.2.3.1.1 Abstraction of In-Drift Flow Fields

3.2.3.1.2 Abstraction of Thermal-Hydrologic Conditions at the Surface of the Drip Shield and Waste Package

3.2.3.1.3 Flow Rates into Breached Drip Shields and Waste Packages

3.2.3.1.4 Implementation of the In-Drift Flow Fields into the Repository Integration Program (RIP)

3.2.3.2 Physical And Chemical Model Abstraction

3.2.3.2.1 Representation of the Emplacement Drift Environment by Discrete Cells

3.2.3.2.2 In-Drift Geochemical Environment

3.2.3.2.2.1 In-Drift Gas Phase Flux and Composition

3.2.3.2.2.2 Seepage/Backfill Interactions

3.2.3.2.2.3 Occurrence of Precipitates/Salts

3.2.3.2.2.4 Effects from Steel/Corrosion Products

3.2.3.2.2.5 Effects from Cementitious Materials

3.2.3.2.2.6 Influence of the Waste Package and Waste Form on the Chemical Environment

3.2.3.2.2.7 In-Drift Colloid Composition and Concentration

3.2.3.2.2.8 In-Drift Microbial Communities

3.2.3.2.3 Composition of Water Entering Breached Drip Shields and Waste Packages

3.2.3.2.4 Composition of Water Leaving the Waste Package

3.2.3.2.5 Composition of Water Draining From the Emplacement Drift

3.2.3.2.6 Implementation of the In-Drift Geochemical Environment into the Repository Integration Program (RIP)

3.2.3.3 EBS Radionuclide Migration Model Abstraction

3.2.3.3.1 Transport and Water flux Pathways

3.2.3.3.2 Geochemical Conditions along Transport Pathways

3.2.3.3.3 Radionuclide Release from Waste Packages

3.2.3.3.4 Colloid-Facilitated Transport

3.2.3.3.5 Radionuclide Sorption Onto Engineered Materials

3.2.3.3.6 Implementation of EBS Radionuclide Transport into RIP

3.2.3.4 EBS Degradation Mode Analysis Abstraction

3.2.4 Validity of the Abstraction

This section contains a demonstration of the validity of the abstraction. Results of peer reviews or other evaluations of the model abstraction process are included. If the peer reviews or other evaluations were not favorable, cross-references are provided to discussions of such results in Section 4. The discussion summarizes use of natural and man-made analogues in validating the abstraction as appropriate.

This section provides the output of the model and its abstractions; this output provides input to the TSPA analysis.

3.3 DATA QUALIFICATION

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.4 SUMMARY OF OTHER VIEWS & ALTERNATIVE CONCEPTUAL MODELS

This section documents credible opposing views to the approaches and methods described in the PMR for the model under discussion. The section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position. To the extent that compensatory measures have been or will be taken to deal with the opposing view, those measures are also described in this section.

The chapter or section also discusses findings of reviewers external to the Project of the models and processes associated with the PMR, and it describes how the findings have been satisfactorily addressed.

CHAPTER 4 RELATIONSHIP WITH THE NUCLEAR REGULATORY COMMISSION (NRC) ISSUE RESOLUTION STATUS REPORTS

Because the NRC has indicated it plans to structure its review of issues that are subjects of PMRs around the NRC's designated Key Technical Issues (KTI) and Issue Resolution Status Reports (IRSR), this chapter of the PMR describes how the acceptance criteria in the IRSRs have been addressed.

4.1 INTRODUCTION

This introductory subsection summarizes the NRC's KTI and IRSR effort. The NRC has determined that resolution of its designated KTIs is crucial to licensing the repository. The NRC staff has issued various IRSRs that describe the status of the KTIs from the NRC's perspective and provide subissues and acceptance criteria. Some of the KTIs may correspond to, or overlap with, the issues and processes that the PMR addresses. This section of the PMR describes how each KTI and its constituent subissues and acceptance criteria have been addressed through the PMR.

4.2 - 4.X RELATIONSHIP OF PMR TO KTIS

Each of the subsections that follow identifies a Key Technical Issue, its subissues, and associated acceptance criteria that are related to the PMR. The subsections discuss how the PMR addresses the acceptance criteria identified for each subissue of each KTI. In many cases a given PMR only partially addresses a given KTI, and that fact is noted as appropriate.

REFERENCES

This chapter contains the complete reference list for the document.

APPENDICES

The appendices contain supporting information deemed appropriate for inclusion in the PMR (if any) but at too great a level of detail for the body of the report.

BIOSPHERE PROCESS MODEL REPORT (PMR)

CHAPTER 1 INTRODUCTION

This chapter provides summary information on the purpose of the biosphere PMR, its basic organization, regulatory drivers and related issues. This chapter also provides a high-level summary of how the biosphere PMR relates to technical topics presented in the other PMRs (and non-PMRs as appropriate), and key Project documents including topical reports, previous biosphere modeling efforts, the Environmental Impact Statement (EIS), the Site Recommendation Report (SRR), and the License Application (LA).

1.0 INTRODUCTION

Section 1.0 contains introductory text that briefly describes the goal of the Yucca Mountain Project, which is to determine suitability of the Yucca Mountain site for disposal of high-level nuclear waste. If the site is found suitable, the goal is to then seek a license to construct and subsequently to operate and eventually close a high-level waste disposal facility. It goes on to briefly describe the role of the biosphere PMR in meeting those goals. Finally, the section summarizes the layout of the biosphere PMR.

1.1 OBJECTIVE

The objective of the PMR is to develop a model that will describe the movement of radionuclides, released to the environment, to man and to develop biosphere specific dose conversion factors which will allow the dose to an average member of a critical group to be calculated. Part of the objective is to compile in one place, as a stand-alone report, a synthesis of all the necessary and sufficient technical information, related to the development of biosphere–specific dose conversion factors, that the Project will use to support making its site suitability evaluation and ultimately the licensing argument. The technical information consists of data, analyses, models, software and supporting documents used to develop the PMR model (or models) and defends the applicability of the model for its intended purpose of evaluating the movement of radionuclides through the environment during the post-closure phase of the Yucca Mountain repository system.

1.2 SCOPE

This section explains the information presented in and the content of the biosphere PMR. It may use one or more flowcharts to show the evolution of information from data to TSPA output, showing in the flowcharts what parts of the evolution are included in the PMR. The section also describes where to find relevant subject matter not included in the PMR. References to related discussions in Chapter 2 are provided.
Brief summary scope statements for the biosphere PMR is provided below. The scope of the discussions in the biosphere PMR will build on the summary.

Biosphere: The Biosphere PMR addresses the characteristics of the environment that influence the transport of radionuclides to man. It includes a description of the lifestyle and habits of individuals who could be exposed to radioactive material at some time during the postclosure performance period. The PMR describes the reference biosphere, associated pathways and the characteristics of the critical group including location and behavior representative of current conditions, and biosphere transport and uptake parameters used. The PMR also describes information feeds from the SZ Flow and Transport Model and outputs to TSPA.

1.3 QUALITY ASSURANCE

This section explains the quality assurance controls under which the Biosphere PMR has been developed. The Biosphere PMR is expected to be designated as quality-affecting through QAP-2-0 analysis. As such the Biosphere PMR is developed under AP-3.11Q. The section also discusses the method through which non-Q data and references have been upgraded for incorporation in the Biosphere PMR via the constituent models and analyses developed in compliance with AP-3.10Q. In the case of the first version of the Biosphere PMR, discussions include how non-Q data referenced in the document are tracked with "TBVs." This section provides a general discussion, with the more specific demonstrations of compliance with quality assurance requirements to follow in later chapters and to be discussed in the referenced AP-3.10Q analyses.

1.4 RELATIONSHIP TO OTHER PROCESS MODEL REPORTS AND KEY PROJECT DOCUMENTS

This section discusses how the biosphere PMR relates to the Saturated Zone and Transport PMR in terms of interfaces and overlaps. The section explain show the biosphere PMR relates to documents such as topical reports, the SRR, the LA, and other documents as considered applicable and appropriate. It also describes the relationship between the subject matter of this PMR and other contributory or subsequent process models.

1.5 OVERVIEW DESCRIPTION AND RESULTS OF MODELS AND ABSTRACTION

This section provides a description of the models, the abstractions of the models, the results of abstractions, and application of the models in the biosphere PMR. This section summarizes the information that is provided in more detail in Chapter 3 and in the reference AP-3.10Q analyses. The section also contains a summary of Chapter 4 that integrates the PMR models, abstractions, and analyses. The models, sub-models, and abstractions that will be addressed include:

1.5.1 Environmental Transport and Dosimetric Models

GENII-S is a computer code that uses a comprehensive set of environmental pathway models and associated computer programs for estimating potential radiation doses to humans from radionuclides in the environment. It combines multi-pathway environmental transport models with human exposure parameters to calculate radiation doses using methods recommended by the International Commission of Radiation Protection. The model will be described here.

1.5.2 Critical Group Model

Critical group model develops exposure characteristics in terms of consumption rates of groundwater and locally produced food. The conceptual design of a critical group concept is consistent with the recommendations of 10 CFR 63.

1.5.3 Radionuclide Buildup and Removal from Soil Models

Radionuclide buildup in soil will be addressed by developing functional relationships between the values of BDCFs and the duration of irrigation prior to the time point of interest. The functional relationship between the values of BDCFs and the duration of irrigation prior to the time of interest will be developed. Radionuclide removal model will quantify the processes resulting in the depletion of radionuclide concentration in the topsoil. They will include surface soil removal by erosion and radionuclide removal from the topsoil by leaching.

1.5.4 Annual Groundwater Use Model

The annual groundwater usage will be estimated for the community containing the critical group. Usage will be based on current farming practices in the Amargosa Valley. The volumetric usage will be used in the TSPA evaluation to determine the concentration (dilution) of the radionuclides used by the community.

CHAPTER 2 EVOLUTION OF THE BIOSPHERE PROCESS MODEL AND RELATION TO INTEGRATED SITE MODEL

This chapter provides the reasons for which the biosphere PMR is being developed and describes the interrelationship between the biosphere PMR and the Integrated Site model (ISM). The chapter then summarizes the development of the biosphere process model and abstractions by describing the conceptual approach used to develop the process model and abstractions. It provides references to sections of Chapter 3 that contain the descriptions of the technical details associated with the development of the process models and abstractions.

The discussion includes a description of the relationship between the PMR and the constituent sub-process models, abstraction models, and analyses developed under AP

3.10Q. This chapter discusses the data flow and analyses in terms of the document structure (AP-3.10Qs, the PMR itself, and other documents as applicable).

2.1 PREVIOUS BIOSPHERE MODELS AND ASSOCIATED ANALYSES

This section provides a summary of previous biosphere abstractions and the approaches that were taken to model transport of radionuclides to man for the purpose of assessing repository performance. The impact of these previous analyses on the development of the biosphere PMR will also be evaluated.

2.1.1 TSPA-91

The first attempt to model biosphere component of the TSPA and the most comprehensive of the first three TSPA iterations is known as the TSPA-91. It considered a scenario based on exposure to a self-sufficient farmer, who exclusively uses contaminated groundwater for all purposes. This section will describe the scenarios included in the initial TSPS iteration.

2.1.2 TSPA-93 and TSPA-95

Building on the initial assessment of TSPA-91, the two latter TSPA evaluations focused on the process models believed to be major contributors to the uncertainty in the overall TSPA results. These processes of concern did not include the biosphere. The approach based on the methodology prescribed in the national drinking water standard was used to assess doses. This section will describe these subsequent TSPA iterations.

2.1.3 TSPA-VA

TSPA-VA included substantial improvement in biosphere modeling. The approach selected resulted in the generation of probabilistic BDCFs that could be used for RIP input. For the purpose of this assessment the critical group was assumed to be located in Amargosa Valley. This section will give details of this modeling effort.

CHAPTER 3 MODELS AND ABSTRACTIONS

Chapter 3 describes the models, abstractions, and analyses that are discussed in the biosphere PMR. Discussions will include the relationships between the components of Integrated Site Model, and the biosphere model, abstractions, data, and analyses.

3.0 INTRODUCTION

Section 3.0 identifies and introduces the model that is the principal subject of the chapter and shows the relationship among the various components that are discussed in the chapter. The bases for the scopes of sub-models and/or abstractions are explained in terms of the conceptual models. This section also describes the layout of the chapter discussion of those components.

3.1 MODEL DESCRIPTIONS

This section describes the model that is the subject of the PMR consistent with the corresponding AP-3.10Q report, including its supporting code, components, sub-models, and/or analyses. The section summarizes the development of the conceptual model that form the basis for the process model and summarizes the selection of a code that is representative of the process model as described in greater detail in the corresponding AP-3.10Q report. Model requirements will be identified.

3.2 MODEL/CODE JUSTIFICATION

Available codes and capabilities will be reviewed and compared with model requirements. Criteria for selection of the code used to support this PMR will be discussed. Justification for selection of the code will be provided, and it's QA status summarized. Discussions in this section will include descriptions of data feeds from AP-3.10Q analyses and reports external to but summarized in this PMR.

3.2.1 Model Requirements

Of importance is the ability of the code to model, in a comprehensive manner, the multi-pathway exposure scenario that will be considered for the current performance assessment purposes. The component models must address all applicable biosphere FEPs. The issue of capturing of all relevant processes within a complex model will be described in this section.

3.2.2 Available Codes

Description of available codes designed for modeling of environmental transport and performing multi-pathway dose calculations will be given in this section. A comparison of the codes' capabilities will be provided.

3.2.3 Selection Criteria

Criteria for selecting a code capable of modeling environmental transport and calculating doses for the selected scenario will be outlined in this section.

3.2.4 Selection Justification

Individual code's capabilities will be matched against the selection criteria delineated in Section 3.2.3 to justify the selection of a single code to be used in the TSPA analysis.

3.3 GENII-S MODEL

Discussion of the modeling capabilities of the GENII-S code, identification of submodels and their associated functions, and the associated data input requirements.

3.4 DISCUSSION OF UNCERTAINTIES IN THE MODELS

This section discusses the uncertainties associated with the GENII-S model/sub-models and data and bases the uncertainties will be identified. The effect of these uncertainties on the biosphere dose conversion factors will be quantified.

3.4.1 Code uncertainties

This section describes uncertainties associated with the component models within GENII-S. It will include environmental transport model as well as dosimetric models.

3.4.2 Parametric Uncertainties

Uncertainties associated with parametric values will be addressed in this section. The discussion will include the uncertainties associated with the "natural" spread of values a parameter may assume, as well as the range in the assumed parametric values resulting from the inability to quantify them more precisely.

3.5 REFERENCE BIOSPHERES

The reference biospheres and associated scenarios considered within the scope of this PMR will be identified and characterized. For each scenario, significant pathways and radionuclides of interest will be identified. Regulatory requirements and guidance will be discussed

3.5.1 Safety Case (Undisrupted Performance) Scenario

Reference biosphere consistent with 10 CFR 63 will be described in this section. Features, events and processes that describe the reference biosphere will be characteristic of undisrupted performance.

3.5.2 Disruptive Event Scenarios

This section will contain description of reference biosphere for the disruptive event scenario. Biosphere pathways and processes specific to the consideration of disruptive events will be included.

3.6 CRITICAL GROUP

This section will describe the characteristics of the critical group as defined by regulations, the survey conducted in support of the effort to define the characteristics of the critical group, and the characteristics of the average member of that critical group.

3.6.1 Regulatory Definition

Description of the critical group consistent with specifications and intent of 10 CFR 63 will be given in this section.

3.6.2 Survey Objectives, Format and Results

This section will contain description of the food consumption survey in terms of its objective, scope and results. Specifically, the function of the survey to support critical group development will be addressed.

3.6.3 Determination of Critical Group Characteristics

A method of defining empirically-based critical group will be described. It will include an approach used in generating descriptive statistics on the consumption of locally produced food and water.

3.7 ABSTRACTION OF THE MODELS

This section describes the method of abstracting modeling results to consider the build-up of radionuclides in soil and the inclusion into the TSPA. Discussions include any assumptions made to support the abstraction and descriptions of the approach taken to deal with the uncertainties in the model abstraction process.

3.7.1 Overview of Abstraction

This section will discuss the abstraction necessary to allow the RIP code to stochastically sample the BDCFs in a numerically efficient method. The process will include the statistical distributions of the BDCFs and will include the effects of radionuclide build-up in soils due to prolonged irrigation.

3.7.2 Statistical Function Fitting to BDCFs

The stochastic output of the GENII-S code for each radionuclide and predetermined irrigation time will be subjected to a statistical distribution fitting exercise. Although many distributions will be available, the "best fit" distribution will be used and the relevant parameters determined. This information will be passed on to PA for use in RIP after the addition processing reported in the next section.

3.7.3 BDCF Variation as a Function of Irrigation Time

For each given radionuclide, the set of parameters determined in the analyses discussed above will be fitted to an approximate time evolution function. This will generate a set of parameters for each radionuclide, defined to be of interest to TSPA, to allow RIP to

stochastically sample over the irrigation time and over the expected uncertainty distribution at that time.

3.7.4 Abstraction Process

The abstraction process reported will use relatively simple spreadsheet analyses. The method of least squares and other goodness of fit criteria to establish appropriated distribution and functional approximation.

3.8 ENVIRONMENTAL TRANSPORT AND DOSIMETRY

This section provides a description of the output of the model (biosphere dose conversion factors) and its sub-models, as well as their abstractions; and describes how these factors are used as input to the TSPA –related and other analyses. For each reference biosphere scenario considered, the results of the output of the model and associated abstractions will be presented and discussed.

3.8.1 Environmental Transport Parameters

This section will discuss the identification and the justification of the data selected to describe the movement of radionuclides in the environment. Environmental transport parameters will be identified, quantified, and the associated ranges discussed. Parameters will be developed for both disruptive and non-disruptive event scenarios.

3.8.2 Transfer Coefficients

This section will discuss and justify the parametric values and associated ranges selected for the transfer coefficients selected for use in calculating the biosphere dose conversion factors. Parametric values will be developed for both disruptive and non-disruptive event scenarios.

3.8.3 Dose Conversion Factors

This section will review the dosimetric model and methodology used in the determination of the dose conversion factors selected for the radionuclides of interest. Dose conversion factors for the radionuclides of interest will be provided.

3.8.4 Pathway Sensitivity Analyses

Pathway sensitivity analysis results in identification of exposure pathways, which result in the highest doses to the receptor. Results of pathway sensitivity analysis will be presented and discussed.

3.8.5 Radionuclide BDCF

This section will describe the outputs of the biosphere modeling, which are BDCFs for individual radionuclides. The results of BDCF calculations will be presented in a summary format and discussed.

3.8.6 Stochastic BDCF Distribution

The process of developing probabilistic distributions of BDCFs will be described in this section. Probabilistic BDCFs will serve as input for RIP.

3.8.7 Parametric Sensitivity Analyses

Description and results of parametric sensitivity analysis will be presented in this section. This analysis is performed to identify parameters, which have the greatest influence on the outcome of BDCF calculations. The results will be given and discussed.

3.8.8 Pathway Sensitivity Analyses

Pathway sensitivity analysis results in identification of exposure pathways, which result in the highest doses to the receptor. Results of pathway sensitivity analysis will be presented and discussed.

3.9 DATA QUALIFICATION

This section reviews the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.9.1 Biosphere Data Qualification Status

Where ever possible, qualified data will be used. Analysis techniques will be developed under the appropriate QA procedure (presently AP3-10Q).

3.9.2 Data Qualification Plan and Schedule

The present plan calls for all data to be qualified during the development of the Biosphere PMR. All QA analyses will be complete before the PMR is issued.

3.11 SUMMARY OF OTHER VIEWS & ALTERNATIVE CONCEPTUAL MODELS

This section documents credible opposing views to the approaches and methods described in the biosphere PMR. The section consists of a relatively brief summary of the opposing view or position, accompanied by an explanation of why the Project does not subscribe to the opposing view or position. To the extent that compensatory measures will be taken to deal with the opposing view, those measures are also described in this section.

The chapter or section also discusses findings and comments of reviewers external to the Project of the models and processes associated with the PMR, and it describes how the findings have been satisfactorily addressed.

CHAPTER 4 RELATIONSHIP WITH THE NUCLEAR REGULATORY COMMISSION (NRC) ISSUE RESOLUTION STATUS REPORTS

Because the NRC has indicated it plans to structure its review of issues that are subjects of PMRs around the NRC's designated Key Technical Issues (KTI) and Issue Resolution Status Reports (IRSR), this chapter of the PMR describes how the acceptance criteria in the IRSRs have been addressed, where applicable.

4.0 INTRODUCTION

This subsection summarizes the NRC's KTI and IRSR effort and the relevant issues/comments related to biosphere modeling activities. The NRC has determined that resolution of its designated KTIs is crucial to licensing the repository. The NRC staff has issued various IRSRs that describe the status of the KTIs from the NRC's perspective and provide subissues and acceptance criteria. This section of the PMR describes how each KTI and its constituent subissues and acceptance criteria have been addressed through the PMR. In addition to the KTIs, issues from other reviews, such as those from the Peer Review Panel and the Nuclear Waste Technical Review Board will be reviewed, summarized and resolutions of those issues will be presented.

4.2 THROUGH 4.X RELATIONSHIP OF PMR TO KTIS

Each subsection that follows identifies a Key Technical Issue, its sub-issues, and associated acceptance criteria that are related to the biosphere PMR. The subsections discuss how the PMR addresses the acceptance criteria identified for each sub-issue of each KTI. In many cases a given PMR only partially addresses a given KTI, and that fact is noted as appropriate. Other subsections will discuss the resolution of issues identified as a result of other peer reviews.

REFERENCES

This chapter contains the complete reference list for the document.

APPENDICES

The appendices contain supporting information deemed appropriate for inclusion in the PMR.

TECTONIC HAZARDS PROCESS MODEL REPORT

CHAPTER 1.0 INTRODUCTION

This report will summarize the results of analyses addressing the consequences of volcanic and seismic events that may affect the postclosure performance of a geologic repository at Yucca Mountain, Nevada. These consequences will be abstracted to provide inputs for an assessment of the long-term performance of a repository in protecting the health and safety of the public.

1.0 INTRODUCTION

Introductory text will briefly describe the goals of the Yucca Mountain Project. The section will indicate that the report contributes to meeting these goals by documenting inputs resulting from tectonic disruptive events to the assessment of total system performance.

The section will also describe the organization of the report.

1.1 OBJECTIVE

This section will describe the objective of the report to summarize information on the consequences of volcanic and seismic events that feed into an assessment of the postclosure performance of a geologic repository at Yucca Mountain. Hazard analyses provide information on the frequency of occurrence and spatial distribution of tectonic events, but do not address the consequences of the igneous and seismic events. This report is intended to provide the link between the hazard analyses and the needs of performance assessment.

1.2 SCOPE

The scope of the report is to summarize the consequences of volcanic and seismic events that potentially could affect a geologic repository at Yucca Mountain. The consequence analyses will rely on inputs from the probabilistic volcanic and probabilistic seismic hazard analyses to describe the frequency of disruptive events. Effects of igneous activity on drifts, waste packages, and waste forms will be addressed. Modes of radionuclide release resulting from igneous events will also be characterized. Incremental effects of seismic ground motion on rockfall will be described. The consequences of fault displacement for the engineered barrier system and waste packages will be summarized. Finally, the potential effects of volcanic and seismic activity on the hydrologic system will be discussed.

Results of the probabilistic volcanic and seismic hazard analyses will be briefly discussed in Chapter 2, but will not be presented in detail. Emphasis will be on how, as part of the

characterization of uncertainty, alternative models of volcanic and seismic sources are incorporated into the results.

This section will also summarize how the information presented relates to key technical issues identified by the U.S. Nuclear Regulatory Commission (NRC). Cross references to discussions in Chapter 4 that present additional detail will also be provided.

Disruptive events that are not tectonic in origin (i.e., criticality, human intrusion) will not be covered in this report.

1.3 QUALITY ASSURANCE

This section explains the quality assurance controls under which the report has been developed. A QAP-2-0 analysis is expected to identify report preparation as quality-affecting work. The report will be developed under AP-3.11Q. Tracking of non-Q data as to-be-verified (TBV) will be discussed for those non-Q data that are relied upon for analyses related to safety.

1.4 RELATIONSHIP TO PROCESS MODEL REPORTS AND KEY PROJECT DOCUMENTS

This section will describe how this report relates to other key project documents, including the Environmental Impact Statement, the Site Recommendation, and the License Application. Interfaces with process model reports on waste package degradation; EBS degradation, flow and transport; unsaturated zone flow and transport; and saturated zone flow and transport will be addressed. The relation of this report to the probabilistic volcanic and seismic hazard analyses will also be discussed. This section will further explain how this report relates to preclosure seismic design and topical reports on seismic issues. Preclosure seismic issues are not the subject of this report.

1.5 OVERVIEW DESCRIPTION AND RESULTS OF MODELS AND ABSTRACTION

This section provides a high-level description of the models, the abstractions of the models, the results of abstractions, and application of the models in the report. This section summarizes the information that is provided in more detail in Chapter 3 and in much greater detail in the reference AP-3.10Q analyses. The section is intended to support the reader who wants to get the gist of the report without examining it in great detail.

CHAPTER 2.0 PREVIOUS WORK RELATED TO DISRUPTIVE EVENTS

This chapter provides perspective on the background against which the analyses of the consequences of disruptive events are being developed. It includes an explanation of the philosophy for developing the report. It will explain the flow from data collection and analyses through hazard assessment to consequences and eventually to impacts on the performance of a geologic repository at Yucca Mountain.

2.1 TECTONIC SETTING

At a fairly high level, this section will present the tectonic setting of Yucca Mountain. It will briefly describe the tectonic elements of the site region and their evolution over the past 10 to 15 million years. It will note various tectonic models that have been proposed for the site region. The section will establish the context for considering tectonic hazards in the design and assessment of performance for a geologic repository at Yucca Mountain.

2.2 STUDIES OF VOLCANIC AND IGNEOUS PROCESSES AT YUCCA MOUNTAIN

This section will summarize the results of site characterization studies of volcanic and igneous processes at Yucca Mountain. At a fairly high level, it will describe the current understanding of the volcanic framework of the Yucca Mountain vicinity as it relates to interpretations that feed the probabilistic volcanic hazard assessment. Uncertainty in characterizing the inputs will also be addressed, including interpretations by those outside the project.

2.3 PROBABILISTIC VOLCANIC HAZARD ANALYSIS

This section will summarize the process and results of the probabilistic volcanic hazard analysis for Yucca Mountain. The discussion will note that the analysis incorporates differing interpretations of volcanic source zones and recurrence. Results are expressed as the annual frequency of intersection of the repository footprint by a volcanic event.

2.4 STUDIES OF SEISMIC PROCESSES AT YUCCA MOUNTAIN

This section will summarize the results of site characterization studies of seismic processes at Yucca Mountain. At a fairly high level, it will describe the current understanding of the seismologic framework of the Yucca Mountain vicinity as it relates to interpretations of seismic source zones, earthquake magnitudes, earthquake recurrence, characterizing the inputs will also be addressed, including interpretations by those outside the project. This section will also summarize the characteristics of faults that might be subject to displacement within or adjacent to the repository area.

2.5 PROBABILISTIC SEISMIC HAZARD ANALYSES

This section will summarize the process and results of the probabilistic seismic hazard analyses for Yucca Mountain. The discussion will note that the analyses incorporate differing interpretations of seismic source zones, earthquake magnitude, earthquake recurrence, surface fault displacement, and earthquake ground motion. Results for ground motion are expressed as the annual frequency with which different levels of acceleration and velocity will be exceeded. Results for fault displacement are expressed as the annual frequency with which different amounts of fault displacement will be exceeded.

2.6 CONSEQUENCE ANALYSES FOR TECTONIC DISRUPTIVE EVENTS

This section will describe the approach to modeling the consequences of tectonic events for performance assessment. It will discuss how the consequences have been addressed in past assessments of postclosure performance and how those approaches will be updated or modified for the current effort.

2.7 FEATURES, EVENTS AND PROCESSES ASSOCIATED WITH TECTONIC DISRUPTIVE EVENTS

This chapter will discuss the features, events, and processes (FEPs) related to tectonic processes. The discussion will include the rationale for including and excluding the FEPs from further analysis.

CHAPTER 3.0 MODELS AND ABSTRACTIONS

Chapter 3 describes the models, analyses, and abstractions that represent the consequences of tectonic disruptive events for input to assessment of postclosure performance.

Analyses will address the consequences of both volcanic and seismic events. Conceptual models of igneous activity and eruption will feed analyses describing the effects of igneous activity on repository structures, waste packages, and the waste form. Analyses will also address how waste is entrained in ascending magma and dispersed in an eruption. For seismic activity, conceptual models will describe how ground motion and fault displacement affect drift stability and the hydrologic regime. These models will feed analyses of consequent damage to the engineered barrier system, the waste package, and the waste form.

3.1 CONSEQUENCES OF IGNEOUS ACTIVITY

This section will describe the analyses of igneous activity effects. Analyses will address the spatial distribution of dikes and eruptive vents, the interaction of drifts with erupting magma, the behavior of waste packages and waste forms in the presence of magma, and the dispersal and deposition of erupted igneous material.

3.1.1 Characterization of volcanic eruptions through Yucca Mountain

This section will describe the lengths, widths, orientations, temperatures, and chemical characteristics of dikes intruding into the repository. In addition it will address the number of eruptive vents within the repository footprint, given dike intersection.

3.1.1.1 Approach

3.1.1.2 Data and uncertainties

3.1.1.3 Assumptions

3.1.1.4 Results

3.1.2 Magma-Repository Drift Interactions

This section will describe the likely paths taken by ascending magma as it interacts with the repository. It will also describe the evolution of eruptive conduits and the fragmentation behavior as the magma moves through the repository and erupts into the atmosphere.

3.1.2.1 Approach

3.1.2.2 Data and uncertainties

3.1.2.3 Assumptions

3.1.2.4 Results

3.1.3 Contact of Waste Packages by Magma

Using information on the layout of the repository and the likely distribution of intruding dikes and eruptive vents, this section will describe the number of waste packages potentially contacted by magma during the intrusion of a dike.

3.1.3.1 Approach

3.1.3.2 Data and uncertainties

3.1.3.3 Assumptions

3.1.3.4 Results

3.1.4 Waste Package Behavior in the Presence of Magma

This section will describe the interaction between a waste package and surrounding magma. The joint evolution of the magma-waste package physical and chemical systems will be presented to examine the potential for accelerated waste package failure. PDFs for magma-induced waste package failures will be developed.

3.1.4.1 Approach

3.1.4.2 Data and uncertainties

3.1.4.3 Assumptions

3.1.4.4 Results

3.1.5 Waste Form Behavior in the Presence of Magma

This section will describe the interaction between a waste form and surrounding magma. The joint evolution of the magma-waste form physical and chemical systems will be presented. PDFs will be developed to describe the range of particle sizes resulting from waste form interaction with erupting magma.

3.1.5.1 Approach

3.1.5.2 Data and uncertainties

3.1.5.3 Assumptions

3.1.5.4 Results

3.1.6 Eruption and Dispersal of Magma Entrained Waste

This section will describe PDFs developed to characterize the range of particle sizes as a function of magma ascent velocities and the amount of radioactive material likely to be released. This section will also discuss the height, volume, duration of various phases, exit velocity, and ash particle characteristics. In addition, the section will address the dispersal of radioactive material in an ash plume.

3.1.6.1 Approach

3.1.6.2 Data and uncertainties

3.1.6.3 Assumptions

3.1.6.4 Results

3.1.7 Ash Deposition and Subsequent Dose

This section will describe the amount of ash and entrained radioactive waste that would be deposited at a designated receptor site(s). It will also describe the characteristics of the ash deposit. It will discuss various dose pathways to receptors. In addition, it will address geologic processes that could modify the ash deposit. Biosphere dose conversion factors will be described.

3.1.7.1 Approach

3.1.7.2 Data and uncertainties

3.1.7.3 Assumptions

3.1.7.4 Results

3.1.8 Summary of Volcanic Effects

This section will summarize the potential effects of a dike intruding the repository and erupting at the surface after causing waste packages to be breached and entrainment of released radioactive material. The section will also summarize the potential dose resulting from deposited volcanic ash.

3.2 CONSEQUENCES OF SEISMIC EVENTS

This section will describe the analyses of effects of vibratory ground motion and fault displacement. Analyses will address the incremental effect of ground motion on rockfall; the effect of seismic-induced rockfall on waste package behavior; how ground motion affects the waste form; behavior of the drift, engineered barrier system, waste package, and waste form if fault displacement intersects a drift; and how seismic effects on the hydrologic regime are addressed.

3.2.1 Drift Effects from Ground Motion

This section will summarize the incremental effect from seismic ground motion on rockfall in the waste emplacement drifts. Information on the frequency of occurrence of different levels for ground motion and the distribution of sizes of blocks that could be dislodged will be used to determine the distribution of seismic induced rockfall.

3.2.1.1 Approach

3.2.1.2 Data and uncertainties

3.2.1.3 Assumptions

3.2.1.4 Results

3.2.2 Waste Package Damage from Seismic-Induced Rockfall

This section will summarize the incremental impact of seismic-induced rockfall on the degradation of waste packages. It will describe the ability of rockfall blocks of different size to damage or breach a waste package. It will address the impact of multiple rockfall events on a single waste package.

3.2.2.1 Approach

3.2.2.2 Data and uncertainties

3.2.2.3 Assumptions

3.2.2.4 Results

3.2.3 Waste Form Effects from Ground Motion

This section will describe the effects of vibratory ground motion on waste form cladding and any other affected waste form characteristics.

3.2.3.1 Approach

3.2.3.2 Data and uncertainties

3.2.3.3 Assumptions

3.2.3.4 Results

3.2.4 Repository Effects from Fault Displacement

This section describes analyses that address the effects on the drift, engineered barrier system, waste package, and waste form from fault displacement. It will discuss changes in the characteristics of fractures in the vicinity of faulting that might affect rock permeability.

3.2.4.1 Approach

3.2.4.2 Data and uncertainties

3.2.4.3 Assumptions

3.2.4.4 Results

3.2.5 Hydrologic Effects of Fault Displacement

This section will describe an analysis of the hydrologic effects of fault displacement. The analysis will address the potential for fault displacement to affect the hydrologic properties of the site, create perched water bodies, or otherwise alter the characteristics of the unsaturated or saturated zone.

3.2.5.1 Approach

3.2.5.2 Data and uncertainties

3.2.5.3 Assumptions

3.2.5.4 Results

3.2.6 Summary of Seismic Effects

This section will summarize the effects of vibratory ground motion and fault displacement on the drift, engineered barrier system components, the waste package, and waste forms. In addition, the section will summarize seismic effects on the natural system, such as changes in hydrologic properties.

3.3 ABSTRACTION OF THE MODELS

This section describes the method of abstracting the consequences of tectonic events into the TSPA. Discussions include any assumptions needed to support the abstraction and descriptions of the approach taken to deal with the uncertainties in the model abstraction process.

3.4 VALIDITY OF THE ABSTRACTION

This section contains a demonstration of the validity of the abstraction. Results of peer reviews or other evaluations of the model abstraction process are included. The discussion summarizes use of natural and man-made analogs in validating the abstraction, as appropriate.

3.5 DATA QUALIFICATION

This section demonstrates the qualification of any data necessary to support use of the model and its sub-models whose qualification has not been demonstrated in the previous sections. Summaries of, and cross-references to, discussions of data pedigrees in AP-3.10Q reports are also provided, as appropriate.

3.6 SUMMARY OF OTHER VIEWS & ALTERNATIVE CONCEPTUAL MODELS

This section documents credible alternative views to the approaches and methods used to model and describe the effects of seismic and volcanic events on a geologic repository at Yucca Mountain. (Alternate interpretations affecting the volcanic and seismic hazard at the site are documented in the PVHA and PSHA reports and are addressed in Section 2.) For each alternative view, if any, the section will provide a relatively brief summary of the view or position, accompanied by an explanation of why the Project does not subscribe to the view or position. To the extent that compensatory measures have been or will be taken to deal with the alternative view, those measures are also described in this section.

This section will also discuss findings of reviewers external to the Project, if any, that are relevant to the analyses described and summarized in this report. The section will describe how any such findings have been satisfactorily addressed.

CHAPTER 4.0 IMPLICATIONS FOR ADDRESSING NRC KEY TECHNICAL ISSUES

This chapter will describe how the results of tectonic events' analyses help to address the key technical issues that have been identified by the Nuclear Regulatory Commission and described in their Issue Resolution Status Reports. Key technical issues of interest to this report are Igneous Activity, Structural Deformation and Seismicity, Container Life and Source Term, Repository Design and Thermal-Mechanical Effects, Total System Performance Assessment and Integration, and Unsaturated and Saturated Zone Flow Under Isothermal Conditions.

4.1 INTRODUCTION

This section summarizes the NRC's KTI and IRSR effort. The NRC has determined that resolution of its designated KTIs is crucial to licensing the repository. The NRC staff has issued various IRSRs that describe the status of the KTIs from the NRC's perspective and provide subissues and acceptance criteria.

4.2 IGNEOUS ACTIVITY

This section will describe how the results of analyses of the consequences of volcanic events affecting the repository address subissues and acceptance criteria of the Igneous Activity key technical issue.

4.3 STRUCTURAL DEFORMATION AND SEISMICITY

This section will describe how the results of analyses of the consequences of seismic events affecting the repository address subissues and acceptance criteria of the Structural Deformation and Seismicity key technical issue.

4.4 CONTAINER LIFE AND SOURCE TERM

This section will describe how the results of analyses of the consequences of volcanic and seismic events address subissues and acceptance criteria of the Container Life and Source Term key technical issue.

4.5 REPOSITORY DESIGN AND THERMAL-MECHANICAL EFFECTS

This section will describe how the results of analyses of the consequences of volcanic and seismic events address subissues and acceptance criteria of the Repository Design and Thermal-Mechanical Effects key technical issue.

4.6 TOTAL SYSTEM PERFORMANCE ASSESSMENT AND INTEGRATION

This section will describe how the results of analyses of the consequences of volcanic and seismic events address subissues and acceptance criteria of the Total System Performance Assessment and Integration key technical issue.

4.7 UNSATURATED AND SATURATED ZONE FLOW UNDER ISOTHERMAL CONDITIONS

This section will describe how the results of analyses of the consequences of volcanic and seismic events address subissues and acceptance criteria of the Unsaturated and Saturated Zone Flow Under Isothermal Conditions key technical issue.

REFERENCES

This chapter contains the complete reference list for the document.

APPENDICES

The appendices (if any) will contain supporting information deemed appropriate for inclusion in the report but at too great a level of detail for the body of the report.

AP-3.10Q Report Scope Statements

1) c) iv)

			ANALYSIS AND MODEL REPORTS SUPPORTING THE INTEGRATED SITE MODEL PMR	
			Title	**Resp. Org.**
		1	Rock Properties Model	NEPO
		2	Geologic Framework Model	NEPO
		3	Mineralogical Model	NEPO
		4	Stratigraphic Workbooks	NEPO

Analysis and Model Reports Supporting the Integrated Site Model

1) Rock Properties Model Report SPP5830

Description: The Rock Property Model produces three-dimensional sets of heterogeneous numerical models of selected rock properties: porosity, bulk density, matrix saturated hydraulic conductivity, and thermal conductivity. This modeling is performed using GSLIB version 2.0. Geostatistical techniques are used to approximate the real world variability of the rock properties within the GFM grid volume. The heterogeneous material property distributions that exist in unsampled locations are predicted based on the distributions and statistical character of the measured data. The uncertainty associated with the prediction of rock property values for the unsampled locations may then be assessed as it is propagated in downstream process models. The data inputs to the Rock Property Model are computed petrophysical porosity, laboratory core porosity measurements, porosity derived secondary (surrogate) properties, and XRD mineralogical data. Results from the Rock Property Model are used to confirm and corroborate input values for the Unsaturated and Saturated Zone Flow and Transport Models.

Input Data: Borehole Porosity AP-3.10Q, Quantitative X-ray Diffraction Mineralogical Analysis, Rock Properties Analysis of borehole core samples

Feeds to: Integrated Site Model AP-3.10Q

Responsible Organization: NEPO

Due Date: July 29, 1999

2) Geologic Framework Model AP-3.10Q SPP5820

Description: The Geologic Framework Model creates a three dimensional geologic model which displays isochore layers of the stratigraphic units and faults. This model is constructed using Earthvision version 4.0. After the initial construction the model undergoes repeated assessment and examination to ensure that the final output is consistent and geologically reasonable. A "minimum tension" algorithm is used to construct the model because it provides a robust natural surface through the scattered data points. Data inputs to the Geologic Framework Model are: borehole lithostratigraphic contacts, geologic and topographic maps, measured stratigraphic sections and geophysical data. Results from the Geologic Framework Model are used to confirm and validate the structural grids developed for the Unsaturated and Saturated Zone Flow and

Transport Models. It is also used by Repository Design as the reference for locating the proposed repository and situating exploratory drifts and niches.

Input Data: Geologic Map; Borehole lithostratigraphic contacts; ESF Geologic Contacts; Measured geologic sections; Paleozoic surface contact; Surface topography

Feeds to: Rock Properties Model AP-3.10Q; Mineralogical Model AP-3.10Q; Integrated Site Model AP-3.10Q

Responsible Organization: NEPO.

Due Date: May 21, 1999

3) Mineralogical Model AP-3.10Q SPP5840

Description: The Mineralogical Model was developed to provide a complete description of the mineralogical content of rocks at Yucca Mountain. Modeling is based on the software Stratamodel and RC^2. Stratamodel conducts weighted interpolations of drill hole data within stratigraphic units to produce a volumentric distribution of the mineralogy. Geostatistical investigations were conducted using RC^2 which were used to provide estimates of mineralogical uncertainty and characterize zeolite distributions. The Mineralogical Model is developed from quantitative X-ray diffraction (XRD) analysis of core and cuttings from boreholes. This model of mineral distributions can serve as the basis for performing radionuclide transport studies, reactive transport calculations, and mineral reaction modeling.

Input Data: Quantitative X-ray diffraction mineralogical analysis of core; Geologic Framework Model

Feeds to: Integrated Site Model

Responsible Organization: NEPO

Due Date: July 22, 1999

4) Stratigraphic Workbooks AP-3.10Q (SPP5806)

The Stratigraphic Workbook provides the technical documentation of the stratigraphic contacts used to construct the GFM and UZ and SZ Flow and Transport Grids. 82 boreholes are documented. Each borehole is captured in an Excel Spreadsheet. The spreadsheets contain an integrated presentation of: available data, prioritization of the data used to define the contacts (directly relied upon versus corroborative), text describing the basis for placing the contacts, and estimates on the reliability of the contact

placement. It also contains graphs that display the location of the contacts relative to geophysical logs and density analysis of core samples.

Input data: Borehole geophysical logs; Rock Properties Analysis of borehole core samples; Quantitative XRD Mineralogy; Core Samples; Cuttings Samples; Rock Samples; Borehole Video; Core Video; Core Photographs; Maps

Feeds to: Geologic Framework Model; UZ Flow and Transport ISM; SZ Flow and Transport ISM

Responsible: NEPO

Due Date: Oct 01, 1999

			ANALYSIS AND MODEL REPORTS SUPPORTING THE UZ FLOW AND TRANSPORT MODEL PMR	
			Title	**Resp. Org.**
		1	Conceptual & Numerical Models for UZ Flow and Transport	NEPO
		2	Features, Events, and Processes – FEPs	PAO
		3	Climate Model	NEPO
		4	Infiltration Model	NEPO
		5	Analysis of Fracture and Matrix Properties Data	NEPO
		6	Hydrologic Properties from In Site Field Testing	NEPO
		7	Fracture Properties from Vertical Boreholes and Alcove Testing	NEPO
		8	Alcove and Moisture Testing	NEPO
		9	Ambient Geochemistry Data	NEPO
		10	Ambient Geochemistry Data	NEPO
		11	Transport Properties	NEPO
		12	Transport Properties from Busted Butte UZTT	NEPO
		13	Enhanced Colloid Transport	NEPO
		14	Development of the 3D UZ Site Scale Model Grid	NEPO
		15	1-D Inversion Calibrated Properties Model	NEPO
		16	Calibrated Properties Model	NEPO
		17	Analysis Comparing Advection-Dispersion Transport Solution and Particle Tracking	PAO
		18	UZ Submodels for Hydrogeologic Units	NEPO
		19	UZ Submodels for Flow Processes	NEPO
		20	Base Case Flow Fields for the UZ	NEPO
		21	Radionuclide Transport Models Under Ambient and Thermal Conditions	NEPO
		22	Mountain-Scale Coupled Processes (TH, THC, THM) Models	NEPO
		23	Seepage Calibration Model and Seepage Testing Data	NEPO
		24	Drift-Scale Coupled Processes	NEPO
		25	Seepage Models for PA Including Drift Collapse and Drainage of Rocks Below the Drift	NEPO
		26	Analysis of Infiltration Uncertainty	NEPO
		27	Abstraction of Flow Fields for RIP	PAO
		28	Abstraction of Coupled Processes (TH, THC, & THM) into Flow Fields	PAO
		29	Abstraction of Drift Seepage and Drift-Scale Coupled Processes (TH, THC and THM)	PAO
		30	Particle Tracking Model and Abstraction of Transport Processes (including colloids, decay, diffusion, etc.)	PAO

			ANALYSIS AND MODEL REPORTS SUPPORTING THE UZ FLOW AND TRANSPORT MODEL PMR	
			Title	**Resp. Org.**
		31	UZ Model Validation Activities	NEPO
		32	Natural Analogs	NEPO
		33	Geostatistical Representation of CHn Formation	NEPO
		34	Analysis of Base-Case Particle Tracking Results of the Base-Case Flow Fields	PAO
		35	Sensitivity Studies for Site-Scale UZ Flow, Seepage into Drifts, and Site-Scale UZ Transport	PAO

Analysis and Model Reports Supporting the UZ Flow and Transport PMR

1) Conceptual & Numerical Models for UZ Flow and Transport (U1090)

Description: Analysis describing the conceptual and numerical modeling approaches for flow and transport in fractured, unsaturated rock. Conceptual models include those for fracture and matrix components of flow and transport, fracture/matrix interaction, perched water, effects of major faults, effects of coupled processes, radionuclide transport, transient flow, flow focusing processes, effects of fracture and matrix heterogeneities, and gas flow processes. Numerical modeling approaches include continuum approaches (ECM, dual permeability, MINC, and dual porosity), discrete fracture approaches, fracture network approaches, particle tracking, and fully coupled advective-dispersion approaches. This report also documents the Active Fracture Model alternative conceptualization.

Input Data: N/A

Feeds to: UZ Submodels for Hydrogeologic Units [U3000]
UZ Submodels for Flow Processes [U3030]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 7/30/99

2) Features, Events, and Processes - FEPs (U7080)

Description: Discussion of FEPs not included in other AP-3.10Q reports. Also provides a summary list FEPs and identifies which AP-3.10Q reports these issues are addressed.

Input Data: TBD

Feeds to: UZ PMR

Responsible Organization: PAO

Due Date for Rev00A: 7/30/99

3) **Climate Model (U1020)**

Description: This report documents the historical climate changes at Yucca Mountain as well as the estimated conditions for postulated future climate states during the next 10,000 years. Three potential future climates, a modern-like, a monsoon, and a glacial transition climate were identified. The characteristics of the three climates includes their duration, 600, 1400, and 8000 years respectively, and the properties of each climate as obtained from meteorologic stations whose values, for example, of mean annual precipitation and temperature are believed to approximate the future climates range of values. The data provides input parameters for the infiltration model and PA.

Input Data: Precipitation and temperature data from meteorological stations (outside the YM area)

Feeds to: PA
Infiltration Model [U1030]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 5/31/99

4) **Infiltration Model (U1030)**

Description: This report documents the 1999 Infiltration Model. It includes an enhanced description of precipitation and soil moisture processes at Yucca Mountain. It also includes process descriptions for snowmelt and surface water infiltration during intermittent flow in washes. The geologic map of rock and soil cover has been revised based on the work of Day and Warren. The reevaluation of the precipitation record is discussed and used to estimate the average rate under current conditions and calculate the percolation rate. The effects of El Nino events are considered by appropriate weighting of their frequency. Percolation rates for wetter conditions are estimated by considering increased precipitation. These future climates include the long-term average and a super pluvial period. The spatial distribution of percolation for each assumed precipitation rate is provided as well as process descriptions.

Input Data: Surface geological maps
Rainfall data from stations at NTS and YM
Estimated precipitation for future climates from Climate Model [U1020]

Feeds to: PA

Analysis of Infiltration Uncertainty [U4060]
Base Case Flow Fields for the UZ [U7000]
1-D Inversion Calibrated Properties Model [U2000]
Calibrated Properties Model [U2010]
UZ Submodels for Hydrogeologic Units [U3000]
UZ Submodels for Flow Processes [U3030]
Mountain-Scale Coupled Processes Models [U5000]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 5/31/99

5) **Analysis of Fracture and Matrix Properties Data (U4040)**

Description: This report describes the analysis performed to determine fracture and matrix properties for the UZ Model layers based on field data. It includes all computation methods, assumptions, and analogues used to generate this base case non-calibrated property set. These properties are used as input to the Calibration Properties Model for further refinement. The fracture properties estimated include fracture permeability, frequency, aperture, porosity, and van Genuchten fitted parameters. The data sources include the detailed line survey (DLS) in the Exploratory Studies Facility (ESF) North Ramp, Main Drift, South Ramp and Cross Drift and air-injection testing data from vertical boreholes, the Upper Tiva Canyon, Bow Ridge Fault, and Upper Paintbrush Contact Alcoves, the Single Heater Test area, and the Drift Scale Test area. The matrix properties estimated include the average porosity, average saturation, geometric mean for saturated hydraulic conductivity and matrix permeability, and the van Genuchten α_m and m parameters. These values are based on measured core samples collected and analyzed by the USGS. Thermal properties for each UZ Model are also provided.

Input Data: DLS data from the ESF North and South Ramp, Main Drift, and Cross Drift.
Air-injection testing data from vertical boreholes, the Upper Tiva Canyon, Bow Ridge Fault, and Upper Paintbrush Contact Alcoves, the SHT area, and the DST area [U1070]
Measured properties from core samples - effective porosity, bulk density, porosity, particle density, volumetric water content, saturation, water potential, saturated hydraulic conductivity, matrix van Genuchten α and n values, and residual saturation

Feeds to: UZ Model Grid [U1010]
1-D Inversion Calibrated Properties Model [U2000]
Calibrated Properties Model [U2010]

Mountain-Scale Coupled Processes Models [U5000]
Drift-Scale Coupled Processes Models [U5040]

Responsible Organization: NEPO

Due Date for Rev00A: 5/7/99

6) **Hydrologic Properties from In situ Field Testing (U1040)**

Description: This report summarizes the estimates of hydrologic properties based on in situ field testing. This includes liquid release testing in the ESF niches, air injection testing in the ESF niches, Single Heater Test (SHT) area, and Drift Scale Test (DST) area, and gas tracer testing in the SHT and DST areas. Hydrologic properties that are used for the UZ Model and other models are either estimated or verified. These include properties such as fracture porosities and fracture van Genuchten alphas.

Input Data: Tracer testing data from tests in the SHT and DST areas.
Data from niche tests in the ESF

Feeds to: Calibrated Properties Model [U2010]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 5/31/99

7) **Fracture Properties from Vertical Boreholes & Alcove Testing (U1070)**

Description: This report summarizes the fracture and fault properties determined by insitu field testing. This includes air injection testing in vertical boreholes and air injection testing and gas tracer testing in alcoves in the ESF. Properties include fracture permeability and porosity in different hydrogeologic units and near particular faults

Input Data: Gas tracer testing and air injection testing data from the Upper Tiva Canyon, Bow Ridge Fault, Upper Paintbrush Contact, and Ghost Dance Alcoves.
Data from air injection testing in vertical boreholes

Feeds to: Calibrated Properties Model [U2010]
UZ Submodels for Flow Processes [U3030]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 5/31/99

8) **Alcove Moisture and Tracer Testing**

Description: This report summarizes the data collected by the USGS in alcoves in the ESF and Cross Drift. It provides an analysis of the infiltration and tracer testing performed in Alcove 1 as well as the predictive flow and tracer modeling performed.

Input Data: Moisture data from the ESF and Cross Drift
Data from the infiltration and tracer testing in Alcove 1

Feeds to: UZ Model Validation Studies [U7040]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 7/30/99

9) **Ambient Geochemistry Data – LANL (U4030)**

Description: This report summarizes the available geochemistry data from the ESF Main Drift, Cross Drift, and boreholes collected by LANL. This includes ^{36}Cl, Cl and other geochemical data. It discusses the presence of bomb-pulse ^{36}Cl and tritium. It also presents prevailing and alternative conceptual interpretations.

Input Data: ^{36}Cl and Cl data from the ESF Main Drift, Cross Drift, and boreholes

Feeds to: Calibrated Properties Model [U2010]
UZ Submodels for Flow Processes [U3030]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 5/31/99

10) **Ambient Geochemistry Data - USGS (U2030)**

Description: This report summarizes the available geochemistry data from the ESF Main Drift, Cross Drift, and boreholes collected by the USGS. This includes ^{36}Cl, Cl, tritium, calcite, strontium, uranium and other geochemical data. It

discusses the presence of bomb-pulse ^{36}Cl and tritium. It also presents prevailing and alternative conceptual interpretations. The preliminary data from the Cl-36 Validation Study are also provided.

Input Data: ^{36}Cl, Cl, tritium, calcite, strontium and uranium data from the ESF Main Drift, Cross Drift, and boreholes

Feeds to: Calibrated Properties Model [U2010]
UZ Submodels for Flow Processes [U3030]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 5/31/99

11) **Transport Properties (U4070)**

Description: This report will summarize the available transport properties for the lower hydrogeologic units at Yucca Mountain. This will include sorption coefficients for the radioisotopes Np, Pu, U, Tc, I, and Se.

Input Data: Sorption test data from core samples from boreholes and Busted Butte
Percent alteration of core samples from boreholes and Busted Butte

Feeds to: PA
Particle Tracking Model and Abstraction of Transport Processes [U3050]
Radionuclide Transport Models under Ambient & Thermal Conditions [U3040]

Responsible Organization: NEPO

Due Date for Rev00A: 7/30/99

12) **Transport Properties from Busted Butte UZTT (U1060)**

Description: The UZ transport properties in the vitric Calico Hills based on field-testing will be provided. These values will be determined through both data analysis and modeling (currently in progress). The transport parameters will include information on interactions of the fractures and matrix.

Input Data: Data from the Busted Butte UZTT

Percent alteration of core samples from Busted Butte

Feeds to: PA
Particle Tracking Model and Abstraction of Transport Processes [U3050]
Radionuclide Transport Models under Ambient & Thermal Conditions [U3040]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 8/15/99

13) **Enhanced Colloid Transport (U3060)**

Description: This report provides documentation for the Colloid Transport Model. This enhanced process model for colloid transport includes reversible reactions, resuspension, and filtration. The process level computations are simplified through preconditioned parameters and used in an analytical expression by PA

Input Data: Colloidal transport data from Busted Butte field test

Feeds to: PA
Particle Tracking Model and Abstraction of Transport Processes [U3050]

Responsible Organization: NEPO

Due Date for Rev00A: 7/30/99

14) **Development of the 3D UZ Site Scale Model Grid (U1010)**

Description: The purpose is to describe the methods used to develop the numerical grids for the UZ Model using current geologic, mineralogic, and matrix hydrogeologic property data. This includes: (1) defining the location of important calibration features, (2) determining model grid layers and fault geometry based on GFM, ISM, and hydrogeologic units, (3) analyzing and extracting GFM and ISM data pertaining to layer contacts and property distributions, (4) discretizing and refining the 2-D numerical grid considering the spatial resolution of infiltration rate, (5) generating the 3D grid with added resolution at the repository horizon and within the Calico Hills, and (6) formulating the dual-permeability mesh.

Input Data: GFM 3.1 [C1035]
ISM 3.0
Fracture data for hydrogeologic units [U4040]
Hydrogeologic Units
Water Table Map
Repository Layout Configuration

Feeds to: 1-D Inversion Calibrated Properties Model [U2000]
Calibrated Properties Model [U2010]
UZ Submodels for Hydrogeologic Units [U3000]
UZ Submodels for Flow Processes [U3030]
Base Case Flow Fields for the UZ [U7000]
Mountain-Scale Coupled Processes Models [U5000]
Geostatistical Representation of CHn Formation [U7030]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 5/7/99

15) 1-D Inversion Calibrated Properties Model (U2000)

Description: This report provides documentation for the 1-D Inversion Calibrated Properties Model used to provide the best estimates of base case rock properties for use by PA and other project participants. The report describes the one-dimensional inverse-modeling techniques applied to iteratively adjust input parameters to minimize the difference between the model predictions and the corresponding observations including saturations, water potentials, and pressures. The properties include matrix permeability, fracture permeability, van Genuchten parameters alpha and m for matrix, and van Genuchten parameters alpha and m for fractures for each UZ Model layer.

Input Data: Infiltration map from Infiltration Mod J1030]
UZ Model Grid [U1010]
Saturation data from boreholes
Water potential data from boreholes
Pneumatic pressure data from boreholes
Fracture properties for each model layer [U4040]
Matrix properties for each model layer [U4040]

Feeds to: PA
Calibrated Properties Model [U2010]
UZ Submodels for Hydrogeologic Units [U3000]
UZ Submodels for Flow Processes [U3030]

Responsible Organization: NEPO

Due Date for Rev00A: 5/31/99

16) Calibrated Properties Model (U2010)

Description: This report provides documentation for the Calibrated Properties Model used to provide the best estimates of base case rock properties for use by PA and other project participants. This model includes calibrations on saturation, water potential, pneumatic, temperature, and geochemical data. The report describes 1) the inverse-modeling techniques applied to iteratively adjust input parameters to minimize the difference between the 1-D model predictions and the corresponding 2- and 3-D observations including saturations, water potentials, and pressures, 2) the forward calibration techniques for calibrations on temperature and geochemical data, and 3) 3-D forward calibration techniques utilizing perched water models. The properties generated from the model include matrix permeability, fracture permeability, van Genuchten parameters alpha and m for matrix, and van Genuchten parameters alpha and m for fractures for each UZ Model layer.

Input Data: Saturation data from boreholes
Infiltration map from Infiltration Model [U1030]
UZ Model Grid [U1010]
Water potential data from boreholes
Pneumatic pressure data from boreholes
Temperature data from boreholes
Geochemical data from the ESF and boreholes [U4030, U2030]
Fracture properties for each model layer [U4040]
Matrix properties for each model layer [U4040]
Calibrated properties from 1-D inversions [U2000]
Radionuclide Transport Models under Ambient & Thermal Conditions [U3040]

Feeds to: PA
UZ Submodels for Hydrogeologic Units [U3000]
UZ Submodels for Flow Processes [U3030]
Base Case Flow Fields for the UZ [U7000]
Mountain-Scale Coupled Processes Models [U5000]

Drift-Scale Coupled Processes Models [U5040]
Seepage Models for PA [U4000]
Geostatistical Representation of CHn Formation [U7030]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 6/30/99

17) **Analysis Comparing Advection-Dispersion Transport Solution and Particle Tracking (U7050)**

Description: This report presents an analysis comparing an advective-dispersive (A-D) transport solution and particle tracking. This includes simulations of radionuclide transport using a fully coupled advective dispersion flow and transport model that incorporates advection, dispersion, sorption, and decay processes. Results are compared with TSPA particle tracking results from the Viability Assessment (VA).

Input Data: 3-D flow fields used for VA
Flow and transport properties used for VA

Feeds to: TSPA
UZ PMR

Responsible Organization: PAO

Due Date for Rev00A: 5/31/99

18) **UZ Submodels for Hydrogeologic Units (U3000)**

Description: This report provides documentation for the PTn Flow and CHn Submodels. The PTn Flow numerical submodel simulates and investigates flow within the PTn hydrogeologic unit. Lateral diversion of water around this unit due to a capillary barrier effect could have important implication to repository design and performance. The model incorporates measured hydrologic property data and available geologic information. The numerical approach used to capture the transition between layers is also considered. The CHn numerical submodel simulates and investigates flow within the CHn hydrogeologic unit. Lateral diversion of water round this unit due to a permeability barrier effect could have important implications to repository design and performance. The model incorporates measured hydrologic property data and available geologic

information and considers the numerical approach used to capture the transition between layers in this unit.

Input Data: Matrix property data from the ESF and boreholes
Stratigraphy data from borehole logs
Infiltration Model [U1030]
Calibrated fracture and matrix properties [U2000, U2010]
Hydrologic property data for CHn

Feeds to: Base Case Flow Fields for the UZ [U7000]
Geostatistical Representation of CHn Formation [U7030]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 7/30/99

19) UZ Submodel for Flow Processes (U3030)

Description: This report includes documentation for the Perched Water, Temperature, Geochemistry, and Faults Submodels.

- The Perched Water numerical model investigates the perched water phenomena at Yucca Mountain. Field data including locations of perched water, minimum volumes of perched water bodies, and pumping test data are incorporated into the model and compared with perched water residence times derived from ^{14}C data.
- The Temperature Submodel is documented through the analysis of temperature data for calibration of the UZ Flow and Transport Model. Temperature data from boreholes are further analyzed in terms of percolation flux rates and overall heat flux.
- The geochemical submodels include the Strontium Submodel, Chloride Submodel, Chloride-36 Submodel, Sulfate Submodel, Carbon-14 Submodel, and Tritium Submodel. The Strontium Submodel incorporates the effects of rate-limited dissolution and precipitation on the concentration of a solute, in addition to dispersion, radioactive decay, and linear equilibrium adsorption. The Sr isotopic ratio in pore waters is estimated and used to constrain the flow regime and percolation fluxes. The Chloride Submodels incorporate conceptual models for the spatial and temporal variations in chloride chemistry. The Chloride-36, Carbon-14, and Tritium Submodels simulate transport along fast pathways during transient infiltration events where structural discontinuities exist in the PTn and other areas. Results from these submodels are compared with pore water concentrations at the site and in the ESF.

- The Faults submodels include those used for modeling studies to better understand the influence of faults and how to best model faults. These include a model of the Ghost Dance Fault and the Solitario Canyon Fault. The model for the Ghost Dance Fault is calibrated to moisture conditions and pneumatic pressure data. The model for the Solitario Canyon Fault is non-calibrated. For both of these, liquid flow travel times and gas flow patterns are analyzed in terms of their sensitivity to a range of fault properties.

Input Data: Geochemistry data from ESF and boreholes [U4030, U2030]
Infiltration Model [U1030]
UZ Model Grid [U1010]
Calibrated fracture and matrix properties [U2000, U2010]
Temperature data for boreholes
Pneumatic pressure data
Moisture data from the Ghost Dance Fault Alcove
Tracer and air-injection data from the Ghost Dance Fault Alcove [U1070]
Location of perched water in boreholes
Pumping test data

Feeds to: Base Case Flow Fields for the UZ [U7000]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 8/27/99

20) **Base Case Flow Fields for the UZ (U7000)**

Description: The purpose of this activity is to provide Performance Assessment (PA) with the base-case flow fields and parameters sets to be used in TSPA-Site Suitability (TSPA-SS). It documents the simulations of percolation to the repository horizon and the water table.

Input Data: Calibrated matrix and fracture property set [U2010]
Infiltration maps from Infiltration Model [U1030]
3-D UZ Model grid [U1010]
Perched Water Submodel [U3030]
Geochemistry Submodel [U3030]
Temperature Submodel [U3030]
Faults Submodel [U3030]
PTn Submodel [U3000]
CHn Submodel [U3000]

Feeds to: PA
Abstraction of Flow Fields for RIP [U6030]
Radionuclide Transport Models [U3040]
Seepage Models for PA [U4000]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 7/1/99

21) **Radionuclide Transport Models under Ambient & Thermal Conditions (U3040)**

Description: This report documents the modeling and analysis of radionuclide transport in the unsaturated zone under ambient and thermal conditions. The analysis includes simulations of water, gas, and solute transport within the unsaturated zone including advective transport, sorption, dispersion, diffusion, and colloidal facilitated transport. The modeling capabilities are described including the efficient simulation of the transport of radionuclides from beneath the potential repository horizon to the water table under ambient conditions and conditions of repository heat.

Input Data: Transport properties [U4070, U1060]
Calibrated fracture and matrix property set [U2010]
Base Case Flow Fields [U7000]
Source term for radionuclides [EB205]
Mountain-Scale TH Model [U5000]

Feeds to: UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 12/10/99

22) **Mountain-Scale Coupled Processes (TH, THC, THM) Models (U5000)**

Description: This report provides documentation for the Mountain-Scale TH, THC and THM Model.

- The Mountain Scale Thermal-Hydrologic (TH) Model numerically simulates the potential impacts of repository decay heat on the natural hydrogeologic system including a representation of heat driven processes occurring in the far field. Predictions include liquid saturation, water vapor as gas flux, and temperature of water and rock.

- The Mountain-Scale THC model simulates mountain-scale reaction-transport processes for nonisothermal multicomponent, multiphase, and multispecies systems. It considers changes in flow and transport from the surface to the water table due to changes in permeability, porosity, and unsaturated flow parameters as a function of rock-water interaction, coupled to the full thermohydrologic calculations for dual-permeability media. Features such as the development of a low-permeability cap above the repository, modification of the PTn, and the vitric and zeolitic units below the repository are also considered.
- The report also documents the development of a comprehensive set of kinetic mineral-water reactions, including feldspars, silica phases, clay minerals, and zeolites, for a general set of aqueous and gaseous species, including CO_2 in the gas phase. It includes predictions of the chemical composition of waters (pH, salinity, etc.) that could potentially seep into drifts. The Mountain-Scale THC Model combines constraints and data from modeling of the ambient system geochemistry (3-D UZ model) and coupled processes in the thermal tests, including constraints on reaction rates from isotopic systems, such as strontium and carbon.
- The Mountain-Scale THM Model considers the potential impact of mechanical processes such as the closure and opening of fractures on unsaturated flow.

Input Data: Thermal properties for model layers [U4040]
Calibrated fracture and matrix property set [U2010]
Infiltration maps from Infiltration Model [U1030]
3-D UZ Model grid [U1010]
Geochemical thermodynamic database

Feeds to: PA
Abstraction of Coupled Processes into Flow Fields [U6010]
Radionuclide Transport Models (Thermal Conditions) [U3040]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 9/15/99

23) Seepage Calibration Model & Seepage Testing Data (U4010)

Description: This report provides documentation for the Seepage Calibration Model and describes the techniques used to calibrate the model using field data from the niche liquid release tests in the ESF. It also incorporates data from other

models, such as ranges in percolation rates and available information on locally altered hydraulic characteristics.

Input Data: Data from niche liquid release testing
Data from air injection testing in niches
Calibrated fracture and matrix property set [U2000, U2010]

Feeds to: PA
Abstraction of Drift Seepage & Drift-Scale Coupled Processes [U6020]
Drift-Scale Coupled Processes Models [U5040]
Seepage Models for PA [U4000]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 7/15/99

24) Drift-Scale Coupled Processes (DST, THC) Models (U5040)

Description: This report documents the Drift Scale Test (DST) Thermo-Hydrologic (TH) Model, The DST Thermo-Hydrologic-Chemical (THC) Model, and the THC Seepage Model as well as provide an analyses of TH effects on seepage and provide predictions of the chemical composition of seepage into drifts.

- The DST TH model includes the effects of water and water vapor migration in the region surrounding the drift as a result of heating. Included will be boiling of water and the precipitation of water vapor. The interpretation of the heater test will develop parameters for use in predictive TH modeling.
- The DST THC Model is used to investigate and simulated the thermal effects of heating test drifts and blocks by simulating the migration of water, air and heat in response to heat imposed during single and drift scale heater tests. Interpretations from the model are used to calibrate thermal conductivity, fracture properties, and verify the numerical approach used to describe the dual continuum.
- The THC Seepage model will include the effects of mineral dissolution and precipitation in the region surrounding the drift. The analysis will consider the ambient geochemical environment as well as the interactions among the major minerals existing or expected to form as a result of alteration through heating. The analysis will consider if of silica "precipitation cap" forms above and/or below the drift and evaluate the potential changes to permeability and seepage.

- An analysis of TH effects on seepage evaluates the impact of thermal refluxing on seepage into emplacement drifts. The quantity and frequency of seeps under thermal conditions are compared to those under ambient conditions.

Input Data: Thermal properties for model layers [U4040]
Calibrated fracture and matrix property set [U2010]
Calibrated drift-scale parameters [U4010]
Geochemical thermodynamic database

Feeds to: PA
Abstraction of Drift Seepage & Drift-Scale Coupled Processes [U6020]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 9/15/99

25) **Seepage Models for PA including Drift Collapse & Drainage of Rocks Below the Drift (U4000)**

Description: This report provides documentation for the Seepage Model for PA, the Disturbed Drift Seepage Submodel, and presents an analysis of the drainage of rock below emplacement drifts.

- The Seepage Model for PA utilizes the distribution of permeabilities derived from niche testing to stochastically simulate the 3-D flow of water in the fractured host rock in the vicinity of potential emplacement drifts under ambient conditions.
- This Disturbed Drift Seepage Submodel is developed and utilized to evaluate the impact of the partial collapse of a drift on seepage. Drift scale seepage modeling is used to evaluate the resulting changes in drift seepage.
- The analysis of drainage of rock below emplacement drifts is based on modeling studies and provides input to PA for use in transport studies and sensitivity analysis.

Input Data: Calibrated drift-scale parameters [U4010]
Boundary conditions from UZ Flow and Transport Model [U7000]
EBS/NFE Drift Collapse Model [EB231]
Calibrated fracture and matrix property set [U2010]

Feeds to: PA

Abstraction of Drift Seepage & Drift-Scale Coupled Processes [U6020]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 8/31/99

26) **Analysis of Infiltration Uncertainty (U4060)**

Description: This analysis considers the uncertainties in the Infiltration Model. Infiltration distributions and confidence limits are produced using statistical techniques. Monte Carlo analyses provides distribution rates for use in the UZ Model and for evaluation in PA sensitivity studies. This analysis provides further justification of the use of the Infiltration Model.

Input Data: Infiltration Model [U1030]

Feeds to: TSPA
Sensitivity Studies [U7070]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 9/30/99

27) **Abstraction of Flow Fields for RIP (U6030)**

Description: This report provides details as to the conversion of flow fields from TOUGH2 for use with the FEHM particle tracking algorithm. This provides documentation of the conversion process.

Input Data: Flow fields from UZ Flow and Transport Model [U7000]

Feeds to: TSPA
Analysis of Base-Case Particle Tracking Results of the Base-Case Flow Fields [U7060]
Sensitivity Studies [U7070]
UZ PMR

Responsible Organization: PAO

Due Date for Rev00A: 9/30/99

28) Abstraction of Coupled Processes (TH, THC, & THM) into Flow Fields (U6010)

Description: This analysis evaluates the impact of TH, THC, and THM processes on large-scale fluid flow. It documents the abstraction method for the Mountain-Scale TH and THC Models. This will include the evaluation of the impacts of site-scale processes including spatial variations in the chemistry of infiltrating waters, temporal variations due to potential future climate change, and changes to properties such as porosity, permeability, sorption, etc.

Input Data: Durable change in rock properties from THC modeling [U5000]
Mountain-Scale THC Model [U5000]
Mountain-Scale TH Model [U5000]
Mountain-Scale THM Model [U5000]

Feeds to: TSPA
Sensitivity Studies [U7070]
UZ PMR

Responsible Organization: PAO

Due Date for Rev00A: 9/30/99

29) Abstraction of Drift Seepage & Drift-Scale Coupled Processes (TH, THC, and THM) (U6020)

Description: This report documents the abstraction method for the Seepage Model for PA and drift-scale TH, THC and THM models for incorporation into TSPA-SR/LA. It documents the probability distributions generated for drift seepage. It provides an evaluation of the impact of the processes of thermal refluxing on the emplacement drift seepage. In addition to the quantity and frequency of seeps during the thermal period, the chemical content of water seeping into drifts is considered. It also documents the development of a model with thermal hydrology so as to include the impacts of waste package variability (e.g., differing heat outputs), radiant heat transfer processes, design features, etc., on thermal seepage. The model provides data for the abstracted TSPA seepage model during the thermal perturbation but also be used to ensure that seepage processes and its impacts on temperature and relative humidity in the drift are properly taken into account.

Input Data: Calibrated drift-scale parameters [U4010]
Seepage Model for PA [U4000]
THC Seepage Model [U5040]
TH Effects on Seepage [U5040]

Feeds to: TSPA
Sensitivity Studies [U7070]
UZ PMR

Responsible Organization: PAO

Due Date for Rev00A: 10/22/99

30) **Particle Tracking Model and Abstraction of Transport Processes (including colloids, decay, diffusion, etc.) (U3050)**

Description: This reports provides documentation for the particle tracking model, its conceptual models, and the abstraction methods for transport processes for TSPA-SR. This will include a description of the various model components in the FEHM particle tracking algorithm (e.g., matrix diffusion and sorption), the abstraction of the colloidal transport model, and the radionuclide decay model in particle tracking algorithm. The abstraction will include the effects of advection, sorption, dispersion, diffusion and colloidal facilitated migration. This includes a description and justification of the abstraction methodology.

Input Data: FEHM particle tracking algorithm
Matrix diffusion and sorption properties [U4070]
Radionuclide decay submodel
Transport properties [U4070, U1060]
Model colloid parameters [U3060]
Colloid Transport Model [U3060]

Feeds to: TSPA
Analysis of Base-Case Particle Tracking Results of the Base-Case Flow Fields [U7060]
Sensitivity Studies [U7070]
UZ PMR

Responsible Organization: PAO

Due Date for Rev00A: 9/30/99

31) **UZ Model Validation Activities (U7040)**

Description: This report provides documentation for the validation studies completed for the UZ Flow and Transport Model. These include blind predictions

for water potential, temperature, gas pressure, and moisture conditions in the East-West Cross Drift, ESF niches, the Drift-to-Drift Alcove, and vertical boreholes. Also included are blind predictions for perched water in vertical boreholes, seepage flow in niches, and tracer testing in Alcove 1.

Input Data: Water potential data from the Cross Drift, ESF niches, the Drift-to-Drift Alcove, and vertical boreholes
Natural Analogue Studies

Feeds to: UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 12/10/99

32) Natural Analogues U7020

Description: This report provides a summary of the analysis of data from natural analogues for the Yucca Mountain site. This analysis includes a literature review summarizing the state of knowledge from past analogue studies in the international nuclear waste community and elsewhere. It provides recommendations for application of analogue information to performance assessment and design. Data from selected natural and anthropogenic analogues are analyzed to determine their potential use for the project. Simplified modeling simulations for selected analogues are presented to build confidence in radionuclide transport models and other process models over long time periods and large spatial scales.

Input Data: Data from selected analogue sites

Feeds to: UZ Model Validation Activities (U7040)
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 8/27/99

33) Geostatistical Representation of CHn Formation (U7030)

Description: This report describes the methods and analysis performed to provide and evaluate a geostatistical representation for selected hydrologic parameters in the Calico Hills hydrogeologic unit. The parameters were selected

based on the availability of adequate data and the potential impact on performance. The product is a 2-D sensitivity analysis to determine impact of heterogeneities in the Calico Hills matrix unit on groundwater flow and transport. The results are compared with the two limiting conceptual models of perched water (flow-through and permeability barrier).

Input Data: Geostatistical representation of matrix permeability from the Rock Properties Model [C1040]
2-D UZ Model cross-section grid [U1010]
CHn Submodel [U3000]
Calibrated matrix and fracture property set [U2010]

Feeds to: Sensitivity Studies [U7070]
UZ PMR

Responsible Organization: NEPO

Due Date for Rev00A: 9/30/99

34) **Analysis of Base-Case Particle Tracking Results of the Base-Case Flow Fields (U7060)**

Description: This report provides an analysis of the base-case particle tracking results utilizing the base-case flow fields. Flux and cumulative breakthrough curves at the water table are provided and evaluated to provide insight into subsystem performance for the unsaturated zone.

Input Data: Converted flow fields from UZ Model [U6030]
Particle Tracking Model [U3050]

Feeds to: UZ PMR

Responsible Organization: PAO

Due Date for Rev00A: 11/5/99

35) **Sensitivity Studies for Site-Scale UZ flow, Seepage into Drifts, and Site-Scale UZ transport (U7070)**

Description: This report documents the sensitivity studies associated with site-scale UZ flow, seepage into drifts, and site-scale UZ transport. For site-scale UZ Flow, this includes effects of altered property sets from THMC analyses, effects of different climate and infiltration ranges, effects of longer than 10,000 year time frame, and use of discrete weeps model in conjunction with site-scale model to

calculate weep spacing and seepage. For site-scale UZ transport, this includes effects of variations of parameter ranges (sorption, solubilities, diffusion, etc.), effects of different conceptual models, effects of dispersion, and matrix diffusion, colloid transport, effects of different climate and infiltration ranges, and the effects of longer than 10,000 year time frame. For seepage into drifts, this includes effects of altered property sets from THMC analyses, effects of different climate and infiltration ranges, and effects of longer than 10,000 year time frame.

Input Data: Distributions for surface infiltration rates [U4060]
Converted flow fields from UZ F&T Model [U6030]
Abstraction of coupled processes into flow fields [U6010]
Abstraction of seepage modeling [U6020]
Abstraction of coupled process into seepage models [U6020]
Abstraction of transport processes [U3050]
Abstraction of colloid transport [U3050]
Source term for radionuclides [EB205]
TSPA RIP

Feeds to: UZ PMR

Responsible Organization: PAO

Due Date for Rev00A: 12/10/99

AP-3.10Q REPORTS FROM OTHER PMRs

These other PMR's should be referred to for more details on these AP-3.10Q Reports

GFM 3.1 (C1035) – ISM PMR

Description: This report documents the Geologic Framework Model (GFM). GFM 3.1 represents the lithostratigraphic and structural data for Yucca Mountain. It contains numerous data files describing the 3-D location and orientation of faults, land-surface topography, geologic structure at unit contacts, and lithostratigraphic layer thickness. This information includes the revisions in stratigraphy based on SD-6 and WT-24.

Input Data: Lithostratigraphies from boreholes [C1000]
Surface geological maps of YM
Geologic contacts from the ESF
Measured sections

Feeds to: UZ Model Grid [U1010]

Responsible Organization: WCFS (R. Clayton)

ISM 3.1 Rock Properties Model (C1040) – ISM PMR

Description: The distributions of matrix properties, including porosity and matrix permeability as well as other properties, are incorporated into a three-dimensional stratigraphic model. These property sets are based on field data, and geostatistical techniques are used to provide estimates of property values where no data are present. These distributions will be updated based on the recent analysis and samples from SD-6 and WT-24.

Input Data: Matrix property data from core samples
GFM 3.1 [C1035]

Feeds to: Geostatistical Representation of CHn Formation [U7030]

Responsible Organization: SNL (C. Rautmann)
WCFS (R. Clayton)
USGS (L. Flint)

ISM 3.1 Min/Pet Model (C1045) – ISM PMR

Description: Represents the spatial distribution of mineral abundances. It is constructed from numerous borehole samples. This model is used as the basis for mineralogic information and resolve spatial variations in percent zeolite distribution. For the UZ Model this information is used for the units Tptpv1, Tpbt1, Tac, and Tacbt. The model is based on the stratigraphy of GFM 3.1.

Input Data: GFM 3.1 [C1035]
Mineralogic data from boreholes

Feeds to: UZ PMR

Responsible Organization: WCFS (R. Clayton), LANL (B. Carey)

EBS Drift Collapse Model (EB231) – EBS PMR

Description: For the UZ Flow and Transport PMR, this report provides the shape of the drift as a function of time for use in the analysis of drift seepage

under conditions of partial drift collapse. This report contains additional documentation and analyses for use in the EBS PMR.

Feeds to: Seepage Models for PA [U4000]

EBS Radionuclide Transport Model (EB205) – EBS PMR

Description: For the UZ Flow and Transport PMR, this report provides a source term of radionuclide concentrations for use in the mountain-scale radionuclide transport models. This report contains additional documentation and analyses for use in the EBS PMR

Feeds to: Radionuclide Transport Models under Ambient & Thermal Conditions [U3040]
Sensitivity Studies [U7070]

			ANALYSIS AND MODEL REPORTS SUPPORTING THE SZ FLOW AND TRANSPORT MODEL PMR	
			Title	**Resp. Org.**
		1	Hydrologic Framework Model	NEPO
		2	Water Level Data	NEPO
		3	SZ Site-Scale Model Flow Boundary Conditions	NEPO
		4	Geochemistry	NEPO
		5	Colloid-Facilitated Pu Transport Model	PAO
		6	Natural Analogs	NEPO
		7	Geostatistical Methodology	NEPO
		8	Model Validation	NEPO
		9	Process Model Uncertainty	NEPO
		10	Summary and Synthesis Transport Data Input	NEPO
		11	SZ Site-Scale Model Transport Methodology and Transport Component	NEPO
		12	Flow Model Calibration	NEPO
		13	Uncertainty Distributions for Stochastic Parameters	PAO
		14	Probability Distribution for Flowing Interval Spacing	PAO
		15	Input and Results of Base Case SZ Flow and Transport Model Runs for TSPA	PAO
		16	Features, Events, and Processes	PAO
		17	Summary and Synthesis Transport Data Input	NEPO

Data and Analysis Reports Supporting the Saturated Zone Flow and Transport Process Model Report

1) Hydrogeologic Framework Model (B1010) SPP2025

Description: This model will document the revised hydrogeologic framework used in the SZ site-scale flow and transport model. The revisions include:

- Deepening the lower boundary to make it consistent with that of the regional flow model and coincident with the natural no flow.
- Incorporating available data from Nye County wells and boreholes SD-6 and WT-24, as available.
- Incorporating the new geological maps and cross sections.

Input Data: Lithologic logs, geological maps and cross sections, ISM model, and the new Nye County lithologic logs.

Feeds to: Final Calibrated Flow Model; Uncertainty Distribution for Stochastic Parameters

Responsible Organization: NEPO

Data Feed Due Date: 5/15/99

2) Water Level Data (B1030) SPP1000

Description: This package will document the water level data. Based on defined criteria, water levels will be flagged as to whether they are likely to represent perched conditions. The water level data will be used as a target calibration for the flow model.

Input Data: Water level data including the new Nye County data.

Feeds to: Final Calibrated Flow Model

Responsible Organization: NEPO

Data Feed Due Date: 5/15/99

3) SZ Site-Scale Model Flow Boundary Conditions (B1040) SPP1040

Description: This analysis will document the lateral and recharge boundary conditions for groundwater used in the SZ site-scale flow and transport model. The values of volumetric groundwater flow rates along the lateral boundaries of the SZ model domain will be taken from the results of the SZ regional-scale flow

model and adapted for use as specified-flux boundary conditions for the SZ site-scale model. Values of recharge to the SZ site-scale model for use as specified-flux boundary conditions will be determined using three components. In the region corresponding to the UZ site-scale flow model domain, the recharge will be determined using the groundwater flux at the bottom boundary (i.e., the water table) as simulated by the UZ site-scale flow model. In areas beyond the extent of the UZ site-scale flow model, the values of distributed recharge using the modified Maxey-Eakin method of the SZ regional-scale flow model will be used to specify the upper boundary conditions of the SZ site-scale model. Specified-flux recharge conditions along the channel of Fortymile Wash will be taken from estimates of stream channel loss published by USGS .

Input Data: Results from the UZ model; results from the 1997 regional model; and results from the Fortymile wash infiltration study.

Feeds to: Final Calibrated Flow Model

Responsible Organization: NEPO

Data Feed Due Date: 5/15/99

4) Geochemistry (B2010) SPP2025

Description: This analysis will document the analysis of geochemical and isotopic data to constrain rates and directions of ground-water flow near Yucca Mountain and the timing and magnitude of recharge in the Yucca Mountain vicinity. The geochemical and isotopic data will be examined with regard to the possible dilution of groundwater recharge from Yucca Mountain by mixing with groundwater downgradient from the potential repository site.

Input Data: All geochemical data and studies.

Feed to: Final Calibrated Flow Model

Responsible Organization: NEPO

Data Feed Due Date: 5/15/99

5) Colloid-Facilitated Pu Transport Model (B2005) SPP1075

Description: This analysis will consist of the methods, assumptions, and results of 1-D reactive transport modeling of colloid-facilitated Pu transport in the SZ.

Input Data: Data feeds include laboratory data on the sorption characteristics of the tuff matrix and the kinetic sorption/desorption rates onto colloids. Field

data on concentrations of natural colloids in groundwater and on colloid filtration from the C-wells tracer tests will also be used. Input from the 3-D SZ site-scale flow and transport model will be used to define the flowpaths. Field observations from apparent colloid-facilitated Pu migration at Pahute Mesa will also be considered in this model.

Feeds to: Uncertainty Distribution for Stochastic Parameters

Responsible Organization: PAO

Data Feed Due Date: 7/1/99

6) Natural Analogues (B2065) SPP2080

Description: This report provides a summary of the analysis of data from natural analogue sites relevant to SZ flow and transport processes. The analysis includes a Recommendations are made for application of SZ process analogues to PA and possibly to design.

Input Data: Information from published literature describing studies (from the international community and the U.S.), including retardation in saturated alluvium, dispersion and dilution in contaminant plumes, colloid transport, and other radionuclide transport in the SZ. Results of modeling simulations are presented for use of Hanford data on transport of tritium in saturated alluvium as a test of modeling dispersion in the SZ flow and transport model.

Feeds to: PA and possibly to design.

Responsible Organization: NEPO

Data Feed Due Date: 8/2/99

7) Geostatistical Methodology (B1060) SPP3000

Description: This analysis will document the sensitivity analysis of the effects of heterogeneity at the sub grid block scale on the calculated dispersivities and the variability in advective velocity. A select number of cells within the flow model would be chosen and a fine scale discretization within these select cells would be populated with heterogeneous permeabilites through geostatistical simulation. These detailed permeability models would then be used as input to the new transport model being implemented in FEHM. The results of the transport work will be a sensitivity analysis of how sub-grid block heterogeneity affects the overall transport, specifically with respect to dispersion and variation in advective velocity. Several conceptual models of fracture permeability would be implemented through the geostatistical simulations.

Input Data: Data feeds will include fault mapping at the Yucca Mountain site, the distribution of flowing intervals in the SZ derived from well flowmeter surveys, information on the C-wells, and statistical information on "background" fracture network permeability from air permeability and single borehole SZ tests.

Feeds to: Uncertainty Distribution for Stochastic Parameters

Responsible Organization: NEPO

Data Feed Due Date: 7/1/99

8) Model Validation (B2075) SPP4010

Description: This analysis will document model validation activities. This analysis will demonstrate the validity of the model and discusses the suitability of the model for its intended application. It will include demonstration of the validity of the data used to support the model validation, as well as demonstration of the validity of the codes that support the model. Results of expert elicitation panel used to support model validation will be included. The analysis will also include the use of natural analogues at Hanford, Idaho (INELL), and other analogues in the model validation.

Input Data: Data feeds for this analysis package include the numerical model and natural analogues analysis.

Feeds to: PA

Responsible Organization: NEPO

Data Feed Due Date: 8/2/99

9) Process Model Uncertainty (B2070) SPP4010

Description: This analysis will document sensitivity analysis to bound uncertainty in the SZ flow and transport model. The analysis will discuss the uncertainties in the model and the assumptions and bases thereof associated with the uncertainties.

Input Data: Data feeds for this analysis package include the numerical model and natural analogues analysis.

Feeds to: PA

Responsible Organization: NEPO

Data Feed Due Date: 8/2/99

10) Summary and Synthesis Transport Data Input (B1068) SPP2000

Description: This package will document the site scale model transport input data used in the model. The data include sorption data, dispersion data, etc. The analysis will document extracting input parameters for transport from the C-Wells testing, other field measurement, and laboratory testing.

Input Data: Data feeds for this analysis package include all laboratory data on radionuclide sorption, matrix diffusion, and colloid-facilitated transport. Feeds will also include data from conservative and reactive tracer tests at the C-wells.

Feeds to: PA and SZ Site-Scale Model Transport Methodology and Transportation Component

Responsible Organization: NEPO

Data Feed Due Date: 8/1/99

11) SZ Site-Scale Model Transport Methodology and Transport Component (B1080) SPP3025

Description: This package will document the streamline particle tracking methodology used in the SZ site-scale model. The package will also include input and output decks for FEHM of the SZ site-scale flow and transport model. The expected values of transport parameters will be included in the input files.

Input Data: Data feeds will include the calibrated flow model component, statistical analyses of matrix porosity and bulk density from the "Uncertainty Distributions of Stochastic Parameters" AP-3.10Q analysis described below, and the summary and synthesis transport data input. In addition, the matrix porosity and bulk density properties from the ISM model will be input for the area and geologic units covered by this model.

Feeds to: PA

Responsible Organization: NEPO

Data Feed Due Date: 8/2/99

12) Flow Model Calibration (B2030) SPP3070

Description: This analysis will document the calibration of the site-scale saturated zone flow model. The calibration will proceed from simple to more complex conceptual models and will include recharge estimates and lateral boundary conditions as described in the AP-3.10Q document "SZ Site-Scale Model Flow Boundary Conditions". The conceptual features will include faults, fractures, and permeability zones that have been identified for inclusion in the regional scale model as well as detailed features that will be fully documented. The final calibrated model will include a description of particle paths from the proposed repository region as well as a discussion of the sensitivity of model parameters.

Input Data: Data feeds to this analysis package include: The hydrogeologic framework model, the water level data, the SZ site-scale model flow boundary conditions package data, and the geochemistry package data.

Feeds to: PA

Responsible Organization: NEPO

Data Feed Due Date: 8/2/99

13) Uncertainty Distributions for Stochastic Parameters (B2035) SPP3090

Description: The uncertainty distributions for all stochastic parameters to be used in TSPA analyses of SZ flow and transport will be documented and justified in this analysis.

Input Data: Data feeds for this activity will include the "Summary and Synthesis of Transport Data Report" AP-3.10Q analysis described above. Data will also be taken from published reports on matrix properties in boreholes. Data from the "Uncertainty Distribution for Flowing Interval Spacing" AP-3.10Q analysis will also included.

Feeds to: Input Base Case

Responsible Organization: PAO

Data Feed Due Date: 10/1/99

14) Probability Distribution for Flowing Interval Spacing (B1095) SPP3050

Description: This analysis will document details of the development of the uncertainty distribution for the spacing of flowing intervals (e.g., fractures, fracture zones) in the SZ.

Input Data: Data feeds will include published reports of wellbore flowmeter surveys, fracture orientation logs and temperature logs from boreholes in the SZ.

Feeds to: Uncertainty Distribution for Stochastic Parameters

Responsible organization: PAO

Data Feed Due Date: 6/1/99

15) Input and Results of Base Case SZ Flow and Transport Model Runs for TSPA (B2040) SPP4050

Description: This package will document the stochastic SZ site-scale flow and transport model runs for TSPA. Input and output decks from FEHM will be archived for all realizations of the SZ flow and transport system. Unit breakthrough curves at the accessible environment for use in the convolution integral method of the TSPA calculations will be documented in this package.

Input Data: The inputs to the base case SZ model runs will be the SZ site-scale flow and transport model and the uncertainty distributions for stochastic parameters, described above.

Feeds to: SZ PMR

Responsible Organization: PAO

Data Feed Due Date: 11/15/99

16) Features, Events, and Processes (B2078) SPP4070

Description: This analysis will systematically tabulate the features, events, and processes (FEPs) relevant to SZ flow and transport. Disposition (i.e., included or excluded) of all FEPs will be documented and justified in this package.

Input Data: The primary input to this activity will be the FEPs database developed for TSPA.

Feeds to: SZ PMR

Responsible Organization: PAO

Data Feed Due Date: 9/30/99

17) Summary and Synthesis Transport Data Input (B1068)

Description: Not available at this time.

Input Data:

Feeds To:

Responsible Organization: NEPO
Due Date: 16 Jun 99

18) Final Calibrated Flow Model (B2020)

Description: Not Available at this time.

Input Data:

Feeds To:

Responsible Organization: NEPO

Due Date: 17 May 99

ANALYSIS AND MODEL REPORTS SUPPORTING THE NEAR FIELD ENVIRONMENT PMR		
	Title	**Resp. Org.**
1	ESF and LBT (results taken from thermal tests and how they are applied in process-level models)	NEPO
2	THC Processes In The Near-Field Host Rock and drift thermodynamic environment	NEPO
3	Analysis of THC Processes/impacts on emplacement drift water chemistry/gas comp	NEPO
4	Description of base case results of NFE thermodynamic environment including THC and THM (if time permits)	NEPO
5	Base case results of NFE for in-drift water chemistry/gas comp	NEPO
6	Sensitivity Analyses, Results and Abstractions	NEPO
7	Conceptual Flow Models For Heat And Fluid Flow	PAO
8	Repository Design Configuration And Heat Output	PAO
9	THM Processes In The Near And Far-Field Rock	PAO
10	THM Processes In The Near- And Far-Field Host Rock	PAO
11	TH Multiscale Model And Abstraction Method—Assumption Testing And Analysis	PAO
12	Abstractions of Base-Case Runs For NFE thermodynamic environment	PAO
13	Abstractions of NFE in-drift water chemistry/gas composition	PAO
14	Abstraction of THM processes in the Near-Field	PAO
15	Abstraction of Thermal Effects On Drift Seepage	PAO
16	Features, Events, and Processes (FEPs)	PAO
17	Natural Analogs	NEPO
18	Model Validations	NEPO
19	ESF and LBT Thermal Test Results	NEPO
20	ESF and LBT Thermal Test Results TM	NEPO

Data and Analysis Reports Supporting the Near-Field Environment Process Model Report

1. **ESF and LBT (results taken from thermal tests and how they are applied in process-level models) – N1040, N1090, N2000 (SLP7082, SLP7194, SLP7202)**

   Description: Implementation of thermal tests results in conceptual flow and numerical models.

   Input Data: None

   Feeds to: THM processes in the near and far-field rock – N2010
   Conceptual flow models for heat and fluid flow – N1050
   THC Processes In the Near-Field Host Rock – N2050

   Responsible Organization: NEPO

   Due Date: TBD (insufficient data to complete)

2. **THC Processes In The Near-Field Host Rock and drift thermodynamic environment– N3000 (SPP7090)**

   Description: Analysis of important THC processes and their impacts on the emplacement drift thermodynamic environment (temperature, relative humidity, air mass fraction) as obtained from the TH multiscale modeling and abstraction method.

   Input Data: THC Processes in the Near-Field Host Rock – N2050

   THM processes in the near- and far-field host rock – N2080

   Feeds to: THC processes in the Near-Field – N3030

   Responsible Organization: NEPO

   Due Date: 30Aug99

3. **Analysis of THC Processes/implacts on emplacement drift water chemistry/gas comp - N3010 (SPP7106)**

   Description: Analysis of THC processes and their impacts on the emplacement drift water chemistry and gas-phase composition entering the top of the emplacement drift.

Input Data: Radionuclide release EB 310 (from EBS PMR)
EBS Radionuclide Transport Chemistry (from EBS PMR)
Water Composition EB 300 (from EBS PMR)
UZ F&T Coupled Processes (from UZ PMR-U2030)

Feeds to: THC processes in the Near-Field – N3040

Responsible Organization: NEPO

Due Date: 30Aug99

4. **Description of base case results of NFE thermodynamic environment including THC and THM – N3030 (SL2000M4)**

Description: Description of the base case NFE reactive transport models for drift thermodynamic environment as implemented in the multiscale modeling and abstraction method. This AP-3.10Q results in base case temperature, relative humidity, thermally driven emplacement seepage, and air mass fraction inside/into the emplacement drift for the base case hydrologic property set(s) and reference repository design. It includes the effects of THC and THM (if time permits).

Input Data: Define base-case runs for NFE – NTBD
THC processes in the near-field host rock – N3000

Feeds to: Define base-case runs for NFE – N3060
Thermal effects on drift seepage - N3070
Preliminary results to EBS and WP Degradation PMRs

Responsible Organization: NEPO

Due Date: 02Oct99

5. **Base case results of NFE for in-drift water chemistry/gas comp– N3040 (SL20002M4)**

Description: Description of the base case NFE reactive transport models for in drift water chemistry and gas-phase composition entering the emplacement drift obtained from a drift-scale model.

Input Data: THC processes in the near-field host rock - N3010
Plugging and Drainage in Rock – TBD from EBS PMR

Feeds to: THC processes in the Near-Field – N3080
Preliminary results to EBS and WP Degradation PMRs

Responsible Organization: NEPO

Due Date: 02Oct99

6. **Sensitivity Analyses, Results and Abstractions – NTBD (TBD)**

Description: If time allows, analyses describing the TH/THM/THC sensitivity studies associated with NFE documented for the Level 4 PMR.

Input Data: Define base-case runs for NFE – N3060
Thermal effects on drift seepage - N3070
THC processes in the Near-Field – N3080
THM processes in the Near-Field – N3050

Feeds to: PMR future Revs

Responsible Organization: NEPO

Due Date: TBD

7. **Conceptual Flow Models For Heat And Fluid Flow – N1050 (SLP7122)**

Description: Analysis describing the applied conceptual model for fracture/matrix flow and heat transfer as used in UZ Flow and Transport and how it is applied to NFE.

Input Data: ESF and LBT (results taken from thermal tests and how they are applied in process-level models) – N1040
UZ F&T Climate and Infiltration (from UZ PMR-U1020, U1030)
UZ F&T Hydrologic Property Sets (from UZ PMR-U2000, U2010)
UZ F&T Conceptual Flow Model (from UZ PMR-U1080)

Feeds to: THM processes in the near and far-field rock – N2010

Responsible Organization: PAO

Due Date: 30Jul99

8. **Repository Design Configuration And Heat Output – N1060 (SLP7130)**

Description: Analysis describing the design configuration (AML, layout, footprint, elevation, and preclosure ventilation) and associated heat output (aging, blending, required decay curves, repository total).

Input Data: QAP 3-12 Transmittals

Feeds to:

Responsible Organization: PAO

Due Date: 30Jul99

9. **THM Processes In The Near And Far-Field Rock – N2010 (SLP7210)**

Description: Analysis describing the thermally driven model and constitutive relationships used for flow property alterations.

Input Data: Conceptual flow models for heat and fluid flow – N1050
ESF and LBT (results taken from thermal tests and how they are applied in process-level models) – N2000

Feeds to: Analysis of THM physical processes in the near- and far-field host rock – N2080

Responsible Organization: PAO

Due Date: 15Aug99

10. **THM Processes In The Near- And Far-Field Host Rock – N2080 (SPP7058)**

Description: Analyses describing the abstraction of thermal-mechanical effects on flow fields and near drift processes such as drift seepage flow properties.

Input Data: THM processes in the near and far-field rock – N2010

Feeds to: THC processes in the near-field host rock – N3000
THM processes in the Near-Field – N3050

Responsible Organization: PAO

Due Date: 30Sept99

11. TH Multiscale Model And Abstraction Method—Assumption Testing And Analysis – N3020 (SPP7114)

Description: Analysis describing the usage of alternative heat transfer conceptual models in the submodels used in the TH multiscale modeling and abstraction method. Also describes the usage of the methodology as a reasonable representation of interaction with TH processes.

Input Data: None

Feeds to:

Responsible Organization: PAO

Due Date: 30Aug99

12. Abstractions of Base-Case Runs For NFE thermodynamic environment– N3060 (SL20006M4)

Description: Analysis describing the abstraction(s)/results of the base case NFE including required binning procedures for drift thermodynamic environment. This includes binned temperature, relative humidity, and air mass fraction inside the emplacement drift for different repository subregions.

Input Data: THC processes in the Near-Field – N3030

Feeds to: Preliminary results to EBS and WP Degradation PMRs
Direct to TSPA-SR calculations (in RIP)

Responsible Organization: PAO

Due Date: 30Oct99

13. Abstractions of NFE in-drift water chemistry/gas composition– N3080 (SL20012M4)

Description: Analysis describing the abstraction(s) of the NFE base case in-drift water chemistry and gas-phase compositions for required TSPA models and established cases.

Input Data: Base case results of NFE for in-drift water chemistry/gas comp– N3040

Feeds to: Preliminary results to EBS and WP Degradation PMRs

Responsible Organization: PAO

Due Date: 30Jul99-30Oct99

14. Abstraction of THM processes in the Near-Field – N3050 (SL20004M4)

Description: Analysis describing the abstraction of the base case NFE including THM processes.

Input Data: THM processes in the near- and far-field host rock – N2080

Feeds to: Preliminary results to EBS and WP Degradation PMRs

Responsible Organization: PAO

Due Date: 30Oct99

15. Abstraction of Thermal Effects On Drift Seepage - N3070 (SL20010M4)

Description: Analysis describing the abstraction of thermally driven seepage results of base case NFE into TSPA.

Input Data: THC processes in the Near-Field – N3030

Feeds to: Preliminary results to EBS and WP Degradation PMRs
Direct to TSPA-SR calculations (in RIP)

Responsible Organization: PAO

Due Date: 30Nov99

16. Features, Events, and Processes (FEPs) – N3085 (TBD)

Description: Discussion of FEPs included in AP-3.10Q analyses (described in above analyses) or excluded in AP-3.10Q analyses and to be described in this AP-3.10Q.

Input Data: TBD

Feeds to: Most AP-3.10Qs

Responsible Organization: PAO

Due Date: TBD

17. Natural Analogs (N3086)

Description: Not available at this time.

Input Data:

Feeds to:

Responsible Organization: PAO

Due Date: 29 Sep 99

18. Model Validations (N3087)

Description: Not available at this time.

Input Data:

Feeds to:

Responsible Organization: PAO

Due Date: 27 Oct 99

19. ESF and LBT Thermal Test Results (N1090)

Description: Not available at this time.

Input Data:

Feeds to:

Responsible Organization: NEPO

Due Date: 9 Sep 99

20. ESF and LBT Thermal Test Results TM (N2000)

Description: Not available at this time.

Input Data:

Feeds to:

Responsible Organization: NEPO

Due Date: 9 Sep 99

ANALYSIS AND MODEL REPORTS SUPPORTING THE WASTE PACKAGE PMR		
	Title	**Resp. Org.**
1	Environment on the surface of drip shield and waste package barriers	WPO
2	Juvenile Failures	WPO
3	Phase Stability and Aging	WPO
4	Mechanical Failures due to Rockfall (including seismic induced)	WPO
5	General Corrosion of Waste Package Barrier	WPO
6	General Corrosion of the Drip Shield	WPO
7	Localized Corrosion Model for Waste Package Barrier Materials	WPO
8	Localized Corrosion Model for the Drip Shield	WPO
9	Stress Corrosion Cracking Model for Waste Package Barriers	WPO
10	Stress Corrosion Cracking Model for Drip Shield	WPO
11	Hydrogen Induced Cracking in Titanium	WPO
12	Degradation of Stainless Steel Structural Material	WPO
13	Waste Package Surface Chemistry	PAO
14	Abstraction of Mechanical Failures due to Rockfall (including seismic-induced rockfall)	PAO
15	Abstraction of General Corrosion of Waste Package Barrier	PAO
16	Abstraction of General Corrosion of the Drip Shield	PAO
17	Abstraction of Localized Corrosion Model for Waste Package Barrier Materials	PAO
18	Abstraction of Localized Corrosion Model for the Drip Shield	PAO
19	Abstraction of Stress Corrosion Cracking Model for WP Barriers	PAO
20	Abstraction of Stress Corrosion Cracking Model for Drip Shield	PAO
21	Abstraction of Hydrogen Induced Cracking in Titanium Drip Shield	PAO
22	Abstraction of Degradation Processes of Stainless Steel Structural Material	PAO
23	Abstraction of Water Chemistry Evolution Inside Breached Waste Package	PAO
24	Abstraction of WAPDEG Analysis Results for Input to TSPA Analysis	PAO
25	FEP Screening	PAO
26	Environment on Drip Shield Surfaces	WPO
27	NFE In-Drift T, H Analyses	WPO

Analysis and Model Reports Supporting the Waste Package Process Model Report (PMR)

1) Environment on the surface of drip shield and waste package barriers (W1045, W2055)

Description: This model will address the evolution and stability of salt deposits on the drip shield and waste package in the presence of drips and the chemistry of water film as a function of temperature and relative humidity.

Input data: In-drift Seepage and dripping conditions (T, RH for dripping). In-drift bulk geochemical conditions. Handbook data on solubility of various salts.

Feeds to: Drip shield/waste package local corrosion. Stress corrosion cracking of waste package barrier.

Responsible Organization: WPO

Due Date: 23 Aug 99 for W1045; 30 Sep 99 for W2055

2) Juvenile Failures (W2070)

Description: This process model will address the probability of waste package materials defects, waste package fabrication process including closure weld, the probability of waste package fabrication defect and their uncertainty and variability, and the consequences of the defect on waste package failure (e.g., number of potential failure sites and flaw size distribution) and their uncertainty and variability.

Input data: Manufacturing information data.

Feeds to: Localized corrosion model for the waste package barrier. Stress corrosion cracking model for waste package barrier.

Responsible Organization: WPO

Due Date: 2 Sep 99

3) Phase Stability and Aging (W1060)

Description: This process model will address degradation of the waste package barriers resulting from long-term exposure to elevat emperatures, degradation rate as a function of exposure conditions and format of grain boundary precipitates and potential number and locations of failure sites and uncertainty and variability of the above degradation process.

Input data: Data on samples aged at Haynes International Inc. at various temperatures and for different times. These samples have been examined at LLNL to provide data to support the modeling effort. Published literature data.

Feeds to: Localized corrosion model for waste package barrier materials.
Mechanical failure model for waste package barrier materials.

Responsible Organization: WPO

Due Date: 23 Aug 99

4) Mechanical Failures due to Rockfall (including seismic induced) (W1080)

Description: This process model will address waste package failures due to rockfall through an analysis of critical rock size to fail (cause through-cracks in) waste package as a function of remaining waste package structural components (e.g., barrier thickness), failure mode characteristics (e.g., number potential failure sites), and uncertainty and variability of the rock-fall failure processes

Input data: Rock size distribution. Waste package barrier dimensions. Properties of waste package materials. Aging and phase stability model.

Feeds to: Stress corrosion cracking model for waste package barriers. Hydrogen induced cracking in Ti.

Responsible Organization: WPO

Due Date: 29 Sep 99

5) General Corrosion of Waste Package Barrier (W1020)

Description: This process model will address general corrosion of the waste package barrier materials. The process model for this will incorporate the following sub-models. Dry Oxidation: Models and analyses for the WP barriers for degradation process from dry oxidation, degradation rate as a function of exposure conditions, failure mode characteristics (e.g., number failure sites and opening size), and uncertainty and variability of the above degradation process.

Humid air corrosion: Models and analyses for each of the WP barriers for RH and T thresholds for corrosion initiation in the presence and absence of drips, and uncertainty and variability of the thresholds.

Aqueous corrosion: Models and analyses for each of the WP barriers for general aqueous corrosion degradation process, general aqueous corrosion rate as a function of time,

failure mode characteristics (e.g., number failure sites and opening size), and uncertainty and variability of the corrosion rate.

Input data: Bounding conditions for Temperature, relative humidity and environmental conditions on the waste package surface. Project data from long-term corrosion test facility, on-going short- term electrochemical tests and published data in technical journals and handbooks.

Feeds to: Waste package degradation PMR and model abstraction for WAPDEG.

Responsible Organization: WPO

Due Date: 30 Aug 99

6) General Corrosion of the Drip Shield (W2030)

Description: The process model for this will incorporate the following sub-models. Dry Oxidation: Models and analyses for the drip shield for degradation process from dry oxidation, degradation rate as a function of exposure conditions, failure mode characteristics (e.g., number failure sites and opening size), and uncertainty and variability of the above degradation process.

Humid air corrosion: Models and analyses for the drip shield for RH and T thresholds for corrosion initiation in the presence and absence of drips, and uncertainty and variability of the thresholds.

Aqueous corrosion: Models and analyses for the drip shield for general aqueous corrosion degradation process, aqueous corrosion rate as a function of time, failure mode characteristics (e.g., number failure sites), and uncertainty and variability of the corrosion rate.

Input data: Bounding conditions for Temperature, relative humidity and environmental conditions on the drip shield surface. Project data from long-term corrosion test facility, on-going short- term electrochemical tests and published data in technical journals and handbooks.

Feeds to: Waste package degradation PMR and model abstraction for WAPDEG.

Responsible Organization: WPO

Due Date: 26 Aug 99

7) Localized Corrosion Model for Waste Package Barrier Materials (W1085)

Description: This process model will address the localized corrosion of the WP barriers

including the thresholds of localized corrosion initiation in the presence and absence of drips, and uncertainty and variability of the thresholds.

Models and analyses for the WP barriers will be developed for localized corrosion degradation process, localized corrosion rate as a function of time and local corrosion conditions, failure mode characteristics (e.g., number failure sites and opening size), and uncertainty and variability of the corrosion rate.

Input data: Expected bounding conditions for Temperature, relative humidity and localized environmental conditions on the WP surface. Project data from long-term corrosion test facility, and short-term electrochemical tests currently on-going. Published literature data. Phase stability and aging model. Juvenile failures model. Data on biologic film formation.

Feeds to: Waste package degradation PMR and model abstraction for WAPDEG.

Responsible Organization: WPO

Due Date: 28 Oct 99

8) Localized Corrosion Model for the Drip Shield (W2085)

Description: This process model will address the localized corrosion of the drip shield including the thresholds of localized corrosion initiation in the presence and absence of drips, and uncertainty and variability of the thresholds.

Models and analyses for the drip shield will be developed for localized corrosion degradation process, localized corrosion rate as a function of time and local corrosion conditions, failure mode characteristics (e.g., number failure sites and opening size), and uncertainty and variability of the corrosion rate.

Input data: Expected bounding conditions for Temperature, relative humidity and localized environmental conditions on the drip shield surface. Project data from long-term corrosion test facility, and short-term electrochemical tests currently on-going. Published literature data. Phase stability and aging model (if applicable). Juvenile failures model. Data on biologic film formation.

Feeds to: Waste package degradation PMR and model abstraction for WAPDEG.

Responsible Organization: WPO

Due Date: 28 Oct 99

9) Stress Corrosion Cracking Model for Waste Package Barriers (W1075)

Description: This process model will identify the conditions under which the waste package barrier material is likely degrade by stress corrosion cracking (SCC). The model will utilize stress intensity threshold and critical flaw size approach to SCC. The model will address the likelihood of SCC as a function of T, local environment and material condition (welded, aged, annealed etc.).

Input data: Expected bounding conditions for Temperature, relative humidity and localized environmental conditions on the WP surface. Currently on-going SCC tests. Published literature data. Residual stress measurements on test welds. Juvenile failures model. Mechanical failure model.

Feeds to: Waste package degradation PMR and model abstraction for WAPDEG.

Responsible Organization: WPO (Stephen Lu, LLNL)

Due Date: 29 Oct 99

10) Stress Corrosion Cracking Model for Drip Shield (if applicable) (W3000)

Description: This process model will identify the conditions under which the drip shield material is likely degrade by stress corrosion cracking (SCC). The model will utilize stress intensity threshold and critical flaw size approach to SCC. The model will address the likelihood of SCC as a function of T, local environment and material condition (welded, aged, annealed etc.).

Input data: Expected bounding conditions for Temperature, relative humidity and localized environmental conditions on the WP surface. Currently on-going SCC tests. Published literature data. Residual stress measurements on test welds. Juvenile failures model. Mechanical failure model.

Feeds to: Waste package degradation PMR and model abstraction for WAPDEG.

Responsible Organization: WPO

Due Date: 29 Oct 99

11) Hydrogen Induced Cracking in Titanium (W3020)

Description: This process model will determine the conditions under which titanium (as a barrier or drip shield) will experience hydrogen uptake, potentially leading to embrittlement and cracking. The key parameters for this degradation mode are environment on the surface of the material, under deposits and occluded geometries and the local material condition (e.g., local defects caused by rockfall).

Input data: Environment on the surface of the material under salt and debris deposits. Mechanical failure model

Feeds to: Waste package degradation PMR and model abstraction for WAPDEG.

Responsible Organization: WPO

Due Date: 22 Oct 99

12) Degradation of Stainless Steel Structural Material (W3055)

Description: This process model will address potential degradation modes of stainless steel structural member. While this component is not intended to be a corrosion barrier, it may affect the chemistry of water entering the waste package and retard the rate of egress of the radionuclides from the breached waste package. The process model will use the expected chemistry of the crevice between the outer barrier and the stainless steel structural component and the corrosion properties of the material as the key parameters. The model will address all of the potential degradation modes (e.g. general and local corrosion and SCC).

Input data: Environment in the crevice. Project data on stainless steel corrosion. Published literature data.

Feeds to: Waste package degradation PMR and model abstraction for WAPDEG.

Responsible Organization: WPO

Due Date: 20 Oct 99

13) Waste Package Surface Chemistry (W1030)

Description: Not available at this time.

Input data:

Feeds to:
Responsible Organization: PAO

Due Date: 14 Oct 99

14) Abstraction of Mechanical Failures due to Rockfall (including seismic-induced rockfall) (WNEWF)

Description: If the process-level analysis warrants the inclusion of this degradation process in the TSPA analysis, abstraction(s) will be developed for the relationship among the thicknesses of dripshield and waste package barrier versus the rock masses that could cause damage to induce cracks and through-wall cracks. The abstraction will include potential effects of aging and microstructure changes on the mechanical properties. Uncertainty and variability of the relationship will be included in the abstraction. The abstraction results will be in a multi-dimensional lookup table and input to the WAPDEG analysis. If needed, a distribution for the size of through-wall cracks induced by rockfall will also be developed in a form that is suitable for input to the WAPDEG analysis.

Input data: Process-level analysis results for processes and parameters, including rockfall damage; through-wall crack sizes; aging and microstructure changes.

Feeds to: Waste package degradation PMR; WAPDEG analysis

Responsible Organization: PAO

Due Date: 22 Oct 99

15) Abstraction of General Corrosion of Waste Package Barrier (W1025)

Description: Abstraction(s) will be developed for important processes for general corrosion degradation of waste package barrier materials, which will include the thresholds for corrosion initiation and degradation rate. The abstractions will be in a form that is suitable for input to the WAPDEG analysis. The abstraction(s) will include, for each of the waste package barriers, 1) relative humidity and temperature thresholds for humid-air and aqueous corrosion initiation in the presence and absence of drips, and uncertainty and variability of the thresholds; and 2) aqueous general corrosion degradation process, including general aqueous corrosion rate as a function of time, temperature and other exposure conditions, failure mode characteristics (e.g., number failure sites and opening size), and uncertainty and variability of the corrosion rate.

Input data: Process-level analysis results for processes and parameters, including critical temperature threshold(s) and relative humidity threshold(s) for general corrosion initiation in the presence and absence of drips, including water chemistry evolution on waste package barriers; general corrosion rate of waste package barriers as a function of time, temperature, and other exposure conditions; geometry and size of penetrations on waste package barriers from general corrosion; uncertainty and variability of the corrosion initiation thresholds, general corrosion rate, and penetration sizes.

Feeds to: Waste package degradation PMR; WAPDEG analysis

Responsible Organization: PAO

Due Date: 30 Sep 99

16) Abstraction of General Corrosion of the Drip Shield (W2040)

Description: Abstraction(s) will be developed for important processes for general corrosion degradation of the drip shield material, which will include thresholds for corrosion initiation and degradation rate. The abstractions will be in a form that is suitable for input to the WAPDEG analysis. The abstraction(s) will include 1) relative humidity and temperature thresholds for humid-air and aqueous corrosion initiation in the presence and absence of drips, and uncertainty and variability of the thresholds; and 2) aqueous general corrosion degradation process, including general aqueous corrosion rate as a function of time, temperature and other exposure conditions, failure mode characteristics (e.g., number failure sites and opening size), and uncertainty and variability of the corrosion rate.

Input data: Process-level analysis results for processes and parameters, including critical temperature threshold(s) and relative humidity threshold(s) for general corrosion initiation in the presence and absence of drips, including water chemistry evolution on the drip shield; general corrosion rate of the drip shield as a function of time, temperature, and other exposure conditions; geometry and size of penetrations on the drip shield from general corrosion; uncertainty and variability of the corrosion initiation thresholds, general corrosion rate, and penetration sizes.

Feeds to: Waste package degradation PMR; WAPDEG analysis

Responsible Organization: PAO

Due Date: 15 Sep 99

17) Abstraction of Localized Corrosion Model for Waste Package Barrier Materials (W1090)

Description: Abstractions will be developed for pitting and crevice corrosion processes of waste package barrier materials, which will include 1) initiation threshold, 2) penetration rate as a function of time, temperature and local exposure conditions, 3) pit and crevice density, and 4) morphology and size of penetration openings. The abstractions will be in a form that is suitable for input to the WAPDEG analysis, and will include the uncertainty and variability of the above processes.

Input data: Process-level analysis results for processes and parameters, including probability of crevice formation; initiation thresholds for pitting and crevice corrosion;

local exposure conditions on the surface of each waste package barriers and in the interface between barriers; pitting and crevice corrosion rate for each barrier as a function of time, temperature and other exposure condition parameters; pit and crevice density for each barrier; morphology and size of penetration openings by pitting and crevice corrosion; effects of microstructure changes from aging of the barriers on pitting and crevice corrosion uncertainty and variability of the above processes and corrosion parameters.

Feeds to: Waste package degradation PMR
WAPDEG analysis

Responsible Organization: PAO

Due Date: 22 Nov 99

18) Abstraction of Localized Corrosion Model for the Drip Shield (W2090)

Description: Abstractions will be developed for pitting and crevice corrosion processes of Titanium-Grade-7 drip shield, which will include 1) initiation threshold, 2) penetration rate as a function of time, temperature and local exposure conditions, 3) pit and crevice density, and 4) morphology and size of penetration openings. The abstractions will be in a form that is suitable for input to the WAPDEG analysis, and will include the uncertainty and variability of the above processes.

Input data: Process-level analysis results for processes and parameters, including probability of crevice formation; initiation thresholds for pitting and crevice corrosion; local exposure conditions on the surface of each waste package barriers and in the interface between barriers; pitting and crevice corrosion rate for each barrier as a function of time, temperature and other exposure condition parameters; pit and crevice density for each barrier; morphology and size of penetration openings by pitting and crevice corrosion; uncertainty and variability of the above processes and corrosion parameters.

Feeds to: Waste package degradation PMR
WAPDEG analysis

Responsible Organization: PAO

Due Date: 3 Dec 99

19) Abstraction of Stress Corrosion Cracking Model for Waste Package Barriers (W1095)

Description: If the process-level analysis warrants the inclusion of this degradation process in the TSPA analysis, abstraction(s) will be developed for stress corrosion

cracking (SCC) processes of waste package barrier materials, which will include 1) initiation threshold, 2) crack growth rate as a function of time and local exposure conditions including temperature, 3) crack density, and 4) morphology and size of crack penetration openings. The abstractions will be in a form that is suitable for input to the WAPDEG analysis, and will include the uncertainty and variability of the above processes.

Input Data: Process-level analysis results for processes and parameters, including initiation thresholds for SCC; local exposure conditions on the surface of each waste package barriers and in the interface between barriers; crack growth rate for each barrier as a function of time, temperature and other exposure condition parameters; density of cracks forming for each barrier; morphology and size of penetration openings by SCC; effects of microstructure changes from aging of the barriers on pitting and crevice corrosion; effects of manufacturing processes (including closure welds) on SCC initiation and crack growth rate; effects of rockfall (including thermal-mechanical and seismic induced) on SCC initiation and crack growth rate; uncertainty and variability of the above processes and corrosion parameters.

Feeds to: Waste package degradation PMR; WAPDEG analysis

Responsible Organization: PAO

Due Date: 22 Nov 99

20) Abstraction of Stress Corrosion Cracking Model for Drip Shield (if applicable) (W3005)

Description: If the process-level analysis warrants the inclusion of this degradation process in the TSPA analysis, abstraction(s) will be developed for stress corrosion cracking (SCC) processes of the titanium drip shield, which will include 1) initiation threshold, 2) crack growth rate as a function of time and local exposure conditions including temperature, 3) crack density, and 4) morphology and size of crack penetration openings. The abstractions will be in a form that is suitable for input to the WAPDEG analysis, and will include the uncertainty and variability of the above processes.

Input data: Process-level analysis results for processes and parameters, including initiation thresholds for SCC; local exposure conditions on the surface of the drip shield; crack growth rate as a function of time, temperature and other exposure condition parameters; density of cracks forming for the drip shield; morphology and size of penetration openings by SCC; effects of microstructure changes from aging of the drip shield on SCC; effects of manufacturing processes on SCC initiation and crack growth rate; effects of rockfall (including thermal-mechanical and seismic induced) on SCC initiation and crack growth rate; uncertainty and variability of the above processes and corrosion parameters.

Feeds to: Waste package degradation PMR; WAPDEG analysis

Responsible anization: PAO

Due Date: 3 Dec 99

21) Abstraction of Hydrogen Induced Cracking in Titanium Drip Shield (W3030)

Description: If the process-level analysis warrants the inclusion of this degradation process in the TSPA analysis, abstraction(s) will be developed for hydrogen induced c ng (HIC) processes of the titanium drip shield, which will include 1) initiation th old, 2) crack growth rate as a function of time and local exposure conditions including temperature, 3) crack density, and 4) morphology and size of crack penetration openings. The abstractions will be in a form that is suitable for input to the WAPDEG analysis, and will include the uncertainty and variability of the above processes.

Input data: Process-level analysis results for processes and parameters, including initiation thresholds for HIC; local exposure conditions on the surface of the drip shield; crack growth rate as a func n of time, temperature and other exposure condition parameters; density of crac s forming for the drip shield; morphology and size of penetration openings by HIC; effects of microstructure changes from ag g of the drip shield on HIC; effects of manufacturing processes on HIC initiation and crack growth rate; effects of rockfall (including thermal-mechanical and seismic induced) on HIC initiation and crack growth rate; uncertainty and variability of the above processes and corrosion parameters.

Feeds to: Waste package degradation PMR
WAPDEC nalysis

Responsible Organization: PAO

Due Date: 24 Nov 99

22) Abstraction of Degradation Processes of Stainless Steel Structural Material (W3060)

Description: Abstractions will be developed for degradation processes of stainless steel structural member. The abstractions will include all of the important degradation processes identified by various process-level analyses (e.g. general corrosion, pitting and crevice corrosion, and SCC). The abstractions will also include, for the degradation processes identified, 1) initiation threshold, 2) penetration rate as a function of time, temperature and local exposure conditions, 3) density of corroding sites (e.g. pit density for pitting corrosion), and 4) morphology and size of penetration openings. The

abstractions will be in a form that is suitable for input to the WAPDEG analysis, and will include the uncertainty and variability of the above processes.

Input data: Process-level analysis results for processes and parameters, including initiation thresholds for individual corrosion processes included in the analysis; local exposure conditions on the surface of the layer; penetration rates of individual degradation processes included in the analysis as a function of time, temperature and other exposure condition parameters; density of corroding sites (i.e., pit density crevice density, etc.); morphology and size of penetration openings by individual corrosion processes included in the analysis; effects of microstructure changes from aging of the layer on individual corrosion processes included in the analysis; uncertainty and variability of the above processes and corrosion parameters.

Feeds to: Waste package degradation PMR
WAPDEG analysis

Responsible Organization: PAO

Due Date: 6 Dec 99

23) Abstraction of Water Chemistry Evolution Inside Breached Waste Package (WNEWJ)

Description: Abstraction(s) will be developed for the evolution of exposure environments inside breached waste packages as a function of time (after initial breach of waste package), type of wastes, degradation of waste form and internal structure, and location in the repository. The abstractions will be in a form that is suitable for input to the WAPDEG analysis, and will include the uncertainty and variability of the exposure conditions.

Input data: Process-level analysis results for processes and parameters, including evolution of water chemistry inside breached waste package; temperature history inside waste package.

Feeds to: Waste package degradation PMR; WAPDEG analysis

Responsible Organization: PAO

Due Date: 30 Sep 99

24) Abstraction of WAPDEG Analysis Results for Input to TSPA Analysis (W2006)

Description: WAPDEG analysis results will be abstracted as input to the TSPA analysis. The abstractions will include the followings: 1) time-histories of waste package failures including the uncertainty of the histories; 2) time histories of the number of penetrations on waste packages including the uncertainty of the number penetrations; and 3) distribution of sizes of penetration openings on waste packages including the uncertainty of the opening sizes.

Input data: Abstractions of the degradation processes and parameters for the degradation modes included in the WAPDEG analysis. Abstraction of the waste package exposure conditions. Waste package and drip shield design data. WAPDEG analysis results.

Feeds to: Waste package degradation PMR; TSPA analysis

Responsible Organization: PAO

Due Date: 13 Jan 00

25) FEP Screening (W2007)

Description: Not available at this time.

Input data:

Feeds to:

Responsible Organization: PAO

Due Date: 1 Dec 99

26) Environment of Drip Shield Surfaces (W2055)

Description: Not available at this time.

Input data:

Feeds to:

Responsible Organization: WPO

Due Date: 30 Sep 99

27) NFE In-Drift T, H Analysis (W2075)

Description: Not available at this time.

Input data:

Feeds to:

Responsible Organization: WPO

Due Date: 2 Sep 99

			ANALYSIS AND MODEL REPORTS SUPPORTING THE WASTE FORM DEGRADATION PMR	
			Title	Resp. Org.
		1	Inventory of Commercial Spent Nuclear Fuel (CSNF)	WPO
		2	Inventory of High-Level Waste (HLW) Glass	WPO
		3	Inventory of DOE-Owned Spend Nuclear Fuel	WPO
		4	Inventory Abstraction	PAO
		5	Clad Initial Condition	WPO
		6	Clad Degradation: Temperature History	WPO
		7	Clad Degradation: FEP Screening	PAO
		8	Clad Mechanical Degradation	WPO
		9	Clad Degradation – Hydride Related	WPO
		10	Clad Degradation – Local Corrosion	WPO
		11	Clad Degradation – Dry Unzipping	WPO
		12	Clad Degradation – Wet Unzipping	WPO
		13	Clad Degradation – Summary Abstraction	PAO
		14	CSNF Waste Form Degradation: Summary Abstraction	WPO
		15	DSNF and Other Waste Forms Degradation Abstraction	WPO
		16	HLW Glass Degradation	WPO
		17	Dissolved Radionuclide Concentration Limits Abstraction	PAO
		18	Pure Phase Solubility Limits: LLNL	WPO
		19	Pure Phase Solubility Limits: LANL	NEPO
		20	Uranyl Silicate Data	NEPO
		21	Mixed Phase Dissolved Radionuclide Concentration Limits	WPO
		22	Mixed Phase Sensitivity Studies	PAO
		23	Colloid-Associated Radionuclide Concentration Limits: Abstraction and Summary	PAO
		24	Colloid-Associated Radionuclide Concentration Limits	WPO
		25	Colloid-Associated Radionuclide Concentration Limits: LANL	NEPO
		26	In-Waste Package Evaporation	WPO
		27	Basket Degradation and Waste Form Settling	WPO
		28	In-Package Chemistry: CSNF	WPO
		29	In-Package Chemistry: Co-Disposal	WPO
		30	In-Package Chemistry Summary	WPO
		31	In-Package Chemistry Abstraction	WPO
		32	In-Package Sorption	WPO
		33	In-Package Source Term and Radionuclide Transport Summary	WPO
		34	In-Package Radionuclide Transport Abstraction	PAO
		35	In-Package Source Term Abstraction	PAO
		36	WF FEPs Screening Summary	PAO

Analysis and Model Reports Supporting Waste Form Degradation PMR

1) Inventory of Commercial Spent Nuclear Fuel (CSNF) (G1005)

Description: Calculation of radionuclide content for CSNF waste packages based on input from the Waste Acceptance Department and Systems Analysis/Cost department. This inventory will be the basis for TSPA thermal calculations and radionuclide release calculations. For each arrival scenario, CSNF will be allocated to each waste package design. The number of waste packages for each waste package design in the repository will be determined. Distributions for enrichment and burn-up for each design will be developed. From these, radionuclide content distributions for each design will be developed.

Input Data: Discharge history, discharge forecasts, delivery scenarios from Waste Acceptance and Systems Analysis/Cost departments.

Feeds To: Inventory Abstraction, future NFE-TH calculations

Responsible Organization: WPO

Due Date: 19-Aug-99

2) Inventory of High Level Waste (HLW) glass (G1015)

Description: Documentation of radionuclide content for HLW glass for waste package designs.

Input Data: This work involves data qualification issues and is still being planned.

Feeds To: Inventory Abstraction, future NFE-TH calculations

Responsible Organization: WPO

Due Date: 19-Aug-99

3) Inventory of DOE Owned Spent Nuclear Fuel (G1010)

Description: Documentation of radionuclide content for all wastes other than CSNF and HLW glass. Develop short list of representative Fuels/ wastes, and perform inventory analyses on the short list. Develop probability distributions for isotope activities in DOE Spent Nuclear Fuel Packages.

Input Data: This work involves data qualification issues and is still being planned.

Feeds To: Inventory Abstraction, future NFE-TH calculations

Responsible Organization: WPO

Due Date: 19-Aug-99

4) **Inventory Abstraction (G1025)**

Description: Using input from the three WPO inventory documents, select number of distinct waste types for TSPA modeling, and the isotopes to be included in the safety case, disruptive events and human intrusion TSPA's.

Input Data: Data from referenced AP3.10Q's/QAP3-15's.

Feeds To: TSPA release calculations, future NFE-TH calculations, WF PMR

Responsible Organization: PAO

Due Date: 24-Sep-99

5) **Clad Initial Condition (G1080)**

Description: Compilation of literature data on clad condition when removed from reactor and experience of clad degradation while in storage.

Input Data: Literature

Feeds To: Clad Degradation Summary Abstraction

Responsible Organization: WPO

Due Date: 30-Sep-99

6) **Clad Degradation: Temperature History (G3080)**

Description: Using design information, calculate temperature history as a function of thermal loading and WP surface temperature. Qualified data and codes will be used.

Input Data: Design information

Feeds To: Clad Degradation: FEP Screening

Responsible Organization: WPO

Due Date: 30-Sep-99

7) **Clad Degradation: FEP Screening (G1090)**

Description: Documentation of calculations and reasoned arguments for clad degradation modes not included in the TSPA clad degradation abstraction. Literature data and results from temperature history calculation will be used to screen out modes such as: general wet or dry oxidation, creep, stress corrosion cracking, etc. Most data will be accepted.

Input Data: Literature, Clad Degradation: Temperature History, TH model results for WP surface temperatures, Inventory Abstraction temperatures, WAPDEG WP failure histories.

Feeds To: Clad Degradation: Summary Abstraction

Responsible Organization: PAO

Due Date: 1-Dec-99

8) **Clad Mechanical Degradation (G1055)**

Description: Calculations of clad disruption due to mechanical reasons such as rock fall and seismic activity.

Input Data: Data needed will include (1) design data for fuel assemblies, waste packages, and emplacement drifts, (2) seismic hazard curves, (3) mechanical properties of irradiated Zircaloy, (4) rate of emplacement drift collapse, (5) rate at which large rocks fall, (6) waste package wall thickness as a function of time, and (7) results for waste package breaching for rock impact.

Feeds To: Clad Degradation: Summary Abstraction

Responsible Organization: WPO

Due Date: 30-Sep-99

9) **Clad Degradation – Hydride Related (G1075)**

Description: Models for cladding degradation due to hydride related mechanisms, including: delayed hydride cracking (DHC), hydride reorientation and hydrogen embrittlement, etc. Perform literature review and summarize information on hydride redistribution, hydride reorientation, DHC, and hydrogen transport in concentration, temperature, and stress gradients.

Input Data: Will use literature data on hydrogen content of clad as a function of burn-up.

Feeds To: Clad Degradation: Summary Abstraction

Responsible Organization: WPO

Due Date: 30-Sep-99

10) Clad Degradation – Local Corrosion (G1070)

Description: This process model will determine the localized corrosion rate of Zircaloy cladding under the expected in-package environment. The model will address possible presence and effects of aggressive chemical species such as ferric chloride generated from the corrosion of waste package internals. Bounding conditions will be used to develop corrosion rates as a function of T and chemistry (including pH).

Input Data: Published literature data on Zircaloy corrosion under aggressive conditions

Feeds To: Clad Degradation: Summary Abstraction

Responsible Organization: WPO

Due Date: 30-Sep-99

11) Clad Degradation – Dry Unzipping (G1065)

Description: Summarize dry oxidation data with uncertainty analyses. Discuss effect of variable moisture content on air oxidation of CSNF. Summarize available literature on clad unzipping. Develop and report a simple model with uncertainty analyses for the time to initiate clad unzipping due to air oxidation as a function of temperature.

Input Data: Project generated data reported here. Literature

Feeds To: Clad Degradation: Summary Abstraction

Responsible Organization: WPO

Due Date: 30-Sep-99

12) Clad Degradation – Wet Unzipping (G1060)

Description: Summarize available data with uncertainty analyses on impact of wet fuel alteration on cladding. Develop and report a simple model with uncertainty analyses for the clad unzipping due to wet fuel alteration. Report on planning and progress of testing of unirradiated UO_2 or fuel in vapor and drip tests under accelerated conditions to verify models. Most data will be accepted or corroborative.

Input Data: Literature

Feeds To: Clad Degradation: Summary Abstraction

Responsible Organization: WPO

Due Date: 30-Sep-99

13) Clad Degradation – Summary Abstraction (GNEWA)

Description: Combine all clad degradation models with In-WP temperature history and geochemistry results to produce models of history of containment and surface area. Discuss validation of abstraction and other views not already discussed.

Input Data: Clad degradation AP3.10Q's and QAP3-15's

Feeds To: TSPA release calculations, WF PMR

Responsible Organization: PAO

Due Date: 30-Sep-99

14) CSNF Waste Form Degradation: Summary Abstraction (G2030)

Description: Summary description of all available data, including: 1) Inventory distribution within fuel, 2) Flow through experiments, 3) Unsaturated Drip Tests, 4) Batch tests, 5) Electrochemical Tests, 6) Natural Analogues. Discuss mechanistic implications of data. Include discussion of all processes indicated in the CLST IRSR. Present justification for selection of flow-through data as the basis of an empirical bounding model.

Input Data: CSNF Waste Form Degradation: Flow-Through Data, Unsaturated Drip Tests, Literature

Feeds To: TSPA release calculations, WF PMR

Responsible Organization: WPO

Due Date: 10-Dec-99

15) DSNF and Other Waste Forms Degradation Abstraction (G2080)

Description: Description of degradation of other waste forms including DOE SNF, Navy SNF, Pu Disposition wastes. Each waste type will be described covering the same issues

as covered for CSNF as applicable, including: special inventory issues such as unusual inventory or inventory distribution, clad or canister degradation models as applicable, waste form degradation including surface area, and other issues specific to the waste form such as pyrophoricity. NSNFP alteration rate data for MOX, U, UAl_x, and C SNF will be used as available. Justification of the use of representative waste degradation rates and bounding models for the base case.

Input Data: EM data, EM documents, literature data (EM documents will be prepared under AP3.10Q and will be delivered to EM checking in July and August 1999.)

Feeds To: TSPA release calculations, WF PMR

Responsible Organization: WPO

Due Date: 8-Nov-99

16) HLW Glass Degradation (G2050)

Description: Develop alteration rate models of HLW glass under vapor and aqueous conditions, including the effects of glass composition, solution chemistry, and a discussion of the surface area undergoing active degradation within a defected pour canister. Abstraction of above into one or two models for degradation of glass under aqueous and vapor conditions. Discussion of data QA and validation of abstraction(s), natural analogues, other views.

Input Data: Project results and literature data

Feeds To: TSPA release calculations, WF PMR

Responsible Organization: WPO

Due Date: 30-Sep-99

17) Dissolved Radionuclide Concentration Limits Abstraction (G3025)

Description: Summary of dissolved concentration limits to be used in TSPA. Provide dissolved phase concentration distribution or function of in-WP chemistry for all elements. As needed, these may be taken directly from the pure and mixed-phase analyses, or may result from additional analysis documented here.

Input Data: Pure and mixed phase concentration limit AP3.10's

Feeds To: TSPA release calculations, WF PMR

Responsible Organization: WPO

Due Date: 6-Dec-99

18) Pure Phase Solubility Limits LLNL(G3020)

Description: Develop pure phase solubility distributions or models as f(In-WP chem.) as applicable. Some elements may have separate AP3.10Qs. Elements to include: U, Pd, Am, Pa, C, I. Discussion to include, uncertainty, validation, abstraction, abstraction validation, results, data QA and other views.

Input Data: NEA, Literature

Feeds To: Summary Dissolved Radionuclide Concentration Limits

Responsible Organization: WPO

Due Date: 30-Sep-99

19) Pure Phase Solubility Limits: LANL (G3015)

Description: Develop pure phase solubility distributions or models as f(In-WP chem.) as applicable. Some elements may have separate AP3.10Qs. Elements to include: Tc, Np, Pu. Discussion to include, uncertainty, validation, abstraction, abstraction validation, results, data QA and other views.

Input Data: NEA, Literature

Feeds To: Summary Dissolved Radionuclide Concentration Limits

Responsible Organization: NEPO

Due Date: 30-Sep-99

20) Uranyl silicate data (G3000)

Description: Compilation and evaluation of thermodynamic data for uranyl silicate phases.

Input Data: Literature

Feeds To: Summary Dissolved Radionuclide Concentration Limits

Responsible Organization: NEPO

Due Date: 30-Sep-99

21) Mixed Phase Dissolved Radionuclide Concentration Limits (G3010)

Description: Describe paragenetic sequence(s) of uranium solids formed during corrosion and dissolution experiments with spent nuclear fuels and unirradiated UO_2, as well as evidence from natural uranium-mineral occurrences, and through geochemical modeling efforts. Describe what radionuclides go into uranium corrosion products. Based primarily on ANL drip and vapor tests, provide: (1) a quantitative description of Np incorporation in U-solids; (2) a qualitative discussion of Tc, Pu, I, Se, Am, Pa, C and possibly additional elements emphasized by PA, as data allow. Provide preliminary experimental data of Np-U coprecipitation in solid phases.

Input Data: Literature, Project data

Feeds To: Summary Dissolved Radionuclide Concentration Limits

Responsible Organization: WPO

Due Date: 30-Sep-99

22) Mixed Phase Sensitivity Studies (G3005)

Description: Derive AREST-CT inputs from the thermochemical properties of reactions based on GEMBOCHS database. Evaluate kinetic data for spent fuel and uranyl minerals. Model Np and U concentration sensitivities under repository conditions based on compiled thermodynamic data, kinetic data, range of flow rates, clad model, and water contact scenario. Model ANL's drip tests for model validation. Document the QA status of the inputs and assumptions and determine if sensitivity study results may be used for more than confirmatory purposes.

Input Data: Literature, Project data

Feeds To: Summary Dissolved Radionuclide Concentration Limits

Responsible Organization: PAO

Due Date: 30-Sep-99

23) Colloid-Associated Radionuclide Concentration Limits: Abstraction and Summary(G3050)

Description: Document selection of radionuclides (RNs) for which colloid assisted transport are important to system performance. Summarize mechanisms of formation, stability, RN attachment/detachment, and colloid assisted transport within the waste package. Develop and justify abstraction of information for use in RIP calculations. Combine with in-WP chemistry and derived solubilities to obtain colloid-associated RN concentration limits. Compare predicted concentration range with observed concentrations from drip and batch tests, and natural and anthropogenic analogues.

Input Data: Literature, Project reports, Colloid AP3.10Q's

Feeds To: TSPA release calculations, WF PMR

Responsible Organization: WPO

Due Date: 13-Dec-99

24) Colloid-Associated Radionuclide Concentration Limits: ANL (G3040)

Description: Summarize all ANL work on colloid-associate radionuclide concentration limits. Interpret available experimental data to identify and document mechanisms of formation. The experimental data on waste form colloids from ANL will include TEM, DLS, and sequential filtration measurements. Identify and document mechanisms of stability over a range of environmental conditions (i.e., pH, ionic strength, cations). Document stability data on colloids generated from ANL waste form corrosion tests. Colloids will be generated from waste form corrosion tests conducted at ANL. The colloids will be shipped to LANL for disassociation studies. Develop compendium of waste form colloids to include experimental data, and field and natural analogues.
Input Data: Reported here

Feeds To: TSPA release calculations

Responsible Organization: WPO

Due Date: 30-Sep-99

25) Colloid-Associated Radionuclide Concentration Limits: LANL (G3035)

Description: Develop a colloid concentration model. Identify and document mechanisms of formation. This will be done for several colloids types: waste-derived colloids, intrinsic colloids, pseudo-colloids. The effects of groundwater chemistry (in particular, ionic strength and pH) and temperature will be evaluated. Identify and document mechanisms of stability. Identify and document mechanisms of attachment/deta nt. Sorption and desorption as a function of time will be measured for natural and made-material-derived colloids (hematite, goethite, smectite, silica) and radonuclide colloids (colloidal Pu(IV) and soluble Pu(V). Model input to TSPA will be provided,

Determine attachment/detachment rates for Pu (IV), Pu (V), and Am onto clay, iron-oxide, and silica in J-13 and P-1 waters (high-pH sodium carbonate/bicarbonate synthetic groundwater). Determine detachment rates for RNs from waste-derived colloids (based on experimental data provided by ANL). Report natural and anthropogenic data on colloids and colloid transport.

Input Data: Reported here, Literature

Feeds To: TSPA release calculations

Responsible Organization: NEPO

Due Date: 30-Sep-99

26) In-WP Evaporation (GNEWB)

Description: Calculations of amount of water that may be evaporated from WP heat.

Input Data: Power curves, WP surface temperature curves

Feeds To: In-Package Chemistry, In-Package Source Term and Radionuclide Transport Abstraction

Responsible Organization: WPO

Due Date: 30-Sep-99

27) Basket Degradation and Waste Form Settling (G3090)

Description: Description and calculation of basket degradation and waste form settling scenarios.

Input Data: WP models, Literature

Feeds To: In-Package Source Term and Radionuclide Transport Summary

Responsible Organization: WPO

Due Date: 30-Sep-99

28) In-Package Chemistry: CSNF (G3060)

Description: Calculation of in-package chemistry for CSNF packages based on in-package chemistry model documented in the In-Package Chemistry Summary AP3.10Q.

Input Data: package, clad and waste degradation rates, literature

Feeds To: In-Package Chemistry Summary

Responsible Organization: WPO

Due Date: 9-Nov-99

29) In-Package Chemistry: Co-Disposal (G3070)

Description: Calculation of in-package chemistry for co-disposal packages based on in-package chemistry model documented in the In-Package Chemistry Summary AP3.10Q. Data qualification issues still being planned.

Input Data: package, clad and waste degradation rates, literature

Feeds To: In-Package Chemistry Summary

Responsible Organization: WPO

Due Date: 3-Dec-99

30) In-Package Chemistry Summary (G3075)

Description: Introduction to in-package chemistry modeling. Description of processes, uncertainties, and modeling methodology. Discussion of Issues from Evolution of Near Field Environment KTI. Links to other process models and PMRs (fuel dissolution, clad, basket and WP degradation, seepage, etc.). Summary of CSNF and Co-disposal calculations and results.

Input Data: In-Package Chemistry AP3.10Q's, literature

Feeds To: In-Package Chemistry Abstraction

Responsible Organization: WPO

Due Date: 27-Jan-00

31) In-Package Chemistry Abstraction (GNEWD)

Description: This model will be used in the probabilistic total system performance assessment (TSPA) to quantify the time-dependent chemical environment in the waste

package. This model abstracts the combined effects of important chemical processes that can occur in the waste package. Chemical interactions inside the package between seepage and corrosion products from steel corrosion and waste form degradation will be included. This abstraction model also takes into account uncertainties in flux and composition of seepage entering the package and uncertainties in chemical reactions and reaction rates.

Input Data: Results from In-Package Chemistry Summary

Feeds To: TSPA release calculations, WF PMR

Responsible Organization: WPO

Due Date: 1-Dec-99

32) In-Package Sorption (G3085)

Description: Discussion of in-package sorption. Justification for selected TSPA parameter ranges will be documented.

Input Data: TBD

Feeds To: In-Package Source Term and Radionuclide Transport Summary

Responsible Organization: WPO

Due Date: 30-Sep-99

33) In-Package Source Term and Radionuclide Transport Summary (G3095)

Description: This document combines all the pieces of the source term and radionuclide transport process models into an integrated whole. It also uses the temperature results from TH modeling, the package degradation history from WP modeling, and the seepage from the EBS modeling, as available. If new versions of these results are unavailable, it will use preliminary results or TSPA-VA results. It includes discussion of the chemical and physical state of the package internals, contact of waste with seepage flow and water vapor, waste form degradation and clad degradation, dissolved and colloidal concentration limits. Validation using unsaturated drip and batch tests will be discussed. Other views will be discussed.

Input Data: WF AP3.10Q's, WP results, TH results, EBS results

Feeds To: In-Package Source Term Abstraction and In-Package Radionuclide Transport Abstraction

Due Date: 29-Dec-99

Responsible Organization: WPO

Due Date: 13-Dec-99

34) In-Package Radionuclide Transport Abstraction (GNEWG)

Description: Abstraction of transport model documented in the "In-Package Source Term and Radionuclide Transport Summary" using latest available TH, WP and EBS results.

Input Data: In-Package Source Term and Radionuclide Transport Summary (G3095)

Feeds To: TSPA release calculations, WF PMR

Responsible Organization: PAO

Due Date: 29-Dec-99

35) In-Package Source Term Abstraction (GNEWF)

Description: Abstraction of source term models documented in "In-Package Source Term and Radionuclide Transport Summary" using latest available TH, WP and EBS results.

Input Data: WF AP3.10Q's, WP results, TH results, EBS results

Feeds To: TSPA release calculations, WF PMR

Responsible Organization: PAO

Due Date: 29-Dec-99

36) WF FEP's Screening Summary (GNEWH)

Description: Summary of, and pointers to, all FEP's covered in the WF area. Any WF FEP not covered in another AP3.10Q will be documented here.

Input Data: WF AP3.10Q's, TBD

Feeds To: WF PMR

Responsible Organization: PAO

ANALYSIS AND MODEL REPORTS SUPPORTING THE ENGINEERED BARRIER SYSTEM PMR		
	Title	**Resp. Org.**
1	Physical and Chemical Environment Model	EBSO
2	Seepage/Invert Interactions	PAO
3	Microbial Communities	PAO
4	Seepage/Backfill Interactions	PAO
5	Precipitates/Salts Analysis	PAO
6	Corrosion Products	PAO
7	In-Drift Gas Flux & Composition	PAO
8	In-Drift Colloids & Concentrations	PAO
9	Seepage/Cement Interactions	PAO
10	In-Drift T-H-C Analyses	EBSO
11	EBS Physical and Chemical Environment Abstraction	PAO
12	Water Distribution & Removal Model	EBSO
13	Performance of Diversion Features	EBSO
14	Performance of Drainage Features	EBSO
15	Ventilation Model	EBSO
16	Drift Stability	EBSO
17	Water Distribution & Removal Abstraction	PAO
18	EBS Radionuclide Migration Process Model	EBSO
19	Invert Diffusion Properties Model	EBSO
20	EBS Radionuclide Migration Abstraction	PAO
21	EBS FEPS/Degradation Mode Analysis	EBSO
22	EBS FEPS/Degradation Modes Abstraction	PAO
23	PCE Model Valid Expert/Analysis	EBSO

Summary Descriptions of AP-3.10Q Models and Analyses for theAnalyses and Model Reports Supporting the EBS Engineered Barrier System Degradation Process Model Report

1) Physical and Chemical Environment Model AP-3.10Q (EB35) RPPM100A

Description: The principal objective for the Physical and Chemical Environment Model is to evaluate changes in aqueous chemistry and gas-phase composition resulting from interaction of introduced materials and heat, with water seeping into the drift, taking into account variability in seepage and drainage fluxes, the effects of temperature changes on chemical equilibria and rate processes, and physical processes such as evaporation and condensation. In addition, this report will include evaluation of the effects of rockfall debris on the physical and chemical environment in the emplacement drifts.

This report will describe the available data used to develop and support the model, and the attendant uncertainties and limitations. Summaries of relevant project reports (e.g. AP-3.10Q reports) will be included where they provide information on testing and other data sources. Qualified and non-qualified project data (clearly identified), and data from the open literature (clearly identified), will be included in this discussion.

This report will describe the assumptions related to the development and use of the Physical and Chemical Environment Model, and which apply to its application for predicting repository conditions. It will also describe the conceptual basis for predicting the in-drift physical and chemical environment, an how alternative conceptual models were evaluated. Using the conceptual basis, analytical and numerical models for EBS environmental conditions will be developed where appropriate.

The objective of the Physical and Chemical Environment (P/CE) Model is to determine the changes in water chemistry resulting from the interaction of introduced materials with water seeping into the drift, taking into account the variation in seepage and drainage fluxes, the effects of temperature changes on chemical equilibria, and physical processes such as evaporation and condensation. The EBS Physical and Chemical Environment Model requires input from the NFE PMR for the chemistry of water entering the drift, and the extant gas phase composition, as a functions of time. In addition, EB155, the EBS Water Distribution and Removal Model will, provides in-drift flow fields, and data for the water fluxes contacting different EBS elements such as the drip shield and the invert. The EBS Drift Stability Model will provide information on the timing and nature of rockfall.s.

Results from the EBS Physical and Chemical Environment Model will be used primarily as input for abstraction of the in-drift chemical environment in TSPA. Results will also be used by the WP and WF Process Models to evaluate the nature and rates of waste package and waste form degradation, and by the EBS Radionuclide MigrationTransport

Model to represent the environmental conditions that affect transport, and by the NFE PMR to evaluate whether sources or sinks of gas-phase constituents in the EBS have a significant effect on gas composition.

The report will be revised as additional qualified test data become available. The P/CE model comprises two groups of supporting models and analyses. The first group includes chemical models and analyses that may be directly abstracted for TSPA. This group includes: Seepage/Invert Interactions, Microbial Communities, Seepage/Backfill Interactions, Precipitates/Salts Analysis, Corrosion Products, In-Drift Gas Flux & Composition, In-Drift Colloids & Concentrations, and Seepage/Cement Interactions. The second group includes in-drift process models that need to be integrated into the P/CE process model prior to abstraction. This group includes: In-drift T-H-C, Drift Stability and Ventilation. Because these models support both the P/CE model and the Water Distribution and Removal Model, only models from the first group and the In-drift T-H-C model will be described under the P/CE Model. Models of both groups will be abstracted within the P/CE Model Abstraction Effort. Additional analyses or model features may alsowill have to be added if design changes affect the configuration oradd or delete any types of materials present within the EBS. For example, if Portland cement grout is not used, its effect on seepage water chemistry is not relevant.

Input Data: Laboratory Experimental Test Data, Geochemical GEMBOCHS Database from NFE PMR, EBS Design Input, EBS Pilot-Scale Test Resultss, EBS AP-3.10Q process model report for Water Distribution and Removal ModelNF PMR, WP PMR, WF PMR.

Feeds To: Gaseous and Aqueous phase compositions to WP PMR, WF PMR, NFE PMR. Potential source/sink changes to gas phase composition, to NFE PMR. In-drift chemical environment and mobile-phase composition information to the AP-3.10Q process model report for the EBS Radionuclide Migration Model.

Responsible Organization: EBSO

Due Date: 2 Dec 99

2) Seepage/Invert Interactions AP-3.10Q (EB215) RPPM035A

Description: This abstraction model will evaluate the effect on water chemistry, of chemical reactions between water that enters the drift and invert materials in the drift. These materials may or may not have a mineralogical makeup that is similar to the host rock. If they are not similar, changes in water chemistry are likely to occur. These changes may affect the transport of radionuclides through the invert, and the chemistry changes comprise part of the input needed for the EBS Radionuclide Transport Model.

Input Data: EBS Design Input , EBS Tests, NF PMR,WP PMR, WF PMR

Feeds To: EBS Physical/Chemical Environment Abstraction ModelChemical interaction between seepage and invert, to WP PMR, WF PMR, NF PMR

Responsible Organization: PAO

Due Date: 30 Aug 99

3) Microbial Communities AP-3.10Q (EB185) RPPM020A

Description: This abstraction model analysis will bound the ultimate abundance of microbes within the drift environment using an approach that evaluates nutrient and energy limitations within the drift. Changes in microbee abundance due to thermal loading and introduced materials will also be considered. Microbe abundance may affect WP waste package lifetime and the generation of colloids capable of transporting radionuclides.

Input Data: EBS Design, NF PMR Input

Feeds To: Microbe mass estimate and assessment, to WP PMR, WF PMR, NF PMR, EBS Physical/Chemical Environment Abstraction Model

Responsible Organization: PAO

Due Date: 14 Sep 99

4) Seepage/Backfill Interactions AP-3.10Q (EB165) RPPM015

Description: This abstraction model willnalysis evaluates the effect on water chemistry of chemical reactions between water that enters the drift and backfill materials in the drift. These materials may or may not have a mineralogical makeup that is similar to the host rock. If they are not similar, changes in water chemistry are likely to occur. These changes may affect drip shield and WP/WF performance, and represent data needed by WP and WF.

Input Data: EBS Design Input, EBS Tests, NF PMR

Feeds To: Chemical interaction between seepage and backfill, to WP PMR, WF PMR, NF PMR, EBS Physical/Chemical Environment Abstraction Model

Responsible Organization: PAO

Due Date: 16 Aug 99

5) Precipitates/Salts Analysis AP-3.10Q (EB45) RPPM105A

Description: This abstraction model will evaluate the types and amounts of precipitates (including salts) that may form as water is boiled within the drift. The analysis will assesses the effects on water chemistry of accumulated mass of precipitates, the time and relative humidity controls on water vapor condensation, and the dissolution of precipitates/salts previously deposited on waste package and other EBS component surfaces. The evaluation will include changes in concentration of aqueous solutions

resulting from evaporation driven by temperature gradients within the drift (e.g., from package surface to drift wall). Mixing of seepage water with this concentrated water will beis consideredevaluated in order to evaluatdetermine thehow much time is required for concentrations to return to ambient levels.

Input Data: EBS Design, EBS Tests, NF PMR Input

Feeds To: EBS Physical/Chemical Environment Abstraction ModelWP/WF PMR, NF PMR

Responsible Organization: PAO

Due Date: 7 Oct 99

6) Corrosion Products AP-3.10Q (EB135) RPPM010A

Description: This abstraction model includes evaluation of chemical reactions between the aqueous seepage that enters the drift and metallic components and their corrosion products encountered along the flow paths. These components may include the ground support system, a drip shield, the waste package, the internal waste package structures, the waste package supports, the rail system, and possibly the invert materials.

Input Data: EBS Design, EBS Tests, NF PMR, WP PMR (Corrosion Rates), WF PMR Input

Feeds To: EBS Physical/Chemical Environment Abstraction Model, WP PMR, WF PMR, NF PMR

Responsible Organization: PAO

Due Date: 20 Aug 99

7) In-Drift Gas Flux & Composition AP-3.10Q (EB175) RPPM055A

Description: This abstraction will evaluate changes in gaseous phase composition within the emplacement drifts through time arising from the thermal perturbation of the geosphere and reactions of ambient gases with introduced materials. The analysis will include, at a minimum, the concentrations of the following constituents: carbon dioxide, oxygen, nitrogen, and steam. Major processes will include the boiling of the water in the emplacement drifts, and possible chemical interactions between the water-gas-materialswater, gas, and solid phases in the emplacement drift that may act as sources or sinks for constituents in the gas phase. Incoming gas model will be developed to represent for boundary conditions on the emplacement drifts, with consideration of advective and diffusive transport of gas constituents from both water seeping into the drift and from water that is just outside the drift in the geosphere. Mass balance considerations for the major potential sinks of both oxygen and carbon dioxide will be

evaluated to assess whether these may affect the gas composition within the drift relative to the rates at which these constituents are supplied to the drift.

Input Data: GEMBOCHS data, EBS Design Input, Geochemical Database from the NFE PMR, EBS Tests, NF PMR, WP/NF PMR

Feeds To: EBS Physical/Chemical Environment Abstraction Model Gaseous phase composition; WP PMR, WF PMR, NF PMR

Responsible Organization: PAO

Due Date: 4 Oct 99

8) In-Drift Colloids & Concentrations AP-3.10Q (EB195) RPPM025A

Description: This submodel abstraction model and analysis will describeprovides a description of the types of colloids that may result from the introduced materials within the, as well asand the natural colloids that have entered are likely to enter the drift with seepage. Concentrations of these colloid types will beare based on stability relations fc colloids as a function of the concentration of dissolved constituents within the water.

Input Data: EBS Design Input

Feeds To: EBS Physical/Chemical Environment Abstraction Model; Colloid Concentrations distributions to WP/WF PMR, NF PMR, UZ PMR

Responsible Organization: PAO

Due Date: 29 Oct 99

9) Seepage/Cement Interactions AP-3.10Q (EB208) RPPM030A

Description: This submodel and analysis model will evaluate the evaluation of aqueous phase chemical reaction of seepage that has entered the drift with cementitious materials that are initially in equilibrium with the In-Drift Ggaseous phase. The reaction can cause the gaseous gas phase composition to change if the reservoir of gas available for reaction within the drift is depleted. Relative reaction rates are will be used to represent the differential reaction rates of the distinct phases assumed to be present in the cementitious materials within concrete.

Input Data: GEMBOCHS data, EBS Design, EBS Tests, NF PMR Input, Geochemical Database from the NFE PMR

Feeds To: EBS Physical/Chemical Environment Abstraction Model; WP PMR, WF PMR, NF PMR

Responsible Organization: PAO

Due Date: 18 Oct 99

10) In-Drift T-H-C Analyses AP-3.10Q (EB225) RPPM065A

Description: This EBS process sub-model and analysis will address the combined effects of thermal (T), hydrological (H), and chemical (C) processes to evaluate the distribution of the partitioned flow inside the emplacement drift. The report is currently planned to first model the thermal (T) environment, then model the coupled T-H environment, and subsequently model the effects of coupled T-H-C processes.

The In-Drift T-H-C submodel will evaluate the flow partitioning of water (and water vapor) that originates as seepage inflow, as it flows through the EBS components of the multiple-barrier system. These components include the drip shield, the invert, rubble from drifta collapsed drift, and engineered backfill. The input to this submodel will includes the unsaturated hydrological, thermal, and chemical properties of the component materials. The analysis will also include an evaluation of the chemical alteration of individual components, and how such alteration would alter the hydrological and the thermal properties of components, as applicable. The results of the model will include the partitioned flows for drip shield diversion, drip shield imbibition, hydrologic conditions in the invert imbibition, drip shield evaporation, and natural convection and condensation/evaporation effects under the drip shield.

Input Data: Laboratory Experimental Test Data, EBS Design Input, EBS Pilot-Scale Test Results, NFE PMR

Feeds To: AP-3.10Q process model reports for the EBS Water Distribution and Removal Model, and the EBST/RH bounds/thresholds and THC environments to: WP PMR, WF PMR, NF PMR Physical and Chemical Environment Model

Responsible Organization: EBSO

Due Date: 29 Oct 99

11) EBS Physical and Chemical Environment Abstraction AP-3.10Q (EB115) RPPM040A

Description: The abstraction in this model will be based on the results of the EBS Physical and ChemicalP/ ProcessCE Model, and the supporting EBS abstraction models described above. This AP-3.10Q report will develop an integrated predictive modeling capability based on EQ3/6, results from which will then be implemented directly within the TSPA-SR/LA calculations using the RIP model.

Input Data: EBS AP-3.10Q Analyses Physical and Chemical Environment Process Model, and EBS AP-3.10Q abstraction models

Feeds To: TSPA

Responsible Organization: PAO

Due Date: 29 Dec 99

12) Water Distribution & Removal Model AP-3.10Q (EB155) PPM0R50A

Description: This model comprises the following supporting models and analyses; In-Drift THC Analyses (see 10 above, under the P/CE Model), Performance of Diversion Features, Performance of Drainage Features, Ventilation Model, and Drift Stability. Under some conditions, liquid water will seep into emplacement drifts through fractures in the host rock and move generally downward, potentially contacting waste packages. After waste packages are breached by corrosion, some of this seepage water will contact waste, dissolve or suspend radionuclides, and ultimately carry radionuclides through the EBS to the near-field host rock.

Lateral diversion of liquid water within the drift will occur to some extent at the inner drift surface, and more importantlysignificantly from the operation of engineered structures such as drip shields, capillary barriers, and the outer surface of thea penetrated waste package. If most of the seepage flux can be diverted laterally and removed from the drifts before contacting waste, the rate of radionuclide escape from the EBS can be limited, resulting in a proportional reduction in dose release at the accessible environment.

This process model will quantify the fraction of liquid water entering the drift that willcan be prevented from contacting waste by the combined effects of engineered controls on water distribution and removal. The approach willmust be flexible yet detailed enough to analyze different design solutions for water diversion, such as drip shields alone, drip shields with backfill, and capillary barriers with or without drip shields. Water can be removed during preclosure operation by evaporation from ventilation, and after closure by drainage into the fractured host rock. Engineered drain holes may be required to assure that adequate drainage survives the thermal pulse.

This EBS process model will comprise the following EBS supporting models and analyses: In-Drift THC Analysis, Performance of Diversion Features, Performance of Drainage Features, Ventilation Model, and Drift Stability Model. Processes will include heat transfer by radiation, convection, and conduction, phase changes (vaporization and condensation), and THC coupled processes that may change flow pathways within the EBS. This model will receive input on Supporting models include isothermal and thermally perturbed seepage, and THC fracture plugging above and below the emplacement drifts, from the NFE and UZ PMRs.

Input Data: Laboratory Experimental Test Data, EBS Design Input, EBS Pilot-Scale Tests, NFE PMR, (seepage data) WP UZ PMR (DS and WP data)

Feeds To: Water flow partitioning rates; EBS AP-3.10Q process model reports for EBS Radionuclide Migration and EBS Physical and Chemical Environment; also the AP-3.10Q Water Distribution and Removal Abstraction report

WP PMR, WF PMR, NF PMR

Responsible Organization: EBSO

Due Date: 2 Dec 99

13) Performance of Diversion Features AP-3.10Q (EB235) RPPM085A

Description: This EBS process sub-submodel will include, at a minimum, bounding analyses for the flow pathways of liquid water through the EBS. Analyses Needed analyses are required forinclude evaluation of the amounts of lateral and vertical liquid flow of liquid waterflow (both condensation and seepage) at keya number of locations within the EBS:

- At tIhe inner surface of the emplacement drift wall
- At both tUhe upper and lower surfaces of drip shields
- Within backfill, including capillary barriers and/or rockfall debris
- Through holes in drip shields and waste packages
- Through the EBS to the unexcavated host rock.

Input Data: Laboratory Experimental Test Data, EBS Design Input, EBS Pilot-Scale Tests, NFE PMR (flux data), WP PMR and WF PMR (WP temps and degradation modes)

Feeds To: Water flow patitioning, rates to WP PMR, WF PMR, NF PMREBS AP-3.10Q process model report for Water Distribution and Removal Model

Responsible Organization: EBSO

Due Date: 29 Oct 99

14) Performance of Drainage Features AP-3.10Q (EB227) RPPM070A

Description: This EBS process sub-submodel will addresses the analysis and design requirements of drainage features, such as gravel-packed or hydro-fractured drain holes or sumps, for which the need may become apparent as a result of ESF drainage studies and In-drift T-H-C analyses. The inputs to the model include the drainage characteristics of the fracture system and THC alterations to the drainage capacity of the host rock below the drifts. If it becomes necessary to include drainage features, this submodel will address the selection of the geometry and unsaturated flow properties of EBS materials needed to design these features, to assure removal of water from the drifts. In addition, the potential radionuclide retardation characteristics of these materials will be considered.

Input Data: Laboratory Test Data, EBS Design Input, EBS Pilot-Scale Tests, EBS Radionuclide Migration process model AP-3-10Q report, NFE PMR (flux data)

Feeds To: EBS AP-3.10Q analysis and model report for Water Distribution and Removal Model, NFE PMR, UZ PMR

Responsible Organization: EBSO

Due Date: 29 Oct 99

15) Ventilation Model AP-3.10Q (EB229) RPPM075

Description: This EBS process sub-submodel and analysis will addresses the heat and mass transfer that takes place due to repository forced air ventilation during the pre-closure phase, and due to natural ventilation through the open and partially closed drifts during the post-after closure phase. The inputs to the model include the pre-closure forced forced air flow rate(s), and the free air ventilation flow rates, heat generation characteristics of the waste packages, EBS Design input, ands well as the thermal-hydrologic properties of the host rock properties of water vapor and air. The analysis will develop a response surface for heat and mass transfer that can beis used in conjunction with other analyses to evaluate repository temperature and hydrologic effects.

Input Data: EBS Design Input, EBS Pilot-Scale Tests, NFE PMR, WP PMR

Feeds To: EBS AP-3.10Q analysis and model report for Water Distribution and Removal ModelWP PMR, WF PMR, NF PMR, NFE PMR

Responsible Organization: EBSO

Due Date: 29 Oct 99

16) Drift Stability AP-3.10Q (EB231) RPPM080A

Description: Within some time period after closure, degradation of the ground support system will allow the emplacement drifts to partially collapse, changing the drift profile and depositing rubble on the water diversion structures, drip shields, or waste packages. The change in drift profile can be usedis required by the NFE PMR to recalculate seepage flux into the drift, and the thermohydrologic and other properties of the rubble are needed. This EBS process sub-model AP-3.10Q report will provide an "end-point" drift configuration reached when it is no longer possible for a matrix block to fall, either because roof blocks are locked in place by other immobile blocks or because the drift has bulked full. The time of collapse will be based on simple criteria to be developed, such as the time at which the drift cools to a specific temperature after reaching its peak temperature.

Existing fracture mapping data obtained for key-block analysis will be used to generate random samples by pulling out key blocks until the crown is geometrically stable, or until the drift is bulked full. A smooth curve (such as an ellipse) will be developed by a least-squares fit to the resulting irregular profile, and characterized by its parameters (major axis, minor axis, and direction of major axis). Repeated sampling will provide probability distributions for the parameters for the smooth curves. The residual obtained by subtracting the smooth curve from the rough profile will be used to develop a probability distribution for the surface roughness. The resulting distributions of smooth-curve parameters and surface roughness will be input to the drift-scale seepage models

under both ambient and thermally perturbed conditions. Particle size distributions for the rubble will also be estimated and used to estimate its thermal-hydrologic properties.

Input Data: Rock properties and fracture mapping data, EBS Design Input, EBS Pilot-Scale Test Resultss, NFE PMR Input

Feeds To: Rock size distribution and, drift profile information to the: WP PMR, NFE PMR, Tectonics PMR, and UZ PMR

Responsible Organization: EBSO

Due Date: 14 Sep 99

17) Water Distribution & Removal Abstraction AP-3.10Q (EB245) RPPM090A

Description: The abstraction will be based on the result of the corresponding process model analysis and will be implemented directly within the TSPA-SR/LA calculations using the RIP model.

Input Data: EBS AP-3.10Q Water Distribution and Removal Process Model Report, also other EBS abstraction model AP-3.10Q reports.

Feeds To: TSPA

Responsible Organization: PAO

Due Date: 29 Dec 99

18) EBS Radionuclide Migration Process Model AP-3.10Q (EB205) RPPM060A

Description: This report will provide a description of the radionuclide transport within the emplacement drift invert and drainage features, resulting from waste form releases out of one or more degraded waste packages. The radionuclide transport description will include advective and diffusive transport as well as the potential for retardation due to sorption and precipitation. The analysis will be based on radionuclide release input data from the WP and WF PMRs, as well as flow fields and data from the EBS Water Distribution and Removal Model, and information from the EBS Physical and Chemical Degradation Mode Model. A model for solute diffusion behavior of invert materials will be used as input to this report predictive model for diffusion coefficients for invert material will be developed (see 19 below) to support material selections EBS testing and the invert transport analysis. Experimental solubility, dispersivity and sorption data will be developed to (depending on funding) may support the analysis. The NUFT and other codes will support the analysis. This analysis will provide input data, including breakthrough curves in response to a unit release of radionuclides from the waste package, to the EBS Radionuclide Migration Abstraction. Near Field and Unsaturated Zone PMRs.

Input Data: Laboratory Test Data, EBS Design Input, EBS Tests, EBS Water Distribution and Removal Model, EBS Physical and Chemical Environment ModelNF PMR (Flux Data), WP PMR, NF PMR

Feeds To: EBS Radionuclide Migration Abstraction AP-3.10Q report. Radionuclide transport data to: NF PMR, UZ PMR

Responsible Organization: EBSO

Due Date: 2 Dec 99

19) Invert Diffusion Properties Model AP-3.10Q (n/a) RPPM120A

Description: This model will be developed based on analytical models of diffusion behavior, literature survey of material properties, as well as experimental and qualified test data. The model will be used to support invert material selection and testings.

Input Data: Laboratory Experimental Test Data, EBS Design Input, EBS Pilot-Scale Tests, NF PMR (Flux data), WP/NF PMR

Feeds To: EBS Tests, NF PMRRadionuclide Migration Process Model

Responsible Organization: EBSO

Due Date: 14 Sep 9

20) EBS Radionuclide Migration Abstraction AP-3.10Q (EB255) RPPM095

Description: The abstraction will be based on the results of the corresponding process model analysis (EB205) and will be implemented directly within the TSPA-SR/LA calculations using the RIP code.

Input Data: EBS AP-3.10Q analysis and model report for EBS Radionuclide Migration Model, also other EBS abstraction model AP-3.10Q reports.

Feeds To: TSPA

Responsible Organization: PAO

Due Date: 29 Dec 99

21) EBS FEPS/Degradation Mode Analysis AP-3.10Q (EB95) RPPM110A

Description: This analysis will in[illegible]ctively integrate and reanalyze the FEPs and failure modes that will be investigated within each of the principal EBS models: the Water Distribution and Removal Model, Physical and Chemical Environment Model and EBS Radionuclide Transport Model. For the important FEPs and failure modes,

initiating conditions/events will be identified. The analysis will also address coupling among failure modes of the multiple-barrier system, sensitivities to initiating events and the potential effects of coupled degradation modes.

Input Data: EBS AP-3.10Q analysis and model reports for Water Distribution and Removal Model, Physical and Chemical Environment Model, and EBS Radionuclide Migration ModeEBS Process Models

Feeds To: EBS FEPs/ Process ModelsDegradation Modes Abstraction

Responsible Organization: EBSO

Due Date: 2 Dec 99

22) EBS FEPS/Degradation Modes Abstraction AP-3.10Q (EB125) RPPM045A

Description: The abstraction will be based on the result of the corresponding process model analysis, EB95, and will be implemented directly within the TSPA-SR/LA calculations using the RIP model.

Input Data: EBS AP-3.10Q Analysis and model reports for Water Distribution and Removal Model, Physical and Chemical Environment Model, EBS Radionuclide Migration Model, and EBS FEPs/Degradation Models Analysis

Feeds To: TSPA

Responsible Organization: PAO

Due Date: 29 Dec 99

23) PCE Model Valid Expert/Analysis (EB015)

Description: Not available at this time.

Input Data:

Feeds To:

Responsible Organization: EBSO

Due Date: 14 Sep 99

ANALYSIS AND MODEL REPORTS SUPPORTING THE BIOSPHERE PMR		
	Title	**Resp. Org.**
1	GENII-S Non-Disruptive Event BDCF Analysis	SO
2	Dose Conversion Factor Analysis	SO
3	Transfer Coefficients Analysis	SO
4	Environmental Transport Parameters Analysis	SO
5	Ingestion Exposure Analysis	SO
6	Inhalation Exposure Analysis	SO
7	External Exposure Analysis	SO
8	Critical Group Analysis	SO
9	Soil Buildup Factor Analysis	PAO
10	Disruptive Event Biosphere Dose Conversion Factor Analysis	SO
11	Non-Disruptive Event Sensitivity Analysis	SO
12	Disrupted Performance Sensitivity Analysis	PAO
13	Annual Groundwater Usage Analysis	PAO
14	Biosphere Dose Conversion Factor Distribution Analysis	PAO
15	Biosphere Dose Conversion Factor/Soils Buildup of Radionuclides Abstraction	PAO
16	Radionuclide Removal from Soils Analysis	PAO
17	Features, Events, and Processes (FEPs) Analysis	SO
18	Distribution Fit BDCF	

Analysis and Model Reports Supporting the Biosphere PRM

1) GENII-S Non-Disruptive Event BDCF Analysis (SSPMR260)

Description: Analysis develops the probability distributions of biosphere dose conversion factors for the undisturbed performance scenario in which radionuclides are released to the environment via a contaminated groundwater from a well and the use of this water for domestic and agricultural purposes. Radionuclide buildup in soil as a result of prior irrigation practices will be considered

Input Data: Data from the following analyses: Dose Conversion Factor Analysis, Transfer Coefficient Analysis, Environmental Transport Parameter Analysis, Ingestion Exposure Analysis, Inhalation Exposure Analysis, External Exposure Analysis, and Critical Group Analysis

Feeds to: Distribution Fit: Non-Disruptive Event BDCF Analysis, Non-disruptive event sensitivity analysis

Responsible Organization: SO

Due Date: 16 Aug 99

2) Dose Conversion Factor Analysis SSPMR100

Description: Selection and justification for the use of specific set of dose conversion factors for radionuclides of interest.

Input Data: Identification of radionuclides of interest by PAO and data from published scientific literature.

Feeds to: Disruptive Events (Tectonic Hazards) and Base Case Biosphere Dose Conversion Factor Analyses

Responsible Organization: SO

Due Date: 2 Jun 99

3) Transfer Coefficients Analysis SSPMR120

Description: Development of food transfer coefficients used to quantify transfer of radionuclides from soil to food products (plants and animals). This assessment is part of

the BDCFs calculation. Identification, documentation, selection and justification for the use of those factors in the calculation of the BDCFs will be included.

Input Data: Identification of radionuclides of interest by PAO and data from published scientific literature.

Feeds to: Disruptive Events (Tectonic Hazards) and Base Case Biosphere Dose Conversion Factor Analyses

Responsible Organization: SO

Due Date: 2 Jun 99

4) Environmental Transport Parameters Analysis SSPMR140

Description: Development of factors and parameters used in the assessment of environmental transport of radionuclides, which is an element in the BDCFs calculation. Identification, documentation, selection and justification for the use of those factors in the calculation of the BDCFs will be included.

Input Data: Identification of radionuclides of interest by PAO and data from published scientific literature.

Feeds to: Disruptive Events (Tectonic Hazards) and Base Case Biosphere Dose Conversion Factor Analyses

Responsible Organization: SO

Due Date: 2 Jun 99

5) Ingestion Exposure Analysis SSPMR160

Description: Development of ingestion exposure parameters used to support the calculation of BDCFs for both undisrupted performance and disrupted performance. Important ingestion exposure pathways will be identified. Identification, documentation, selection and justification for the use of ingestion exposure parameters in the calculation of the BDCFs will be included.

Input Data: Identification of radionuclides of interest by PAO, data from food consumption survey, and data from published scientific literature.

Feeds to: Disruptive Events (Tectonic Hazards) and Base Case Biosphere Dose Conversion Factor Analyses

Responsible Organization: SO

Due Date: 8 Jun 99

6) Inhalation Exposure Analysis SSPMR180

Description: Development of inhalation exposure parameters used to support the calculation of BDCFs for both undisrupted performance and disruptive events. Important inhalation exposure pathways will be identified. Identification, documentation, selection and justification for the use of inhalation exposure parameters in the calculation of the BDCFs will be included.

Input Data: Identification of radionuclides of interest by PA and data from published scientific literature.

Feeds to: Disruptive Events (Tectonic Hazards) and Base Case Biosphere Dose Conversion Factor Analyses

Responsible Organization: SO

Due Date: 8 Jun 99

7) External Exposure Analysis SSPMR200

Description: Development of external exposure parameters used to support the calculation of BDCFs for both undisrupted performance and disruptive events. Important external exposure pathways will be identified. Identification, documentation, selection and justification for the use of external exposure parameters in the calculation of the BDCFs will be included.

Input Data: Identification of radionuclides of interest by PAO and data from published scientific literature.

Feeds to: Disruptive Events (Tectonic Hazards) and Base Case Biosphere Dose Conversion Factor Analyses

Responsible Organization: SO

Due Date: 2 Jun 99

8) Critical Group Analysis SSPMR240

Description: Identification of the critical group, consistent with the intent and process of 10 CFR 63, in terms of consumption rates of water and locally produced food.

Input Data: Food consumption survey data, previously completed, and data from published scientific literature.

Feeds to: Disruptive Events (Tectonic Hazards) and Base Case Biosphere Dose Conversion Factor Analyses

Responsible Organization: SO

Due Date: 8 Jun 99

9) Soil Buildup Factor Analysis SSPMR220

Description: Development of a model of radionuclide content in the soil as a function of both inputs and removal mechanisms. This model is intended to be used in assessment of the uncertainty in the BDCFs generated by GENII-S and to estimate radionuclide removal by erosion.

Input Data: Identification of radionuclides of interest by PAO and data from published scientific literature.

Feeds to: Biosphere Dose Conversion Factor/Soils Buildup of Radionuclide Abstraction

Responsible Organization: PAO

Due Date: 19 Jul 99

10) Disruptive Event Biosphere Dose Conversion Factor Analysis SSPMR340

Description: Analysis develops the probability distribution of BDCF for disruptive events including releases of radionuclides to the environment from a volcanic eruption.

Input Data: Dose Conversion Factor Analysis, Transfer Coefficient Analysis, Environmental Transport Parameter Analysis, Ingestion Exposure Analysis, Inhalation Exposure Analysis, External Exposure Analysis, and Critical Group Analysis

Feeds to: Disruptive Events Sensitivity Analysis

Responsible Organization: SO

Due Date: 18 Aug 99

11) Non-Disruptive Event Sensitivity Analysis SSPMR300

Description: Sensitivity analysis will be performed to identify pathways and parameters, which are the most significant from the radiation dose perspective.

Input Data: Data from the analysis of BDCF for undisturbed scenario plus the identification of key radionuclides of interest.

Feeds to: PMR

Responsible Organization: SO

Due Date: 31 Aug 99

12) Disrupted Performance Sensitivity Analysis SSPMR400

Description: Sensitivity analysis will be performed to identify parameters and pathways with the most significant impact on the BDCF for the key radionuclides of interest.

Input Data: Data from the analysis of BDCF for undisturbed scenario plus the identification of key radionuclides of interest.

Feeds to: PMR

Responsible Organization: PAO

Due Date: 1 Oct 99

13) Annual Groundwater Usage Analysis SSPMR320

Description: Analysis will develop a justifiable estimate of annual volumetric groundwater usage by the hypothetical community from which the critical group was constructed.

Input Data: Data on water usage will be obtained from the food consumption survey, the determination of the critical group characteristics, and agricultural data published by the state and/or county.

Feeds to: TSPA

Responsible Organization: PAO

Due Date: 17 Aug 99

14) Biosphere Dose Conversion Factor Distribution Analysis SSPMR280

Description: Abstraction will determine the statistical distribution of BDCF for the undisrupted performance case.

Input Data: BDCF distribution data from Non-Disruptive Event Analysis

Feeds to: BDCF/Soils Buildup of Radionuclide Abstraction

Responsible Organization: PAO

Due Date: 1 Oct 99

15) Biosphere Dose Conversion Factor/Soils Buildup of Radionuclides Abstraction SSPMR380

Description: Abstraction will develop a functional relationship between the value sof the BDCF for radionuclides of interest and the duration of prior irrigation times.

Input Data: Distribution fit data for BDCF for key radionuclides as a function of previous irrigation times.

Feeds to: TSPA, PMR

Responsible Organization: PAO

Due Date: 18 Oct 99

16) Radionuclide Removal from Soils Analysis SSPMR360

Description: Analysis will develop a model describing the process of depletion of radionuclides from soil/ash following a volcanic eruption.

Input Data: Identification of key radionuclides of interest for disruptive events and relevant data from the scientific literature.

Feeds to: TSPA, PMR

Responsible Organization: PAO

Due Date: 2 Sep 99

17) Features, Events, and Processes (FEPs) Analysis SSPMR420

Description: Analysis will identify incorporation of relevant FEPs in Biosphere

Input Data: FEPs Team

Feeds to: PMR, TSPA

Responsible Organization: SO

Due Date: 15 Oct 99

18) Distribution Fit BDCF (P2000)

Description: Not available at this time.

Input Data:

Feeds To:

Responsible Organization: SO

Due Date: 1 Dec 99

			ANALYSIS AND MODEL REPORTS SUPPORTING TECTONIC HAZARDS PMR	
			Title	**Resp. Org**
			Volcanism	
		1	Framework for Igneous Activity at Yucca Mountain	NEPO
		2	Dike Propagation Near Drifts	PAO
		3	Characterize Eruptive Processes	NEPO
		4	Waste Package Behavior – Magma	WPO
		5	Waste Form Behavior – Magma	WPO
		6	Deposition of Ash/Dose Pathways	PAO
		7	Repository and Drift Design	EBSO
		8	Number of Packages Hit	PAO
		9	Waste Entrainment	NEPO
		10	Consequence Analysis for Direct Release	PAO
			Seismicity	
		11	Framework for Seismicity and Structural Deformation	NEPO
		12	Characteristics of Faults	NEPO
		13	Fault Displacement Effects on EBS	NEPO
		14	Fault Displacement Effects on Hydrology	PAO
		15	Tunnel Stability (Rockfall Damage) Model	NEPO
		16	Enhanced Degradation of Waste Form	NEPO
		17	RIP Source/Seismic Rockfall	PAO
		18	Consequence Analysis Results	PAO
		19	Evaluate/Screen Tectonics Features, Events, and Processes	PAO
		20	Disruptive Events Abstraction	PAO
		21	Direct Surface Release from Eruption	PAO
		22	Waste Redistribution and BDCFs	S&H

Analysis and Modeling Reports Supporting the Tectonic Hazards PMR

VOLCANISM

1) Framework for Igneous Activity at Yucca Mountain (V1110) SLA8010, SLA8012, SLA8014, SLA8016, SLA8016M4

Description: Describe the conceptual model of volcanism at Yucca Mountain drawing from the interpretations considered in the probabilistic volcanic hazard analysis (PVHA). Summarize the hazard determined from the PVHA.

Develop a probability distribution function (PDF) for the length and orientations of dike intersections within the repository footprint. Also develop a PDF for the number of eruptive vents within the repository footprint, conditional on dike intersection. These distributions are to be based on information in the PVHA. Document the conceptual model that supports construction of the PDFs.

Input Data: V1230 Number of Packages Hit; PVHA report and results [Results need to be submitted to the TDMS)

Feeds to: Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: NEPO

Due Date: 30-Sep-99

2) Dike Propagation Near Drifts (V1140) SLA8030, SLA8032, SLA8034, SLA8036, SLA8036M4

Description: Describe the likely paths taken by ascending magma as it transitions from country rock to the stress-altered rock in the vicinity of the drifts.

Input Data:

Feeds to: V1230 Number of Packages Hit; Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: PAO

Due Date: 30-Oct-99

3) Characterize Eruptive Processes (V1150) SLA8040, SLA8042, SLA8044, SLA8046, SLA8046M4

Description: Describe the geometry(s), size(s), spatial distribution, duration, number of events and other key parameters associated with the development of eruptive conduits.

Characterize the expected fragmentation behavior from the intrusion fluid through changes upon eruption into and through the repository and discharge of the ash plume into the atmosphere.

Describe the direct surface release of radioactive material that is likely to result from a volcanic eruption through the repository. Describe entrainment in and dispersal of radioactivity in ash plumes. Describe the amount of radioactive material likely to be released, waste particle sizes and other parameters needed for input into ASHPLUME modeling.

Produce PDFs describing the likely widths, lengths, temperatures, and chemical characteristics of dikes intruding the repository footprint. Develop PDFs for the column height, volume, duration of various phases, exit velocity, ash particle size and shape, of volcanic eruptions that are postulated to intersect the repository.

Use the ASHPLUME code to calculate the physical characteristics of the ash blanket that is produced by an eruption through the repository. Describe likely spatial and temporal (if appropriate) variations in the physical characteristics. Include descriptions of the thickness(es), particle size distribution, and any other parameters needed to support estimates of dose at the receptor site(s). Use a range of inputs to get a distribution. Describe the chemical and mineralogic forms of the ash and waste that are deposited.

Input Data:

Feeds to: V1410 Consequence Analysis for Direct Release; Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: NEPO

Due Date: 15-Oct-99

4) Waste Package Behavior – Magma (V1160) SLA8050, SLA8052, SLA8054, SLA8056, SLA8056M4

Description: Describe the method of waste package failure, as a function of time, for packages in direct contact with magma flow during igneous events. Describe the waste package temperature evolution, the physical evolution of magma around waste packages, geochemical evolution of the magma, and the effects of these changes on the failure of contacted waste package(s). Describe the process for magma breach of the waste package. Calculate time histories of waste-package failure modes, including internal overpressure, plastic deformation,

and corrosion resulting from direct contact of erupting magma with the containers. Develop PDFs for failure over the period of violent eruptions.

Input Data:

Feeds to: V1410 Consequence Analysis for Direct Release; Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: WPO

Due Date: 15-Oct-99

5) Waste Form Behavior – Magma (V1170) SLA8060, SLA8062, SLA8064, SLA8066, SLA8066M4

Description: Describe the behavior of the waste form(s) in direct contact with magma. Describe changes in physical and chemical characteristics of the waste form(s) that result from direct contact with magma. Produce PDFs describing range of particle sizes resulting from contact of waste with erupting magma.

Input Data:

Feeds to: V1410 Consequence Analysis for Direct Release; Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: WPO

Due Date: 15-Oct-99

6) Deposition of Ash/Dose Pathways (V1190) SLA8080, SLA8082, SLA8084, SLA8086, SLA8086M4

Description: Describe the redistribution of ash and radioactive waste particles from an ash blanket to a receptor population. Identify the various dose pathways to receptors at the dose site assuming the receptor population is not present during the ashfall event but returns soon afterward. Describe the conceptual framework that incorporates (1) the roles of subsequent geologic processes in the redistribution of waste and (2) the effects of these processes on potential exposures at identified receptor sites. Describe the conceptual models for exposure pathways that are applicable to dose calculations at identified receptor sites. Calculate the redistribution of soil containing contaminated volcanic ash arising from wind and water processes. Provide biosphere dose conversion factors for radionuclides contained in ash plumes and/or lavas at identified receptor sites for given ash-blanket thicknesses, and after consideration of redistribution mechanisms.

Input Data:

Feeds to: V1410 Consequence Analysis for Direct Release; Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: PAO

Due Date: 15-Oct-99

7) Repository and Drift Design (Data Feed, not an analysis) (V1220) RPT1038

Description: Describe the basic repository layout and drift design, including drift size and spacing, ground support methods and materials, invert materials, waste package supports, and other design parameters, such as backfill, that could affect magmatic interactions.

Input Data: SR Design

Feeds to: V1230 Number of Packages Hit (Calculation); Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: EBSO

Due Date: 29-Jul-99

8) Number of Packages Hit (V1230) SLA8110, SLA8112, SLA8114, SLA8116, SLA8116M4

Description: Provide an estimate of the number of waste packages that would be contacted by a dike and/or a volcanic eruption. Document the basis for determining the number of waste packages contacted.

Input Data:

Feeds to: V1410 Consequence Analysis for Direct Release; Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: PAO

Due Date: 29-Oct-99

9) Waste Entrainment (V1310) SLA8140, SLA8142, SLA8144, SLA8146, SLA8146M4

Description: Produce PDFs describing the ranges of particle sizes relative to magma ascent velocities that could result in entrainment of waste released by breaching of waste packages by volcanic eruption through the repository. Describe the amount of radioactive material likely to be released, waste particle sizes and other parameters needed for input into ASHPLUME.

Input Data:

Feeds to: V1340 Ash Blanket Characteristics and Composition V1400 Results for Dike Intersection/Vent; V1410 Consequence Analysis for Direct Release; Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: NEPO

Due Date: 30-Sep-99

10) Consequence Analysis for Direct Release (V1410) SLA8230, SLA8232, SLA8324, SLA8236, SLA8236M4

Description: Describe the results of a volcanic eruption in the repository. Summarize the changes in mechanical, physical, and chemical properties of the natural and engineered barriers that would be expected. Summarize the characteristics of ash plume(s) and lava(s) that would be expected to result. Summarize the release of radioactive materials that would be expected and the spatial variability of radioactivity at identified receptor sites.

Input Data:

Feeds to: Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: PAO

Due Date: 24-Nov-99

SEISMICITY

11) Framework for Seismicity and Structural Deformation (Z1030) SLA8240, SLA8242, SLA8244, SLA8246, SLA8246M4

Description: Summarize information in the Probabilistic Seismic Hazard Analysis relevant to occurrences of structural deformation and seismicity events in the Yucca Mountain area. De-aggregate the hazard estimates presented in the PSHA and evaluate the sensitivity of near-surface ground motion and fault displacement hazards to the selection of a model. Identify the conceptual models and data required by PA for seismic disruptive events probability modeling. Describe the ground motion hazard curves developed for the Yucca Mountain site. Describe the median annual probability of exceedance and the 15^{th} and 85^{th} percentile values. Describe the peak ground velocity hazard curves. Justify and document the hazard curves for peak ground velocity based on the PSHA model. Document the transformations of the hazard curves necessary to present peak ground velocity values at repository depth.

Input Data: PSHA; PGV conversion from reference rock outcrop to repository depth.

Feeds to: Preparation of Chapter 2 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: NEPO

Due Date: 24-Sep-99

12) Characteristics of Faults (Z1060)

Description: Describe the characteristics of known faults in the Yucca Mountain area based on the results of surface and underground mapping and information from drill holes. Include information about fault segment lengths, widths, attitudes (strikes and dips), slip directions, slip rates, cumulative displacement, and linkages between faults. Describe the potential of fault displacement to affect permeability within or immediately adjacent to the repository.

Input Data:

Feeds to: Preparation of Chapter 2 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: NEPO

Due Date: 17-Sep-99

13) Fault Displacement Effects on EBS (Z1070) SLA8270, SLA8272, SLA8274, SLA8276, SLA8276M4

Description: Describe effects of fault displacement on components of the engineered barrier system such as effects on waste package supports, integrity of the inverts, and pillar stability.

Input Data:

Feeds to:

Responsible Organization: NEPO

Due Date: 15-Oct-99

14) Fault Displacement Effects on Hydrology (Z1080) SLA8280, SLA8282, SLA8284, SLA8286, SLA8286M4

Description: Describe the potential for postclosure faulting to affect the hydrologic properties of the site and the surrounding area such that the postclosure performance of the repository system could be affected. Discuss the potential for fault displacement to create perched water bodies, produce changes in the piezometric surface, or alter the hydrologic characteristics of the unsaturated zone or saturated zone.

Input Data:

Feeds to: Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: PAO

Due Date: 30-Sep-99

15) Tunnel Stability (Rockfall Damage) Model (Z1100)

Description: Develop a PDF that describes the postclosure static and dynamic rockfall hazard. Define a rockfall event for modeling purposes. Describe the single-block rockfall size and the distribution of masses for rocks dislodged as a result of ground motion as functions of time.

Input Data:

Feeds to: Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: NEPO

Due Date: 29-Oct-99

16) Enhanced Degradation of Waste Form (Z1120)

Description: Develop a PDF describing the probability of disruption of the cladding and any other degradational changes to the waste form that could result from fault displacement or ground shaking.

Input Data:

Feeds to: Z1130 RIP Source / Seismic Rockfall; Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: NEPO

Due Date: 29-Oct-99

17) RIP Source / Seismic Rockfall (Z1130)

Description: Integrate rockfall damage to waste packages with degradation resulting from corrosion. Incorporate this integrated waste-package failure into the base-case RIP calculations.

Input Data:

Feeds to: Z1160 Consequence Analysis Results
Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: PAO

Due Date: 10-Nov-99

18) Consequence Analysis Results (Z1160)

Description: Summarize the PA consequences of rockfall, fault displacement, and hydrologic changes that could result from seismic activity.

Input Data: Rockfall model

Feeds to: Preparation of Chapter 3 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: PAO

Due Date: 18-Nov-99

19) Evaluate/Screen Tectonics Features, Events and Processes (ADD1)

Description: Evaluate the list of tectonic features, processes, and events (FEPs) and determine whether they should be screened in or out of the performance assessment analyses.

Input Data: FEPs list

Feeds to: Preparation of Chapter 2 of the report, *Consequences of Tectonic Events for Performance Assessment*

Responsible Organization: PAO

Due Date: 30 Sep 99

20) Disruptive Events Abstraction (ABS)

Description: Not available at this time.

Input Data:

Feeds to:

Responsible Organization: PAO

Due Date: 9 Dec 99

21) Direct Surface Release from Eruption (V1180)

Description: Not available at this time.

Input Data:

Feeds to:

Responsible Organization: PAO

Due Date: 29 Oct 99

22) Waste Redistribution and BDCFs (V1370)

Description: Not available at this time.

Input Data:

Feeds to:

Responsible Organization: S&H

Due Date: 29 Oct 99

PMR's/Key Documents Matrix

1) c) v)

Key Documents Supporting SR/LA

DOCUMENT	SITE RECOMMENDATION	LICENSE APPLICATION
	Volume-Chapter	Chapter
PMRs		
Integrated Site Model	1-1, 2-4	3, 12
UZ Flow and Transport	1-1, 1-4, 2-2, 2-4	3, 6, 8, 12
SZ Flow and Transport	1-1, 1-4, 2-2, 2-4	3, 8, 12
Near Field Environment	1-4, 2-2	3, 5, 6, 8, 12
WP Degradation	1-4, 2-2	5, 8, 12
WF Degradation	1-4, 2-2	5, 7, 8, 12
EBS Degradation/Flow/Transport	1-4, 2-2	5, 6, 8, 12
Biosphere	1-4, 2-2	8
Tectonic Hazards	1-4, 2-2, 2-4	3, 5, 6, 7, 8
Science Reports		
Site Description	1-1, 2-4	3
Natural Resources	1-4, 2-4	NA
Natural Analogs	1-1	8
System Description Documents		
Surface	1-2	2, 4, 9
Subsurface	1-2	2, 6
Waste Package	1-3	2, 5
TSPA		
TSPA-SR	1-1, 2-2	NA
TSPA-LA	NA	8

PMR Cost Table

1) c) vi)

PROCESS MODEL REPORT and AP-3.10Q R.O.M. COSTS (k$)						
CODE	TITLE	FY99	FY00	FY01	FY02	TOTAL
ISM	Integrated Site Model	659	400	400	0	1459
UZ	Unsaturated Zone Flow and Transport	686	5,088	4,639	0	10,413
SZ	Saturated Zone Flow and Transport	380	2,725	1,743	0	4,848
NF	Near Field Environment	763	2,552	1,600	0	4,915
WP	Waste Package Degradation	1,470	2,604	1,826	0	5,900
WF	Waste Form Degradation	1,421	2,362	1,661	0	5,444
EB	Engineered Barrier System Degradation and Flow/Transport	1,300	4,327	4,236	0	9,863
Bio	Biosphere	600	2,100	1,000	0	3,700
Tec	Tectonic Hazards	600	2,285	1,745	0	4,630
M&I	Management & Integration/Documentation Support Services	1,700	3,500	3,800	0	9,000
	Totals by FY	$9,579	$27,943	$22,650	$0	$60,172

Data Qualification Plan and Status

1) c) vii)

Data Qualification Plan and Status

The strategy for qualifying the technical data, models, and software needed for SR/LA is contained in the M&O's Data, Model and Code Qualification/Validation and Control Plan, developed in December 1998 (Reference 7).

As part of the resolution of CARs 98-002, 98-006, and 98-010, verification of the "Q" status of the Data Tracking Numbers (DTNs) and Codes used for the Viability Assessment (VA) that were likely to go forward to the SR/LA was initiated.

Of the data used in the VA, 372 DTNs were identified as likely to be used in the SR/LA. Of these 372 DTNs, 56 are in the process of being verified. One DTN has already been taken through the entire verification checklist process.

Of the codes used in the VA, 136 were identified as likely to be used in the SR/LA. Of these 136 codes, 28 are in the process of being verified. Eleven have already completed the verification process and have been placed under baseline control.

As described in the Narrative of this CR, the M&O has commissioned Tiger Teams to identify the complete listing of the data, models, and codes that need to be made traceable and defensible for SR/LA. A listing of the Tiger Teams organized to date is contained in the next section.

Tiger Team Goals

1) c) viii)

Tiger Teams and Their Goals

Tiger Team	Responsible Manager
1. UZ Site Scale Flow and Transport Model	Dwight Hoxie, USGS
2. UZ Drift Scale Ambient Seepage Model	Dwight Hoxie, USGS
3. UZ Mountain Scale and Drift Scale Thermohydrology Model	Dwight Hoxie, USGS
4. UZ Mountain Scale and Drift Scale Thermo-Hydrologic-Chemical Model	Dwight Hoxie, USGS
5. Net Infiltration/Surface Infiltration Model	Dwight Hoxie, USGS
6. Integrated Site Model	Stephen George, M&O
7. SZ Site Scale Flow and Transport Model	Dwight Hoxie, USGS
8. Multi-Scale Thermohydrology Abstraction Model	Dwight Hoxie, USGS
9. Near Field Chemical Water Composition Model	Dwight Hoxie, USGS
10. Near Field/Altered Zone Radionuclide Retardation/ Solubility Model	Dwight Hoxie, USGS
11. Coupled Thermal-Hydrological-Mechanical Model	Dwight Hoxie, USGS
12. Disruptive Events Abstraction Model	Jerry McNeish, M&O
13. Waste Form Abstraction Model	Rob Howard, M&O
14. EBS Transport Abstraction Model	Rob Howard, M&O
15. Waste Package Abstraction Model	Rob Howard, M&O
16. Geochemical Environment Abstraction Model	Rob Howard, M&O
17. Biosphere Abstraction Model	Cliff Ho, M&O
18. SZ Flow and Transport Abstraction Model	Cliff Ho, M&O
19. Thermal Hydrology Abstraction Model	Cliff Ho, M&O
20. Climate and Infiltration Abstraction Model	Cliff Ho, M&O
21. Seepage Abstraction Model	Cliff Ho, M&O
22. UZ Flow Abstraction Model	Cliff Ho, M&O
23. UZ Transport Abstraction Model	Cliff Ho, M&O
24. TSPA	Jerry McNeish, M&O
25. Waste Package Degradation Model	Dave Stahl, M&O
26. Waste Form Degradation Model	Dave Stahl, M&O
27. Biosphere Model	John Schmitt, M&O
28. Engineered Barrier Degradation and Transportation Model	Dwayne Chestnut, M&O
29. Water Distribution and Removal Model	Dwayne Chestnut, M&O
30. Physical/Chemical Conditions Model	Dwayne Chestnut, M&O
31. Radionuclide Migration Control Model	Dwayne Chestnut, M&O

Tiger Team Goals

Provide documentation for the following:

- the user-defined input parameters (parameter values) that are used to run the codes/software that will be used to support performance-assessment arguments in the Site Recommendation/License Application
- the actual value/distribution used for each parameter value used to produce results reported in the Site Recommendation/License Application and the rationale for their selection
- the source(s) for each parameter value and any intermediate calculations/data manipulations used to determine the parameter value from the source data on a layer-by-layer basis
- the trail from identified sources (e.g., Data Tracking Numbers (DTN)) to any field or laboratory determinations on which data/conclusions in the source were based, including all intermediate calculations or steps, supporting records, and qualification status.

The documentation must be of sufficient detail and clarity that a qualified independent party could trace the derivation of any parameter value back to the lowest-level source data and records. The independent party must be able to recreate the parameter value from the information presented or cited in the documentation without recourse to the original investigators or modelers.

The most recent revision of the manual, "Yucca Mountain Site Recommendation/License Application Total System Performance Assessment Controlled Database Development Plan (rev C) that active, potential, and future Tiger Team members were/are trained to is available upon request. An overview of how Tiger Teams work with the PVAR and data qualification efforts is included in "Data, Model and Code Qualification / Validation and Control Plan", December 1998, provided as Reference 7 of this Change Request.

Deliverable Deletion Rational Matrix

1) c) iv)

Disposition of Level 3 Deliverables Being Deleted or Altered Under This Change Request

					Planned Deliverable Disposition Under This Change Request			
Deliverable Being Deleted or Altered	**Abbreviated Deliverable Title**	**Current Deliverable Date**	**Responsible M&O Mgr**	**Responsible YMSCO Asst Mgr or Designee**	**New Location Where Data/Information will be Captured**	**New Completion Date**	**Estimated Cost Benefit ($k)**	**Date Discussed and Agreed Upon**
NEPO								
SP32E1M3	Prow Pass Reactive Tracer Test Report	01-Apr-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the SZ PMR.	28-Apr-00	25	19-Apr-99
SP9904M3	Final LBT Report	12-Aug-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the NFE PMR.	03-Mar-00	25	19-Apr-99
SP399CM3 **PEMP 13-1**	NF/AZ Environment Report Volume 1, Rev 2	30-Aug-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the NFE PMR.	03-Mar-00	25	19-Apr-99
SP32K5M3 **PEMP 13-1**	Integrated Site Model 3.0 Report	31-Mar-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the ISM PMR.	29-Oct-99	25	19-Apr-99
SPG42GM3	Geo/Geotech Data fm X-Block Drift Project	31-Mar-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results directly into ISM PMR. (L3)	16-Aug-99	0	19-Apr-99
SP32P4M3	ISM3.1 Addendum to ISM3.0 report	28-May-99	Hayes	Patterson	Submit existing data to TDMS, incorporate min/pet data from WT-24 and SD-6 into the AP3.10Q's supporting the ISM PMR.	29-Oct-99	25	19-Apr-99
SPG640M3	Correlation of Litho & Geophysical Data Report	30-Sep-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the ISM PMR.	unchanged	25	19-Apr-99
SP3120M3	Single Heater Test Final Report (L3)	14-Apr-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results directly into NFE PMR. (L3)	28-May-99	0	19-Apr-99
SPQ224M3	R1 Seismic Design Basis Inputs Report	31-Aug-99	Hayes	Patterson	Incorporate data and results with FY98 report SP24IM3, combine SP24IM3 and SPQ224M3 into AP3.10Q's.	31-Aug-99	25	19-Apr-99
SP3880M3	Drift Scale Test Progress Report #2	29-Sep-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the NFE PMR.	03-Mar-00	25	19-Apr-99

Disposition of Level 3 Deliverables Being Deleted or Altered Under This Change Request

					Planned Deliverable Disposition Under This Change Request			
Deliverable Being Deleted or Altered	Abbreviated Deliverable Title	Current Deliverable Date	Responsible M&O Mgr	Responsible YMSCO Asst Mgr or Designee	New Location Where Data/Information will be Captured	New Completion Date	Estimated Cost Benefit ($k)	Date Discussed and Agreed Upon
SP23GM3	Natural Resources Final Report	02-Jun-97	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting several PMRs.	N/A	25	19-Apr-99
SP24IM3	Seismic Design Inputs for a Geol. Repos. At YM	25-Feb-98	Hayes	Patterson	Incorporate changes requested by DOE and M&O Design. Combine results with FY99 report SPQ224M3 and into AP3.10Q's.	31-Aug-99	25	19-Apr-99
SPG28LM3	Deterministic Evals for [illegible] M	19-Dec-97	Hayes	Patterson	Per DOE's review, additional work needs to be done to resolve difference of opinion on how velocity calibrations from depth to surface are to be determined. Submit existing data to TDMS, review and complete report.	30-Sep-99	0	19-Apr-99
SP3CKJM3	Update UZ Hydrologic Flow Model	30-Sep-98	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the UZ F&T PMR.	17-Mar-00	25	19-Apr-99
SP33PBM3	Fracture Flow & Seepage Testing in ESF	31-Mar-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the UZ F&T PMR.	17-Mar-00	25	19-Apr-99
SP39B2M3	Preliminary Report for USW SD-6 Borehole	29-Aug-97	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the ISM PMR.	N/A	25	19-Apr-99
SP39B3M3	Analysis of Predictions for USW WT-24 Borehole	14-Aug-98	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the ISM PMR.	N/A	25	19-Apr-99
Performance Assessment								
SL9060M3	Complete Info Feeds for Science and Design to TSPA	30-Sep-99	Andrews	Tynan	N/A; Information feeds will be less			
SL921M[illegible]	TSPA-SR Rev. 00	14-Jul-00	Andrews	Tynan	N/A: Less content than originally planned			

Disposition of Level 3 Deliverables Being Deleted or Altered Under This Change Request

					Planned Deliverable Disposition Under This Change Request			
Deliverable Being Deleted or Altered	**Abbreviated Deliverable Title**	**Current Deliverable Date**	**Responsible M&O Mgr**	**Responsible YMSCO Asst Mgr or Designee**	**New Location Where Data/Information will be Captured**	**New Completion Date**	**Estimated Cost Benefit ($k)**	**Date Discussed and Agreed Upon**
SL924M3	TSPA-SR Rev. 01	29-Feb-01	Andrews	Tynan	N/A: More bounding analyses will be used			
SL916M3	PA Input to DEIS	26-Feb-99	Andrews	Tynan	Delay completion of deliverable to accommodate DOE/MTS comments on SL916M4	31-Mar-99		
Waste Package								
WP110M3	Submit WFCR Update to DOE for SR	31-Mar-00	Benton	Spence	Characteristics Report being deleted - replaced by Process Model Report			
WP110M3	Submit WFMR to DOE/PA for SR		Benton	Spence	Add Waste Form Model Report	31-Mar-00	0	
WP20CM3	Submit EMCR Update to DOE for SR	24-Apr-00	Benton	Spence	Characteristics Report being deleted - replaced by Process Model Report			
WP20CM3	Submit EBMMR to DOE/PA for SR		Benton	Spence	Add Engr Barrier Material Model Report	24-Apr-00	0	
WP275M3	Summary Report of Degraded WP Crit Evals	30-Sep-99	Benton	Russell	Delete deliverable; information will be contained n other WPO deliverables and products			
Engineered Barrier System								
RPA256M3	Hydraulics and Water Flow in the Drifts	30-Sep-99	Bhattacharyya	Gonzalez	Information will be incorporated into analyses supporting the EBS Transport PMR. Work has been reformatted to comply with new scope leading directly to the development of the PMR. Information that would be contained in this deliverable does not directly support SR or LA, but the PMR that supports PA and the development of the SR and LA.	30-Sep-99	73	18-Mar-99

Disposition of Level 3 Deliverables Being Deleted or Altered Under This Change Request

					Planned Deliverable Disposition Under This Change Request			
Deliverable Being Deleted or Altered	**Abbreviated Deliverable Title**	**Current Deliverable Date**	**Responsible M&O Mgr**	**Responsible YMSCO Asst Mgr or Designee**	**New Location Where Data/Information will be Captured**	**New Completion Date**	**Estimated Cost Benefit ($k)**	**Date Discussed and Agreed Upon**
RPA258M3	EBS Natural Analogs	30-Sep-99	Bhattacharyya	Gonzalez	Defer until FY00 due to prioritization of FY99 work given budget reductions. Work was prioritized according to importance and scheduling, and it was determined that this deliverable would have the least impact on overall EBS work load if it was deferred. Deliverable (and supporting activity) will be retitled as Engineered Analogs to reflect that the work deals with engineered items rather than natural systems.	TBD: April/May 2000	0	18-Mar-99
Regulatory and Licensing								
SL06X7M3	Submit Repository Safety Strategy Rev 3	28-May-99	Richardson	Van Luik	Delivery date extended to accommodate resources reallocation to PVAR effort.	28-Jul-99	0	05-May-99
SLWD02M3	M&O Provide WDLA QAP-6.2 Draft to DOE	30-Jul-99	Richardson	Gil	Criteria change for the WDLA will delete Chapters 3 & 8 per DOE Guidance Letter.	30-Jul-99	200	12-Feb-99

Disposition of FY97, FY98, and FY99 Level 3 Deliverables Being Deleted or Altered Under This Change Request

Deliverable	Disposition	Abbreviated Deliverable Title	Current Deliverable Date	Responsible M&O Mgr	Responsible YMSCO Asst Mgr or Designee	New Location Where Data/Information will be Captured	Completion Date for New Action	Estimated Cost Benefit ($k)	Date Discussed and Agreed Upon
NEPO									
SP32E1M3	delete	Prow Pass Reactive Tracer Test Report	1-Apr-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the SZ PMR.	28-Apr-00	25	19-Apr-99
SP9904M3	delete	Final LBT Report	12-Aug-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the NFE PMR.	3-Mar-00	25	19-Apr-99
SP399CM3 **PEMP 13-1**	delete	NF/AZ Environment Report Volume 1, Rev 2	30-Aug-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the NFE PMR.	3-Mar-00	25	19-Apr-99
SPG42GM3	adjust date	Geo/Geotech Data fm X-Block Drift Project	31-Mar-99	Hayes	Patterson	Submit existing data to TDMS, incorporate test results into the ISM PMR, and complete report	16-Aug-99	0	19-Apr-99
SP32P4M3	delete	ISM3.1 Addendum to ISM3.0 report	28-May-99	Hayes	Patterson	Submit existing data to TDMS, incorporate min/pet data from WT-24 and SD-6 into the AP3.10Q's supporting the ISM PMR.	29-Oct-99	25	19-Apr-99
SPG640M3	delete	Correlation of Litho & Geophysical Data Report	30-Sep-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the ISM PMR.	30-Sep-99	25	19-Apr-99
SP3120M3	adjust date	Single Heater Test Final Report (L3)	14-Apr-99	Hayes	Patterson	Submit existing data to TDMS, incorporate test results into the NFE PMR and complete report	28-May-99	0	19-Apr-99
SPQ224M3	delete	R1 Seismic Design Basis Inputs Report	31-Aug-99	Hayes	Patterson	Incorporate data and results with FY98 report SP24IM3, combine SP24IM3 and SPQ224M3 into AP3.10Q's.	31-Aug-99	25	19-Apr-99
SP3880M3	delete	Drift Scale Test Progress Report #2	29-Sep-99	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the NFE PMR.	3-Mar-00	25	19-Apr-99
SP23GM3	delete	Natural Resources Final Report	2-Jun-97	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting several PMRs.	various	25	19-Apr-99
SP24IM3	delete	Seismic Design Inputs for a Geol. Repos. At YM	25-Feb-98	Hayes	Patterson	Incorporate changes requested by DOE and M&O Design. Combine results with FY99 report SPQ224M3 and into AP3.10Q's.	31-Aug-99	25	19-Apr-99

Disposition of FY97, FY98, and FY99 Level 3 Deliverables Being Deleted or Altered Under This Change Request

Deliverable	Disposition	Abbreviated Deliverable Title	Current Deliverable Date	Responsible M&O Mgr	Responsible YMSCO Asst Mgr or Designee	New Location Where Data/Information will be Captured	Completion Date for New Action	Estimated Cost Benefit ($k)	Date Discussed and Agreed Upon
SPG28LM3	adjust date	Deterministic Evals for Type 1 faults at YM	19-Dec-97	Hayes	Patterson	Per DOE's review, additional work needs to be done to resolve difference of opinion on how velocity calibrations from depth to surface are to be determined. Submit existing data to TDMS, review and complete report.	30-Sep-99	0	19-Apr-99
SP39B2M3	delete	Predictive Report for USW SD-6 Borehole	29-Aug-97	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the ISM PMR.	29-Oct-99	25	19-Apr-99
SP39B3M3	delete	Analysis of Predictions for USW WT-24 Borehole	14-Aug-98	Hayes	Patterson	Submit existing data to TDMS and incorporate test results into the AP3.10Q's supporting the ISM PMR.	29-Oct-99	25	19-Apr-99
Performance Assessment									
SL9050M3	adjust scope	Complete Info Feeds for Science and Design to TSPA	30-Sep-99	Andrews	Tynan	N/A; Information feeds will be less			
SL916M3	adjust date	PA Input to DEIS	26-Feb-99	Andrews	Tynan	Delay completion of deliverable to accommodate DOE/MTS comments on SL916M4	31-Mar-99		
Waste Package									
WP275M3	delete	Summary Rpt of Degraded WP Crit Evals	30-Sep-99	Benton	Russell	Delete deliverable; information will be contained in other WPO deliverables and products		15	
Engineered Barrier System									
RPA256M3	delete	Hydraulics and Water Flow in the Drifts	30-Sep-99	Bhattacharyya	Gonzalez	Information will be incorporated into analyses supporting the EBS Transport PMR. Work has been reformatted to comply with new scope leading directly to the development of the PMR. Information that would be contained in this deliverable does not directly support SR or LA.	30-Sep-99	73	18-Mar-99

Disposition of FY97, FY98, and FY99 Level 3 Deliverables Being Deleted or Altered Under This Change Request									
Deliverable	**Disposition**	**Abbreviated Deliverable Title**	**Current Deliverable Date**	**Responsible M&O Mgr**	**Responsible YMSCO Asst Mgr or Designee**	**New Location Where Data/Information will be Captured**	**Completion Date for New Action**	**Estimated Cost Benefit ($k)**	**Date Discussed and Agreed Upon**
RPA258M3	adjust date	EBS Natural Analogs	30-Sep-99	Bhattacharyya	Gonzalez	Defer until FY00 due to prioritization of FY99 work given budget reductions. Work was prioritized according to importance and scheduling, and it was determined that this deliverable would have the least impact on overall EBS work load if it was deferred. Deliverable (and supporting activity) will be retitled as Engineered Analogs to reflect that the work deals with engineered items rather than natural systems.	TBD: April/May 2000	0	18-Mar-99
Regulatory and Licensing									
SL06X7M3	adjust date	Submit Repository Safety Strategy Rev 3	28-May-99	Richardson	Van Luik	Delivery date extended to accommodate resource reallocation to PVAR effort.	28-Jul-99	0	5-May-99
SLWD02M3	adjust scope	M&O Provide WDLA QAP-6.2 Draft to DOE	30-Jul-99	Richardson	Gil	Criteria change for the WDLA will delete Chapters 3 & 8 per DOE Guidance Letter.	30-Jul-99	200	12-Feb-99