Nuclear Fuel Services, Inc.
P.O. Box 337, MS 123
Erwin, TN 37650

(423) 743-9141

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

December 16, 1997

21G-97-0174
GOV-01-60
ACF-97-295

Mr. G. Alan Farmer, Chief
RCRA Branch
Waste Management Division
Environmental Protection Agency
Region IV
100 Alabama Street, S.W.
Atlanta, GA 30303

Mr. Thomas Tiesler, Director
Division of Solid Waste Management
TN Department of Environment
and Conservation
Fifth Floor, L&C Tower
401 Church Street
Nashville, TN 37243-1535

REFERENCE: *HSWA Permit for 1984 RCRA Amendments*
Nuclear Fuel Services, Inc., Erwin, TN
EPA ID: TND 003 095 635

Dear Messrs. Farmer and Tiesler:

As required by the above reference, Condition II.E.3.a. and Condition II.F.3.a., Nuclear Fuel Services, Inc. (NFS) is enclosing the quarterly RCRA Facility Investigation (RFI) and Interim Measures (IM) Progress Reports as Attachments I and II. The next quarterly RFI/IM Progress Reports will be submitted by March 16, 1998.

If you have any questions or need further information, please contact me or Ms. Marie Moore, Environmental & Health Physics Director, at (423) 743-1737. Please reference our unique document identification number (21G-97-0174) in any correspondence concerning this letter.

Sincerely,

NUCLEAR FUEL SERVICES, INC.

Thomas S. Baer, PhD
Vice President
Safety and Regulatory

TSB/JEG/rcy

Enclosure

xc: Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303

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Washington, D. C. 20555-0001

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Mr. Gary Humphrey
NRC Resident Inspector

IE07

21G-97-0174
GOV-01-60
ACF-97-295

ATTACHMENT I

To Letter Dated December 16, 1997
T. S. Baer to Mr. G. Alan Farmer and Mr. Thomas Tiesler

RFI Progress Report

(12 pages to follow)

RFI PROGRESS REPORT
NUCLEAR FUEL SERVICES, INC.
EPA ID NO. TND 00 309 5635

1.0 SWMU 20 (Building 130 Scale Pit)

1.1 Work Completed

The groundwater from the Building 130 scale pit (SWMU 20) is pumped monthly and water is transferred to the Wastewater Treatment Facility. The groundwater is sampled for PCE, TCE, 1,2 DCE (total) and vinyl chloride. The groundwater is then treated and released in accordance with applicable regulations. A total of 82,901 gallons of groundwater has been pumped and treated since September 1995.

1.2 Findings and Observations

The analytical results for samples obtained from the scale pit during this and previous reporting periods are presented in Table 1. Comparison of results with previous months indicate a decrease in PCE and 1,2 DCE (total). TCE and vinyl chloride results are consistent with previous reporting periods.

1.3 Work Projected (First Quarter 1998)

Monthly pumping and sampling of the Building 130 scale pit (SWMU 20) will continue until EPA Region IV approves closure. The findings will be reported in the RFI progress report.

2.0 Off-Site Groundwater Investigation

2.1 Work Completed

Quarterly groundwater sampling of the eleven off site monitoring wells was conducted October 20 through October 24. Samples were analyzed for volatile organics and radionuclides by the NFS 105 laboratory.

As an overcheck, groundwater samples were also sent to IEA, Inc. and Quanterra, Inc. NFS has not received complete data sets from the offsite laboratories. If any discrepancies between the NFS 105 Laboratory and the offsite laboratories are identified, the discrepancies will be noted in the 1998 First Quarter RFI Progress Report.

2.2 Findings and Observations

Quarterly groundwater samples were obtained from eleven off-site monitoring wells and the seepage that flows into the backwater area. The samples were analyzed for PCE, TCE, 1,2-DCE, vinyl chloride, isotopic uranium and technetium-99.

Fourth quarter volatile organic data are presented in Table 2. PCE, TCE, 1,2-DCE and vinyl chloride results are consistent with results obtained during the previous sampling events with the exception of the vinyl chloride result. Vinyl chloride was detected in Well 116B at a concentration of 0.017 mg/L. It has not been previously detected in this well. Vinyl Chloride has been detected in Well 118B at concentrations greater than the MCL of 0.002 mg/L in previous sampling events.

Fourth quarter uranium data are presented on Table 3. Uranium concentrations are also consistent with data obtained during the previous sampling events. Uranium has not been detected at concentrations greater than the proposed MCL (30 pCi/L) during any offsite sampling event. Technetium-99 data have not been received from the NFS 105 Laboratory. Technetium-99 results will be included in the 1998 First Quarter Progress Report.

2.3 Work Projected (First Quarter 1998)

All outstanding fourth quarter groundwater results will be received and validated. Offsite wells are scheduled to be sampled again in January.

3.0 Burial Ground Wells

3.1 Work Completed

Excavation of the burial ground trenches began in April 1997. In accordance with Addendum 1 to the Pond 4 Decommissioning/Interim Measures Workplan, wells in the vicinity of the burial ground are sampled routinely to monitor the effect of waste removal on groundwater quality (Figure 1). PCE and uranium were identified during the North Site Characterization Project as the primary constituents present in groundwater in the vicinity of the burial ground. PCE data from third quarter 1997 have not been received from the laboratory. These data will be reported in the next RFI Progress Report.

3.2 Findings and Observations

Baseline and quarterly results for PCE and total uranium in the upgradient and downgradient burial ground wells are presented in Tables 4 and 5. Concentrations of PCE in the downgradient burial ground wells prior to trench excavation

(baseline) ranged from 0.004 mg/L to 0.038 mg/L (Table 4). Mean concentrations of PCE in the downgradient burial ground after beginning trench excavation (second quarter) ranged from 0.002 mg/L to 0.030 mg/L. Currently, there is insufficient data to determine the presence of trends for PCE in the burial ground wells.

Total uranium concentrations are presented in Table 5. Total uranium concentrations in the downgradient wells ranged from 1.494 pCi/L to 13,469.389 pCi/L for the baseline. Mean concentrations of total uranium in the downgradient wells for the 2nd and 3rd quarters ranged from 0.478 pCi/L to 2315.384 pCi/L and 0.503 pCi/L to 1399.933 pCi/L, respectively. Concentrations of total uranium for each well were plotted monthly. The corresponding graphs are presented in Figure 2. Trends for total uranium in the burial ground wells were not observed with the exception of Well 95A. Concentrations in Well 95A appear to be decreasing; however, more data is necessary to determine if the observed trend is due to excavation activities or seasonal variations.

3.3 Work Projected (First Quarter 1998)

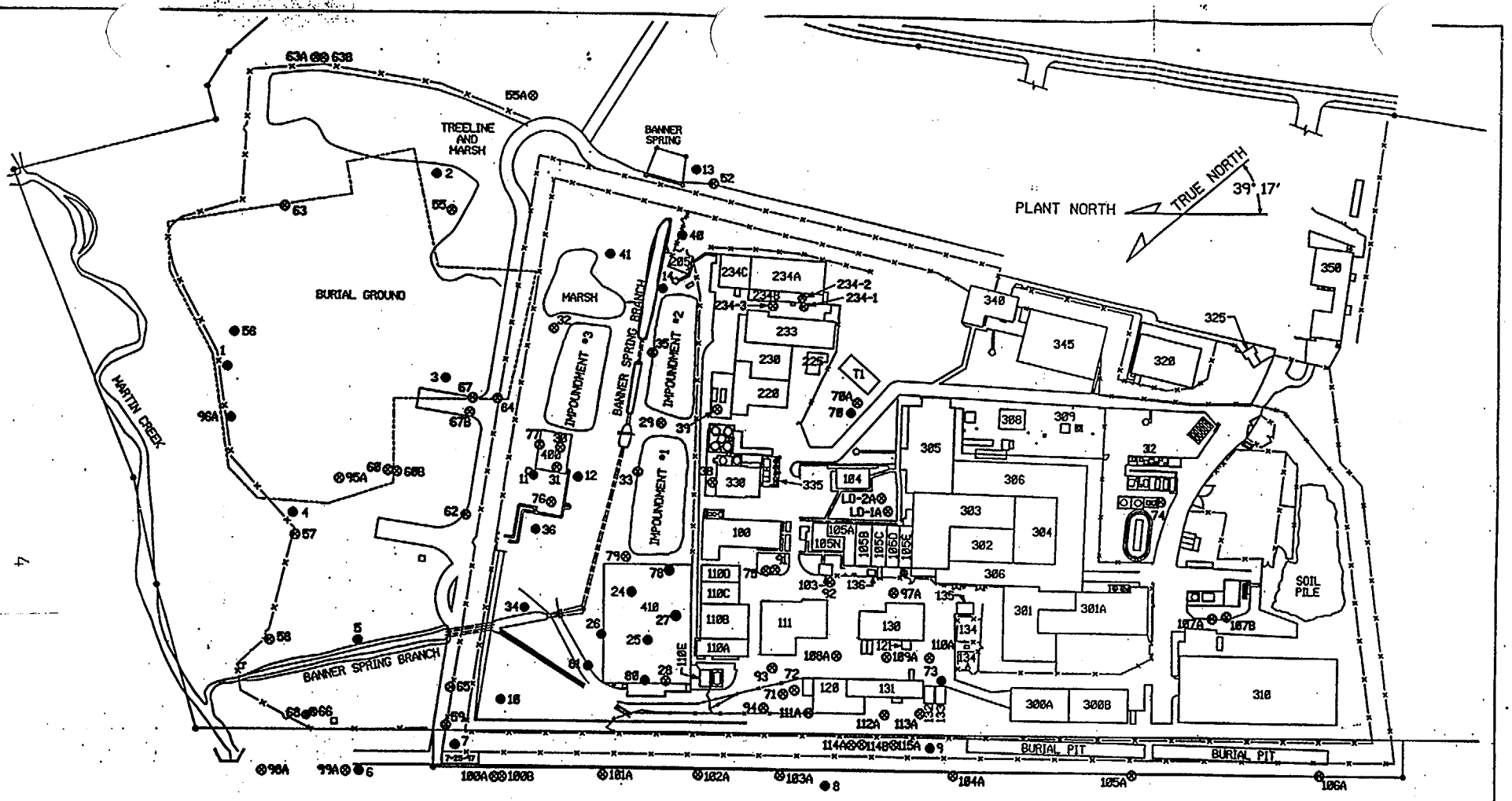
Remaining PCE data from third quarter 1997 will be received and validated; results will be reported in the next quarter progress report.

PCE and uranium data will continue to be evaluated to determine trends in water quality during the burial ground project. Results will be presented in the RFI Progress Reports.

4.0 General Information

An investigation to define the vertical extent of offsite groundwater contamination and to obtain additional information on hydrological properties and groundwater flow in the deeper bedrock began on December 8. Two wells will be installed as part of the this investigation. Well depths will be determined by evaluating analytical results from samples obtained at discrete intervals (packer test interval) during drilling. The two wells will not be installed to depths greater than 250 feet. One well will be installed on NFS property and the other on property adjoining NFS. Well installations are expected to be completed by early January 1998. Results of the investigation will be presented in the Progress Report.

NFS has requested permission from the Tennessee Department of Environment and Conservation to abandon two wells (121A and 121B) located offsite due to construction activities in the Unicoi County Industrial Park.



LEGEND

⊗ - MONITORING WELL LOCATION

● - ABANDONED (CLOSED) WELLS

BY	DATE	REVISION	LET
		ADDED ABANDONED WELLS	B
HOK JEO	08-02-17	ADDED WELL #12	A
HOK LHH	04-12-16	ORIGINAL ISSUE	—

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TOLERANCE UNLESS SPECIFIED
FRACTIONAL ± 1/64"
ANGULAR ± 1/2°
DECIMAL
XX ± .01
XXX ± .001

REVIEWED BY
PROPOSED COMPLETION DATE:
DRAFTER
PROPOSED APPROVALS
REQ.

FOR INFORMATION ONLY

NUCLEAR FUEL SERVICES, INC.
ERWIN, TENNESSEE

MONITORING WELL LOCATIONS

DRAFTER M.D. KEEVER
AS-BUILT APPROVALS
REQ.
OWNER

SCALE 1"= 150'
DATE 09-18-17

DRAWING NO. 000-C0243-B

A-5

Figure 1

TABLE 1

Analytical Results for SWMU 20
Groundwater

Sample ID	Pumping Date	Collection Date	PCE (mg/L)	TCE (mg/L)	1,2 DCE (Total) (mg/L)	Vinyl Chloride (mg/L)
Baseline 1377124	09/11/95	09/11/95	0.0258	0.0021	0.0193	< 0.005
1377299	09/11/95	09/12/95	0.0428	0.0027	0.0191	0.0053
1379194	09/27/95	09/29/95	0.1846	0.0090	0.0583	< 0.005
1380354	10/11/95	10/12/95	0.1601	0.0039	0.0557	< 0.005
1381571	10/24/95	10/25/95	0.0022	< 0.00038	< 0.008	< 0.005
1382926	11/09/95	11/10/95	0.2079	< 0.00038	< 0.008	< 0.005
1384040	11/21/95	11/22/95	0.2045	0.0239	0.0253	< 0.005
1385232	12/06/95	12/07/95	1.2020	< 0.00038	0.0808	< 0.005
1388088	01/16/96	01/17/96	0.5455	< 0.00038	< 0.008	< 0.005
1389653	02/13/96	02/14/96	0.1732	0.3507	0.1742	< 0.005
1401424	09/18/96	09/18/96	0.1965	< 0.00038	0.0806	< 0.005
1402978	10/15/96	10/15/96	0.047	0.003 UJ	0.009	< 0.004
1404091	11/05/96	11/05/96	0.103	0.027	0.091	0.006
1405586	12/03/96	12/03/96	0.098	0.005	0.010	< 0.004
1409085	01/20/97	01/21/97	0.039	< 0.004	< 0.004	< 0.004
1411441	02/10/97	2/10/97	0.071	< 0.004	< 0.004	< 0.004
1415212	03/12/97	3/13/97	0.149	0.011	0.024	< 0.004
1417118	04/09/97	4/10/97	0.097	0.008	0.017	< 0.004
1420305	05/16/97	05/16/97	0.055	< 0.004	0.064	< 0.005
1422332	06/12/97	06/18/97	0.089	0.008	0.016	< 0.004
1423746	07/10/97	07/11/97	0.037	0.006	0.032	< 0.004
236201	08/06/97	08/06/97	0.043	0.008	0.046	< 0.004
1430335	09/10/97	09/10/97	0.043	0.009	0.043	< 0.004
1439413	10/17/97	10/17/97	0.006	< 0.004	0.006	< 0.004
Mean			0.165	0.021	0.038	< 0.005
Standard Deviation			0.253	0.072	0.040	0.001
t-value			1.321	1.321	1.321	1.321
No of Observations			23	23	23	23
90% UCL			0.235	0.041	0.050	0.005
Action Level (mg/L)			0.005	0.005	0.07	0.002

Notes:
Analysis performed by NFS 105 Laboratory
UJ - estimated value below detection limit
< - below detection limit

Scale pit data.xls
11/19/97

Fourth Quarter Offsite Groundwater Analytical Results for Volatile Organic Compounds

Sample ID	Well Number	Tetrachloroethylene mg/L	Trichloroethylene mg/L	1,2-Dichloroethylene (cis) mg/L	1,2-Dichloroethylene (trans) mg/L	Vinyl chloride mg/L
00236	116A	0.599 J	0.030	0.031	< 0.004	< 0.004
00124	116B	1.823	0.066	0.099	< 0.004	0.017
00120	117A	0.227	0.012	0.012	< 0.004	< 0.004
00119	117B	0.384	0.023	0.021	< 0.004	< 0.004
00118	118A	0.010	0.008	0.006	< 0.004	< 0.004
00122	118B	0.022	0.008	0.010	< 0.004	< 0.004
00173	119A	0.144	0.016	0.006	< 0.004	< 0.004
00126	120A	0.203	0.014	0.012	< 0.004	< 0.004
00123	120B	0.364	0.024	0.022	< 0.004	< 0.004
00127	121A	0.079	0.005	0.004	< 0.004	< 0.004
00128	121B	0.071	0.005	0.004	< 0.004	< 0.004
00125	SEEPAGE	0.038	0.005	0.004	< 0.004	< 0.004
Statistics						
	Mean	0.330	0.018	0.019	< 0.004	0.005
	Standard Deviation	0.503	0.017	0.027	0.000	0.004
	Observations	12	12	12	12	12
	t-value	1.796	1.796	1.796	1.796	1.796
	95% Upper Confidence Limit	0.591	0.027	0.033	0.004	0.007
	MCL	0.005	0.005	0.07	0.1	0.002

Notes

Samples obtained 10/20/97 - 10/24/97. Analysis completed by NFS 105 Laboratory

< - less than detection limit; value given is the quantitation limit.

J - estimated value

MCL - Maximum Contaminant Level (EPA, 1996)

Fourth Quarter Offsite Groundwater Analytical Results for Radionuclides

Sample ID	Well Number		U-234 (pCi/L) Result	Error	MDC		U-235 (pCi/L) Result	Error	MDC	U-238 (pCi/L) Result	Error	MDC	Total U (pCi/L)
00236	116A		0.208	0.054	0.090	UJ	0.012	0.021	0.090	0.061	0.027	0.034	0.281
00124	116B		0.498	0.114	0.230	UJ	0.000	0.027	0.140	0.134	0.051	0.052	0.632
00120	117A	B	0.947	0.114	0.138	UJ	0.023	0.023	0.084	0.092	0.033	0.032	1.062
00119	117B	B	0.369	0.084	0.050	UJ	0.000	0.026	0.136	0.092	0.041	0.050	0.461
00118	118A		2.179	0.224	0.056	UJ	0.000	0.029	0.152	1.121	0.157	0.056	3.300
00122	118B		0.527	0.094	0.044	UJ	0.016	0.028	0.118	0.128	0.045	0.044	0.671
00173	119A		0.528	0.088	0.034	UJ	-0.013	0.022	0.118	0.101	0.036	0.034	0.617
00126	120A	B	0.522	0.096	0.046		0.084	0.038	0.046	0.269	0.068	0.046	0.875
00123	120B	B	0.475	0.081	0.036	UJ	0.040	0.030	0.098	0.541	0.087	0.036	1.056
00127	121A	B	0.533	0.088	0.036	UJ	0.027	0.027	0.100	0.328	0.068	0.036	0.888
00128	121B	B	0.477	0.084	0.038	UJ	0.014	0.014	0.038	0.252	0.066	0.130	0.743
00125	SEEPAGE	B	0.665	0.150	0.224	UJ	-0.030	0.030	0.224	0.423	0.114	0.080	1.058
Mean			0.661				0.014			0.295			0.970
Standard Deviation			0.508				0.029			0.300			0.774
Observations			12				12			12			12
t-value			1.796				1.796			1.796			1.796
95% Upper confidence			0.924				0.029			0.451			1.371
Action Level			ND				ND			ND			30 pCi/L

Notes:

Samples obtained 10/20/97 - 10/24/97. Analysis completed by NFS 105 Laboratory
Total U - U234+U235+U238
B - analyte detected in blank.
UJ - analyte was present below the minimal detectable concentration and the value is an estimated.
MDC - Maximum Detectable Concentration (EPA, 1996)

Table 4

Tetrachloroethylene Results for the Burial Ground Wells

Results are reported as mg/L

	Upgradient			Downgradient							
	Well 55		Well 63A	Well 56	Well 57	Well 60	Well 60B	Well 63	Well 67B	Well 95A	Well 96A
Baseline											
Mar-97	0.025	<	0.001	0.004	0.015	0.006	0.010	0.009	0.038	0.004	0.006
2nd Quarter											
Apr-97	0.028	<	0.001	< 0.001	0.013	0.008	0.045	0.014	0.016	0.004	0.005
May-97	0.027	<	0.001	0.007	0.010	0.006	0.009	0.032	0.037	< 0.001	0.003
Jun-97	0.026		0.002	0.003	0.012	0.006	0.011	0.030	0.038	0.002	0.003
Mean	**0.027**		**0.001**	**0.004**	**0.012**	**0.007**	**0.022**	**0.025**	**0.030**	**0.002**	**0.004**

< - value below detection limit
MCL = 0.005 mg/L

TABLE 5

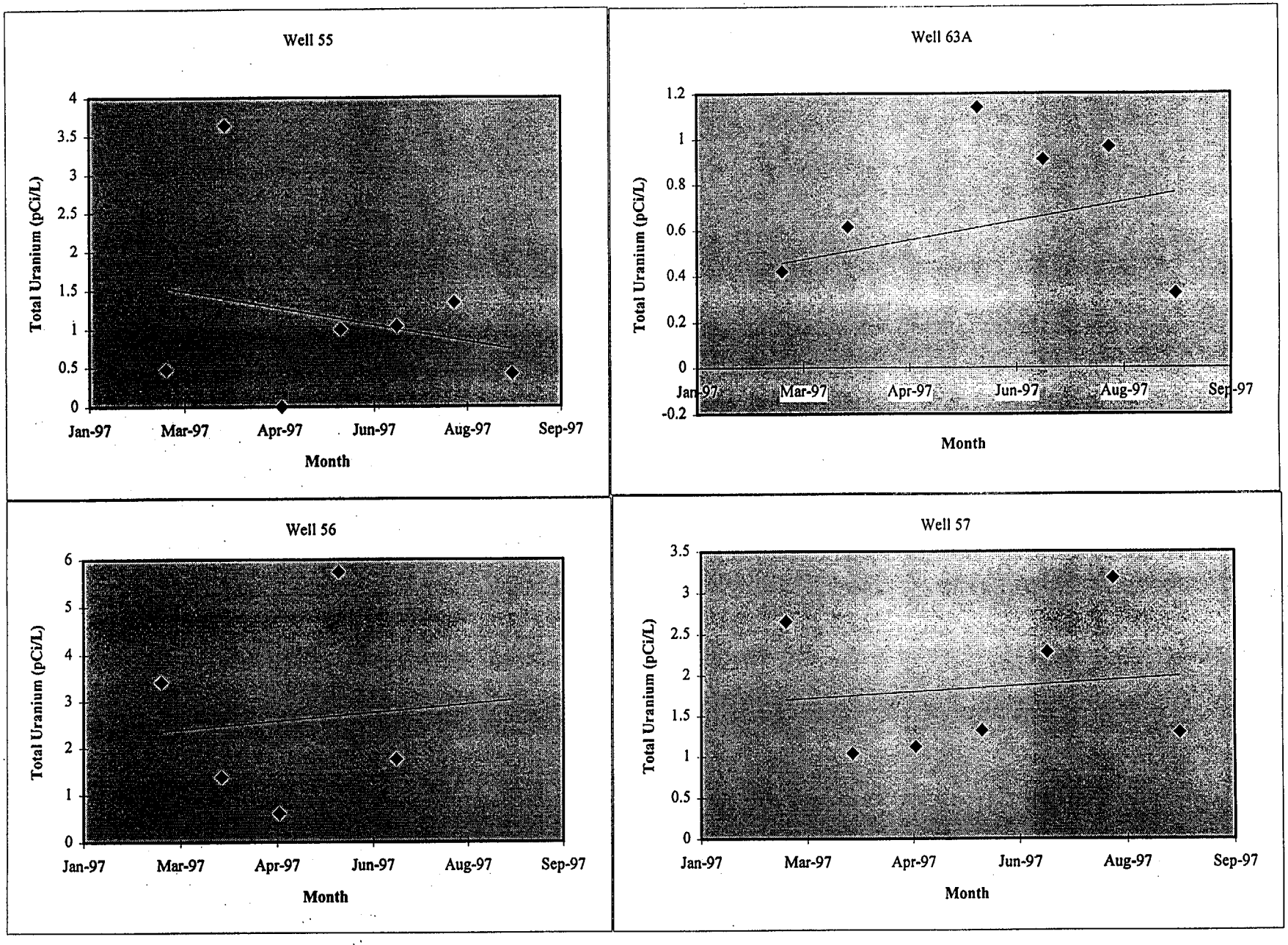
Total Uranium Radionuclide Results for the Burial Ground Wells

Results are reported as pCi/L

	Upgradient		Downgradient							
	Well 55	**Well 63A**	**Well 56**	**Well 57**	**Well 60**	**Well 60B**	**Well 63**	**Well 67B**	**Well 95A**	**Well 96A**
Baseline Mar-97	0.477	0.421	3.411	2.655	13469.389	1743.935	1.494	3.526	1132.010	264.515
2nd Quarter										
Apr-97	3.643	0.616	1.38	1.04	2863.131	502.480	0.634	0.240	1950.080	146.534
May-97	0	-0.108	0.617	1.123	1313.569	463.050	0.775	0.247	3155.934	100.085
Jun-97	1.002	1.140	5.744	1.321	926.809	447.896	1.082	0.946	1840.137	177.600
Mean	1.548	0.549	2.580	1.161	1701.170	471.142	0.830	0.478	2315.384	141.406
3rd Quarter										
Jul-97	1.042	0.912	1.757	2.286	731.925	3362.211	0.549	0.903	1028.909	39.410
Aug-97	1.342	0.967		3.185	242.401	477.484	0.670	0.183	557.080	A
Sep-97	0.42	0.326		1.293	610.205	360.103	0.378	0.423	491.132	
Mean	0.935	0.735	1.757	2.255	528.177	1399.933	0.532	0.503	692.374	39.410

A - Abandonded
EPA Proposed MCL = 30 pCi/L

Figure 2


Well 55
Total Uranium (pCi/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
Jan-97
Mar-97
Apr-97
Jun-97
Aug-97
Sep-97
Month
Well 63A
Total Uranium (pCi/L)
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
Jan-97
Mar-97
Apr-97
Jun-97
Aug-97
Sep-97
Month
Well 56
Total Uranium (pCi/L)
6
5
4
3
2
1
0
Jan-97
Mar-97
Apr-97
Jun-97
Aug-97
Sep-97
Month
Well 57
Total Uranium (pCi/L)
3.5
3
2.5
2
1.5
1
0.5
0
Jan-97
Mar-97
Apr-97
Jun-97
Aug-97
Sep-97
Month

Figu (cont.)

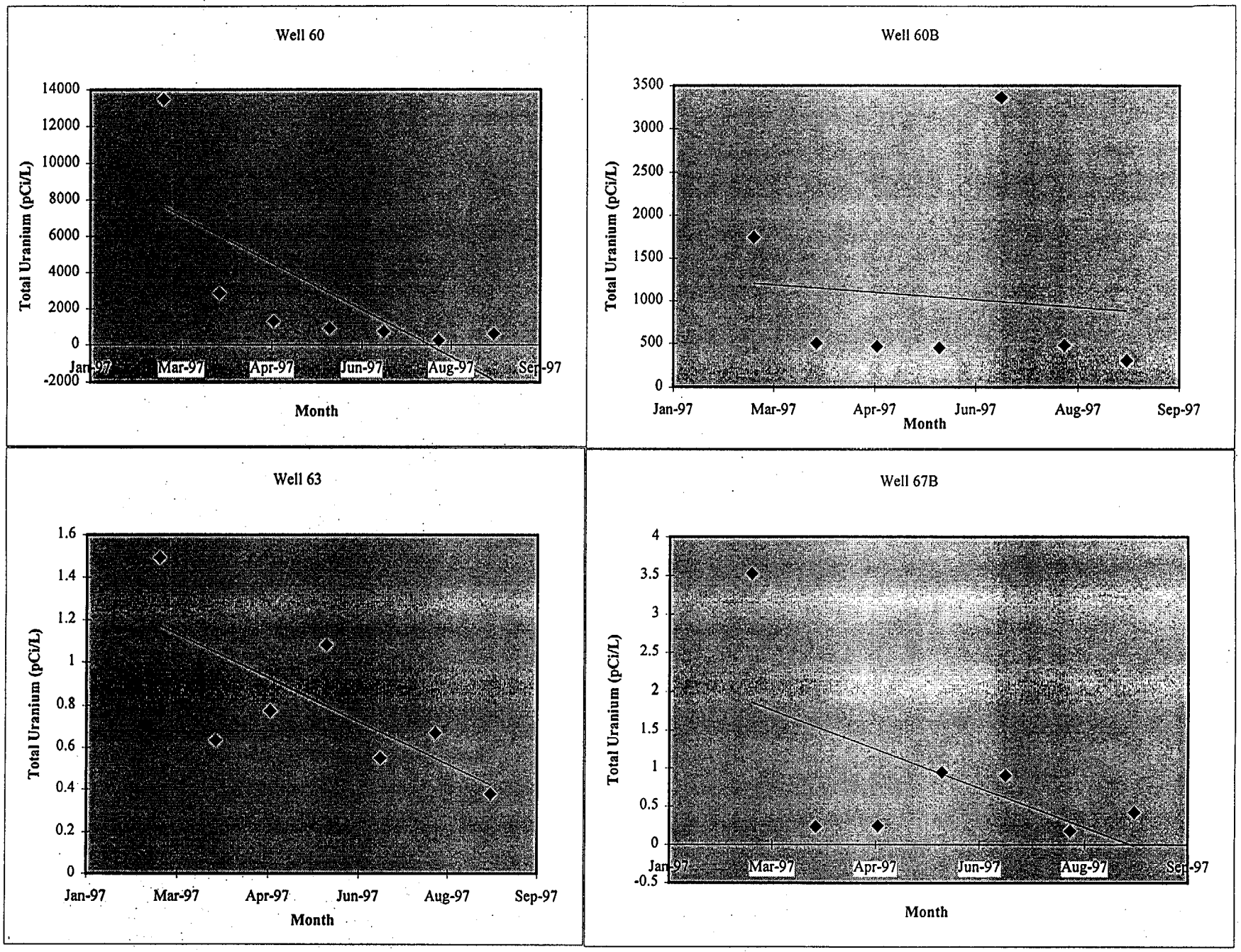
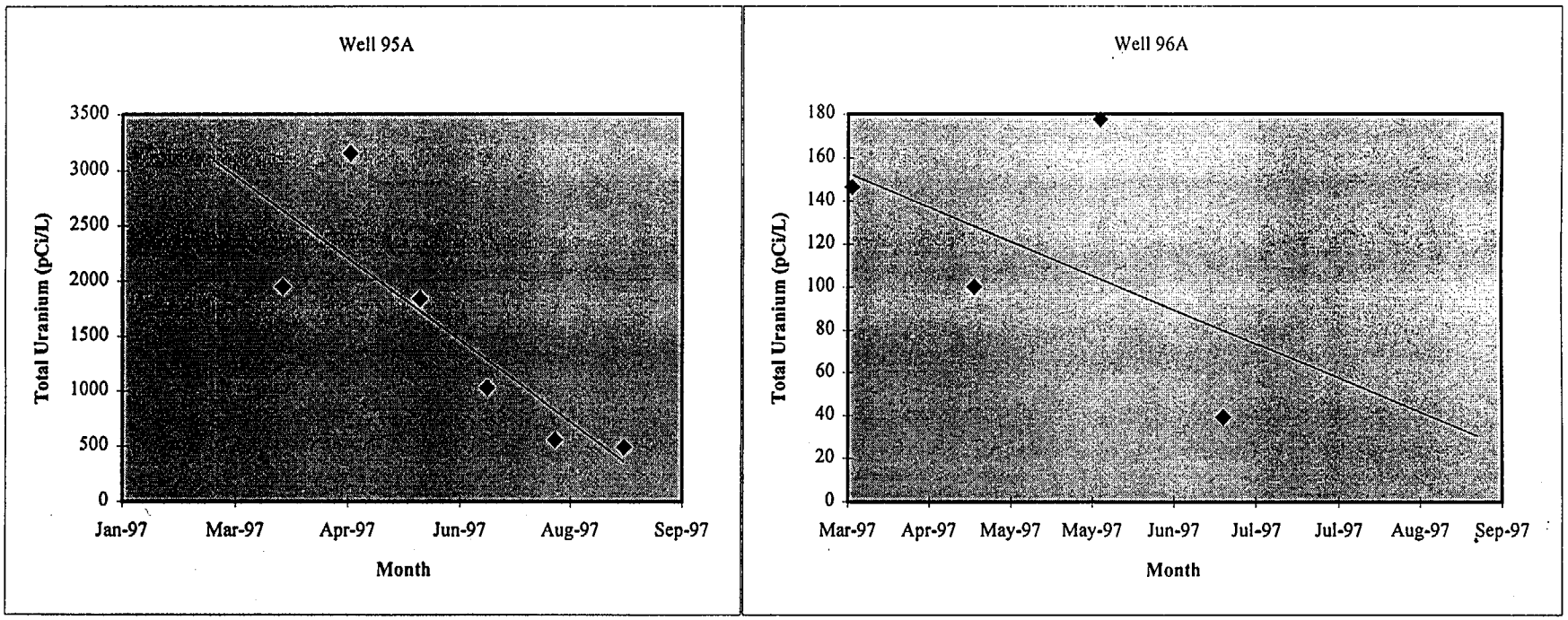

Well 60
Total Uranium (pCi/L)
14000
12000
10000
8000
6000
4000
2000
0
-2000
Jan-97
Mar-97
Apr-97
Jun-97
Aug-97
Sep-97
Month
Well 60B
Total Uranium (pCi/L)
3500
3000
2500
2000
1500
1000
500
0
Jan-97
Mar-97
Apr-97
Jun-97
Aug-97
Sep-97
Month
Well 63
Total Uranium (pCi/L)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Jan-97
Mar-97
Apr-97
Jun-97
Aug-97
Sep-97
Month
Well 67B
Total Uranium (pCi/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
Jan-97
Mar-97
Apr-97
Jun-97
Aug-97
Sep-97
Month

Figure 2 (cont.)



ATTACHMENT II

To Letter Dated December 16, 1997
T. S. Baer to Mr. G. Alan Farmer and Mr. Thomas Tiesler

Interim Measures Progress Report

(5 pages to follow)

INTERIM MEASURES (IM) PROGRESS REPORT
SWMU's 2, 4, 6, 7, 9 and 10
NUCLEAR FUEL SERVICES, INC.
EPA ID. NO. TND 00 309 5635

1.0 Work Completed

Since the last IM Progress Report dated September 17, 1997, all intermodals loaded during the removal of the CSX soil pile (SWMU 7) have been sent off-site for burial at Envirocare of Utah. This excavation project yielded approximately 145,892 cubic feet of soil.

Since the startup (April 10, 1997) of the excavation process for the Demolition Landfill (SWMU 10) approximately 131,364 cubic feet of soil and debris have been transported into Building 410. As of November 30, approximately 57,840 cubic feet of soil has been shipped in 1928 bulk shipping bags. In addition 13,999 cubic feet of debris has been shipped in 193 burial boxes.

The excavation and removal of the South Soil Pile began on September 3, 1997. As of November 30, 1997, 66 intermodals have been loaded with approximately 32,604 cubic feet of soil. All intermodals have been sent off-site for burial at Envirocare of Utah.

Through November 30, 1997, 5,666,150 gallons of groundwater have been treated and discharged in accordance with applicable regulations to the Erwin POTW in the 1,195 days since start-up. The total groundwater being pumped from the groundwater drawdown wells and the adjacent ponds (Ponds 1, 2 and 3) has averaged 3.38 gallons per minute.

2.0 Finding and Observations

Analytical data indicates that the excavated waste and debris from SWMU 10 (Trenches L and M) do not contain any hazardous constituents above the TCLP regulatory limits.

Influent Data

On May 16, 1997, efforts to restart the drawdown system were initiated. At the time of startup on May 16, 1997, three of the ten drawdown wells were operational. Drawdown of the Pond 4 groundwater was continued with the three operational wells while pumps for six wells were ordered. Well #4 was discontinued as a pumping well due to continuous operational problems. As of August 19, 1997, all six of the ordered pumps were installed. All pumps were operational by September 15, 1997. The groundwater drawdown system is checked on a weekly basis to insure operation.

Since initial start-up, groundwater has been sampled weekly for the following constituents: 1,2 dichloroethylene (1,2 DCE), tetrachloroethylene (PCE), trichloroethylene (TCE), vinyl chloride, tributyl phosphate (TBP), bis(2-ethylhexyl)pthalate (BEHP), and di-n-octyl phthalate (DOP). Influent data (Pond 4 drawdown wells and Ponds 1, 2, & 3) for constituents detected in samples collected May 16, 1997 through November 17, 1997 are presented in Attachment 1 and are discussed below.

1,2 Dichloroethylene - 1,2 DCE was detected in 26 of 27 samples (96%) at concentrations exceeding the 0.07 mg/l MCL. 1,2 DCE concentrations exceeding the MCL ranged from 0.107 to 0.680 mg/l.

Tetrachloroethylene - PCE was detected in all samples at concentrations exceeding the 0.005 mg/l MCL. PCE concentrations ranged from 0.022 to 5.330 mg/l.

Trichloroethylene - TCE was detected in 26 of 27 samples (96%) at concentrations exceeding the 0.005 mg/l MCL. TCE concentrations exceeding the MCL ranged from 0.006 to 0.440 mg/l.

Vinyl Chloride - Vinyl chloride was detected in 6 of 27 samples (22%) at concentrations exceeding the 0.002 mg/l MCL. Concentrations exceeding the MCL ranged from 0.071 to 0.086 mg/l. All other samples were at concentrations less than the respective PQL.

Tributyl Phosphate - TBP was detected in only 3 of 27 samples (11%) obtained since May 16, 1997. The concentration of 8.154 mg/L was the only detected concentration that exceeded the 0.2 mg/L MCL and was observed on July 2, 1997. Concentrations of 0.120 mg/l detected on October 28, 1997 and 0.084 mg/l detected on November 3, 1997 were below the 0.2 mg/l MCL.

Bis(2-ethylhexyl)pthalate - BEHP was not detected in any influent samples obtained since May 16, 1997.

Di-n-octyl pthalate - DOP was not detected in any influent samples obtained since May 16, 1997.

Groundwater Data

Wells #26 has not been sampled since March 13, 1997 and was abandoned during the well abandonment project dated August 11, 1997. Well #28 has not been sampled since March 13, 1997, however, this well is still in place. Monthly sampling has continued for wells #101A and #102A that are located along the western perimeter of the NFS site and downgradient of Pond 4. Analytical results presented in Attachment #2 only includes

wells #101A and #102A for July 1992 through October 1997.

Tetrachloroethylene - PCE was detected in 24 of 35 samples (69%) obtained from Well #101A. PCE concentrations greater than the 0.005 mg/l MCL were detected in 22 of 35 samples (63%) obtained from Well #101A. Concentrations above the MCL ranged from 0.006 to 0.949 mg/l. PCE was detected at concentrations greater than the MCL in all samples obtained from Well #102A. Concentrations ranged from 0.084 to 2.960 mg/l.

Vinyl Chloride - Vinyl chloride was detected in 20 of 36 samples (56%) obtained from well #101A. Concentrations of vinyl chloride detected in these samples were all above the 0.002 mg/l MCL. Concentrations above the MCL ranged from 0.007 to 0.120 mg/l. Vinyl chloride was not detected in the remaining samples from Well #101A at concentrations greater than the PQL; however, the PQL is greater than the MCL. Vinyl chloride was detected in 3 of 35 samples (9%) obtained from Well #102A. These concentrations were 0.011, 0.024, and 0.069 mg/l which are greater than the MCL.

Tributyl Phosphate - TBP was detected in 25 of 35 samples (71%) obtained from Well #101A. All concentrations detected were less than the 0.2 mg/l MCL. TBP was not detected in Well #102A.

3.0 Deviations from Workplan

There have been no deviations from the workplan during this quarter.

4.0 Work Projected

Work Projected for the fourth quarter of 1997:

- Perform operational radiological survey and release of the CSX soil pile (SWMU 7) location as a control area.
- Continue excavation and processing soil and debris of North Site Burial Grounds (SWMUs 9 & 10).
- Continue the excavation and removal on the South Soil Pile.
- Perform maintenance and continue monitoring depths of the groundwater drawdown wells for Pond 4.

ATTACHMENT 1

Analytical Results for Constituents Detected in Pond 4 Groundwater and Ponds 1, 2, & 3 Influent Data.

Date Collected	1-2 Dichloro-ethylene (mg/L)	Tetrachloro-ethylene (mg/L)	Trichloro-ethylene (mg/L)	Vinyl Chloride (mg/L)	Tributyl Phosphate (mg/L)	Bis(2-ethylhexyl phtalate (mg/L)	Di-n-octyl phthalate (mg/L)
5/16/97	< 0.008	0.022	< 0.0004	< 0.005	< 0.030	< 0.030	< 0.030
5/19/97	0.132	0.121	0.006	0.075	< 0.030	< 0.030	< 0.030
5/30/97	0.147	0.170	0.058	0.073	< 0.030	< 0.030	< 0.030
6/5/97	0.107	0.187	0.053	< 0.005	< 0.030	< 0.030	< 0.030
6/11/97	0.110	0.212	0.059	0.071	< 0.030	< 0.030	< 0.030
6/19/97	0.139	0.215	0.062	0.073	< 0.030	< 0.030	< 0.030
6/23/97	0.113	0.225	0.055	0.071	< 0.030	< 0.030	< 0.030
7/2/97	0.589	1.802	0.340	0.086	8.154	< 0.030	< 0.030
7/9/97	0.111	0.185	0.054	< 0.005	< 0.030	< 0.030	< 0.030
7/15/97	0.125	0.641	0.058	< 0.005	< 0.030	< 0.030	< 0.030
7/22/97	0.129	0.781	0.075	< 0.005	< 0.030	< 0.030	< 0.030
8/4/97	0.164	0.704	0.071	< 0.005	< 0.030	< 0.030	< 0.030
8/14/97	0.264	2.586	0.201	< 0.005	< 0.030	< 0.030	< 0.030
8/21/97	0.330	3.538	0.244	< 0.005	< 0.030	< 0.030	< 0.030
8/29/97	0.363	2.709	0.197	< 0.005	< 0.030	< 0.030	< 0.030
9/3/97	0.630	3.235	0.315	< 0.250	< 0.030	< 0.030	< 0.030
9/9/97	0.500	2.990	0.303	< 0.125	< 0.030	< 0.030	< 0.030
9/15/97	0.508	2.490	0.275	< 0.125	< 0.030	< 0.030	< 0.030
9/22/97	0.498	2.973	0.313	< 0.125	< 0.030	< 0.030	< 0.030
9/30/97	0.650	4.740	0.390	< 0.250	< 0.030	< 0.030	< 0.030
10/9/97	0.503	2.368	0.268	< 0.125	< 0.030	< 0.030	< 0.030
10/15/97	0.615	1.620	0.250	< 0.250	< 0.030	< 0.030	< 0.030
10/22/97	0.670	2.395	0.285	< 0.250	< 0.030	< 0.030	< 0.030
10/28/97	0.670	5.330	0.430	< 0.250	0.120	< 0.030	< 0.030
11/3/97	0.680	5.045	0.440	< 0.250	0.084	< 0.030	< 0.030
11/10/97	0.475	2.060	0.250	< 0.250	< 0.030	< 0.030	< 0.030
11/17/97	0.610	3.740	0.370	< 0.250	< 0.030	< 0.030	< 0.030
Mean	0.364	1.966	0.201	0.111	0.336	0.030	0.030
Standard Deviation	0.228	1.612	0.093	0.034	2.026	0.000	0.000
No. Observations	27	27	27	27	27	27	27
t-value	1.315	1.315	1.315	1.315	1.315	1.315	1.315
90% Conf. Limit	0.422	2.374	0.224	0.120	0.849	0.030	0.030
Action Level	0.07	0.005	0.005	0.002	0.2	0.003	0.7

NOTES:

Action Levels based on US EPA Maximum Contaminant Levels (MCL) for drinking water (February 1996).
< Less than detection limit
Analysis performed by NFS
ND.- No data available.

12/10/97-IMRPT-DEC97-ATTACH1.xls

ATTACHMENT 2

ANALYTICAL RESULTS FOR WELLS 101A AND 102A

Date Collected	Tetrachloroethylene (mg/L)		Vinyl Chloride mg/L		Tributyl Phosphate (mg/L)	
	Well 101A	Well 102A	Well 101A	Well 102A	Well 101A	Well 102A
7/29/92	...	...	...	...	...	...
11/93	0.114	2.960	0.054	0.011	< 0.005	< 0.005
2/94	0.155	0.634	0.047	...	< 0.118	< 0.005
5/94	...	...	...	...	...	< 0.005
7/94	...	...	...	...	...	...
8/94	...	...	...	...	...	...
9/94	0.006	0.399	0.008	< 0.005	...	...
10/94	0.004	0.629	< 0.005	< 0.005	0.035	< 0.030
11/94	...	...	...	...		< 0.005
12/94	...	...	...	...	...	...
1/95	...	...	...	...	...	...
2/95	0.015	0.897	0.007	< 0.005	0.078	< 0.030
3/95	...	...	...	...	...	...
4/95	...	...	...	...	...	...
5/95	0.011	0.879	< 0.005	< 0.005	0.051	< 0.030
6/95	< 0.0001	0.809	< 0.005	< 0.005	0.038	< 0.030
7/95	0.016	1.054	< 0.005	< 0.005	0.034	< 0.030
8/95	0.012	0.925	< 0.005	< 0.005	0.031	< 0.030
9/95	0.042	1.195	< 0.005	< 0.005	0.036	< 0.030
10/95	0.011	1.203	< 0.005	< 0.005	0.032	< 0.030
11/95	0.024	0.998	< 0.005	< 0.005	0.052	< 0.030
12/95	0.059	0.622	0.031	< 0.005	0.099	< 0.030
1/96	0.052	0.236	0.083	< 0.005	0.068	< 0.030
2/96	...	0.396	0.081	< 0.005	0.078	< 0.030
3/96	< 0.0001	0.133	0.080	< 0.005	0.062	< 0.030
4/96	< 0.0001	1.206	< 0.005	< 0.005	0.048	< 0.030
5/96	< 0.0001	1.534	0.026	0.024	0.044	< 0.030
6/96	0.082	0.983	0.115	< 0.005	0.042	< 0.030
7/96	< 0.0001	1.069	0.120	< 0.005	0.041	< 0.030
8/96	< 0.001	0.702	< 0.005	< 0.005	0.036	< 0.030
9/96	< 0.001	0.649	< 0.005	< 0.005	0.036	< 0.030
10/96	0.949	0.084	< 0.005	0.069	0.031	< 0.030
11/96	0.073	1.904	0.066	< 0.005	0.034	< 0.030
12/96	0.076	1.028	0.070	< 0.005	0.035	< 0.030
01/97	0.078	0.728	0.074	< 0.005	0.042	< 0.300
02/97	< 0.0001	1.077	< 0.005	< 0.005	0.048	< 0.300
03/97	0.045	0.813	0.062	< 0.005	0.032	< 0.300
04/97	< 0.0001	1.247	0.064	< 0.005	< 0.030	< 0.030
05/97	0.022	0.756	0.072	< 0.005	< 0.030	< 0.030
06/97	< 0.0001	0.776	0.069	< 0.005	< 0.030	< 0.030
07/97	0.022	1.393	0.069	< 0.005	< 0.030	< 0.030
08/97	< 0.0001	1.542	0.068	< 0.005	< 0.030	< 0.030
09/97	0.060	1.797	< 0.050	< 0.062	< 0.030	< 0.030
10/97	0.060	1.798	< 0.050	< 0.062	< 0.030	< 0.030
11/97	< 0.0001	1.431	< 0.050	< 0.083	< 0.030	< 0.030
Mean	0.057	1.002	0.041	0.013	0.044	0.049
Standard Deviation	0.177	0.554	0.037	0.012	0.023	0.075
No. Observations	35	36	36	35	35	37
t-value	1.310	1.310	1.310	1.310	1.310	1.310
90% Conf. Limit	0.096	1.123	0.049	0.016	0.049	0.065
Action Level	0.005	0.005	0.002	0.002	0.2*	0.2*

NOTES:

Action Levels are based on US EPA Maximum Contaminant Levels (MCL) for drinking water (February 1996)
* - Provisional action level based on Issue Paper (1992), verified with USEPA RCRA Health Assessment Office (May 1996)
< - Less than detection limit
... - No sample collected from the well
All analysis performed by NFS