Union Pacific Resources

March 16, 2000

Mr. John Surmeier
U.S. Nuclear Regulatory Commission
Uranium Recovery and Low-level Waste Branch
Division of Waste Management, ONMSS
110555 Rockville Pike
Rockville, MD 20850

Docket No. 40-8452
Source Material License No. SUA-1310

Attn: Richard Weller, Project Manager

Dear Mr. Weller:

Enclosed is (1) copy of the Bear Creek Tailings Reclamation Construction Report consisting of three Volumes. Reclamation was completed November 17, 1999 satisfying License Condition No. 49 B (1).

Sincerely,

Ernie Scott

Ernest Y Scott
Manager Mining Operations

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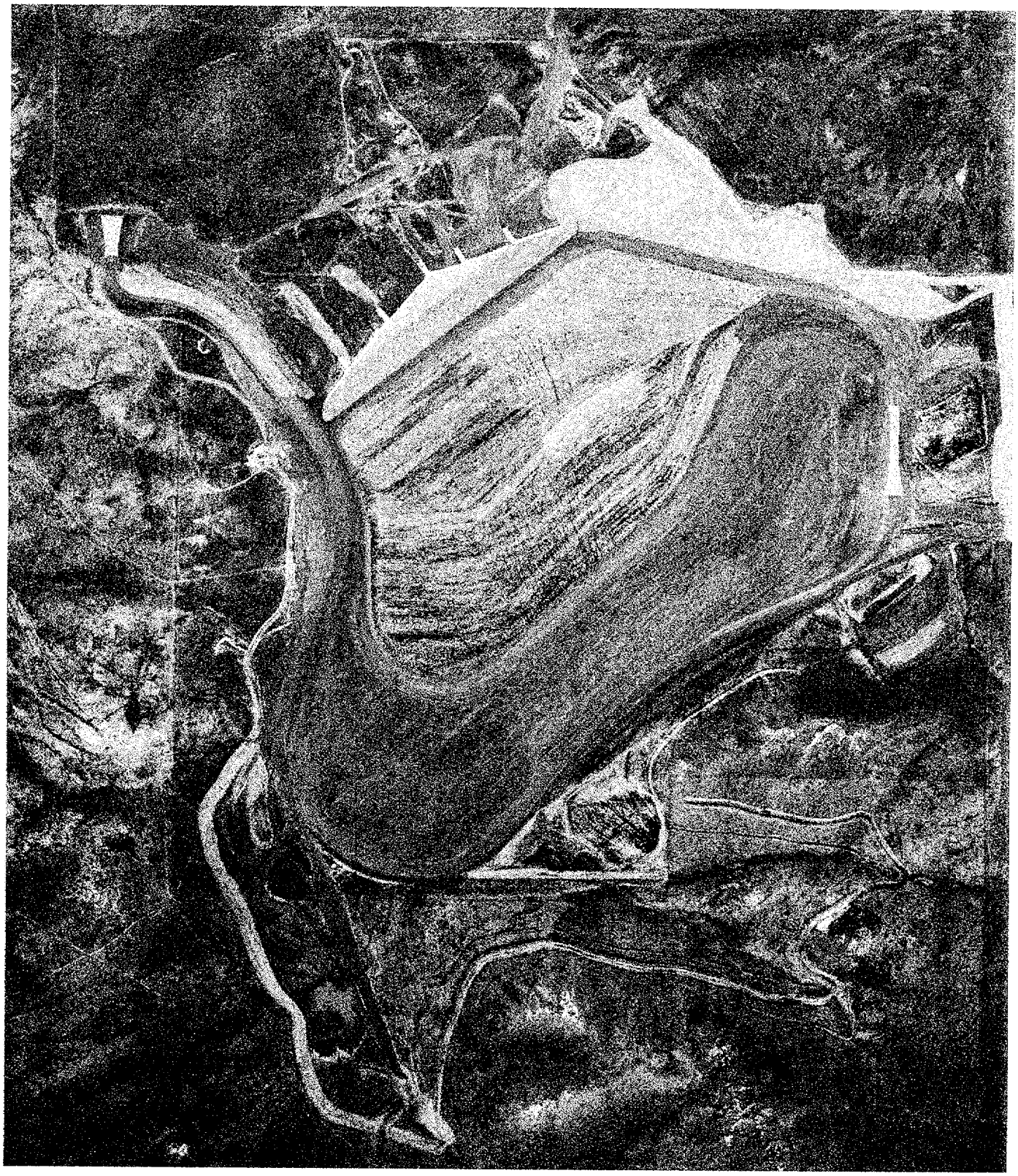
BEAR CREEK TAILINGS
RECLAMATION
CONSTRUCTION REPORT



DECEMBER, 1999

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December 1999

BEAR CREEK URANIUM
TAILINGS AREA RECLAMATION

SUMMARY

The Bear Creek Tailings area was reclaimed in accordance with the approved plan as described in amended Source Materials License SUA-1310, Docket Number 40-8452, approved December 12, 1991. For convenience, a copy of the approved plan can be found in Appendix C of this report. Bear Creek Uranium Company designed its Tailings Reclamation Plan to satisfy the requirements of 10 CFR 40, Appendix A, and NRC guidelines for long term tailings containment. The reclamation plan assures compliance with; 1) Criterion 6 levels for radioactive emissions of radon and gamma radiation, 2) long term stability and containment of tailings for 1000 years without active maintenance. The reclamation plan achieves these performance objectives through: a compacted soil radon barrier, creating relatively flat cover slopes, constructing a diversion channel that hydraulically isolates the tailings, use of durable rock to protect critical areas, and establishing a self-renewing vegetative cover to protect the surface from wind and water erosion.

INTRODUCTION

The Bear Creek tailings disposal area is approximately 45 miles northwest of Douglas, Wyoming. The Bear Creek Mill that produced the tailings was owned and operated by Bear Creek Uranium Company. Bear Creek Uranium Company was a joint venture of Southern California Edison and Rocky Mountain Energy. Rocky Mountain Energy was the operating partner. Company reorganization has made Rocky Mountain Energy part of Union Pacific Resources. The land used for the tailings reclamation is located within the Thunder Basin National Grassland. The surrounding land is used primarily for livestock grazing and wildlife habitat. There is no reason to believe that the area will experience a population increase or a change in land use.

Milling commenced September 22, 1977 and continued until January 20, 1986. As a result of these operations, approximately 4.7 million tons of tailings were produced. After 1986, an interim cover and three evaporation ponds were constructed on top of the tailings area. The evaporation ponds were part of the NRC-approved groundwater recovery corrective action program.

KEY FEATURES OF THE RECLAMATION PLAN

Structural Stability and Liquefaction

The structural stability of the tailings embankment is not a design concern. The tailings embankment was designed in accordance with NRC Regulatory Guide 3.11. The stability analyses conducted during the operational life indicated that the embankment was stable. The reclaimed slopes are flatter 4:1 and 5:1 versus the operational slopes of 3:1. The tailings solution pool is eliminated and the cover system minimizes infiltration. Therefore, the structural stability of the reclaimed disposal area meets the criteria set forth in 10 CFR Part 40, Appendix A.

Settlement

Prior to the start of the reclamation activities, the rate of settlement in the tailings area had met the criteria established in the settlement program established by license amendment. Specifically, the maximum observed settlement was less than 0.05 feet for three consecutive surveys. To provide for additional settlement of the ridge the final design grade was set at 5069.4 feet or 0.4 feet higher than the plan elevation.

Surface Water Hydrology

The tailings pile was reclaimed in place. To ensure long-term performance, the reclaimed tailings basin was constructed to endure extreme runoff events. The drainage area above the tailings embankment and diversion channel is 706 acres. A design storm of 13.84 inches of rainfall in 6-hours was assumed to fall on a previously saturated soil to produce maximum runoff. Also, a design storm of 10.24 inches in 1-hour was evaluated. Use of Probable Maximum Flood (PMF) design events meet or exceed the applicable parts of 10 CFR part 40, Appendix A, Criteria 4 and 6. Using U. S. Army Corps of Engineers' HEC-1 and HEC-2 procedures channel slopes and control structures were designed to reduce velocities to non-erosive levels during this runoff event. Drawing 05-C- 001 shows the reclaimed tailings area and the surface water drainage control structures. The 78 acre upper surface was designed and constructed with channel slopes of 0.001. The upper surface drains through the chute approach to a riprap lined chute. Runoff from the upper surface joins the runoff from the Lower Surface and drainage basins above the diversion channel and exits the tailings area 1500 feet downstream of the tailings embankment through a Riprap lined rock weir. The diversion channel slope was designed and constructed to be 0.001 from Station 3+00 to Station 61+00. Construction of the diversion channel meets the requirement of Criterion 4 to minimize the upstream drainage areas.

The downstream slope of the tailings embankment was reduced to 4:1 above elevation 5120 feet and to 5:1 below elevation 5120 feet. The downstream face of the tailings embankment was covered with 3-inch rock above elevation 5130 feet and 4-inch rock below elevation 5130 in accordance with the reclamation plan as shown on Drawing 05-C-007. The as-built drawings are located in Appendix D of this report. The flat slopes and rock protection minimize erosion potential to assure long term stability as required by Criterion 4.

Erosion Protection

Pile Top

Slopes perpendicular to the drainage swales at various locations were checked using the NRC-Horton equation. A concentration factor of 2 was used in the calculations. The design slopes in all cases were flatter than stable slopes. The slopes perpendicular to the drainage swales were constructed in accordance with the reclamation plan. The design and construction of the pile top meets the requirements of Criterion 1 and Criterion 4.

To further minimize the potential for erosion, a foot of topsoil was placed over the radon barrier and seeded with native grasses. No credit for the additional erosion protection provided by the vegetation was taken in the erosional stability analysis of the pile top.

Chute

The chute was constructed in accordance with the Reclamation Plan as shown on Drawing 05-C-012A. The chute was excavated in sandstone. The stilling basin section of the chute was excavated in claystone. A 6-inch thick layer of filter gravel was placed over the sandstone and claystone underlining the entire chute. A 6-inch thick layer of 3-inch rock was placed over the filter gravel for the entire chute.

The chute control section is 20-feet long; it has a bottom width of 6 feet and side slopes of 2:1. The bottom slope in the main section of the chute is 0.033. The bottom width in the main section is 10 feet and the side slopes are 2:1. The stilling basin section of the chute is 80 feet long, the side slopes transition to 3:1 at Station 4+10. The apron of the chute is 50 feet long. The bottom width of the apron is approximately 38 feet and the side slopes are 5:1 at Station 4+60.

Riprap with a D_{50} = 24 inches was placed in the first 50 feet of the chute. Riprap with a D_{50} = 15 inches was placed in the main section of the chute. Riprap with a D_{50} = 9 inches was place in the apron section of the chute.

Diversion Channel

The diversion channel begins at the toe of the chute and curves around the tailings pile and discharges approximately 1800 feet downstream of the tailings embankment. The diversion channel was constructed in accordance with the reclamation plan with a bottom width of 20 feet and side slopes of 3:1 in the lower portion of the channel. At the outlet of the diversion channel a rock weir was constructed to limit the rate at which a PMF would exit the site. This design feature along with the flat 0.001 bottom slope reduces tractive force velocities in the diversion channel so riprap is required only in the rock weir.

The Reclamation plan provided for erosion perpendicular to the diversion channel by designing and constructing the elevation of the top of the radon barrier at a lower elevation than the flow line of the diversion channel. The long distance (approximately 2000 feet) from the tailings to the rock weir, the very flat bottom slopes in the diversion channel, and the erosion resistance

provided by the rock weir to prevent head cutting make it extremely unlikely that erosion will occur in the bottom of the channel.

Rock Weir

The rock weir was constructed in accordance with the Reclamation Plan as shown on Drawing 05-C-014. The rock weir was excavated in sandstone and claystone. A 6-inch thick layer of filter gravel was placed over the sandstone and claystone underlining the entire rock weir. A 6-inch thick layer of 3-inch rock was placed over the filter gravel for the entire rock weir.

The rock weir approach section is 20-feet long; it has a bottom width of 20 feet and side slopes of 2:1. The rock weir control section is 10-feet long; it has a bottom width of 20 feet and side slopes of 2:1. The rock weir transition section is 150-feet long; it has a bottom width of 60 feet and side slopes of 2:1 at Station 0+20. The bottom slope is 2% in the transition section. The rock weir apron section is 30-feet long; it has a bottom width approaching 100 feet at the end of the rock.

Riprap with a D_{50} = 15 inches was placed in the first 20 feet of the rock weir. Riprap with a D_{50} = 24 inches was placed in the next 60 feet of the rock weir. Riprap with a D_{50} = 15 inches was place in the remainder of the rock weir. The Corps of Engineers' Shear Stress Method was used to size the riprap.

Dam Embankment

Erosion resistance on the downstream slope of the tailings embankment was designed for PMF events. The reclamation of the tailings dam reduced the downstream slope of the tailings embankment to 4:1 above elevation 5120 feet and to 5:1 below elevation 5120 feet. The entire downstream face of the tailings embankment was covered with a 4-inch thick layer of filter gravel. After placing the filter gravel the downstream face was covered with a 6-inch thick layer of 3-inch rock above elevation 5130 feet and a 8-inch thick layer of 4-inch rock below elevation 5130 feet in accordance the reclamation plan as shown on Drawing 05-C-007. The Corps of Engineers' Shear Stress Method was used to size the riprap on the downstream face of the tailings embankment.

Runoff from the embankment slope will flow into toe channels and then into interceptor channels at elevation 5130 feet and 5110 feet on each valley slope. The toe channels were constructed with a 6-inch thick layer of filter gravel placed on excavated soils. Then an 18-inch thick layer of riprap with a D_{50} = 9 inches was placed on the filter gravel. The riprap in the interceptor channels extends 100 feet from the toe channel. Drawing 05-C-008 shows the details of the embankment, toe and interceptor riprap.

Rock Durability and Gradation

Rock for the chute, rock weir, and dam embankment was obtained from the Guernsey Quarry. Samples of dolomite and quartzite were tested and rated for suitability in accordance with the Final NRC Staff Position Paper "Design of Erosion Protection Covers for Stabilization of Uranium Mill Tailings." The dolomite and the quartzite received scores over 80, so oversizing of the riprap was not required. The filter gravel and 3-inch rock for the lower part of the chute, rock weir, and dam embankment below elevation 5110 feet were obtained from Menter Sand and Gravel, Douglas Wyoming. Samples of the river gravel received scores over 80.

The suppliers of the riprap and filter gravel were required to provide the gradations specified in the reclamation plan specifications. These specifications were based on Corps of Engineers criteria NUREG/CR-4620. The dense, sound, and resistant to abrasion rock used for erosion protection provides reasonable assurance that the riprap and filter gravel will protect the tailings from excessive erosion.

Radon Attenuation

A minimum of 3 feet of cover soils meeting the specifications for radon barrier material were placed over the tailings. Modeling of the tailings area divided the tailings deposition into sands and slimes areas. The slimes area was identified as the area outside the ridge defining the upper area. Modeling of the tailings area indicated that radon release rates would be 9.4 $pCi/m^2/sec$ in the slimes area and 8.5 $pCi/m^2/sec$ in the sands area. The results of the radon sampling after construction was complete show that the radon release rates averaged 0.73 $pCi/m^2/sec$, which is well within the 20 $pCi/m^2/sec$ limit established in 10 CFR 40, Appendix A, Criterion 6. The proposed depth of 3 feet radon cover soils in the sands area and 4 feet in the slimes area were modified by license amendment to be 3 feet in all areas.

The 1 foot of topsoil and shallow rooted grasses will enhance the radon attenuation by increasing the long term moisture content of the radon barrier and by providing extra protection from wind erosion.

Construction Specifications

The reclamation work was conducted in accordance with the specifications as found in Appendix B of the November 26, 1991 submittal. Appendix B1 of this submittal specifies the geotechnical engineering services for construction. Appendix B2 contains the construction specifications. Daily reports and weekly summaries were prepared throughout the construction period. All material used for the radon barrier met the specified limits:

Plasticity Index	> 10
Liquid Limit	> 25 %
% Passing the No. 200 Sieve	> 35 %

The radon barrier was placed in lifts with a maximum loose thickness of 6-inches. The radon barrier soil was compacted to equal or exceed 95 % of the Standard Proctor Density within –2 to +3 % of the optimum moisture content.

DESCRIPTION OF RECLAMATION CONSTRUCTION ACTIVITIES

Tailings Relocation 1997

Reclamation activities started on June 10, 1997. Water was present in all ponds due to a very wet spring at the start of construction activities. June 11, 1997, a Caterpillar D6 LGP bulldozer was used to facilitate draining Ponds 2 and 3. Sump locations were established and water was pumped into water trucks and spread on dryer areas in the tailing area. June 25, 1997 started stripping vegetation clearing and grubbing inside the tailings area using seven Caterpillar 627 E scrapers and one Caterpillar 14G motor grader. The scrapers moved tailings in the Pond 3 area to the tailings fill areas on the upper surface. Tailings in Pond 3 were over excavated. Dry material from the diversion channel was used to firm up the subgrade. W8 material was used to prepare a subgrade in the Pond 2 area. July 26, 1997 and July 27, 1997 thunderstorms put water up to 1 foot deep in pond 3. August 4, 1997 the interim cover, Pond 1 clay, and the tailings on the upper surface were relocated to fill in areas below the bottom of the radon barrier. The load count estimate of tailings relocation is 220,000 cy. Photographs and weekly summary reports of the reclamation activities are located in Appendix A.

Radon Barrier Placement 1997

The upper surface north of Wyoming State Plane coordinate N 949,600 was designated as Area 1. A subgrade with a top elevation of 5161.0 feet was placed in Area 1. The purpose of the subgrade was to provide a base for compaction of the radon barrier soils. The clay in Pond 1 was considered as tailings in the relocation activity. Additional material for the subgrade was obtained from the W8 stockpile. The area north of Wyoming State Plane coordinate N 949,100 to N 949,600 was designated as Area 2. The surface elevation of lift #1 in Area 2 was 5161.5 feet. The area north of Wyoming State Plane coordinate N 948,200 to N 949,100 was designated as Area 3. The surface elevation of lift #1 in Area 3 was 5161.5. Additional material to bring the elevation of the upper surface up to bottom of the radon barrier was obtained from the W8 stockpile.

The area south of Wyoming State Plane coordinate N 947,500 to the diversion channel was designated as Area 4. Area 4 is on the Lower Surface. The surface elevation of lift #1 in Area 4 was 5144.5 feet. The area north of a diagonal line near Wyoming State Plane coordinate N 949,000 on the Lower Surface was designated as Area 5. The surface elevation of lift #1 in Area 5 was based on contours and offsets from the contours. The elevations ranged from 5152.0 feet to 5154.0 feet.

The geotechnical consultant conducted nuclear density and moisture content testing during all fill placement. During the construction, areas which failed to meet the specified compaction and

moisture content were identified by pin flags. These areas were reworked until they met the requirements of the specifications.

Area 1 covered an area of approximately 915,000 square feet (sf). The estimated volume of radon barrier placed is 101,640 cubic yards (cy). During the August 19, 1997 to September 15, 1997 construction period, 198 Nuclear Density and moisture content tests were conducted. The testing frequency averaged 1 test per 546 cy, well below the required testing frequency of 1 test per 1,000 cy. A summary of the geotechnical testing is located in Appendix D.

Area 2 covered an area of approximately 828,000 sf. The estimated volume of radon barrier placed is 91,960 cy. During the September 19, 1997 to October 2, 1997 construction period, 282 Nuclear Density and moisture content tests were conducted. The testing frequency averaged 1 test per 326 cy, well below the required testing frequency of 1 test per 1,000 cy.

Area 3 covered an area of approximately 828,000 sf. The estimated volume of radon barrier placed is 106,480 cy. During the September 25, 1997 to October 13, 1997 construction period, 234 Nuclear Density and moisture content tests were conducted. The testing frequency averaged 1 test per 455 cy, well below the required testing frequency of 1 test per 1,000 cy.

Area 4 covered an area of approximately 345,000 sf. The estimated volume of radon barrier placed is 45,173 cy. During the September 3, 1997 to October 7, 1997 construction period, 110 Nuclear Density and moisture content tests were conducted. The testing frequency averaged 1 test per 411 cy, well below the required testing frequency of 1 test per 1,000 cy.

Area 5 covered an area of approximately 479,000 sf. The estimated volume of radon barrier placed is 53,240 cy. During the October 14, 1997 to October 20, 1997 construction period, 68 Nuclear Density and moisture content tests were conducted. The testing frequency averaged 1 test per 782 cy, well below the required testing frequency of 1 test per 1,000 cy.

During the 1997 construction season the total estimated volume of radon barrier placed was 398,453 cy. The diversion channel excavation load count estimate was 153,624 cy. W8 stockpile excavation based on load count was 541,242 cy.

During the 1997 construction season, 52 Atterberg Limit tests were conducted. The average Liquid Limit was 34.6 %. The average Plasticity Index was 15.6. The specification required that the radon barrier Liquid Limit be greater than 25% and the Plasticity Index be greater than 10%. All material used for Atterberg Limit tests were obtained from the W8 stockpile.

During the 1997 construction season, 275 tests on the percent passing the #200 sieve were conducted. The average was percent passing the #200 sieve was 55.2 % on the W8 stockpile material and 58.5% on the diversion channel material. The construction specifications required a minimum of 35 percent passing the #200 sieve. In the sandy areas of the W8 stockpile 14 tests did not meet the specified minimum. The contractor was directed to haul these materials to a waste stockpile or mix these materials with adjacent clay materials. The 14 tests not meeting

specifications of 258 tests on the W8 material represents only 5.4 percent of the W8 material. Testing frequency averaged one test per 1,585 cy.

During the 1997 construction season, 39 sand cone tests were performed to confirm the results obtained with the Nuclear Density Gage. The 1997 geotechnical engineering contractor testing consistently showed higher density values for the sand cone method compared to the nuclear density method. The average of the side by side tests using the Nuclear Density method was 105.4 pounds/cubic foot (pcf) at moisture content of 16.3 percent. The average using the sand cone method was 110.5 pcf at moisture content of 13.8 percent.

The final day of the 1997 construction season was November 7, 1997.

Chute and Chute Approach Excavation 1998

Reclamation activities for the 1998 construction season started on March 2, 1998. Topsoil in the chute area was stripped and stockpiled. The frost depth was approximately ½ foot. The average depth of topsoil was approximately 1 foot. The sandstone in the chute was softer than expected. Hard sandstone boulders were present, but they were easily removed with a Caterpillar D8 bulldozer. The stilling basin part of the chute was excavated in claystone. The load count estimated excavation quantity for the chute and chute approach was 19,957 cy. Material from the chute and chute approach excavation was stockpiled near the access road to the office. Due to snow and muddy conditions, reclamation activities were shut down on March 12, 1998.

Lower Diversion Channel and Rock Weir Excavation

April 27, 1998 the contractor resumed reclamation activities. Topsoil in the diversion channel between diversion channel Stations 2+50 and 25+00 was removed and stockpiled east of the diversion channel embankment. The topsoil depth varied from 0.5 feet to 1.5 feet. The sandstone excavated from the diversion channel was used to construct the diversion channel embankment from the rock weir to the Dam embankment. The sandstone was softer than expected and was easily broken with a Caterpillar D8 bulldozer with a ripper tooth. The excavated soils were removed from the channel excavation with Caterpillar 627 scrapers. The hard sandstone boulders were removed and stockpiled west of the diversion channel. Diversion channel and rock weir excavation from Station 4+00 to Station 0+00 was in clay. This clay had up to 93 percent passing the # 200 sieve. This clay was used for the outer portions of the dam fill or as radon barrier extension.

Diversion Channel Embankment

The diversion channel embankment was constructed using soils obtained from the diversion channel excavation. Sandstone rocks were excluded from the fill to the extent practical. The embankment was constructed using 6-inch maximum horizontal lifts. The 1998 geotechnical consultant conducted nuclear moisture density tests on the fill placement. The diversion channel side of the embankment was excavated and filled at a 3:1 slope; the outside slope was

constructed at a 5:1 slope. The load count estimate of fill placed in the diversion channel embankment is 59,580 cy.

Dam Embankment Fill

May 1, 1998 the contractor started work on the downstream face of the dam clearing vegetation and removing a few inches of useable topsoil. Material for dam fill was obtained from the diversion channel. The sandy soils from the diversion channel excavation were keyed in to the existing dam soils. Clay from the rock weir excavation was used in the outside of the fill. To obtain compaction on the outer edge of the lifts, the clay soils were placed beyond the slope edge and then trimmed back with the Caterpillar 14 G motor grader. The volume of dam fill estimated from load count is 72,787 cy. The calculated volume of dam fill is 66,000 cy. The construction specifications did not set a limit on the percent passing the #200 sieve or the Atterberg Limits. As part of the geotechnical testing test on the percent passing the #200 sieve and the Atterberg Limits were performed. A total of 31 tests were conducted on the percent passing the #200 sieve. The percent passing the # 200 sieve ranged from 8 percent to 93 percent, and averaged 56 percent. A total of 24 Atterberg Limit tests were performed on the dam fill. The liquid limit ranged from 19 to 47 percent, and averaged 35 percent. The Plasticity Index ranged from 3 to 27, and averaged 16 percent. Two of the samples were non plastic. The large range was due to using two distinct materials, 1) sandstone derived soils and 2) clay soils from the diversion channel. The compaction specified for dam embankment fill was greater than 95% of the Standard Proctor Density at –2 to +3 percent of the optimum moisture content. A total of 6 proctor tests were performed on the dam embankment soils. A total of 34 nuclear moisture density tests were performed on the dam fill material. If a lift did not pass the moisture density test, the area was reworked until it passed.

Radon Barrier Extension

The upper surface of the tailings reclamation area is the area between the dam crest and the ridge that drains into the chute. Shaping the upper surface to 1-feet below the final contours required additional fill over what had been placed during the 1997 construction season. As Project Engineer, I decided to have this additional soil tested at the same frequency as the Dam fill and to meet the same material specifications as the radon barrier. To distinguish this additional soil from the previously placed radon barrier, it was called Radon Barrier Extension (RBE) in the daily and geotechnical reports.

May 6, 1998 placement of radon barrier extension soil started. The load count estimate of radon barrier extension soil placed is 58,160 cy. A total of 34 nuclear moisture density tests were run on the RBE soil. The average compaction was 98.2 percent of the Standard Proctor Density. The soil for the RBE came from the W8 stockpile and the lower diversion channel. A total of 34 tests for the percent passing the #200 sieve were run. The average percent passing the #200 sieve was 55 percent. A total of 23 Atterberg Limit tests were run on the RBE soils. The average liquid limit (LL) was 33.2 percent and the average plasticity index (PI) was 14.7 percent. The liquid limit ranged from 25 to 50. The plasticity index ranged from 10 to 28 except for one test. This

Plasticity Index test result was 5 percent; this result did not meet my specified limit. This sample came from the diversion channel. This section of the diversion channel was determined to be too sandy and this soil was not used as RBE. Work on RBE placement was completed on July 16, 1998.

Diversion Channel Excavation

The diversion channel between Stations 35+00 and 65+00 had relatively high percent passing the #200 sieve. As project engineer and in accordance with the specifications paragraph 8.2, I changed the location of borrow materials to include this section of the diversion channel. In addition, to obtain more of the good clay the distance to the start of the 5:1 slope was set at 30 feet. This change increased the volume of diversion channel excavation by approximately 30,000 cy. The south channel and the east channel also contained soils with a high percentage passing the #200 sieve. Most of the diversion channel clay was used in the Pond 3 area. The diversion channel Excavation was also used for random fill. The load count estimate of diversion channel excavation is 444,862 cy.

Tailings Relocation 1998 Construction Season

July 20, 1998 work on relocating the remainder of the tailings started. Previously, the tailings were too wet and the saturated level was too close to the surface to support the scrapers. Also, W8 stockpile material used to stabilize the Pond 3 area that was contaminated was removed to tailings fill area inside the ridge at the west end of the tailings area. Most of the tailings fill area had been filled in with W8 soils in the 1997 construction season. A slight adjustment in the location of the ridge was made to reduce the amount of tailings that needed to be relocated. A backhoe was brought in to finish the excavation in the soft areas adjacent to the toe of the ridge. The load count estimate of tailings and W8 overfill is 14,294 cy. The tailings relocation work was completed on August 11, 1998. With the completion of the tailings relocation the remainder of the radon barrier on the upper surface and the ridge could be constructed.

Radon Barrier

July 16, 1999 work started on placing the radon barrier in the Pond 2 area. The soil for the radon barrier came from the W8 stockpile and the diversion channel. The surveyor established stakes on 200 foot centers. A laser level was used to establish grade for placement of radon barrier with stakes placed on 50-foot centers. Panels 50 feet wide were established to identify work areas. The lifts at the leading edge of radon barrier placement were stair stepped to allow visual determination of the number of lifts. In the Pond 3 area radial grade lines were established between the flowline of the diversion channel and the ridge. The radon barrier was placed so the top was below the flowline elevation of the diversion channel. The load count estimate of radon barrier placement for the 1998-construction season is 378,444 cy. Combined with the 398,453 cy for the 1997 construction season the total volume estimate is 776,897 cy. This volume estimate is 3.7 percent greater than the calculated volume of 722,952 cy. The calculated volume was obtained by multiplying the 6,506,572 sf surface area by the 3-foot required thickness. A total of 364 nuclear moisture density tests were run on the radon barrier soils. The average

density obtained was 107.8 lbs/cu-ft. The average moisture content was 17.76 percent. The average compaction was 96.85 percent of the standard maximum Proctor density for the passing tests. Areas not passing the compaction testing were reworked until they passed. Most of the failed tests were due to the soils being too wet after rainstorms, or too dry in the case of the diversion channel excavation. A total of 233 tests for the percent passing the #200 sieve were run on the radon barrier soils. The average percent passing the #200 sieve was 65.68 percent. This is well above the 35 percent required by the construction specifications. The average percent passing the #200 sieve increased by over 10 percent due to the use of the diversion channel clays. Additional effort was made in the 1998 construction season to mix the soils from the W8 stockpile. Thinner cuts were used when loading the scrapers. A disc was brought in to mix the soil after the scrapers placed it. Caterpillar 14 G motor graders were used to mix the soil and level the lifts. A total of 68 Atterberg limit tests were run on the radon barrier soils. The average Liquid Limit was 38.7 percent. The average Plasticity Index was 19.8 percent. As long as the sandy soils were excluded or mixed with the surrounding clays it was not difficult to meet the construction specifications. The low permeability of the radon barrier was evident from the water that ponded after rainfall.

Radon flux measurements were analyzed by an independent contractor at the Bear Creek site. Most (62.2 percent) of the test results were below the laboratories quantitative limit of 0.5 pCi/m^2sec. The highest value was 3.8 pCi/m^2sec at a location up wind from the tailings on undisturbed ground. The test results are well below the 10 CFR 40, Appendix A criteria of 20 pCi/m^2sec. The NRC letter approving the BCUC radon flux measurement submittal, dated May3, 1999 is in Appendix B along with the laboratory test results.

Rock Weir

September 29, 1998 the rock and riprap contractor started placing the filter gravel in the rock weir. The filter gravel for the weir was obtained from Menter Sand and Gravel Company, Douglas Wyoming. The filter gravel produced by Guernsey Stone, Guernsey, Wyoming was produced from rock containing calcium carbonate. Due to potential solubility loss it was decided to use the river gravel in the frequently saturated areas like the rock weir and the stilling basin of the chute. The 3-inch rock used in the rock weir was obtained from Menter Sand and Gravel company's Fetterman quarry. Rock durability testing results are contained in Appendix E of this construction report. The contractor used a Caterpillar 966F loader to carry the filter gravel from the stockpile to the rock weir. A Hitachi excavator with a steel plate welded across the teeth was used to spread the filter gravel. Steel stakes were used to measure the depth of filter gravel and the 3-inch rock. After the filter gravel was uniformly spread; it was wheel rolled to provide compaction. The 3-inch rock was placed on the bottom of the rock weir with the loader using a panel width of approximately 10-feet. The Size #3 riprap and the Size #2 riprap were then placed on the current panel. This construction procedure was used to prevent the loader from pushing the 3-inch rock into the filter gravel. The Hitachi excavator moved the Size #3 riprap and the Size #2 riprap to produce compact placement. Snow and rain delayed completion of the rock weir. The remainder of the Size #2 riprap was placed during the 1999 construction season. Additional shaping of the control section of the rock weir and placing of 3-inch rock in the voids of the Size #2 riprap in the entrance section was also completed in the 1999 construction season.

To reduce erosion at the outlet of the rock weir until vegetation is established in the disturbed area, steel edging was installed and the gravel at the outlet edge was fine graded to be level plus or minus 0.02 feet.

Rock Placement Downstream Face of Dam

October 8, 1998 work started on the face of the dam with the placing of filter gravel. Side dump trucks were used to haul the filter gravel from the stockpiles to the crest of the dam. A Caterpillar 966 F loader and a Caterpillar 14G motor grader were used to spread the filter gravel on the face of the dam. The 3-inch rock was hauled from the stockpile to the crest of the dam. The loader dumped the 3-inch rock in windrows on the dam face. A Komatsu backhoe equipped with a 7 foot wide bucket was used to spread the 3-inch rock. The thickness of the filter gravel was monitored by using blue top stakes. Rain on October 16, 1998 delayed the work on the face of the dam. October 27, 1998 the rock contractor stockpiled gravel below the dam and spread gravel in the interceptor channels below the dam. November 27, 1998 the rock contractor spread filter gravel in the interceptor channels below the dam. December 1, 1998, the rock contractor bladed the filter gravel on the face of the dam. The earthwork contractor used a John Deer backhoe to excavate the groin channels. Filter gravel and Size # 1 riprap was placed in the groin channels and in the interceptor channels. Below the 5129 foot contour, 4-inch rock was placed. December 7, 1998 the contractor placed the 3-inch rock on the face of the dam. December 11, 1998 the contractor completed placing the 3-inch rock on the face of the dam. The placement of the remainder of the 4-inch rock and final grading of the Size #1 riprap was completed in the 1999 construction season.

Random Fill

The soil placed from the ridge to the diversion channel above the radon barrier was designated as random fill. The construction specifications did not set material specifications, compaction requirements, or the frequency of testing for random fills. As project engineer, I set the compaction requirement at 90 percent of the maximum standard Proctor density. The testing frequency was set at 1 per 4000 cy. No limit was placed on the percent passing the #200 sieve or the Atterberg limits. The load count estimate of random fill placed is 303, 670 cy. The total number of moisture density tests conducted on the random fill was 99. The average density of the random fill was 106.8 lbs/cu-ft. The average moisture content of the random fill was 16.3 percent. The average compaction was 94.8 percent of the standard Proctor density. A total of 61 tests for the percent passing the #200 sieve were run. The average percent passing the #200 sieve was 47.9 percent. A total of 37 Atterberg Limit tests were run on the random fill soils. The average Liquid Limit was 31.9 percent and the average Plasticity Index was 14.3 percent. The rain delays in October 1998 forced completion of the random fill in the 1999 construction season.

Topsoil

Topsoil was removed and stockpiled from all newly disturbed areas such as the haul road from the W8 stockpile, diversion channel, chute, and rock weir. The depth of topsoil stripping was

monitored by on site Bear Creek Uranium representatives. The load count estimate of topsoil stripping and stockpiling is 51062 cy during the 1998 construction season. Placement of topsoil began on November 16, 1998 after completion of the radon barrier flux measurement testing. One foot of topsoil was placed over the upper surface and the lower surface. The Reclamation Plan allowed some of the one-foot of cover soils to be random fill. In addition, approximately one foot of topsoil was placed in the diversion channel including the 3:1 slopes in the lower diversion channel. At the time that the Reclamation Plan was written, the lower diversion channel was expected to be excavated in hard continuous sandstone. The actual excavation revealed that the sandstone was not continuous. Erosion after rainstorms on the 3:1 side slopes indicated that slope protection was necessary. It was decided to place topsoil on the side slopes and to seed this area with the rest of the tailings area. The load count estimate of topsoil placed is 442,820 cy. The water truck was used during the topsoil placement to increase the moisture content. All disturbed areas received topsoil including the W8 stockpile, access road, and the office/mill area during the 1999 construction season.

Chute

July 19, 1999 the contractor used a backhoe to remove wind blown soil from the chute. August 31, 1999 the contractor placed filter gravel in the chute. The same construction techniques used in the rock weir construction were used in the chute construction. A backhoe was used to excavate a hole at the center of the stilling basin. The hole was excavated approximately 3-feet into sandstone underlying the claystone subsurface soil. The hole was filled with filter gravel to provide a drainage path. The drainage path will reduce the time water remains in the stilling basin after rainfall events. Rainfall on September 3, 1999 delayed chute construction. The 3-inch rock in the upper section of the chute is quartzite crushed rock obtained from the Guernsey Quarry. The lower section is river rock from the Menter Sand & Gravel's Fetterman quarry. The Size #2 and Size #3 riprap is primarily dolomite. September 23, 1999 the rock contractor placed the Size #1 riprap for the apron area of the chute and completed chute construction.

Preparation for Seeding

The September 3, 1999 rainstorm revealed some low spots in the lower surface and high sections in the channels. Pin flags were used to mark these areas and they were fine graded. The topsoil areas were ripped with a Caterpillar 14G motor grader in preparation for seeding operations.

Seeding

December 16, 1998 seeding of the upper surface area, lower diversion channel side slopes, south channel, east channel, and the 5:1 side slope of the Diversion channel between Station 45+00 and 65+00 started. December 17, 1998 seeing operation for the 1998 construction was completed. Approximately 100 acres were seeded in round the clock operations.

November 8, 1999 seeding operations began on the remainder of the disturbed areas. The seed mix used consisted of:

% of Mix	Species	Variety	# PLS/acre
10%	Bluegramma		0.3
10%	Beardless Wheatgrass	Whitmar	1.9
15%	Green Needlegrass	-	1.9
10%	Indian Ricegrass	-	1.5
25%	Thickspike Wheatgrass	Critana	3.8
25%	Western Wheatgrass	Rosanna	3.8
5%	Yellow Sweetclover	-	0.5

Total pounds PLS/acre 13.7

A total of 325 acres were seeded during the 1999 construction season. The seeding operations were completed on November 17, 1999.

Quality Control

As part of the compaction testing side by side sand cone tests were run in conjunction with the nuclear moisture density tests. A total of 29 side by side sand cone tests were run by Maxim Technologies Inc. The average difference between the nuclear moisture density tests and the sand cone tests is 1.23 lbs/cu-ft or 1.14 percent of the average density. These results represent an excellent degree of quality control in the testing process. The results are less than the 2 percent required in the specification for reduction in the testing frequency. Thus, the frequency of sand cone testing could have been reduced if approved by the NRC. The excellent matching of test results for the two methods can be attributed to Maxim personnel calibrating the nuclear moisture density gage with laboratory moisture contents obtained from an on-site drying oven. The 35 total sand cone tests run were slightly under the required 40 tests required by the specifications based on 1 sand cone test for every 10 nuclear moisture density tests.

Maxim personnel ran a total of 44 standard Proctor tests. Table 1 shows the results of the standard Proctor tests. As part of the soils testing procedure the samples for the Proctor test were split and the percent passing the #200 sieve and Atterberg limit tests were run on the same soil sample. Figure 1 shows test results for maximum density and optimum moisture content versus percent passing the #200 sieve. Figure 1 shows that the maximum density was highest at the low percent passing #200 sieve. Lower values of the maximum density occurred at the higher percent passing #200 sieve values. Optimum moisture contents increased with increasing values in the percent passing #200 sieve. The clustering of the data about the trend lines indicates consistent laboratory procedures.

BEAR CREEK URANIUM

TAILINGS AREA RECLAMATION

TABLE 1
STANDARD PROCTOR TESTS ASTM D698

TEST NUMBER		OPTIMUM Moisture Content %	Maximum Density lbs/cu-ft	Liquid Limit %	Plasticity Index %	Percent Passing # 200 Sieve
RBE	1	17.0	112.3	39	27	70.4
DF	2	7.7	118.9	20	11	49
DF	3	13.2	119.6	19	11	31
DF	4	14.8	115.1	29	4	32
DF	5	17.2	110.6	37	19	89
DF	6	11.8	118.9	NV	NP	8
DF	7	17.2	110.8	47	27	93
W8	8	18.5	108.9	45	25	84
RB	9	14.9	115.3	36	19	49
RB	10	15.9	113.8	33	16	70
W8	11	15.6	115.2	32	14	47
W8	12	17.2	111	41	23	82
W8	13	13.3	117.9	29	13	42
RB	14	14.6	115.6	28	12	56
DC	15	23.9	100.2	53	22	99
RB	16	15.5	114.3	32	14	53
RB	17	15.1	114.3	30	12	50
DC	18	20.2	107.8	46	21	97
DC	19	19.5	108.6	44	19	96
DC	20	16.6	109.6	31	14	71
DC	21	19.9	108.1	41	19	86
DC	22	17.2	111.3	39	20	75
DC	23	15.5	114.6	40	22	71
	24	21.7	106.9	41	19	89
	25	16.3	112.8	38	19	51
	26	23.5	102.6	51	27	96
	27	17.8	110.8	35	18	67
	28	18.9	108.9	41	22	76
	29	16	110.5	29	9	64
	30	18.1	108.7	31	15	65
	31	16.8	112.4	31	12	43
	32	14.4	117.1	26	9	38
	33	15.6	114.8	30	10	43
	34	15.7	114.2	31	15	49
	35	15.8	114.7	32	15	48
	36	14.3	116.9	NV	NP	35
	37	19.9	108	39	19	89
	38	16.9	112.6	34	17	49
	39	25.1	99.8	50	23	88
	40	18.7	109.6	40	21	79
	41	14.7	118	30	13	65
	42	14.8	116.9	34	16	47
	43	16.6	112.7	29	11	37
	44	16.1	114.5	27	9	52
SUM		740.0	4936.1	1490	703	2770.4
AVERAGE		17.2	114.8	34.7	16.3	64.4
Maximum		25.1	119.6	53.0	27.0	99.0
Minimum		7.7	99.8	19.0	4.0	8.0

MAXIMUM DENSITY AND MOISTURE CONTENT VS PERCENT PASSING #200 SIEVE

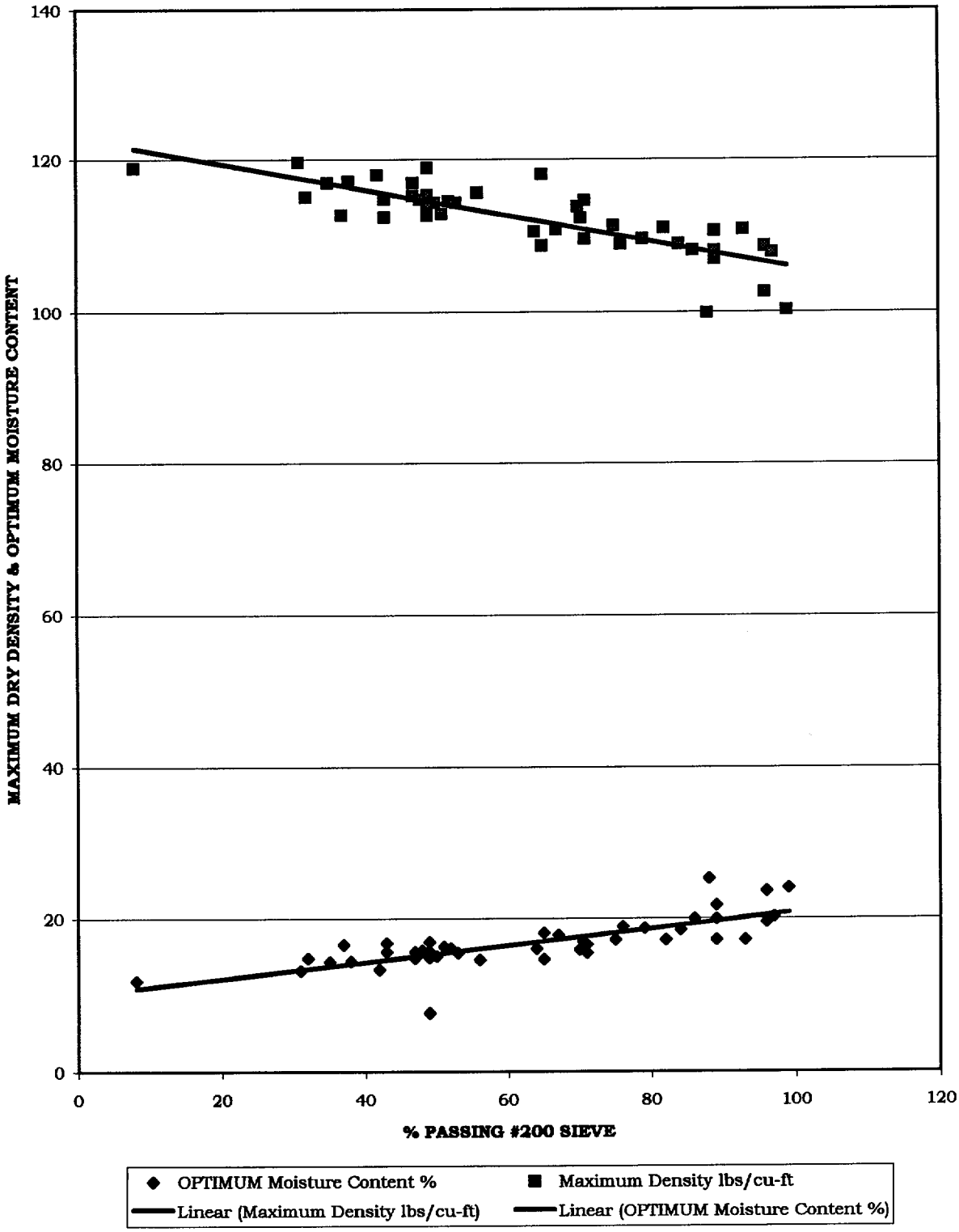


FIGURE 1

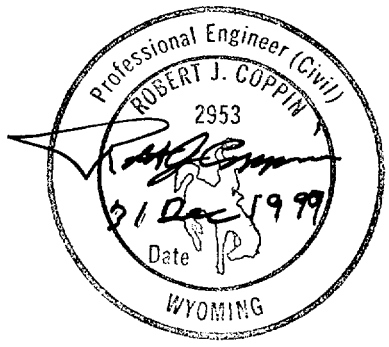
In addition to the sand cone tests, an independent geotechnical engineer was retained to run side by side tests with their own nuclear moisture density gage. On two separate occasions the results of the side by side tests were within 2 lbs/cu-ft, indicating that correct testing procedures were being followed.

Maxim performed rock quality tests on samples submitted for testing from June 4, 1997 to November 2, 1998. The test results showed that the Guernsey dolomite had the highest rock quality rating according Table D1 in *Final Staff Technical Position Design of erosion Protection Covers for Stabilization of uranium Mill Tailing Sites.* The test results on the Guernsey quartzite varied so tests on additional samples were run. The rock quality scores were above 80 so no oversizing of the large riprap was required. Based on the test results the plan was to use the dolomite for the Size #2 and Size #3 riprap, but due to availability at the Guernsey quarry some quartzite was used for the Size #2 and Size #3 riprap. The filter gravel and 3-inch rock from Menter Sand & Gravel was used in frequently saturated areas. The results of these tests can be found in Appendix D Geotechnical Testing Reports. Appendix D also contains the NRC approval letter on the Guernsey dolomite and a spreadsheet on scoring rock quality.

CLOSURE

Based on personal observation during the construction period, Bear Creek Uranium Company's Tailings Disposal Area was reclaimed in accordance with the December 1991 NRC Approved Plan. As-built conditions are shown on a 1-inch = 200 feet topographic map of the tailings area. The topographic map was made from aerial photography dated October 4, 1999. This topographic map is located in Appendix E of this report.

Robert J. Coppin
Professional Engineer
Wyoming PE License No 2953



December 1999

BEAR CREEK URANIUM
TAILINGS AREA RECLAMATION

APPENDIX A

WEEKLY REPORTS

PHOTOGRAPHS

WEEKLY SUMMARY #1 - BEAR CREEK TAILINGS RECLAMATION PROJECT

Owner: Union Pacific Resources (UPR)
Engineer/Construction Management: BRS, Inc. (BRS)
Construction Contractor: Carr Construction, Inc. (CARR)

DATE(S): For Period 6/10/97 through 6/27/97. (Report 6/30/97)

1.0 CONSTRUCTION/PROJECT ACTIVITIES SUMMARY:

- Construction activities proceeded on 6/11/97, a D6LGP Dozer was mobilized, and used to begin dewatering ponds #2 and #3.
- For several day thereafter, dewatering of pond #3 took place, utilizing a water truck. Water was pumped out of the pond and spread in dryer areas.
- On 6/24/97, 1 road grader and 7 scrapers were mobilized to the jobsite. They worked on stripping vegetation from the W8 spoils pile and constructing the staging area.
- Stripping of the vegetation on the W8 spoils pile and the majority of the tailings area is complete.
- On 6/25/97, they began cutting tailings materials on the South end of the project, and placing in tailings fill areas. This work is going well, with the tailings being moved with tandem scrapers.

2.0 COMMUNICATIONS/ANTICIPATED CONDITIONS:

- The Contractor plans to mobilize 3 more scrapers, 1 more water truck, 1 compacter, and possibly 1 more dozer this week.
- They plan to continue with tailings cut/fill operations on the South and East sides of the tailings areas.
- The dewatering operations are basically complete, and the surface of the majority of the tailings area is dry.

3.0 CONTRACT STATUS (ESTIMATED):
- Estimated Hourly Amount Earned (Item K-1) = $31,282
- Estimated Mobilization Earned (Item J-1) = $6,200
- Estimated Current Amount Earned = $37,482

- Estimated percent of contract complete = 2.0%

Mike Bedell, BRS

PROJECT STATUS SUMMARY - BEAR CREEK TAILINGS RECLAMATION PROJECT

Owner: Union Pacific Resources (UPR)
Engineer/Construction Management: BRS, Inc. (BRS)
Construction Contractor: Carr Construction, Inc. (CARR)

DATE(S): For Period 6/28/97 through 7/18/97. (Report 7/21/97)

1.0 CONSTRUCTION/PROJECT ACTIVITIES SUMMARY:

- Worked on tailings cut in pond #3, placing fill in nearby ridge line tailings fill areas. Contractor has been overexcavating tailings in wet areas, and filling these areas with dry channel cut materials in order to construct a firm subbase prior to placement of the radon barrier.
- Placed W8 material and compacted, to the subgrade level of the radon barrier in pond #2. The majority of the pond #2 area is now at the bottom of radon barrier (subgrade) level.
- Worked on stripping and stockpiling coversoil from the channel construction areas on the south and east channel areas.
- Worked on diversion channel cutting on the east side of the project, near pond #3. This material is being placed as fill in low areas of pond #3, to bring it to bottom of radon barrier level.
- Began cutting the berms of pond #1 with dozers. The berms are being pushed into the pond to cover the tailings and avoid any airborne contamination. After the berms have all been pushed in, the mixed materials will be pushed into tailings fill areas.

2.0 COMMUNICATIONS/ANTICIPATED CONDITIONS:

- The Contractor has been directed to complete all of the tailings cut, and bring areas back up to the bottom of radon barrier grade, and wait until these grades and the radiological levels have been verified, prior to beginning construction of the radon barrier.
- The Contractor has also been notified of the need for 1 more compacter and 1 more road grader, which are to be mobilized prior to beginning construction of the radon barrier.
- UPR worked on capping water wells within the project boundaries.
- BRS worked on construction surveying and grade control, construction management, and soils quality control work. The W8 soils which have been laboratory tested have passed the material specifications, and have been fairly consistent.

3.0 CONTRACT STATUS (ESTIMATED): ** Through 7/17/97**

- Estimated (load counts) tailings cut volume = 98,042 cy.
- Estimated (load counts) channel cut volume = 20,094 cy.
- Estimated (load counts) W8 spoils cut volume = 30,030 cy.

- Tailings Cut Hourly Amount Earned (Item K-1) = $131,871
- Mobilization Amount Earned (Item J-1) = $15,500
- Channel Cut Amount Earned (Item K-2) = $18,286
- W8 Spoils Cut Amount Earned (Item K-3) = $33,033

$198,690

** ESTIMATED PERCENT OF PROJECT COMPLETE = 9.7%

** 37 CALENDAR DAYS HAVE EXPIRED SINCE START OF CONSTRUCTION (6/11/97).

PROJECT STATUS SUMMARY - BEAR CREEK TAILINGS RECLAMATION PROJECT

Owner: Union Pacific Resources (UPR)
Engineer/Construction Management: BRS, Inc. (BRS)
Construction Contractor: Carr Construction, Inc. (CARR)

DATE(S): For Period 7/19/97 through 7/24/97. (Report 7/28/97)

1.0 CONSTRUCTION/PROJECT ACTIVITIES SUMMARY:

- Worked on tailings cut in pond #3, placing fill in nearby ridge line tailings fill areas. Contractor has been overexcavating tailings in wet areas, and filling these areas with dry channel cut materials in order to construct a firm subbase prior to placement of the radon barrier.
- Worked on stripping and stockpiling coversoil from the channel construction areas on the east channel areas.
- Worked on diversion channel cutting on the east side of the project, near pond #3. This material is being placed as fill in low areas of pond #3, to bring it to bottom of radon barrier level.
- One scraper and road grader worked on cutting south end of pond #3 down (.1 to .6 feet) to bottom of radon barrier level. This work was directed by the Engineer after the Contractor was told repeatedly that the fill in this area was placed too high.

2.0 COMMUNICATIONS/ANTICIPATED CONDITIONS:

- The Contractor has been directed to complete all of the tailings cut, and bring areas back up to the bottom of radon barrier grade, and wait until these grades and the radiological levels have been verified, prior to beginning construction of the radon barrier.
- The Contractor has also been notified of the need for 1 more compacter and 1 more road grader, which are to be mobilized prior to beginning construction of the radon barrier.
- The Contractor was informed that they would not be reimbursed for any hourly equipment time in relation to the scraper and road grader recutting the south end of pond #3 down to bottom of radon barrier grade, this additional work will be accounted for as Bid Item K-2 (channel cut) work.
- BRS worked on construction surveying and grade control, construction management, and soils quality control work.

3.0 CONTRACT STATUS (ESTIMATED): ** Through 7/24/97**

- Estimated (load counts) tailings cut volume = 143,374 cy.
- Estimated (load counts) channel cut volume = 51,094 cy.
- Estimated (load counts) W8 spoils cut volume = 30,030 cy.

- Tailings Cut Hourly Amount Earned (Item K-1) = $181,494
- Mobilization Amount Earned (Item J-1) = $15,500
- Channel Cut Amount Earned (Item K-2) = $46,495
- W8 Spoils Cut Amount Earned (Item K-3) = $33,033

$276,522

** ESTIMATED PERCENT OF PROJECT COMPLETE = 14.4%

** 44 CALENDAR DAYS HAVE EXPIRED SINCE START OF CONSTRUCTION (6/11/97).

PROJECT STATUS SUMMARY - BEAR CREEK TAILINGS RECLAMATION PROJECT

Owner: Union Pacific Resources (UPR)
Engineer/Construction Management: BRS, Inc. (BRS)
Construction Contractor: Carr Construction, Inc. (CARR)

DATE(S): For Period 7/25/97 through 8/9/97. (Report 8/11/97)

1.0 CONSTRUCTION/PROJECT ACTIVITIES SUMMARY:

- The week of 7/28 through 8/1 very little work took place due to heavy rains and very wet ground conditions. The scrapers, dozers, graders, etc. could not work. The rains left standing water throughout the majority of the jobsite, the water was 6"-12" deep in areas of pond #3.
- During that same week the contractor was directed to start dewatering operations in an effort to get rid of the excessive water. A pump was installed at the southeast corner of pond #3 to load water trucks, another pump was installed at the west side of pond #3 and hooked into a pipeline which discharged the water downstream from the dam.
- Dewatering continues still, and much of the jobsite is still under water.
- On 8/4 (Monday) tailings relocation work on pond #1 began. Dozers pushed the pond berms in across the tailings. Scrapers then cut the materials down to the 5161.0 elevation, and moved the materials into fill areas near the dam. Some sandy areas and soft spots north of pond #1 were overexcavated, in order to allow for placement of clay materials covering the sands prior to placement of the radon barrier. This cut/fill operation in the vicinity of pond #1 continued throughout the week.
- The D6LGP dozer worked the week of 8/4 - 8/8 pushing wet tailings materials at the north end of pond #3, in order to get these materials to dry out so they can be moved with scrapers.

2.0 COMMUNICATIONS/ANTICIPATED CONDITIONS:

- The Contractor has mobilized one more road grader and one more compactor, as requested by the Engineer.
- The Contractor has been informed verbally that they will be reimbursed for the incurred costs related to dewatering, most likely through a formal change order. They were also informed that no compensation would be given for the week of down-time for the heavy equipment which was parked.
- BRS worked on construction surveying and grade control, construction management, and soils quality control work.

3.0 CONTRACT STATUS (ESTIMATED): ** Through 8/9/97**

- Estimated (load counts) tailings cut volume = 202,300 cy.
- Estimated (load counts) channel cut volume = 57,514 cy.
- Estimated (load counts) W8 spoils cut volume = 30,030 cy.

- Tailings Cut Hourly Amount Earned (Item K-1) = $257,108
- Mobilization Amount Earned (Item J-1) = $15,500
- Channel Cut Amount Earned (Item K-2) = $52,338
- W8 Spoils Cut Amount Earned (Item K-3) = $33,033

$357,979

- The tailings relocation item (K-1) has now overrun the original estimated amount of $250,000. This is due to the dewatering work, wet ground conditions, and overexcavation of these materials.

** ESTIMATED PERCENT OF PROJECT COMPLETE = 18.6%

** 60 CALENDAR DAYS HAVE EXPIRED SINCE START OF CONSTRUCTION (6/11/97).

Michael D. Bedell, P.E., BRS Inc.

PROJECT STATUS SUMMARY - BEAR CREEK TAILINGS RECLAMATION PROJECT

Owner: Union Pacific Resources (UPR)
Engineer/Construction Management: BRS, Inc. (BRS)
Construction Contractor: Carr Construction, Inc. (CARR)

DATE(S): For Period 8/10/97 through 9/5/97. (Report 9/9/97)

1.0 CONSTRUCTION/PROJECT ACTIVITIES SUMMARY:

- Construction of an approximately 22 acre area of radon barrier, between 950350N and 949600N, has been ongoing and is nearly completed. This portion of radon barrier has been completed to the 5163.5 elevation (5 - 6" lifts). The final testing surface of this area will be at the 5164.0 elevation. Compaction testing has been going well.
- The tailings relocation (Item K-1) portion of the project is substantially complete. The last area for tailings relocation, Pond #3, no longer has tailings to cut. Most of the tailings cut in Pond #3 has been covered with a layer of W8 material or channel cut material. However, there is still exposed tailings materials which have not been covered, mainly along the ridge line.
- Construction of an approximately 8 acre area of radon barrier, between 947200N and 947500N, is ongoing at the south end of Pond #3. Placement of the radon barrier was begun at the 5144.0 elevation, and is currently completed up to the 5145.5 elevation. Placement and compaction of the first couple of lifts of radon barrier has been difficult due to the "soft" condition of the underlying materials. The Contractor has had to put substantial effort into the area in order to achieve 95% compaction. A large rubber-tired roller was mobilized to the site to assist with this effort. As the radon barrier comes up in elevation, compaction becomes easier, and the "soft spots" become less of a problem.
- Dewatering of Pond #3 is no longer necessary, and the surface of the area is now dry.

2.0 COMMUNICATIONS/ANTICIPATED CONDITIONS:

- The NRC has approved allowances for placing the radon barrier on the ridge line as it currently exists, rather than following exactly the grades on the Plans. The NRC is expected to make a jobsite visit sometime in the month of September.
- BRS worked on construction surveying and grade control, construction management, and soils quality control work.

- Tentative plans have been made by UPR to complete radon barrier testing of the completed portions, sometime later in the month of September.

3.0 CONTRACT STATUS (ESTIMATED): ** Through 9/5/97**

- Estimated (load counts) tailings cut volume = 210,000 cy.
- Estimated (load counts) channel cut volume = 88,678 cy.
- Estimated (load counts) W8 spoils cut volume = 204,796 cy.

- Tailings Cut Hourly Amount Earned (Item K-1) = $312,800
- Mobilization Amount Earned (Item J-1) = $15,500
- Channel Cut Amount Earned (Item K-2) = $80,697
- W8 Spoils Cut Amount Earned (Item K-3) = $225,275

$634,272

** ESTIMATED PERCENT OF PROJECT COMPLETE = 33.3%

** 87 CALENDAR DAYS HAVE EXPIRED SINCE START OF CONSTRUCTION (6/11/97).

Michael D. Bedell, P.E., BRS Inc.

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PROJECT STATUS SUMMARY - BEAR CREEK TAILINGS RECLAMATION PROJECT

Owner: Union Pacific Resources (UPR)
Engineer/Construction Management: BRS, Inc. (BRS)
Construction Contractor: Carr Construction, Inc. (CARR)

DATE(S): For Period 9/6/97 through 9/21/97. (Report 9/22/97)

1.0 CONSTRUCTION/PROJECT ACTIVITIES SUMMARY:

- Construction of an approximately 21 acre area of radon barrier, between 950350N and 949600N, has been completed. All of the compaction testing for this portion of the radon barrier has been completed. Locations for radon gas testing have been staked, during the staking it was noticed that some of the locations were not up to the 5164.0 top of radon barrier elevation, therefore it has been decided that one more lift of radon barrier will be placed in order to ensure that there is more than 3 feet thick radon barrier everywhere. This last lift will likely take place after the radon gas testing.
- An approximately 19 acre area of radon barrier between 949600N and 949100N is under construction. The 4th lift up to the 5163.0 elevation is currently being placed.
- Worked on placing thin lifts of W8 materials on the ridge line and other areas where exposed tailings materials exist, as directed by UPR.
- Construction of an approximately 8 acre area of radon barrier, between 947200N and 947500N at the south end of Pond #3 has been stopped for now (prior to completion). This is due to questions and concerns related to the adjacent main diversion channel, and how the invert elevations of the channel effect the construction of the radon barrier in Pond #3. The radon barrier which has been constructed is mostly complete up to the 5146.5 elevation, the remainder is at the 5146.0 elevation.
- On Friday, 9/19/97, the project was rained out and no construction work took place.

2.0 COMMUNICATIONS/ANTICIPATED CONDITIONS:

- The NRC has scheduled a site visit for 9/24/97.
- BRS worked on construction surveying and grade control, construction management, and soils quality control work.
- Tentative plans have been made by UPR to complete radon barrier testing of the completed portions, sometime later in the month of September.

- Maxim Technoligies, a soils testing firm, is scheduled to make a visit to the jobsite this week. The purpose of the visit is to verify result of soils lab testing and compaction testing which is being performed by BRS.

3.0 CONTRACT STATUS (ESTIMATED): ** Through 9/21/97**

- Estimated (load counts) tailings cut volume = 210,000 cy.
- Estimated (load counts) channel cut volume = 88,678 cy.
- Estimated (load counts) W8 spoils cut volume = 315,228 cy.

- Tailings Cut Hourly Amount Earned (Item K-1) = $315,427
- Mobilization Amount Earned (Item J-1) = $15,500
- Channel Cut Amount Earned (Item K-2) = $80,697
- W8 Spoils Cut Amount Earned (Item K-3) = $346,751

$758,375

** ESTIMATED PERCENT OF PROJECT COMPLETE = 39.9%

** 103 CALENDAR DAYS HAVE EXPIRED SINCE START OF CONSTRUCTION (6/11/97).

Michael D. Bedell, P.E., BRS Inc.

PROJECT STATUS SUMMARY - BEAR CREEK TAILINGS RECLAMATION PROJECT

Owner: Union Pacific Resources (UPR)
Engineer/Construction Management: BRS, Inc. (BRS)
Construction Contractor: Carr Construction, Inc. (CARR)
DATE(S): For Period 9/22/97 through ~~9/10/97~~ 10/10/97. (Report ~~9/13/97~~ 10/13/97)

1.0 CONSTRUCTION/PROJECT ACTIVITIES SUMMARY:

- Construction of an approximately 19 acre area of radon barrier, between 949600N and 949100N, was completed (3' thick) on 9/30/97. All of the compaction testing for this portion of the radon barrier has been completed.
- Soon after completion of the area described above, radon gas emanation testing was completed on the portions of radon barrier which are finished (approx. 40 acres).
- Construction of an approximately 8 acre area of radon barrier, between 947200N and 947500N at the south end of Pond #3 was completed on 10/3/97. All of the compaction testing for this portion of the radon barrier has been completed.
- Construction of an approximately 22 acre area of radon barrier on the upper surface, between 949100N and 948200N, will be completed on 10/13/97.
- In summary, to date approximately 70 acres of the estimated 134 acres of radon barrier have been completed.
- On 9/23/97 and 10/8/97, the project was rained out and no construction work took place.

2.0 COMMUNICATIONS/ANTICIPATED CONDITIONS:

- The NRC has performed a site inspection on 9/24/97.
- BRS worked on construction surveying and grade control, construction management, and soils quality control work.
- UPR has made tentative plans to have another approximately 30 acre area of completed radon barrier tested (radon gas emanation) this week, if the weather cooperates.
- Current and upcoming work activities for the project are:
    1.) Construction of an approximately 10 acre area of radon barrier at the north end of Pond #2.
    2.) Resume channel cut at east area, and placement (random fill) to final contours, minus 12" for topsoil, on top of the completed radon barrier in vicinity of Pond #1.
    3.) Prepare channel riprap stockpile areas, and start hauling rock materials from Guernsey Stone.

3.0 CONTRACT STATUS (ESTIMATED): ** Through 10/9/97**

- Estimated (load counts) tailings cut volume = 210,000 cy.
- Estimated (load counts) channel cut volume = 90,946 cy.
- Estimated (load counts) W8 spoils cut volume = 454,952 cy.

- Tailings Cut Hourly Amount Earned (Item K-1) = $311,535
- Mobilization Amount Earned (Item J-1) = $24,800
- Channel Cut Amount Earned (Item K-2) = $82,761
- W8 Spoils Cut Amount Earned (Item K-3) = $500,447

$919,543

** ESTIMATED PERCENT OF PROJECT COMPLETE = 48.3%

** 122 CALENDAR DAYS HAVE EXPIRED SINCE START OF CONSTRUCTION (6/11/97).

Michael D. Bedell, P.E., BRS Inc.

PROJECT STATUS SUMMARY - BEAR CREEK TAILINGS RECLAMATION PROJECT

Owner: Union Pacific Resources (UPR)
Engineer/Construction Management: BRS, Inc. (BRS)
Construction Contractor: Carr Construction, Inc. (CARR)

DATE(S): For Period 10/11/97 through 10/27/97. (Report 10/27/97)

1.0 CONSTRUCTION/PROJECT ACTIVITIES SUMMARY:

- Construction of an approximately 8 acre area of radon barrier, at the north end of Pond #2, from the 5153.5 to the 5152.0 top of barrier contours, was subsatntially completed except for filling in low spots.
- Radon gas emanation testing was completed on an approximately 22 acre area in the vicinity of Pond #1, and on an approximately 8 acre area at the south end of Pond #3.
- In summary, to date approximately 70 acres of the estimated 134 acres of radon barrier have been completed and tested (52%). Approximately 78 acres have been completed (58%).
- Construction has been ongoing on an approximately 6 acre area of radon barrier, from the 5152.0 to the 5151.0 top of barrier contours, at the south portion of Pond #2.
- Tailings relocation cut (W8 materials mixed with tailings) has been ongoing from the 5151.0 to the 5149.5 top of barrier contours, at the south end of Pond #2. This material is being placed in nearby ridge line fill areas.
- On the upper surface (Pond #1), near the dam, channel cut-random fill is being placed to form the final surface contours (minus 12" for topsoil).
- Areas of very sandy channel cut materials are being stockpiled at a "waste dump" near the UPR facilities.
- On 10/24/97 and 10/27/97, the project was snowed out and no construction work took place.

2.0 COMMUNICATIONS/ANTICIPATED CONDITIONS:

- BRS worked on construction surveying and grade control, construction management, and soils quality control work.
- UPR has supervised another approximately 30 acre area of completed radon barrier testing (radon gas emanation).

- Current and upcoming work activities for the project are:
  1.) Complete construction of an approximately 6 acre area of radon barrier at Pond #2.
  2.) Continue channel cut at east area, and placement (random fill) to final contours, minus 12" for topsoil, on top of the completed radon barrier at Pond #1.
  3.) Prepare channel riprap stockpile areas, and start hauling rock materials from Guernsey Stone.
  4.) Continue tailings relocation to prepare for radon barrier placement in the south end of Pond #2 and the north end of Pond #3.

3.0 CONTRACT STATUS (ESTIMATED): ** Through 10/27/97**

- Estimated (load counts) tailings cut volume = 220,000 cy.
- Estimated (load counts) channel cut volume = 119,506 cy.
- Estimated (load counts) W8 spoils cut volume = 535,164 cy.

- Tailings Cut Hourly Amount Earned (Item K-1) = $312,125
- Mobilization Amount Earned (Item J-1) = $24,800
- Channel Cut Amount Earned (Item K-2) = $108,750
- W8 Spoils Cut Amount Earned (Item K-3) = $588,680

$1,034,355

** ESTIMATED PERCENT OF PROJECT COMPLETE = 54.4%

** 136 CALENDAR DAYS HAVE EXPIRED SINCE START OF CONSTRUCTION (6/11/97).

Michael D. Bedell, P.E., BRS Inc.

PROJECT STATUS SUMMARY - BEAR CREEK TAILINGS RECLAMATION PROJECT

Owner: Union Pacific Resources (UPR)
Engineer/Construction Management: BRS, Inc. (BRS)
Construction Contractor: Carr Construction, Inc. (CARR)

DATE(S): For Period 10/27/97 through 11/10/97. (Report 11/10/97)

1.0 CONSTRUCTION/PROJECT ACTIVITIES SUMMARY:

- Construction work did not take place on 10/27, 10/28, and 10/29 due to very wet ground conditions caused by melting snow.
- On 10/30 work was resumed. Contractor prepared two rock stockpile areas by stripping topsoil (hourly work). Also resumed work on final surface contours (- 12" for topsoil), at upper Pond #1 area, placing channel cut material.
- 11/3 through 11/7 contractor worked on East channel cut, placing as random compacted fill for final surface contours at upper Pond #1 area.
- 11/5 through 11/7 contractor worked on filling in low areas, recompacting, and regrading upper Pond #2 completed radon barrier, from the 5153.5 to 5152.0 top of barrier contours.
- On 11/7 worked was resumed on a incomplete portion of radon barrier at Pond #2, from the 5152.0 to 5151.0 top of barrier contours.
- On 11/4 Domson Inc. began delivering rock materials to the jobsite from Guernsey Stone Company. To date only 50-60 ton of rock have been delivered.
- In summary, to date approximately 70 acres of the estimated 134 acres of radon barrier have been completed and tested (52%). Approximately 78 acres have been completed (58%).
- Construction of an approximately 6 acre area of radon barrier, from the 5152.0 to the 5151.0 top of barrier contours, at the south portion of Pond #2, is completed up to the 3rd lift.
- On 11/10/97 the project was shut down due to recent snow and cold conditions. Frost depth averaged 2" and it would have been difficult to achieve proper compaction of soils in such conditions (temps ranging from 10 to 30 degrees).

2.0 COMMUNICATIONS/ANTICIPATED CONDITIONS:

- BRS worked on construction surveying and grade control, construction management, and soils quality control work.
- Monthly Pay Estimate No. 5 was processed, Contractor was denied $2,530 worth of 627 scraper hourly costs he requested.

WEEKLY REPORT 1, BEAR CREEK TAILINGS RECLAMATION
March 2, through March 6, 1998

Powers Elevation surveyor Max Carpenter, surveyed the chute coordinates

Station	Northing	Easting
0+00	949,450	378,300
4+60	948,990	378,300

Cross sections of the chute were staked before starting earthwork on March 2, 1998.

Excavation of topsoil in the chute area started on March 2, 1998. The topsoil depth was approximately 1 ft. Material from the chute cut was very sandy. Frost depth was only 0.5 ft. Material from the excavation was placed on the designated stockpile area near the main office road cut. Additional topsoil was stripped from this stockpile area to allow for more capacity. Excavation at a 5:1 slope was completed to the top of rock elevation.

Carr Construction started topsoil stripping at the Rock Weir on March 5, 1998.

Snow was removed from the toe of the ridgeline.

Powers Elevation surveyor Max Carpenter, surveyed points on the ridgeline and in Pond 3 area. Additional survey points were taken in the upper surface area to determine volume of tailings fill remaining.

Max Carpenter put slope stakes on the rock weir to mark the area for stripping topsoil.
The Rock Weir coordinates are:

Station	Northing	Easting
0+00	950,473.62	374,115.66
2+00	950,273.62	374,115.66

Mark Peloquin, Maxim Technologies was on site March 6, 1998 to take two core holes in the radon barrier. One core hole was taken on the upper surface near the flowline of the north swale. Approximately 1 ft of frozen soil was removed with a backhoe before hand augering the hole. The depth to tailings sands was greater than 4ft. The second hole was hand augered near the west end of the lower surface. No tailings were encountered at this location. Stiff clay and roots were encountered below the 3 ft radon barrier thickness. A clear transition from the radon barrier soils at the 3 ft depth to subsurface soils was not visually detected

Carr Construction shut down operation at 3:30 PM on March 6, 1998 due to heavy snow.

Carr Construction estimated quantities:

Topsoil cut	1,862 cy
Chute excavation	10,668 cy

WEEKLY REPORT 2, BEAR CREEK TAILINGS RECLAMATION
March 9 through March 13, 1998

Monday, March 9, 1998

Carr Construction excavated the chute area Station 0+00 to 3+80. Using two Caterpillar 627 scrapers, a Caterpillar D8 Bulldozer, and a Caterpillar 16-G Motor Grader. Material from the chute cut was sandy. The sandstone rock was very soft and broke easily with the D8 Bulldozer and the Caterpillar 16-G Motor Grader. Topsoil was stripped from an area west of the Chute to provide an area to stockpile material from the Chute Excavation. The topsoil depth was varied from 0.5 ft to 1 ft. Material from the excavation was placed on a stockpile area west of the chute.

Powers Elevation surveyor Max Carpenter slope staked the chute approach Stations 1+00 to 7+00. Max Carpenter surveyed points on the Ridge and in Pond 3 area. Additional survey points were taken in the upper surface area to determine volume of tailings fill remaining. Max Carpenter slope staked the chute below the top of rock Stations 2+70 to 3+80

Tuesday, March 10, 1998

Carr finished stripping the topsoil from the new stockpile area. Carr excavated the chute until 2:00 PM, then the excavating equipment was moved to the Chute Approach Between Station 1+00 and 7+00.

Powers Elevation surveyor Max Carpenter continued surveying along the Ridge. He also shot in the location of two test holes, which were dug to test the depth of the Radon Barrier.

Wednesday, March 11, 1998

Carr Construction continued to excavate the Chute Approach between Stations 1+00 and 7+00.

Powers Elevation surveyor Max Carpenter completed surveying along the Ridge., and place final cut stakes below the top of rock in the Chute from Station 2+70 to 3+80.

Thursday, March 12, 1998

Carr Construction finished the Chute Approach at 2:00 PM
Jim Smith took one Caterpillar 627 scraper over to the narrow area between Pond 2 and Pond 3 (neck area) and moved out some ice and snow to prepare the area for cutting out overfills from last years work. Due to snow cover and muddy conditions it was decided to temporarily shut down operations until conditions improved. Carr Construction was requested to shut down operations at 2:00 PM on March 12, 1998. Safety classes were conducted for everyone on site and the contractor left until such time that a decision is made to resume activities.

Carr Construction estimated quantities:

Topsoil cut		2,100 cy
Chute excavation		4,181 cy
Chute approach excavation	s	5,108 cy

WEEKLY REPORT 3, BEAR CREEK TAILINGS RECLAMATION
April 27 through May 1, 1998

Max Carpenter slope staked the diversion channel Stations 2+50 to 25+00 on April 9, 1998. Max Carpenter slope staked contours 5169 ft on the main dam and 5164 ft on the North Swale on April 28, 1998. Max Carpenter was on-site May 1, 1998 and surveyed the 4:1 slopes of the dam embankment. Relocation of the fence west of the diversion channel was completed on April 27, 1998.

Monday, April 27, 1998

Carr Construction resumed construction. The scrapers arrived at 10:25 AM and work commenced at 11:15 AM. Two Caterpillar 627's and one Caterpillar 621 scraper stripped the topsoil in the Diversion Channel between Stations 10+00 and 25+00. The topsoil depth varied from 0.5 ft to 1.5 ft. The topsoil was stockpiled below the diversion channel in two stockpiles. One topsoil stockpile is between Station 3+00 and 6+00 and the other is between Station 10+00 and 14+00. Call these topsoil stockpiles TS-DC1, TS-DC2.

Tuesday, April 28, 1998

Two Caterpillar 627's and one 621 scraper stripped the topsoil in the Diversion Channel between Stations 6+00 and 10+00. Moisture content of the topsoil is sufficient to prevent airborne dust. Shift hours were set at 7:00 AM to 7:30 PM. The temperature was approximately 60 degrees Fahrenheit.

Wednesday, April 29, 1998

Three Caterpillar 627's and one 621 scraper stripped the topsoil in the Diversion Channel between Stations 6+00 and 10+00. Moisture content of the topsoil was not sufficient to prevent airborne dust. Carr Construction was notified to use a water truck for dust suppression. One scraper and Caterpillar 16G motor grader cleaned up wind-blown material from the North Wing Dam. The wind-blown mater was dumped in the tailing relocation area west of the North Wing Dam near the south Ridge. The temperature was in the low 60's.

Thursday, April 30, 1998

Carr continued stripping topsoil from the diversion channel from Station 2+50 to 25+00.

Friday, May 1, 1998

Carr continued stripping topsoil from the diversion channel from Station 2+50 to 25+00 with all material being dumped on the new stockpile areas below the new diversion channel between the main dam and the weir. Some waste fill was placed in the lower diversion channel embankment. The water truck and Caterpillar 815 compactor were used to ensure good moisture and compaction.
The face of the main dam was grubbed of grass and a few inches of usable topsoil.

WEEKLY REPORT 3, BEAR CREEK TAILINGS RECLAMATION
April 27 through May 1, 1998

Domson's subcontractor delivered Riprap on April 29, 1998

Carr Construction estimated quantities:

Topsoil cut Diversion Channel	19,838 cy
Diversion Channel excavation	392 cy

WEEKLY REPORT 4, BEAR CREEK TAILINGS RECLAMATION
May 4 through May 8, 1998

Monday, May 4, 1998

Carr stripped topsoil from the diversion channel between Stations 2+50 to 10+00. They also stripped topsoil from both sides of the rock weir where the two small fills will be placed. Topsoil was stripped from the embankment area of the Lower Diversion Channel.

Tuesday, May 5, 1998

Carr started hauling waste back into low spots created by removing topsoil to prevent ponding of water in case of rain. Large rock will be excluded from the diversion channel embankment fills.

Wednesday, May 6, 1998

Carr started placing radon barrier extension fill on the upper surface. Grading the upper surface above the main dam starting at the 5167 bottom of topsoil contour. The material came from the diversion channel cut between Station 3+00 and Station 5+00 where some excellent brown clay that tested at 70% passing the # 200 sieve, was found.

Thursday, May 7, 1998

Carr continued placing finish grade (sub-topsoil grade) on upper surface working between the 5167 and 5166 contours. Early rainfall slowed production between 8:00 AM and 9:00 AM, then the weather improved throughout the day. The material all came from the diversion cut between Stations 3+00 and 5+00. The material placed today continued to be excellent brown clay that is quite dry but Carr is doing an excellent job conditioning and wetting the material. Any material that appears marginal is directed to the waste dump areas adjacent to the lower edge of the diversion channel.

Friday, May 8, 1998

Carr removed a small portion of topsoil adjacent to the downstream face of the dam on the west side of the main dam near the topsoil stockpile area. While the topsoil was being removed, the Caterpillar motor grader keyed out the start of the 5:1 on the down stream face of the dam and the compactor and water wagon prepped this new surface approximate elevation. 5107. After the topsoil was removed, the Caterpillar 627 scrapers started placing fill on the newly prepared surface for the 5:1 slope. Good fill practices were used.

Carr Construction estimated quantities:

Diversion Channel topsoil excavation	15,756 cy
Diversion Channel excavation	18,404 cy
Stations 3+00 to 5+00	
Fill placement, Upper surface	12,230 cy
Fill placement Dam Embankment	6,174 cy

WEEKLY REPORT 4, BEAR CREEK TAILINGS RECLAMATION
May 4 through May 8, 1998

Maxim was on-site monitoring activities starting on May 6, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) performed		9
Standard Proctor density tests (ASTM 698) performed	(4 point)	3
Atterberg limit tests (ASTM C88) performed		2
Sieve analysis (-200 sieve) tests performed		6

Test locations and results of tests are in Maxim Technologies Daily Reports 1 through 3

WEEKLY REPORT 5, BEAR CREEK TAILINGS RECLAMATION
May 11 through May 15, 1998

Monday, May 11, 1998

Rained out.

Tuesday, May 12, 1998

Rained out. Carr Construction Company (Carr) used a blade Tuesday afternoon to stir the fill and prepare the area for work tomorrow.

Wednesday, May 13, 1998

Carr started the compactor and blade early to prepare the fill on the downstream face of the dam. Conditions were a little wet initially but dried out quickly. All fill came from the Diversion Channel between Stations 2+50 and 10+00

Thursday, May 14, 1998

Carr continued placing fill on the downstream face of the dam (approximate elevation. 5124) with all material coming from the Diversion Channel. Carr worked between Diversion Channel Stations 1+80 to 5+00 in the AM and between Stations 11+00 to 15+00 in the PM. Splitting the time allowed the better clay material to be used in the outer face of the dam. Carr was reminded to continue keying into the main dam and good practices on the fill were observed throughout the day

Friday May 15, 1998

Carr continued working on the downstream face of the dam. The outer edge fill came from the Diversion Channel from Station 2+50 to 5+00. The interior fill came from the Diversion Channel from Station 11+00 to 15+00. A lot of rock started showing up at Station 13+25. Some of the smaller rock was placed in the diversion channel embankment fill and the larger rocks were pushed into a pile west of the cut. The scrapers hauled a mixture of sand and rock to the Diversion Channel embankment for about 2-½ hrs. Dan and Monte Carr were on-site at various times to cover for John Smith who was off today. More clay is showing up in the diversion channel cut at Station 12+00. We couldn't let Carr start to work on the dam fill because it was too dry and they hadn't brought anyone out early to condition the fill. Scrapers sat idle for ½ hour while the water truck, Caterpillar 14 G motor graded and Caterpillar 815 compactor conditioned the fill.

Carr Construction estimated quantities:

Diversion Channel excavation Stations 3+00 to 15+00	17,802 cy
Excavated soils placed on dam	16,721 cy

Max Carpenter Powers Elevation Co. was on-site May 13, 1998, Thursday May 14, 1998, and May 15, 1998. He surveyed the 5:1 slope on the dam as a check against Carr Construction Company's grade work. Some minor discrepancies were noted and quickly corrected by Carr.

Powers Elevation Co. also surveyed the contours of the upper surface on the west ridge area adjacent to the main dam. On Thursday, Max Carpenter surveyed the upper surface contours and remaining sections of the Diversion Channel for Bob Coppin. Jim Smith estimated depth of topsoil at the top of cut and toe of fill. Bob Coppin met with Max Carpenter on Friday.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) performed	8
Compaction density tests (ASTM 1556 Sand Cone method) performed	1
Standard Proctor density tests (ASTM 698) performed (4 point)	0
Atterberg limit tests (ASTM C88) performed	3
Sieve analysis (-200 sieve) tests performed	5

sTest locations and results of tests are in Maxim Technologies Daily Reports 4 through 7.

WEEKLY REPORT 6 BEAR CREEK TAILINGS RECLAMATION
May 18 through May 22, 1998

Monday, May 18, 1998

Carr Construction Company (Carr) was not allowed to start work on the dam fill because it was too dry. Carr did not bring anyone out early to condition the fill. Scrapers sat idle for ½ hour while the water truck, blade and Caterpillar 815 compactor conditioned the fill.

Carr Construction finally commenced operations on the downstream face of the dam with the outer edge fill coming from the diversion channel cut from Station 1+80 to 5+00. The interior portions of the fill came from the Diversion Channel cut from Station 11+00 to 15+00. Carr Construction ran four scrapers, one water truck, one water wagon, one D8 Bulldozer with ripper, one 16G Motor Grader and one Caterpillar 815 compactor.

Tuesday, May 19, 1998

Carr Construction brought out a crew early this morning to condition the fill. Carr continued work on the down stream face of the dam. Clay for the outer edge of the fill came from the Diversion Channel cut from Station 1+70 to 5+00. The interior portions of the fill came from the Diversion Channel cut from Station 11+00 to 15+00. Carr also stripped some topsoil from the rock stockpile area near the weir.

The horizontal work area on the face of the dam is becoming increasingly narrow. The water wagon, Caterpillar 14G motor grader, and Caterpillar 815 compactor are having trouble keeping up with the scrapers.

Jim Smith set grade for temporary drainage near the warehouse area. Carr stripped the drainage channel and Jim Smith placed pipes and re-established the haul road for the rock trucks.

Carr got behind on placing water on the fill and Maxim was forced to halt operations until they could catch up. During this period, Carr was allowed to dump a few panels on the upper surface. Carr moved topsoil near the chute and worked on the drainage channel near the warehouse mentioned above.

Wednesday, May 20, 1998

Carr continued working on the down stream face of the dam. Maxim had to halt operations twice, because Carr got behind on watering the fill and then they over-watered trying to compensate. Jim Smith allowed Carr to work on the upper areas dumping 3-inch lifts in panels that will be processed later. All fill material came from the diversion channel cuts. The material for the outer face of the dam and the panels on the upper surface came from Station 1+70 to 5+00. The sandier material came from Stations 7+00 to 15+00 and was placed in the interior portion of the dam fill.
Carr used the Caterpillar D6 Bulldozer to strip a portion of topsoil from the catch basin to permit sand to be hauled along the Seepage Control basin drainage channel at Station 10+00. Showers in the afternoon slowed operations a little.

Thursday, May 21, 1998

Carr continued working on the downstream face of the dam and they hauled sand into the catch basin drainage channel to be used to backfill the channel. Jim Smith established a back fill grade of approximately 5103 in the catch basin to stay above the soft under-footing to allow equipment to traverse the area. This area may need to be cut lower in the future as conditions improve. Some clay was also hauled to the upper panels and dumped in very thin lifts for processing later.

A truck loaded with rock (50 ton) was used to help with the compaction on the face of the dam.

Friday, May 22, 1998

Carr continued working on the down stream face of the dam with clay coming from the diversion channel cut from Station 3+00 to 5+00 and sandier material coming from Station 7+00 to 15+00. They also moved the water truck and compactors to the upper panels that they were allowed to dump on the past few days and conditioned, compacted and finish bladed them for the week-end as rain looks eminent.
Sand was pushed into the Seepage Control basin drainage channel with about 50% of the channel being backfilled by the end of the shift.

We were rained out at 3:30 PM but Carr had done a good job of sealing the fills and provided good runoff.

Carr Construction estimated quantities:

Topsoil stripping	1,092 cy
Diversion Channel excavation Stations 3+00 to 15+00	24,542 cy
Random Fill Station 10+00	2,750 cy
Excavated soils placed on dam embankment to elevation 5136	22,102 cy

Powers was not on-site, May 18, 1998
Powers was on-site, May 19, 1998, re-establishing grade control for Carr and staked some more of the diversion channel from Station 52+00 to 63+00. Max Carpenter also did other miscellaneous surveying that Jim Smith requested.
Powers was on site May 20, 1998 working on the diversion channel flow-line and cross sections.
Powers surveyed some more on the diversion channel, May 21, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications.		10
Compaction density tests (ASTM 2922 Nuclear method) requiring retest		6
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	2
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		6
Sieve analysis (-200 sieve) tests performed		9

Test locations and results of tests are in Maxim Technologies Daily Reports 8 through 12

WEEKLY REPORT 7, BEAR CREEK TAILINGS RECLAMATION
May 25 through May 29, 1998

Monday, May 25, 1998

Memorial Day Holiday observed

Tuesday, May 26, 1998

Once again, fills were to dry to allow Carr Construction Inc. (Carr) to continue working on the downstream face of the dam until the fill could be conditioned. Jim Smith let them move topsoil until they could get the fill under control. Carr finally started using their loader to carry a large quantity of rock that has been stacked up in the cut near Station 13+50. They carried the rock to the big horseshoe cove that was constructed out of excavated rock last year.

Carr also stripped a low area in the Seepage Control Basin and backfilled it with clay during periods that they couldn't work on the downstream face of the dam. Work on the downstream face of the dam was halted due to lack of adequate conditioning of the fill. Maxim is doing a good job of keeping the fill under control and halting operations if things get out of hand.

Wednesday, May 27 1998

Carr continued construction of the downstream face of the dam with four Caterpillar 627 scrapers, two blades, two rollers and one water wagon. The outer edge of the fill came from clay in the diversion channel cut from Station 1+70 to 5+00. The interior portions of the fill came from the sandier portions of the diversion channel cut from Station 5+00 to 15+00. A Caterpillar 980C loader was used to carry rocks out of the cut and the rocks were stockpiled in the horseshoe rock dump just above the diversion channel Station near 15+00. The Caterpillar 14G blade outlined the next section of diversion channel in preparation for topsoil removal between Station 20+00 to 30+00.

Thursday, May 28, 1998

Carr continued placing fill on the downstream face of the dam with two scrapers, one blade, one roller, and one water wagon. All clay for the outer edge of the fill came from the Diversion Channel cut from Station 1+70 to 5+00. The interior portion of the fill came from sandier material from the diversion channel cut from Station 5+00 to 15+00. They also started construction of the west fill that borders the weir cut. They used two scrapers, one blade, one roller, and one water truck on this fill. The material used in this fill was the sandier material from the diversion channel cut from Station 5+00 to 11+00. The loader continued carrying rock from the cuts and we started a new rock stockpile above the diversion channel near Station 9+00. The backfilling of the catch basin channel, with the exception of a sump we left, was completed with the D6 today.

Friday, May 29, 1998

The fill on the downstream face of the dam was too dry to allow placement of fill until conditioning of the fill was completed. The scrapers set idle for about 30 minutes and then continued placing fill on the downstream face of the dam with clay for the outer edge coming

from the diversion channel cut from Station 1+70 to 5+00 and sandier material for the inner portions of the fill came from the diversion channel from Station 5+00 to 15+00. The sandier material also included a fair amount of rock. The larger rocks were picked out of the cuts and fills with the loader and placed in the two rock stockpile areas. They also hauled fill to the upper area panels, which consisted of clay from the diversion channel cut from Station 1+70 to 5+00. Scrapers also removed topsoil from the diversion channel from Station 26+00 to 30+00 and placed in a stockpile near Station 30+00 of the diversion channel.

Carr estimated daily production as follows:

Topsoil	3,402 cy
Downstream face of dam	2,954 cy
Radon Barrier Extension	644 cy

Carr Construction estimated quantities:

Topsoil stripping	2,000 cy
Diversion Channel excavation	23,142 cy
Dam Fill	13,384 cy
Diversion Channel Embankment	6,664 cy
Radon Barrier Extension	644 cy

Powers was not on-site this week

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) performed		10
Compaction density tests (ASTM 2922 Nuclear method) requiring retest		1
Compaction density tests (ASTM 1556 Sand Cone method) performed		1
Standard Proctor density tests (ASTM 698) performed	(4 point)	2
Standard Proctor density tests (ASTM 698) performed	(1 point)	2
Atterberg limit tests (ASTM C88) performed		9
Sieve analysis (-200 sieve) tests performed		9

Test locations and results of tests are in Maxim Technologies Daily Reports 13 through 16

WEEKLY REPORT 8, BEAR CREEK TAILINGS RECLAMATION
June 1 through June 5, 1998

Monday, June 1, 1998

Carr Construction was not allowed to place fill until the fill was conditioned as it had dried out on the surface over the weekend. Carr Construction placed clay on the outer edge of the downstream face of the dam that came from the diversion channel cut from Station 1+00 to 5+00. Sandier material was placed on the interior portions of the fill that came from several cuts in the diversion channel from Station 5+00 to 18+00. They continued picking rocks from the fills and cuts with the loader tramming them to the two rock stockpile areas. They also continued stripping topsoil from the diversion channel from Station 26+00 to 36+00.

Carr Construction estimated daily production:

Topsoil stripping and stockpiling	1,764 cy
Downstream face of dam	3,773 cy
Diversion channel embankment	203 cy

Tuesday, June 2, 1998

Carr Construction continues to fail to bring anyone out early to condition the fill so the scrapers set idle for ½ hour until conditioning was accomplished. Clay for the outer edge of the downstream face of the dam continued coming from the diversion channel cut from Station 1+00 to 5+00. This cut is nearing completion and no other clay sources are presently available, so Carr Construction started pulling more of the key cuts into the main dam across the fill with the blade to better utilize this excellent source of clay. This is easier to do now that we are getting higher and the fill is much narrower. The sandier portions of the diversion channel cuts from Station 10+00 to 18+00 went into the interior portion of the downstream face of dam fill and into the diversion channel embankment from Station 1+00 to 15+00.
Jim Smith used the backhoe to dig holes in the Pond 3 area with very favorable results. One hole had water at 5 ½ feet below the surface. The other four holes were a little damp but were firm and dug reasonably hard. One hole that was a little wetter than the rest was sampled for moisture content.

Carr Construction estimated daily production as follows:

Downstream face of dam	2856 cy
Diversion channel embankment	2856 cy

Wednesday, June 3, 1998

Light rain and cool temperatures allowed Carr Construction to get started on time today. They worked the downstream face of the dam with all fill coming from the diversion channel cut. The clay for the outer face of the fill came from Station 1+00 to 5+00 and the sandier fill came from Station 5+00 to 13+00. They also hauled the sandier material to the diversion channel embankment from Station 1+00 to 15+00. The 50- ton wheel roller was moved to Pond 2 and they started proof-rolling this area. The rolling went extremely well. We got through the worst part of the rock in the diversion channel cut near Station 11+00 today.

Carr Construction estimated their production as follows:

Diversion channel embankment	3753 cy
Downstream face of dam	1609 cy

Thursday, June 4, 1998

Light snow and muddy conditions prevented work on the downstream face of the dam as it is too narrow and the clay is too slick to stay on the narrow fill. Carr Construction hauled the sandier material from the diversion channel cut from Station 5+00 to Station 13+00 to the diversion channel embankment from Station 2+00 to 10+00. The loader carried rock from the cuts and fills.
Carr Construction estimated today's production as follows:

Diversion channel embankment	6118 cy

Friday, June 5, 1998

It was still very wet and slippery on the downstream face of dam fill, so Carr Construction continued hauling sand from the diversion channel cut from Station 10+00 to 15+00. Hauling the excavated material to the diversion channel embankment from Station 3+00 to 15+00. By 1:00 PM conditions improved and Carr Construction resumed limited activities on the downstream face of dam with all material coming from the diversion channel cut and the weir. The clay for the outer edge of the fill came from the weir as it was being cut to near final grade. The sandier fill for the interior portion of the fill came from the diversion channel cut from Station 10+00 to 15+00.
Carr Construction estimated today's' production as follows:

Diversion channel embankment	6,132 cy
Downstream face of dam	70 cy

Carr Construction estimated quantities:

Topsoil stripping	1,764 cy
Diversion Channel excavation	29,134 cy
Dam Fill	8,308 cy
Diversion Channel Embankment	19,562 cy

Powers Elevation was not on-site June 3, 1998.

Powers Elevation was not on-site June 4, 1998.

Powers Elevation was not on-site June 5, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) performed	8

Compaction density tests (ASTM 2922 Nuclear method) requiring retest		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	1
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		8
Sieve analysis (-200 sieve) tests performed		8

Test locations and results of tests are in Maxim Technologies Daily Reports 17 through 21

Billy Ray informed of the required frequencies and the need to perform the sand cone tests.

WEEKLY REPORT 9, BEAR CREEK TAILINGS RECLAMATION
June 8 through June 12, 1998

Monday, June 8, 1998

Rained out, no work.

Tuesday, June 9, 1998

Conditions were still wet and muddy in the clay areas but Carr Construction Inc. (Carr) was able to get the sandier cuts ready and they hauled to the diversion channel embankment the entire shift. They cut in the Diversion Channel from Station 18+00 to 22+00 and placed fill on the diversion channel embankment from Station 6+00 to 15+00.
Fill placement went extremely well with the exception of lots of rock from Station 18+00 to 22+00 that had to be picked out of the cuts and fills with the loader. These rocks were then hauled to the rock stockpile above the diversion channel cut at Station 17+00.
Carr started working 10-hour shifts today and will continue to do so throughout the season.

Carr estimated their production today as follows:

Diversion channel embankment	6,874 cy

Wednesday, June 10, 1998

The rock problem became severe enough yesterday that Carr could not keep the fill clean with the loader. They started the shift today early to windrow all the rock and the scrapers picked up all the wind-rowed rock in the fill and hauled them to the fill at the old mill-site. They then resumed the diversion channel embankment fill from Station 3+00 to 15+00 with all material coming from the diversion channel cut from Station 15+00 to 22+00.
They started hauling to the downstream face of the dam at 9:30 AM with clay that came from finish grading the Rock Weir and the diversion channel cut from Station 3+00 to 5+00. They worked a Caterpillar 16G blade and one Caterpillar 627 scraper during the finish work activities.
Carr reported their production today as follows:

Diversion channel embankment	6,806 cy
Downstream face of dam	672 cy

Thursday, June 11, 1998

Carr continued stripping in the diversion channel cut and hauled to the diversion channel embankment. They cut from Station 17+00 to 22+00 and encountered significant quantities of rock that had to be removed with the loader and also picked up by the scrapers from the fills. The loader trammed rock to the rock stockpile above the diversion channel at Station 17+00 and the scrapers hauled rocks to the dump near the old mill-site. The fill from the above cuts were placed on the diversion channel embankment from Station 3+00 to 17+00.
Carr also continued finish grading of the diversion channel and weir from Station 0+00 to 12+00 and hauled most of the clay material from Station 0+00 to 5+00 to the downstream face of the dam. The sandier sections from 5+00 to 12+00 were hauled to the diversion channel embankment.
Carr's estimated their production today as follows:

Diversion channel embankment	4970 cy
Downstream face of dam	1330 cy

Friday, June 12, 1998

We had heavy rains last night but Carr was able to get going in the sandier cuts of the diversion channel from Station 10+00 to 20+00. They hauled to the diversion channel embankment from Station 3+00 to 17+00. At 4:00 PM Carr was able to resume hauling to the downstream face of the dam with clay from the diversion channel cut from Station 19+00 to 22+00. Maxim was present to observe and test the fill. Bob Coppin was also on site today.

Carr's estimated production:

Downstream face of dam	350 cy
Diversion channel cut	4914 cy

Carr Construction estimated quantities:

Topsoil stripping	0 cy
Diversion Channel excavation	25,200cy
Dam Fill	2,352 cy
Diversion Channel Embankment	1,700 cy

Powers Elevation was not on-site June 9, 1998.
Powers Elevation was not on-site June 10, 1998.
Powers Elevation was not on-site June 11, 1998.
Powers Elevation was also on site June 12, 1998 working on the downstream face of the dam checking Carr's grade work and diversion channel slope stakes from Station 17+00 to 25+00 along the east bank of the diversion channel.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		9
Compaction density tests (ASTM 2922 Nuclear method) requiring retest		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		1
Standard Proctor density tests (ASTM 698) performed	(4 point)	1
Standard Proctor density tests (ASTM 698) performed	(1 point)	2
Atterberg limit tests (ASTM C88) performed		6
Sieve analysis (-200 sieve) tests performed		8

Test locations and results of tests are in Maxim Technologies Daily Reports 22 through 26

WEEKLY REPORT 10, BEAR CREEK TAILINGS RECLAMATION
June 15 through June 19, 1998

Monday, June 15, 1998

Rained out, no work.

Carr called off the shift today due to heavy rains over the weekend. Maxim showed up but went back to town.
John and Jim Smith ran equipment to improve the drainage and prepare the fill for tomorrow.

Tuesday, June 16, 1998

Carr started working on the downstream face of the dam hauling from the diversion channel cut from Station 19+00 to 22+00. Scrapers also cleaned up rock wind rows from the diversion channel embankment and hailed them to the old mill site area. With the exception of the final lift on the ridgeline, the downstream face of the dam was completed today. After completing the dam to 5167 they spent the rest of the shift hauling to the diversion channel embankment from Station 10+00 to 17+00 with all material coming from the diversion channel cut from Station 18+00 to 20+00. Carr also started proof, rolling pond #2 today and hauled topsoil from the diversion channel cut from Station 20+00 to 23+00 hauling it to the stockpile near Station 36+00.
Maxim was on site but Powers was not.

Carr's production estimate:

Downstream face of dam	4,178 cy
Diversion channel embankment	1,044 cy
Topsoil	728 cy

Wednesday, June 17, 1998

Very wet this morning due to overnight rains. Carr worked on the sandy cuts of the diversion channel hauling to the diversion channel embankment until 10:00 AM when we shut down due to rain. Maxim was not on site but will test this fill on the next scheduled work day. Powers was not on site today. Carr also hauled a little topsoil from the diversion channel embankment from Station 26+00 to 28+00 hauling it to the new topsoil stockpile near Station 36+00.

Carr's production estimate:

Diversion channel cut	1,792 cy
(Includes a small quantity of topsoil	

Thursday, June 18, 1998

Rained out

Friday, June 19, 1998

Rained out

Carr Construction estimated quantities:

Topsoil stripping	0 cy
Diversion Channel excavation	7,742 cy
Dam Fill	4,178 cy
Diversion Channel Embankment	1,700 cy

Powers Elevation worked on diversion channel stakes on June 15, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		7
Compaction density tests (ASTM 2922 Nuclear method) requiring retest		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	0
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		5
Sieve analysis (-200 sieve) tests performed		5

Test locations and results of tests are in Maxim Technologies Daily Reports 27 through 30

WEEKLY REPORT 11, BEAR CREEK TAILINGS RECLAMATION
June 22 through June 26, 1998

Monday, June 22, 1998

Jim Smith was not on site today but Carr Construction Inc. (Carr) worked and Gary Chase watched the operation. Maxim was also on-site. Carr tried to rework the diversion channel embankment fill surface but it was too wet. They bladed a haul road from W8 to the main dam and hauled to the ridgeline above the dam. They also did some proof rolling along the 5164.5 contour of the upper area.

Carr's estimated production:

Diversion channel cut	1,540 cy
W8 to Upper Surface Radon Barrier Extension	1,680 cy

Tuesday, June 23, 1998

Jim Smith was not on site today but Gary Chase watched the shift along with Maxim. Carr worked on finishing the ridgeline above the dam hauling clay from the W8 dump.
They also worked on the diversion channel cut to complete the diversion channel embankment. They also worked on proof rolling panels on the upper area. A pump was set up to pump out the water holes in the Pond 2 and Pond 3 areas caused by last week's heavy rainfall.

Carr's production estimate:

Diversion Channel cut	4,032 cy
W8	420 cy

Wednesday, June 24, 1998
Carr finished the diversion channel embankment today and hauled topsoil from the diversion channel cut. They also continued hauling from W8 to panels on the upper area putting in final grade on the 5164.5 contour. Jim Smith was not on site, but Gary and Maxim observed all operations. Pumping continued in Pond 3.

Carr's production estimate:

Diversion channel cut	4060 cy
W8	434 cy

Thursday, June 25, 1998
Jim Smith arrived back to the job site today at 9:30 AM. Carr was hauling from W8 to panels on the upper area on the 5164.5 contour. A pump was running in Pond 3 dewatering water from all the heavy rain last week. Carr was running without adequate grade control but after establishing grade no problems were observed. Maxim was on-site.
Carr's estimated production:

W8	4172 cy

WEEKLY REPORT 11, BEAR CREEK TAILINGS RECLAMATION
June 22 through June 26, 1998

Friday, June 26, 1998

Carr continued working on panels grading out the upper area contours 5164.5 and 5165.0 hauling from W8.
Powers and Maxim were both on site.
All fill going in well and all material was tested and passed. Pumping continued in Pond 3.
Carr's production estimate:

W8	4228 cy

Carr Construction estimated quantities:

Topsoil stripping	168 cy
Diversion Channel excavation	9,632 cy
Seepage Control Basin	1,739 cy
Radon Barrier Extension Upper Surface	10,934 cy
Diversion Channel Embankment	7,725 cy

Powers Elevation Co. was not on-site June 22, 1998.
Powers Elevation Co. was not on site June 23, 1998.
Powers Elevation Co. was not on site June 24, 1998.
Powers Elevation Co. was on site June 25, 1998.
Powers Elevation Co. was on site June 26, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) performed		22
Compaction density tests (ASTM 2922 Nuclear method) requiring retest		5
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	1
Standard Proctor density tests (ASTM 698) performed	(1 point)	2
Atterberg limit tests (ASTM C88) performed		11
Sieve analysis (-200 sieve) tests performed		11

Test locations and results of tests are in Maxim Technologies Daily Reports 31 through 35.

WEEKLY REPORT 12, BEAR CREEK TAILINGS RECLAMATION
June 29 through July 3, 1998

Monday, June 29, 1998

Carr Construction Inc. (Carr) continued working on grading out the contours between the main dam and the intermediate ridgeline working on the 5165 and 5165.5 contours. All material came from the W8 and all operations were observed and tested by Maxim personnel. Carr also proof rolled and bladed the Pond 2 area.

Carr's estimated production:

W8 Radon Barrier Extension	4,228 cy

Tuesday, June 30, 1998

Carr continued grading out contours on the upper area working on the 5166 5165.5 and 5165 contours between the main dam and the intermediate Ridge. All material came from the W8. All operations were observed and tested by Maxim personnel. Carr also continued to proof roll and blade the Pond 2 area.

Carr's estimated production:

W8 Radon Barrier Extension	4,732 cy

Wednesday, July 1, 1998

Carr started fine grade finishing of the upper area between the main dam and the north swale. They continued working on grading out the contours 5166, 5165.5, and 5165 between the main dam and the Intermediate Ridge. All material came from the W8. All operations were observed and tested by Maxim personnel. They continued to blade and proof roll Pond 2 between Stations 12+00 to 16+00.

Carr's estimated production:

W8 Radon Barrier Extension	4,676 cy

Thursday, July 2, 1998

RAINED OUT

Friday, July 3, 1998

RAINED OUT

Carr Construction estimated quantities:

Topsoil stripping	168 cy
Diversion Channel excavation	9,632 cy
Seepage Control Basin	1,739 cy
Radon Barrier Extension Upper Surface	10,934 cy
Diversion Channel Embankment	7,725 cy

WEEKLY REPORT 12, BEAR CREEK TAILINGS RECLAMATION
June 29 through July 3, 1998

Powers Elevation was on site June 29, 1998.
Powers Elevation was on site June 30, 1998.
Powers Elevation was on site July 1, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing specs		4
Compaction density tests (ASTM 2922 Nuclear method) requiring retest		8
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	1
Standard Proctor density tests (ASTM 698) performed	(1 point)	2
Atterberg limit tests (ASTM C88) performed		4
Sieve analysis (-200 sieve) tests performed		6

Test locations and results of tests are in Maxim Technologies Daily Reports 36 thrsough 39

WEEKLY REPORT 13, BEAR CREEK TAILINGS RECLAMATION
July 6 through July 10, 1998

Monday, July 6, 1998

Carr started the shift moving topsoil from the diversion channel from Station 25+00 to 30+00. Maxim tested the channel cut in this area and determined that it was suitable for radon barrier and they started hauling to the 5166 contour of the intermediate ridgeline.

Carr's estimated production:

Topsoil	1,442 cy
Diversion channel cut	4,634 cy

Tuesday, July 7, 1998

Carr continued hauling from the diversion channel to the 5166 intermediate ridgeline and the 5165.5 contour between the intermediate ridgeline and the south swale. Maxim observed and tested all operations.

Carr's estimated production:

Topsoil	784 cy
Diversion channel cut	5,824 cy

Wednesday, July 8, 1998

Carr continued hauling from the diversion channel cut hauling to the upper area contours 5165.5 and 5165 between the intermediate ridgeline and the south swale. Maxim observed and tested all operations. Several test pits were dug in the diversion channel near Station 32+00 to test for suitable material for radon barrier but this area was too sandy. Pumping in the neck area between Pond 2 and Pond 3 has been ongoing all week.

Carr's estimated production:

Radon Barrier Extension	5,600 cy
Diversion channel cut	5,600 cy

Thursday, July 9, 1998

Carr continued hauling from the diversion channel cut from Station 25+00 to 30+00. They hauled to the upper area contour 5156.5 between the intermediate Ridge and the south swale. At 9:00 AM they started to haul from the W8 stockpile placing fill on the same 5165.5 contour. Maxim observed the fill placement operations and performed the Geotechnical tests.

Carr's estimated production:

Radon Barrier Extension	3,976 cy
Diversion channel cut	980 cy

WEEKLY REPORT 13, BEAR CREEK TAILINGS RECLAMATION
July 6 through July 10, 1998

Friday, July 10, 1998

Carr continued hauling from the W8 stockpile hauling to the upper area contours. They worked the 5166 contour between the intermediate Ridge and the south swale. Maxim observed and tested all operations.

Carr's estimated production:

Radon Barrier Extension from W8	3,976 cy

Carr Construction estimated quantities:

Topsoil stripping	2,226 cy
Diversion Channel excavation	14,812 cy
Radon Barrier Extension from Diversion Channel	13,832 cy
Radon Barrier Extension Upper Surface from W8	8,484 cy

Powers Elevation was on site July 6, 1998.
Powers Elevation continued surveying contours on the upper area as well as other areas as needed July 7, 1998.
Powers surveyed finish stakes for the weir and chute areas July 8, 1998.
Powers Elevation was on site July 9, 1998.
Powers Elevation was on site July 10, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		9
Compaction density tests (ASTM 2922 Nuclear method) requiring retest		2
Compaction density tests (ASTM 2922) requiring retest Existing Pond 2		5
Compaction density tests (ASTM 1556 Sand Cone method) performed		1
Standard Proctor density tests (ASTM 698) performed	(4 point)	1
Standard Proctor density tests (ASTM 698) performed	(1 point)	2
Atterberg limit tests (ASTM C88) performed		7
Sieve analysis (-200 sieve) tests performed		7

Test locations and results of tests are in Maxim Technologies Daily Reports 40 through 44

WEEKLY REPORT 14, BEAR CREEK TAILINGS RECLAMATION
July 13 through July 17, 1998

Monday, July 13, 1998

Carr stripped topsoil from the Diversion Channel from Station 78+00 to 74+00 and the Northeast channel from Station 0+00 to 6+00. Then they hauled Diversion Channel cut from Station 72+00 to 78+00 to the Pond 2 area near Station 16+50 to 20+00. The channel cut was very good clay, but was very dry. Carr could not keep up with watering and compacting so they moved back to the Upper area contours 5165.5 and 5165.0 between the intermediate Ridge and the south swale. One Caterpillar 627 scraper stripped a small quantity of topsoil to enlarge the rock stockpile area #2. Maxim observed the fill placement operations and performed the Geotechnical tests.

Carr's estimated production:

Topsoil Stripping from Diversion Channel	238 cy
Diversion channel cut	2,282 cy
Radon Barrier Extension from W8	1,862 cy

Tuesday, July 14, 1998

Carr brought in two more scrapers and another sheepsfoot compactor. Carr is still adding water to the Pond 2 fill where they were too dry yesterday. Carr is moving topsoil from the NE channel at Station 2+00 to 6+00. Two Caterpillar 627 scrapers are hauling from the W8 stockpile to the Upper area contours 5165.5 and 5165.0. They parked the little water truck and are using two water wagons to keep up with the fills. Two Caterpillar 627 scrapers worked the Pond 2 area between Station 16+50 to 20+00 hauling clay from the Diversion Channel cut Stations 62+00 to 65+00. Carr put a motor grader on the face of the dam to dress up the slope. Maxim observed the fill placement operations and performed the Geotechnical tests.

Carr's estimated production:

Topsoil Stripping from Diversion Channel	cy
Diversion channel cut	2,828 cy
Radon Barrier Extension from W8	4,788 cy

Wednesday, July 15, 1998

Carr continued stripping with two scrapers in the Diversion Channel cut Stations 62+00 to 65+00. They hauled to the Pond 2 area working the area between Station 19+00 and 20+00 on lift #5, Station 15+00 to 19+00 on lift #4, and Station 13+00 to 15+00 on lift #3. Four scrapers also hauled from W8 to the upper area contours 5164.5 and 5165 between the intermediate Ridge and the south swale. Maxim observed the fill placement operations and performed the Geotechnical tests.

Carr's estimated production:

Diversion channel cut to Pond 2	3,010 cy
Radon Barrier Extension from W8	4,970 cy

WEEKLY REPORT 14, BEAR CREEK TAILINGS RECLAMATION
July 13 through July 17, 1998

Thursday, July 16, 1998

Carr continued hauling with two scrapers in the Diversion Channel cut Stations 62+00 to 65+00. They hauled to the Pond 2 area working the area between Station 15+00 and 16+50 on lift #5, Station 13+50 to 16+00 on lift #4, and Station 12+50 to 13+00 on lift #3. Four scrapers also hauled from W8 to the upper area contour 5164.5 between the intermediate Ridge and the south swale until 10:30 AM. These four scrapers continued hauling from W8 but started hauling to Pond 2 and worked on lift #6 from Station 16+00 to 20+00, lift #5 to Station 14+50, lift #4 to 12+50 and lift #3 to 12+00. Carr also proof rolled an area 150 ft wide through the neck area between Pond 2 and Pond 3 from Station 9+50 to 12+00. Maxim observed the fill placement operations and performed the Geotechnical tests.

Carr's estimated production:

Diversion channel cut to Pond 2	3,612 cy
Radon Barrier Extension from W8	5,166 cy

Friday, July 17, 1998

Carr continued stripping with two scrapers in the Diversion Channel cut and four scrapers hauled from W8. They hauled to the Pond 2 area working on lift #6 to Station 13+00, lift #5 to Station 12+50, lift #4 to Station 12+75, lift #3 to 12+00. Maxim observed the fill placement operations and performed the Geotechnical tests.

Carr's estimated production:

Diversion channel cut to Pond 2 Radon Barrier	3,780 cy
Radon Barrier to Pond 2 from W8	5,054 cy

Carr Construction estimated quantities:

Topsoil stripping	238 cy
Diversion Channel excavation	15,491 cy
Radon Barrier Extension from W8	16,786 cy
Radon Barrier Pond 2 from Diversion Channel	15,491 cy
Radon Barrier Pond 2 from W8	5,054 cy

Powers Elevation was on site July 13, 1998.
Powers Elevation was on site July 14, 1998.
Powers Elevation was not on site July 15, 1998.
Powers Elevation was not on site July 16, 1998.
Powers Elevation was not on site July 17, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear Method) passing project specifications		6
Radon Barrier Extension (RBE) Upper Surface		
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		17
Radon Barrier (RB) Pond 2 area		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RBE		1
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		6
Compaction density tests (ASTM 1556 Sand Cone method) performed		1
Standard Proctor density tests (ASTM 698) performed	(4 point)	3
Standard Proctor density tests (ASTM 698) performed	(1 point)	4
Atterberg limit tests (ASTM C88) performed		9
Sieve analysis (-200 sieve) tests performed		18

Test locations and results of tests are in Maxim Technologies Daily Reports 45 through 49

WEEKLY REPORT 15, BEAR CREEK TAILINGS RECLAMATION
July 20 through July 24, 1998

Monday, July 20, 1998

Carr ran two scrapers in the Diversion Channel cut from Station 63+00 to 65+00 hauling to two panels in the neck between Station 12+00 to 4+00. Each panel was 50 ft wide and was located adjacent to the bank along the southeast side of the neck area. A third and fourth panel were laid out and grade on these panels allowed a small area of fill for tailings relocation from Station 4+00 to 9+50. A tailing relocation cut was made below the south Ridge. A mixture of clay cap and tailings were hauled to panels that were below sub-grade. The fill was placed in 4-inch lifts, compacted with vibratory sheepsfoot and bladed smooth. The material was very dry and all went well. The tailings material was kept slightly below sub-grade to ensure adequate Radon Barrier cover. After the tailings were relocated, lift #1 of the Radon Barrier was placed over these two panels. Four other scrapers hauled from W8 bringing the Pond 2 bringing lift #4 to 12+00 and lift #5 to 12+50.and lift #6 to 13+00. Maxim personnel observed and tested all operations. Powers Elevation made some corrections to surveying errors in the Diversion Channel cut.

Carr's estimated production:

W8	3,990 cy
Diversion Channel cut	3,322 cy

Tuesday, July 21, 1998

Carr cut with two scrapers in the Diversion Channel cut from Station 64+00 to 66+50 hauling to the 4 panels established yesterday between 12+00 to 4+00. The first two panels are now at lift #4, the third is at lift #2 and the fourth is at lift #1.
One scraper was down so the other three hauled from W8 bringing the Pond 2 panels to lift #6 up to 12+00, lift #5 to 11+90, lift #4 to 11+30 and lift #3 to 11+00. Then they worked with the two scrapers working on the four long panels from 12+00 to 4+00 mentioned above. Maxim personnel observed and tested all operations.

Carr's estimated production:

W8	4,186 cy
Diversion Channel cut	3,668 cy

Wednesday, July 22, 1998

Carr worked four scrapers in the Diversion Channel cut at Station 59+00 to 65+00 hauling to radon barrier panels in the neck area dumping from 11+00 to 4+00. Two scrapers hauled to the same panels from W8. Panels dumped on lay adjacent to the southeast edge of the neck area. The first and second panels have been completed to lift #5, the third to lift #4, the fourth to lift #3 and a fifth panel has been divided into three sections that include lift # 1-3 with each lift being about 12 feet wide and then stair stepped down to the next lower lift. They also started new panels from along the southeast edge of the neck and pond three and ran these panels from 4+00 to the lifts in pond three constructed last year. Pond three is now connected with radon barrier to pond two continuously through the neck and we will continue moving to the north panel by panel until the neck area is completed. The first of these new panels connecting to last year radon barrier in pond #3 was completed through lift #2 and the second panel was completed through lift #1. Some areas in panel #2 was below sub grade so we used some of the more marginal

channel cut to bring it up to bottom of radon barrier grade in an effort to save the better clay for the radon barrier lifts.
Maxim was on site and observed and tested all operations.

Carr's estimated production:

W8	2,800 cy
Diversion Channel cut	5,502 cy

Thursday, July 23, 1998

Carr worked four scrapers in the Diversion Channel cut at Station 56+00 to 62+00 hauling to radon barrier panels in the neck area dumping from 11+00 to 4+00. Two scrapers hauled to the same panels from W8.
Panels dumped on lay adjacent to the southeast edge of the neck area. The first five panels have been completed to lift #6 and a sixth panel has been divided into five sections that includes lift # 1-5 with each lift being about 10 feet wide and then stair stepped down to the next lower lift.
They also hauled to the new panels started yesterday from 4+00 connecting to last year radon barrier in pond #3 was completed through lift #4 and the second panel was completed through lift #3. All fill operations were observed and tested by Maxim personnel. Proof rolling was started today on new panels in pond #3 directly adjacent to the panels constructed last year. These panels run due east and west along the entire south end of Pond 3.
Finish blading was started on the Pond 2 area working between Stations 20+00 to 19+00.

Carr's estimated production:

W8	2,380 cy
Diversion Channel	6,972 cy

Friday, July 24, 1998

The two panels from the neck area at 4+00 to the pond #3 barrier placed last year were completed to lift #5 today. A third panel consisted of the lower four lifts stair-stepped down to bottom of radon barrier sub-grade. All fill came from W8 and the Diversion Channel cut from Stations 56+00 to 62+00. They also started relocating the W8 overfill from the pond #3 area placed last year. This cut was made on the west half of the second and third 50 foot panels north of the barrier placed last year. No tailings were encountered during this excavation and the material was placed in 4-inch lifts on the upper area along the south ridgeline between Stations 4+00 to 12+00 and rolled with a sheepsfoot roller. All cut and fill operations were observed and tested by Maxim personnel. Bob Coppin was on-site today. Met with Monty Carr discussed taking additional Diversion Channel cut between Stations 55+00 to 75+00. Decided to take an amount based on 30 ft from the flow line at a 20:1 slope and then a 5:1 slope. The Diversion Channel cut appears to have excellent clays for the Radon Barrier.

Carr's estimated production:

W8	4480 cy
Diversion Channel cut	1666 cy

WEEKLY REPORT 15, BEAR CREEK TAILINGS RECLAMATION
July 20 through July 24, 1998

Carr Construction estimated quantities:

Topsoil stripping	238 cy
Diversion Channel excavation	15,491 cy
Radon Barrier Extension from W8	16,786 cy
Radon Barrier Pond 2 from Diversion Channel	15,491 cy
Radon Barrier Pond 2 from W8	5,054 cy

Powers Elevation was on site July 21, 1998 correcting some survey errors made at the end of the neck area and the pond three area. They also worked on establishing a new toe for the south ridgeline.
Powers Elevation was not on site July 22, 1998.
Powers Elevation was not on-site July 23, 1998.
Powers Elevation was not on-site July 24, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		38
Radon Barrier (RB) Pond 2 area		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		5
Compaction density tests (ASTM 1556 Sand Cone method) performed		4
Standard Proctor density tests (ASTM 698) performed	(4 point)	2
Standard Proctor density tests (ASTM 698) performed	(1 point)	7
Atterberg limit tests (ASTM C88) performed		5
Sieve analysis (-200 sieve) tests performed		20

Test locations and results of tests are in Maxim Technologies Daily Reports 50 through 54

WEEKLY REPORT 16, BEAR CREEK TAILINGS RECLAMATION
July 27 through July 31, 1998

Monday, July 27, 1998

Two panels from the neck at 4+00 that connect to the Pond 3 Radon Barrier placed last year were completed to lift #6 today. Excavation of W8 overfill in pond #3 continued today, working next to the barrier placed last year. After the panels were cut to the bottom of radon barrier grade, scrapers started placing radon barrier on lift #1 of these two panels. No fill is placed on a panel until the entire panel is on grade as well as the panel adjacent to it to avoid any possibility of over-lapping fills and cuts. Fill for all the fills placed today came from the W8 and the Diversion Channel cut from Station 56+00 to 62+00.
The toe of the south ridgeline was sloped, cut to bottom of radon barrier grade, proof rolled and prepared for fill and the final three panels in the neck that tie into the south ridgeline were started and completed through lift #1. The material cut from the toe was placed in 4-inch lifts on the upper area next to the ridgeline crest at Station 4+00 to 12+00 and rolled with a sheepsfoot roller. Maxim personnel observed and tested all operations.

Carr's estimated production:

W8	2,912 cy
Diversion Channel cut	4,074 cy

Tuesday, July 28, 1998

Carr started the shift dumping on the two new lifts in Pond 3 next to the barrier placed last year. They were re-directed to the last three panels in the neck between 11+00 and 4+00. These panels were mostly completed through lift #2 today. All fill material came from W8 and the Diversion Channel cut from Station 56+00 to 62+00. Maxim personnel observed and tested all operations.
Excavation of the W8 overfill from last year continued through the fifth panel today. All this material was placed on the upper area from 4+00 to 12+00 along the crest of the south ridgeline in 4-inch lifts and rolled with a sheepsfoot roller.

Carr's estimated production:

W8	2,100 cy
Diversion Channel cut	4,858 cy

Wednesday, July 29, 1998

Carr started the shift working on the new panels in pond three because they failed to meet specifications on the material placed yesterday on the last panels in the neck. They worked on conditioning these areas until they passed and then they were redirected to continue operations in the neck area.
Two panels were competed through lift # 4 and one was competed through lift #3. All fill material came from W8 and the Diversion Channel cut from Station 56+00 to 62+00. Maxim personnel observed and tested all operations.

Carr's estimated production:

W8	5,236 cy
W8 over fill from last year	3,640 cy

WEEKLY REPORT 16, BEAR CREEK TAILINGS RECLAMATION
July 27 through July 31, 1998

Thursday, July 30, 1998

Carr started the shift hauling from W8 to panels in the neck area. They also continued cutting the W8 overfill in the Pond 3 area. The shift was shut down at 8:30 AM due to rain.
Maxim personnel were on site and continued working in the lab after the shift was shut down.

Carr's estimated production:

W8	1,148 cy
W8 overfill cut	364 cy

Friday, July 31, 1998

Carr resumed work on the panels in the neck and extended the third and fourth panels from the southeast edge of the neck. These two panels were extended from 4+00 into the Pond 3 radon barrier panels that were constructed last year. They also continued work on the last three panels in the neck area from 11+00 to 4+00. All material came from the W8.
Maxim personnel observed and tested all operations.

Carr's estimated production:

W8	6,062 cy

Carr Construction estimated quantities:

Diversion Channel excavation	8,932 cy
Radon Barrier from W8	17,458 cy
Radon Barrier Pond 2 from Diversion Channel	8,932 cy
W8 over fill excavation from last year	4,004 cy

Powers Elevation was on site July 27, 1998.
Powers Elevation was on site July 28, 1998.
Powers Elevation was on site July 29, 1998.
Powers Elevation stayed throughout the day July 30, 1998 also establishing control we needed around the Pond 3 area and the Diversion Channel cuts.
Powers Elevation was on site July 31, 1998 putting in random fill contours along the Diversion Channel cut to ensure that Carr did not over cut the areas of Diversion Channel cut below random fill grade.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		24
Radon Barrier (RB) Pond 2 and Pond 3 area		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		1
Compaction density tests (ASTM 1556 Sand Cone method) performed		2
Standard Proctor density tests (ASTM 698) performed	(4 point)	1
Standard Proctor density tests (ASTM 698) performed	(1 point)	5
Atterberg limit tests (ASTM C88) performed		5
Sieve analysis (-200 sieve) tests performed		15

Test locations and results of tests are in Maxim Technologies Daily Reports 55 through 59

WEEKLY REPORT 17, BEAR CREEK TAILINGS RECLAMATION
August 3 through August 7, 1998

Monday, August 3, 1998

Carr worked on the last three panels in the neck next to the south ridgeline line toe. They are putting lift #5 on. The final lift on these panels will complete most of the radon barrier through the neck area. All six scrapers worked on these panels until 10:00 AM all hauling from the W8. At that time two scrapers were moved to the diversion channel cut dumping along with two hauling from W8 and the other two resumed the cut in the pond #3 area removing the W8 overfill.

Maxim personnel were on site observing and testing radon barrier placement.

Carr's estimated production:

W8 Overfill	1,848 cy
W8 Clay to radon barrier	4,340 cy
Diversion Channel cut	1,484 cy

Tuesday, August 4, 1998

RAINED OUT

Wednesday, August 5, 1998

Carr started the shift with 6 scrapers hauling from W8 to lift #6 of the final two panels working from Station 11+00 (dam stationing) to Station 59+00 (diversion channel Stationing). At 10:00 AM two scrapers were moved into the W8 overfill cut. Four scrapers moved to the diversion channel cut, cutting from Station 68+00 to 62+50 and hauling to panels 3, 4, and 5 in Pond 3 dumping from Station 59+00 in the neck to last years Radon Barrier. Panel five is at lift #1 and #2, panel four is at lift #3, panels one through three are at lift #4. Panel six and seven were laid out but not dumped on yet.
The scrapers working on the W8 overfill cut have constructed most of the chute approach ridgeline that is available below radon barrier grade.
Finish blading was started on the neck from Station 10+00 to 59+00 and is about 50% complete.
In the afternoon the diversion channel cut was moved to Station 61+00 to 56+00.
Maxim personnel observed and tested all operations.

Carr's estimated production:

W8 Overfill	2,198 cy
W8 Clay to radon barrier	1,204 cy
Diversion channel cut	5,068 cy

Thursday, August 6, 1998

Carr worked two scrapers in the Pond 3 overfill cut hauling to the south Ridge next to the North Wing Dam. Carr placed thin lifts that were bladed, watered, and rolled with a sheepsfoot roller. Another spread of four scrapers cut in the Diversion Channel from Station 56+00 to 68+00

hauling to the panels that rum from Station 59+00 to last years Radon Barrier (extensions of the panels in the neck). Panels 1 and 2 were completed through lift #6, panel 5 to lift #5, panel 4 to lift #2, and panel 7 to lift #1. Maxim personnel observed and tested all operations.

Carr's estimated production:

Pond #3 Overfill	2,168 cy
Diversion channel cut	6,426 cy

Friday, August 7, 1998

Carr continued in the Pond 3 overfill cut, hauling to the south ridge next to the North Wing Dam. Later the placement was moved to the west end of the south ridge where Bob Coppin and I staked out a low area near the Ridge. The Pond 3 overfill cut is approximately 98 % complete with only a small sections of tailings remaining to be cleaned up tomorrow. With the exception of a few isolated spots the majority of the surface was relatively firm and only small sections of tailings were observed in the entire cut. The other five scrapers continued neck extension panels that tie in with last years Radon Barrier in Pond 3. Panels 3-5 were brought up to lift #5, panel 6 up to lift #4, and panel 7 was divided between lifts 1, 2, and 3.

Maxim personnel observed and performed Geotechnical tests for all fills placed.

Carr's estimated production:

Pond #3 Overfill	2,926 cy
Diversion channel cut	6,314 cy

Carr Construction estimated quantities:

Topsoil stripping	
Diversion Channel excavation	18,892 cy
Radon Barrier from W8	5,544 cy
Radon Barrier in neck from Diversion Channel	18,892 cy
W8 over fill excavation from last year	9,156 cy

Powers Elevation was on site August 3, 1998 surveying random fill contour lines.
Powers Elevation worked on random fill contours August 4, 1998.
Powers Elevation was not on site August 5, 1998.
Powers Elevation was not on site August 6, 1998.
Powers Elevation was not on site August 7, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		24
Radon Barrier (RB) Pond 2 and Pond 3 area		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		2
Compaction density tests (ASTM 1556 Sand Cone method) performed		3
Standard Proctor density tests (ASTM 698) performed	(4 point)	2
Standard Proctor density tests (ASTM 698) performed	(1 point)	5
Atterberg limit tests (ASTM C88) performed		5
Sieve analysis (-200 sieve) tests performed		16

Test locations and results of tests are in Maxim Technologies Daily Reports 60 through 64

WEEKLY REPORT 18, BEAR CREEK TAILINGS RECLAMATION
August 10 through August 14, 1998

sMonday, August 10, 1998

Carr completed the Pond 3 overfill cleanup today at 9:30 AM. These two scrapers then moved to the diversion channel cut at Station 31+00 to 35+00 hauling this sandier material to cover up the relocated material from the pond #3 overfill cut to cover up any contaminated material. They then continued placing 6-inch lifts to bring these areas up to the bottom of radon barrier grade. All material was watered and compacted with a sheepsfoot roller.
The other 5 scrapers cut in the diversion channel from Station 39+00 to 50+00 hauling to the neck extension panels that connect with last years radon barrier constructed in pond #3. Panels 1 - 6 are now completed with panel 7 containing the stair-stepped levels 1 - 5. At 4:00 PM we started dumping new panels laid out due east and west adjacent to the Radon Barrier constructed last year in pond #3. All operations were observed and tested by Maxim personnel. A short-lived rainstorm at 3:00 PM slowed operations for about one hour.

Carr's estimated production:

Pond 3 overfill	630 cy
Diversion channel cut	9,926 cy

Tuesday, August 11, 1998

Two scrapers continued covering relocated overfill material along the edge of the south ridgeline. The material used for this cover was sandier reject material from the diversion channel at Station 31+00 to 35+00. The other scrapers started 7 new panels today dumping due west next to the radon barrier in pond #3 that was constructed last year. Panels 1 - 3 were brought up to lift 2 and panels 4 - 7 were completed through lift 1 with all material coming from the diversion channel cut from Station 39+00 to 50+00. Maxim personnel observed and tested all operations. Carr also cleaned up the Ridge toes of the 2:1 slope below the south ridgeline with a D-6 dozer. I then augured these areas to a depth of three feet to ensure that the radon barrier was in fact completed to the finish toe. All areas tested good except one small area near the chute approach in pond #2 that was overlooked prior to the ridgeline stakes being located. I had a 627 sub out this area and it will be repaired when we move into the ridgeline fill.

Carr's estimated production:

Ridge toe cleanup	140 cy
Diversion channel cut	10,836 cy

WEEKLY REPORT 18, BEAR CREEK TAILINGS RECLAMATION
August 10 through August 14, 1998

Wednesday, August 12, 1998

Carr continued on the radon barrier in Pond #3 dumping on the seven new panels laid out yesterday. Another seven panels were laid out today completing the grid for Pond #3. Panels 1 through 5 were completed to lift #2 and panels 6 through 12 were completed to lift #1. All material came from the southeast ditch along the entire length of the ditch.
W8 clay was hauled to the upper area also, working the 64.5 and 65.0 contours.
Maxim personnel observed and tested all operations.

Carr's estimated production:

W8	5,614 cy
Diversion channel cut	3,542 cy

Thursday, August 13, 1998

Carr hauled from W8 and hauled to the upper area completing all the contours down to the south ridgeline. Two scrapers worked in the diversion channel below the main dam cutting and shaping it to final grade. Four scrapers worked in pond three bringing panel 1 to level 3, panels 2-4 to level 4, panels 5-6 to level 2 and panels 7-12 still at level 1. The diversion channel clean up was mostly completed and those two scrapers started stripping topsoil from the diversion channel 5:1 lay back.

Maxim personnel observed and tested all operations.

Carr's estimated production:

W8	3,010 cy
Diversion channel cut	6,342 cy

Friday, August 14, 1998

Carr continued stripping topsoil from the diversion channel 5:1 lay back. The augur scraper went back to the diversion channel clean up for some more grade work and the work in pond three continued. Most of the work done in pond three consisted of conditioning failed panels from yesterday so no progress was made on the panels as outlined yesterday.
To keep the scrapers moving we started a new panel an the upper area south Ridge dumping from Station 14+00 to 59+00 that is now two panels wide with all material coming from W8.
Maxim personnel observed and tested (and re-tested) until Carr could meet specifications.

Carr's estimated production:

W8	5,474 cy
Diversion channel	2,828 cy

Carr Construction estimated quantities:

Topsoil stripping	?
Diversion Channel excavation	33,474 cy
Radon Barrier Extension in Upper Surface from W8	8,624 cy
Radon Barrier in Pond 3 from Diversion Channel	33,474 cy
Tailing relocate from area along ridgeline toe	770cy

Powers Elevation was on site August 10, 1998.

Powers Elevation was on site August 11, 1998.

Powers Elevation was on-site August 12, 1998.

Powers Elevation was on site August 13, 1998.

Powers Elevation was not on-site August 14, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		21
Radon Barrier (RB) Pond 3 area		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		1
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		4
Radon Barrier Extension (RBE) Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RBE		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		1
Standard Proctor density tests (ASTM 698) performed	(4 point)	2
Standard Proctor density tests (ASTM 698) performed	(1 point)	4
Atterberg limit tests (ASTM C88) performed		7
Sieve analysis (-200 sieve) tests performed		16

Test locations and results of tests are in Maxim Technologies Daily Reports 65 through 69

WEEKLY REPORT 19, BEAR CREEK TAILINGS RECLAMATION
August 17 through August 21, 1998

Monday, August 17, 1998

Carr continued stripping the southeast ditch hauling all material to Pond 3 panels for radon barrier. Panels 1 - 3 are at level 4, panels 4 - 6 are at level 3, panels 7 - 9 are at level 2 and panels 10 - 14 are at level 1. Carr started using a disk today to help get better mixing of water into the clay as it has been very dry and difficult to condition.
They also hauled from W8 to the two panels of radon barrier that we are now working on adjacent to the existing ridgeline from Station 14+00 to 57+00.
Maxim was on site observing and testing all operations.

Carr's estimated production:

W8	4,046 cy
Diversion channel cut (South east ditch)	4,284 cy

Tuesday, August 18, 1998

Carr has added four more scrapers to their fleet this week for a total of eleven.
They started top soiling the diversion channel today. They also worked the two new panels of radon barrier on the upper area and continued cutting the southeast ditch hauling to pond #3 radon barrier panels.
The upper area panels are both at level 3. The pond three panels 1 - 3 are at level #5, 4 - 6 are at level 4, 7 -9 are at level 3 and 10 - 14 are at level 1.
They also started dumping the Ridge barrier and one random fill panel next to it in pond #2 working from Station 15+00 to the chute approach. The Ridge barrier is on level one with the material coming from W8 and the panel next to it was just started with all material for this fill coming from the diversion channel 5:1 lay back.
Maxim personnel were on site observing and testing all operations.

Carr's estimated production:

W8	3,780 cy
South east ditch	3,804 cy
Diversion channel lay back	560 cy
Topsoil	2,464 cy

Wednesday, August 19, 1998

Carr continued placing topsoil on the diversion channel below the main dam. Work also continued on the diversion channel 5:1 lay back. This material was hauled to the new random fill panel in pond two bringing it to level 2 and a second random fill panel was staked out today which was brought up to level 1.
They also hauled W8 to the ridgeline radon barrier panel adjacent to the two radon barrier panels bringing it to level 3.
They also continued cutting in the southeast ditch hauling to the pond #3 radon barrier panels as follows. Panels 1 - 3 are completed at level 6, panels 4 - 6 are at level 4, panel 7 is at level 3, panels 8 - 9 are at level 3, panel 10 is at level 2 and panels 11 - 14 are at level 1.

WEEKLY REPORT 19, BEAR CREEK TAILINGS RECLAMATION
August 17 through August 21, 1998

The augur scraper was used to clean off wind blown material from the inside face of the wing dam. This material was very sandy and unsuitable for any of the engineered fills so it was dumped above the ridgeline in an area that was below the bottom of radon barrier grade in case it contained any potential contamination.
Maxim personnel were on site observing and testing all operations.

Carr's estimated production:

W8	952 cy
South east ditch	7,686 cy
Topsoil	6,174 cy

Thursday, August 20, 1998

Rained out.

Friday, August 21, 1998

Conditions are still very wet except upper area panels immediately adjacent to the south ridge. Carr worked the section northeast of their main haul road dumping towards the Chute Approach. They were not allowed to dump far into the chute approach area; this area will be filled in later with the better clay from the wing dam. They worked on two panels on lifts 1 to 3. The same two panels adjacent to the Ridge southwest of their main haul road was plowed with a disk and processed to provide another work area as conditions improve. They also hauled some topsoil the first half of the shift on the outside slope of the Diversion /channel cut below the min dm with their topsoil coming from the large topsoil pile below the min dam adjacent to the Diversion Channel. During the second half of the shift they hauled topsoil to the upper area panels laid out along the entire length of the main dam. The first panel was started 100 feet from the main dam to allow a buffer zone for the up coming rockwork on he face of the dam.
A pump and generator were set in the Pond 3 area to dewater the unfinished panels in this area.

Maxim personnel were on site observing and testing all operations.

Carr's estimated production:

W8	6,020 cy
Topsoil Diversion Channel	2,072 cy
Topsoil upper Area	1,638 cy

Carr Construction estimated quantities:

Topsoil placing in Diversion Channel and Upper Surface	12,348 cy
Diversion Channel excavation	16,334 cy
Radon Barrier in Upper Surface from W8	8,624 cy
Radon Barrier in Pond 3 from Diversion Channel	560 cy

Random fill below ridgeline	15,774 cy

Powers Elevation was on site providing survey control. August 17, 1998
Powers Elevation was on site providing survey control August 18, 1998.
Powers Elevation was on site providing survey control August 19, 1998.
Powers Elevation was not on site August 20, 1998.
Powers Elevation was not on site August 21, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		24
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		2
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		3
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		2
Standard Proctor density tests (ASTM 698) performed	(4 point)	2
Standard Proctor density tests (ASTM 698) performed	(1 point)	4
Atterberg limit tests (ASTM C88) performed		7
Sieve analysis (-200 sieve) tests performed		18

Test locations and results of tests are in Maxim Technologies Daily Reports 70 through 74

Quality Assurance side by side tests were run.

WEEKLY REPORT 20, BEAR CREEK TAILINGS RECLAMATION
August 24through August 28, 1998

Monday, August 24, 1998

Carr worked on the panels on the upper area again today that are immediately adjacent to the south ridgeline. They worked three panels to the south west of their main haul road and four panels to the northeast. Both areas were completed to the fourth lift. All material came from the W8. The toe of the main dam was cleaned up today. They also continued top soiling the upper area panels hauling from the topsoil pile by rock area #1 for the north east half and from the topsoil pile by the diversion channel cut at Station 30+00 for the south west half.
Maxim personnel were on site observing all operations and performing all required testing.

Carr's estimated production:

W8	8,134 cy
Topsoil	5,516 cy

Tuesday, August 25, 1998

Carr worked three scrapers in pond #3 placing radon barrier. They have panels 1 - 5 up to lift #6, panels 6 - 9 on lift #4 and panels 10 - 14 on lift #1 with all material coming from the south east ditch. Four more scrapers continued on the panels on the upper area adjacent to the south Ridge bringing most of the areas up to lift #6 with all material coming from W8. Four more scrapers continued placing topsoil on the upper area panels that started 100 feet from the main dam from the same two stockpile areas as yesterday. De-watering operations in Pond 3, the weir and the chute were completed today.
Maxim personnel were on site observing all operations and performing all required testing.

Carr's estimated production:

Diversion channel cut	Pond three	3,850 cy
	Upper area	504 cy
	Total	4,354 cy
W8		906 cy
Topsoil		4,970 cy

Wednesday, August 26, 1998

Carr continued on the same topsoil hauls with four scrapers working on the upper area panels that were started 100 feet from the main dam. Four more scrapers continued on the upper area south Ridge radon barrier panels south west of their main haul road with all material coming from the diversion channel 5:1 layback. The augur scraper hauled from W8 working with a blade on finish work on the upper area. Three more scrapers continued placing radon barrier panels in pond #3 with all material coming from the southeast ditch and the diversion channel cut in front of the south east ditch. Maxim personnel were on site observing all operations and performing all required testing.

Carr's estimated production:

Diversion channel cut	11,228 cy
W8	196 cy
Topsoil	3,234 cy

WEEKLY REPORT 20, BEAR CREEK TAILINGS RECLAMATION
August 24through August 28, 1998

Thursday, August 27, 1998

Carr hauled topsoil to the upper area panels that run the entire length of the main dam and the panels are about half way to the intermediate ridgeline at this point. The topsoil is coming from the pile at the diversion channel at Station 36+00 and the pile near the rock storage area #1.
Four more scrapers worked the upper area south ridgeline radon barrier panels hauling from the diversion channel 5:1 layback. These three panels are now all on lift 6.
They also worked three scrapers in pond #3 with all material coming from the diversion channel 5:1 layback. Panels 1-5 are at lift 6, panels 6-8 are at lift 5 and panel 9 is at lift 3.
Maxim personnel were on site observing all operations and performing the required testing.

Carr's estimated production:

Diversion channel cut	7938 cy
Topsoil	5964 cy

Friday, August 28, 1998

Carr worked 6 scrapers on the upper area south ridgeline radon barrier panels south west of their main haul road with all material coming from the diversion channel 5:1 lay back. They also worked 3 scrapers in pond #3 with all material coming from the diversion channel 5:1 lay back.
The last two scrapers hauled topsoil to the diversion channel below the main dam hauling from the topsoil stockpile area near the weather Station.
Maxim personnel were on site observing all operations and performing the required testing.

Carr's estimated production:

Diversion channel cut	11,606 cy
Topsoil	3,136 cy

Carr Construction estimated quantities:

Topsoil placing in Diversion Channel and Upper Surface	22,810 cy
Diversion Channel excavation	36,414 cy
Radon Barrier in Upper Surface from W8	12,236 cy
Radon Barrier in Pond 3 from Diversion Channel	10,864 cy
Radon Barrier Upper Surface from DC	25,550 cy

Powers Elevation was on site August 24, 1998.
Powers Elevation was on site August 25, 1998.
Powers Elevation was on site August 26, 1998.

Powers Elevation was on site August 27, 1998 Max Carpenter surveyed the ditches at the toe of the main dam.

Powers Elevation was not on site August 28, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		28
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		2
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		0
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		2
Standard Proctor density tests (ASTM 698) performed	(4 point)	2
Standard Proctor density tests (ASTM 698) performed	(1 point)	6
Atterberg limit tests (ASTM C88) performed		6
Sieve analysis (-200 sieve) tests performed		17

Test locations and results of tests are in Maxim Technologies Daily Reports 75 through 79

WEEKLY REPORT 21, BEAR CREEK TAILINGS RECLAMATION
August 31through September 4, 1998

Monday, August 31, 1998

Carr worked 4 scrapers hauling topsoil from the stockpile near the weather Station to the diversion channel below the main dam. Another spread of four scrapers worked on the upper area panels adjacent to the south ridge working the area south west of their main haul road. All material for this fill came from the diversion channel 5:1 layback. Carr also worked a spread of three scrapers in pond three hauling from the diversion channel 5:1 layback. On their return haul they hauled from the diversion channel cut from Station 32+00 to 25+00 in a sandier cut and used this material to fill in voids in the 2:1 tailings fill slope that will be the foundation for the Ridge 2:1 inner slope. At 3:30 PM two scrapers left the topsoil haul and started filling in sub radon barrier grades hauling from W8 in preparation for the start of the wing dam cut / chute approach fill operation.
Maxim was on site observing all operations and performing all required testing.

Carr's estimated production:

Diversion channel cut	8,666 cy
W8	560 cy
Topsoil	4,732 cy

Tuesday, September 1, 1998

Carr started stripping the south ditch topsoil placing it directly on the east ditch. They also hauled diversion channel cut from Station 30+00 to 25+00 filling in voids on the inner slope of the 2:1 south Ridge. Four more scrapers continued working the upper area panels adjacent to the south ridgeline that is south west of their main haul road. Two more scrapers continued working the sub radon barrier grades below the chute approach next to the wing dam from Station 0+00 to 10+50 hauling from W8. The other three scrapers continued work in pond three hauling from the diversion channel 5:1 lay back. Panels 1 - 7 are at level 6, panels 8 - 9 are at level 5, panel 10 staged between levels 4, 3 and 2 and panels 11 - 14 at level 1. On panel 12 Carr continued hauling excessive loads over a soft spot which resulted in a small area of tailings that pumped to the surface. Operations were ceased, a track hoe was brought in and the entire section was excavated to one foot below bottom of radon barrier grade. Then we had Carr pre-condition material on an upper lift that was then picked up with a scraper and then dumped near the subbed out area. This material was then dozed in with a vibratory compactor in six-inch lifts until grade was re-established. It was then decided to place lift two with pre-conditioned material over the two small remaining panels with a dozer, little water truck and vibratory compactor to avoid a reoccurrence of the problem. This procedure worked very well and passed inspection. At 3:00 PM Carr was moved from the 5:1 lay back to ensure that this better clay was saved for the completion of the pond three radon barrier. They moved to the W8 hauling to the 20-foot wide ridgeline fill north east of the main haul road and the adjacent radon fill panels. They also started the wing dam cut / chute approach fill at about the same time.
Maxim was on site observing all operations and performing required testing.

Carr's estimated production:

W8	2,898 cy
Diversion channel lay back	9,940 cy
Topsoil south ditch	1,834 cy

WEEKLY REPORT 21, BEAR CREEK TAILINGS RECLAMATION
August 31through September 4, 1998

Wednesday, September 2, 1998

Carr continued placing radon barrier in pond #3 with three scrapers hauling from the diversion channel 5:1 lay back. Panels 1 - 9 are at level 6; panel 10 at level 4, panels 11 at level 3 and panels 12 - 14 are at level 2. These scrapers also hauled sandier material from the same cut to the Ridge inner 2:1 slope directly above the last remaining radon barrier panels in pond #3. Two scrapers worked on the wing dam cut hauling to the chute approach from Station 0+00 to 10+50. They also hauled to this same area from W8 building the south ridge of the chute approach to help save the wing dam clay for the floor of the chute approach. Another spread of four scrapers worked right below this spread hauling from W8 building the 20 wide Ridge and a random fill panel adjacent to the Ridge fill. Two more scrapers hauled topsoil from the south ditch to the east ditch. Maxim personnel were on site observing all operations and performing required testing.

Carr's estimated production:

W8	6,608 cy
Diversion channel lay back	4,858 cy
Topsoil	2,044 cy

Thursday, September 3, 1998

Carr worked four scrapers hauling from W8 to the 20 foot wide ridgeline fill that connects with the chute approach which is north east of their main haul road. These scrapers also worked a random fill panel adjacent to the ridgeline fill. Two more scrapers worked right above them on the upper level building the inner ridge area that forms the chute approach. They also hauled from W8.
Three more scrapers worked in pond three completing all panels to level 6 with the exception of a small triangle at the end of pond three that will be completed tomorrow. They hauled from the diversion channel lay back. They also hauled right above the last panels in pond three on the upper area where some short panels are needed to complete the upper area on this end. The last two scrapers hauled topsoil from the south ditch to the east ditch. After all the topsoil was removed in the south ditch they continued hauling topsoil to the east ditch from the topsoil stockpile right next to the east ditch. Maxim personnel were on site observing all operations and performing all required testing.

Carr's estimated production:

Diversion channel cut	2,380 cy
South ditch topsoil to east ditch	1,638 cy
Topsoil from stockpile	728 cy
W8	6,790 cy

Friday, September 4, 1998

Carr worked two scrapers in pond three hauling from the diversion channel 5:1 lay back. They finished pond three and moved to the area right above pond three placing lift 1 on three panels

needed to finish the upper area. As this area comes up, four additional panels will be needed to complete this end of the upper area (west end).
Three more scrapers hauled from W8 working on the upper area panels on the east end placing lift four.
Four more scrapers worked right below them in pond two constructing the 20-foot wide ridge and 2 random fill panels adjacent to the ridge., Maxim and Bob Coppin were on site today.

Carr's estimated production:

Diversion channel cut	3,892 cy
W8	8,470 cy

Carr Construction estimated quantities:

Topsoil placing in Diversion Channel and Upper Surface	22,810 cy
Diversion Channel excavation	36,414 cy
Radon Barrier in Upper Surface from W8	12,236 cy
Radon Barrier in Pond 3 from Diversion Channel	10,864 cy
Radon Barrier Upper Surface from DC	25,550 cy

Powers Elevation was on site August 31, 1998.
Powers Elevation was on site September 1, 1998.
Powers Elevation was on site September 2, 1998.
Powers Elevation was on site September 3, 1998
Powers Elevation was on site September 4, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		32
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		2
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		4
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		2
Standard Proctor density tests (ASTM 698) performed	(4 point)	2
Standard Proctor density tests (ASTM 698) performed	(1 point)	5
Atterberg limit tests (ASTM C88) performed		9
Sieve analysis (-200 sieve) tests performed		22

Test locations and results of tests are in Maxim Technologies Daily Reports 80 through 84

WEEKLY REPORT 22, BEAR CREEK TAILINGS RECLAMATION
September 7 through September 11, 1998

Monday, September 7, 1998

HOLIDAY no work done today.

Tuesday, September 8, 1998

Carr worked two scrapers on the upper area near the chute approach and four more directly below them in the pond two area constructing the 20 foot wide ridge and two random fill panels. All these scrapers hauled from W8. They worked four more scrapers hauling from the diversion channel lay back filling out the inner ridge 2:1 slope south west of their main haul road where the slope has never been brought to the toe limits. A small quantity of topsoil was hauled to the east ditch and Carr started shaping the Weir today with a track hoe.

Maxim personnel were on site observing all operations and performing all required testing.

Carr's estimated production:

W8	6,748 cy
Diversion channel cut	6,062 cy
Topsoil	308 cy

Wednesday, September 9, 1998

Carr worked two scrapers on the upper area near the chute approach on lift five hauling from W8. Four more worked below them on the ridge and random fill panels also hauling from W8. Four more continued dumping on the inner 2:1 slope of the ridge south west of their main haul road hauling from the diversion channel cut from Station 25+00 to 28+00. At 10:00 AM two of these scrapers started moving topsoil next to the main haul road by the exit end of the chute so that the main haul road can be moved to the west to allow the remainder of the chute cut to be made. This topsoil was direct placed on the diversion channel 5:1 layback slope. The track hoe continued working in the Weir.
Maxim personnel were on site.

Carr's estimated production:

Diversion channel cut	3,248 cy
W8	5,936 cy
Topsoil	2,590 cy

Thursday, September 10, 1998

Carr worked two scrapers on the upper area near the chute approach still placing lift six and hauling from the W8. Anywhere from four to seven scrapers worked below them on the 20-foot ridge fill and random fill panels next to the ridge. They worked three more scrapers when soil conditioning permitted on the west end of the upper area and the narrow 2:1 inner slope of the ridge in the same area. The track hoe continued working in the weir. One scraper hauled topsoil from the area being stripped for a new haul road near the chute and direct placed it on the

diversion channel 5:1 lay back slope. This scraper also did some grade work on the flow line of the diversion channel cut below the 5:1 layback.
Maxim personnel were on site.

Carr's estimated production:

Topsoil	504 cy
W8	8,484 cy
Diversion channel cut	616 cy

Friday, September 11, 1998

Carr worked two scrapers on the upper area near the chute finishing all but one panel to the top of lift six. Four more worked below them on the 20 foot ridge fill and a random fill panel next to the ridge. Four more worked on the upper area on the west side and continued filling the void in the 2:1 slope of the inner ridge. All material came from the W8 except for some cleanup done below the 5:1 lay back and the weir. The track hoe continued working in the weir and a backhoe was used to cut a drain ditch below the main dam from the toe of the dam to the catch basin culvert at Station 10+00.
Maxim personnel were on site.

Carr's estimated production:

W8	9,268 cy
Diversion channel cut	532 cy

Carr Construction estimated quantities:

Topsoil placing in Diversion Channel and Upper Surface	3,402 cy
Diversion Channel excavation	10,458 cy
Radon Barrier in Upper Surface from W8	8,372 cy
Radon Barrier in Ridge from Diversion Channel	10,458 cy
Random Fill from W8	22,064 cy

Powers Elevation was on site September 8, 1998.
Powers Elevation was on site September 9, 1998.
Powers Elevation was on site September 10, 1998.
Powers Elevation was on site September 11, 1998.

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		27
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		2
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		4
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		3
Standard Proctor density tests (ASTM 698) performed	(4 point)	1
Standard Proctor density tests (ASTM 698) performed	(1 point)	3
Atterberg limit tests (ASTM C88) performed		7
Sieve analysis (-200 sieve) tests performed		22

Test locations and results of tests are in Maxim Technologies Daily Reports 85 through 88

WEEKLY REPORT 23, BEAR CREEK TAILINGS RECLAMATION
September 14 through September 18, 1998

Monday, September 14, 1998

Carr worked three scrapers on the final section on the west side of the upper area bringing it to lift four of the radon barrier. They worked two more scrapers on the east side of the upper area building the final contours above the radon barrier in the area next to the chute. They also worked four more scrapers directly next to this area bringing the 20 foot wide ridge up to the same grade as the upper area. These four scrapers also started constructing the 20 foot wide ridge west of their main haul road. Two scrapers did some clean up along the 5:1 layback flow line and the weir. Some finish work on the top soiled areas and in the weir was also performed on Saturday by a small crew.
Maxim personnel were on site today.

Carr's estimated production:

W8	10,864 cy
Diversion channel cut	252 cy

Tuesday, September 15, 1998

Carr worked four scrapers on the west side of the upper area bringing this area to level 5. Six scrapers worked on the east side of the upper area near the chute approach bringing this area to level 8. One scraper cut grade and did cleanup work below the 5:1 layback and the weir. The track hoe continued shaping the rock weir completing it by the end of the shift.
Work also continued on the drain ditch below the main dam. Maxim personnel were on site today.

Carr's estimated production.

W8	10,164 cy
Diversion channel cut	672 cy

Wednesday, September 16, 1998

Carr worked two scrapers on the panels adjacent to the wing dam bringing the area up to level 3. Four more scrapers worked next to the near the chute approach adjacent to the random fill panels in pond 2.
They also worked four scrapers on the west side of the upper area brining this area to level six and along the 20 wide Ridge in this area bringing it to level 6.
Carr moved their track hoe to the toe of the main dam and completed the last forty feet of the drain ditch at Station 10+00. One scraper cleaned up the remaining material in the weir.
Maxim personnel were on site today.
Carr's estimated production:

W8	10,206 cy
Diversion channel	70 cy

WEEKLY REPORT 23, BEAR CREEK TAILINGS RECLAMATION
September 14 through September 18, 1998

Thursday, September 17, 1998

Carr worked two scrapers on the upper area next to the wing dam bringing it to within six inches of final grade. Two more scrapers worked adjacent to them building the ridge into the chute approach bringing it to within one foot of final grade. Five more scrapers worked on the west side of the upper area bringing this area to within two feet of final grade. All material came from the W8. One scraper worked below the main dam stripping topsoil from the ditches that extend out from the toe of the dam.
Maxim personnel were on site.

Carr's estimated production:

W8	9,548 cy
Diversion channel	812 cy
Topsoil Stripping below main dam	966 cy

Friday, September 18, 1998

Carr worked two scrapers next to the wing dam bringing most of this area to final grade. Two more worked on the south Ridge next to the chute approach bringing this area to final grade. Five scrapers worked on the west side of the upper area bringing this area up to lift 5. They also worked one scraper in the catch basin stripping topsoil from the ditches at the toe of the dam and direct placing it on the upper area contours above the dam.
Maxim personnel were on site today. Bob Coppin was also on site today.

Carr's estimated production:

W8	10,052 cy
Topsoil (Carr failed to track these loads)	

Carr Construction estimated quantities:

Topsoil Stripping below main dam	1,806 cy
Diversion Channel excavation	2,058 ccy
Radon Barrier in Upper Surface from W8	50,834 cy
Radon Barrier in Ridge from Diversion Channel	2,058 cy
Fill in Groin of Dam	? cy

Powers Elevation was on site September 14, 1998
Powers Elevation was on site September 15, 1998
Powers Elevation was on site September 16, 1998
Powers Elevation was on site September 17, 1998
Powers Elevation was on site September 18, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		44
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		5
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		0
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		3
Standard Proctor density tests (ASTM 698) performed	(4 point)	4
Standard Proctor density tests (ASTM 698) performed	(1 point)	4
Atterberg limit tests (ASTM C88) performed		6
Sieve analysis (-200 sieve) tests performed		26

Test locations and results of tests are in Maxim Technologies Daily Reports 89 through 93

WEEKLY REPORT 24, BEAR CREEK TAILINGS RECLAMATION
September 21 through September 25, 1998

Monday September 21, 1998

Rained out

Tuesday, September 22, 1998
Rained out

Wednesday, September 23, 1998

Conditions were still too wet to operate today but a small crew worked getting the work areas ready for tomorrow and also finished some topsoil on the diversion channel slopes that had been to dry and unstable to work prior to the recent rainfall.

Thursday, September 24, 1998

Carr worked two scrapers on the chute approach hauling from the W8. They worked three scrapers on the 20 foot wide Ridge fill on the west side hauling from the W8 and double hauled back from the diversion channel cut at Station 25+00 to 28+00 placing the random fill panel next the Ridge fill. Four more scrapers hauled to the upper area on the west side hauling from the W8. One scraper also worked on finishing the topsoil in the lower diversion channel. Maxim personnel were on site today.

Carr's estimated production:

W8	9,618 cy
Diversion channel	2,254 cy

Friday, September 25, 1998

Carr worked two scrapers in the chute approach hauling from the W8. They worked four scrapers on the upper area on the west side hauling from W8. They also worked four scrapers on the 20 foot wide Ridge fill on the west side and hauled diversion channel cut from Station 25 through 28 on their return haul dumping on a random fill panel next to the Ridge fill.
Maxim personnel were on site today.

Carr's estimated production:

W8	9,912 cy
Diversion channel cut	2,436 cy

Fill required to backfill an undercut in the chute approach 588 cy*
(*These loads are included in the W8 quantity above)

WEEKLY REPORT 24, BEAR CREEK TAILINGS RECLAMATION
September 21 through September 25, 1998

Carr Construction estimated quantities:

Diversion Channel excavation	4,690 cy
Radon Barrier in Upper Surface from W8	50,834 cy
Radon Barrier in Ridge from Diversion Channel	19,530 cy
Random Fill from Diversion Channel	4,690 cy

Powers Elevation was on site September 24, 1998
Powers Elevation was on site September 25, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		6
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		3
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		3
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		7
Standard Proctor density tests (ASTM 698) performed	(4 point)	2
Standard Proctor density tests (ASTM 698) performed	(1 point)	2
Atterberg limit tests (ASTM C88) performed		4
Sieve analysis (-200 sieve) tests performed		10

Test locations and results of tests are in Maxim Technologies Daily Reports 94 through 96

WEEKLY REPORT 25, BEAR CREEK TAILINGS RECLAMATION
September 28 through October 2, 1998

Monday, September 28, 1998

Carr worked two scrapers in the chute approach hauling from the W8. They worked four more scrapers on the 20 foot wide Ridge fill on the west side and hauled diversion channel cut from station 25+00 to 28+00 to the random fill panel on their return haul. They worked five more scrapers on the upper area on the west side putting the finish lift on and completed this area at 4:00 PM then moved to random fill panels on the east side in the pond two area.
Domson started today and after checking the dam face with their laser slope instrument it was decided to have Carr return and do additional "finish" work to bring the final surface into closer tolerances. The entire face of the dam was re-stacked and grade set by UPR's laser.
Maxim personnel and Bob Coppin were on site today.

Carr's estimated production:

W8	8652 cy
Diversion channel	4074 cy

Tuesday, September 29, 1998

Carr continued working on the chute approach and the 10:1 slope adjacent to it as well as the 20 foot Ridge fill on the west side and a random fill panel adjacent to it. All fill came from the W8 and diversion channel cut at station 25 to 28. One scraper removed additional topsoil from the new haul road and direct placed it on the 5:1 lay back slope. Due to the workload on the dam face specific hauls and number of scrapers working in each area were not noted.
It was discovered that Domson's laser was out of calibration but UPR's laser still confirmed a need to have Carr do additional "finish" work on the face of the dam so re-staking continued and Carr will be required to re-grade this area.
Domson started work in the weir placing the 6 inch filter blanket today under the direction of Bob Coppin.
Maxim personnel were on site today.

Carr's estimated production:

W8	6230 cy
Diversion channel cut	7056 cy
Topsoil	658 cy

Wednesday, September 30, 1998

Carr continued working on the chute approach and 10:1 slope adjacent to it. They also continued working on the 20-foot wide ridge and random fill panels on the west side. All fill came from the W8 and the diversion channel cut at station 25 through 28.Carr started re-grading the face of the dam today using a 627 to make the cuts and fills that were considered to much for a blade to handle efficiently. Due to the workload on the face of the dam, specific movement of the scrapers was not noted today.
Domson continued placing and shaping the filter blanket in the weir under the direction of Bob Coppin.

WEEKLY REPORT 25, BEAR CREEK TAILINGS RECLAMATION
September 28 through October 2, 1998

Maxim personnel were on site today.

Carr's estimated production:

W8	6342 cy
Diversion channel cut	5124 cy

Thursday, October 1, 1998

Carr started excavating the remaining part of the chute that has been used for Carr's main haul road. This material was placed in the large low spot in the upper area that was used by Carr to gain access to the upper area. The material was placed as random fill until they reached the 5160 elevation. They also hauled from the W8 to the 20 foot wide Ridge fill on the west side, from the diversion channel at station 25 through 28 to the random fill panel on the west side and from the W8 to the random fill panels on the east side (pond 2).
Domson continued placing the filter blanket in the weir and also started placing the 3" rock on the side slopes of the weir under the direction of Bob Coppin.
Maxim personnel were on site today.

Carr's estimated production:

W8	6062 cy
Diversion channel cut	7182 cy

Friday, October 2, 1998

W8	8228 cy
Diversion channel cut	6160 cy

Carr Construction estimated quantities:

Topsoil Stripping and Direct Placing	658 cy
Diversion Channel excavation	34,160 cy
Radon Barrier in Upper Surface from W8	17,514 cy
Radon Barrier in Ridge from Diversion Channel	8,032 cy
Random Fill from W8	18,000 cy
Random Fill from Diversion Channel	21,564 cy

Powers Elevation was on site September 28, 1998
Powers Elevation was on site September 29, 1998
Powers Elevation was on site September 30, 1998
Powers Elevation was not on site October 1, 1998
Powers Elevation was on site October 2, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		25
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		6
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		15
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		1
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	3
Standard Proctor density tests (ASTM 698) performed	(1 point)	4
Atterberg limit tests (ASTM C88) performed		9
Sieve analysis (-200 sieve) tests performed		20

Test locations and results of tests are in Maxim Technologies Daily Reports 97 through 101

WEEKLY REPORT 26, BEAR CREEK TAILINGS RECLAMATION
October 5 through October 10, 1998

Monday, October 5, 1998

Snowed out

Tuesday, October 6, 1998

Snowed out

Wednesday, October 7, 1998

Carr worked five scrapers on the eastside grading out random fill panels at 5159, 5157, 5155 and 5154 contours with all material coming from the W8. Carr worked five more scrappers on the west side upper area ridge hauling from both W8 and the diversion channel from Station 25+00 through 28 + 00.
Domson was not on site today. Conditions were still too wet.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	9,366 cy
Diversion channel	2,982 cy

Thursday, October 8, 1998

Carr worked six scrapers on the eastside the 10:1 slope below the chute approach, then ridgeline, and the final contours across the old pond 2. All material came from W8. Carr worked five more scrappers on the west side upper area ridge hauling from both W8 and the diversion channel from Station 25+00 through 28 + 00. In addition, they worked two more scrapers cutting the remaining section of the Chute and hauled to the old haul road fill to complete the Ridge in that area.
Domson was on site working on the weir under Bob Coppin's supervision.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	9,884 cy
Diversion channel	3,724 cy

Friday, October 9, 1998

Carr worked six scrapers on the eastside the 10:1 slope below the chute approach, then ridgeline, and the final contours across the old pond 2. All material came from W8. Carr worked five more scrappers on the west side upper area ridge hauling from both W8 and the diversion channel from Station 25+00 through 28 + 00. In addition, they worked two more scrapers cutting the remaining section of the Chute and hauled to the old haul road fill to complete the Ridge in that area.
Domson worked the weir and hauled to the dam, under Bob Coppin's supervision.
Billy Ray, Maxim Technologies, was on site today.

WEEKLY REPORT 26, BEAR CREEK TAILINGS RECLAMATION
October 5 through October 10, 1998

Saturday, October 10, 1998

Domson worked the weir and hauled to the dam, under Bob Coppin's supervision.

Carr Construction estimated quantities:

Topsoil Stripping and Direct Placing	0 cy
Diversion Channel excavation	13,208 cy
Radon Barrier in Upper Surface from W8	21,000 cy
Radon Barrier in Ridge from Diversion Channel	5,584 cy
Random Fill from W8	14,462 cy
Random Fill from Diversion Channel	7,624 cy

Powers Elevation was on site October 7, 1998
Powers Elevation was on site October 8, 1998
Powers Elevation was on site October 9, 1998
Powers Elevation was on site October 10, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		21
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		3
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		12
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		1
Standard Proctor density tests (ASTM 698) performed	(4 point)	3
Standard Proctor density tests (ASTM 698) performed	(1 point)	3
Atterberg limit tests (ASTM C88) performed		10
Sieve analysis (-200 sieve) tests performed		25

Test locations and results of tests are in Maxim Technologies Daily Reports 102 through 105

WEEKLY REPORT 27, BEAR CREEK TAILINGS RECLAMATION
October 12 through October 16, 1998

Monday, October 12, 1998

Carr worked four scrapers on the west side of the upper ridge area with material coming from the Diversion Channel from Station 25+00 through 28 + 00 and from W8. Carr worked six more scrappers on the east side placing random fill panels on the lower surface between Diversion Channel Stations 58+00 to 66+00 (neck area). Carr also placed fill on two low spots on the Upper Surface with W8 material.
Domson spread gravel on the face of the dam.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	11,088 cy
Diversion channel	2,142 cy

Tuesday, October 13, 1998

Carr finished (rough) the upper area today and bladed it smooth for radon testing. After the testing is completed, the final finish grading will need to be done on the final two or three contours that make the Ridge because some of the ridge is still low. After finishing the Upper Area, five of the scrapers moved to the random fill contours in the neck hauling from the W8. Carr also had five scrapers hauling from the south channel to the Pond 3 area.
Domson spread 3-inch rock on the face of the dam.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	10,010 cy
Diversion channel	4,256 cy

Wednesday, October 14, 1998

Carr worked one scraper in the south channel and after finishing it they moved forward into the thin cuts between south channel and Pond 3. All fill went into the random fill panels in Pond 3. Carr worked another spread in the random fill panels in the neck area hauling from the W8.
Domson spread 3-inch rock on the face of the dam.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	10,374 cy
Diversion channel	3,696 cy

Thursday, October 15, 1998

Carr worked one scraper spread in the south channel thin cuts between south channel and Pond 3. All fills went into the random fill panels in Pond 3. Carr worked another spread in the random fill panels in the neck area hauling from the W8.
Domson spread 3-inch rock on the face of the dam.

WEEKLY REPORT 27, BEAR CREEK TAILINGS RECLAMATION
October 12 through October 16, 1998

Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	10,052 cy
Diversion channel	4,004 cy

Friday, October 16, 1998

Carr started the shift in the same cuts as yesterday working one spread in the thin cuts near Pond 3. Carr worked another spread in the random fill panels in the neck area hauling from the W8. Rain mixed with snow shut down operation by 11:00 AM.
Domson spread 3-inch rock on the face of the dam.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	3,626 cy
Diversion channel	1,484 cy

Carr Construction estimated quantities:

Topsoil Stripping and Direct Placing	0 cy
Diversion Channel excavation	15,582 cy
Radon Barrier in Upper Surface from W8	3,398 cy
Radon Barrier in Ridge from Diversion Channel	2,010 cy
Random Fill from W8	43,140 cy
Random Fill from Diversion Channel	12,184 cy

Powers Elevation was on site October 12, 1998
Powers Elevation was on site October 13, 1998
Powers Elevation was on site October 14, 1998
Powers Elevation was on site October 15, 1998
Powers Elevation was on site October 16, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		9
Radon Barrier (RB)		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		2
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		15
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		1
Standard Proctor density tests (ASTM 698) performed	(4 point)	1
Standard Proctor density tests (ASTM 698) performed	(1 point)	2
Atterberg limit tests (ASTM C88) performed		6
Sieve analysis (-200 sieve) tests performed		19

Test locations and results of tests are in Maxim Technologies Daily Reports 106 through 110

WEEKLY REPORT 28, BEAR CREEK TAILINGS RECLAMATION
October 19 through October 23, 1998

Monday, October 19, 1998

Flooded Out

Tuesday, October 20, 1998

Flooded out

Wednesday, October 21, 1998

Most of the project was under water, but Carr was able to work two scrapers below the face of the dam on the interceptor channels moving topsoil and cutting the channels. Pumps were set and ditches were cut at various sites to facilitate drainage of the work areas.
Domson and Maxim were not on site.

Carr's estimated production:

Interceptor Channel below dam	420 cy
Topsoil below dam direct place	1,260 cy

Thursday, October 22, 1998

Carr worked two scrapers at the toe of the dam working the "groin" cut. Two scrapers worked on the Random Fill on the outside edge of the wing dam. This fill also included a narrow section of the Ridge above the wing dam so the entire fill was treated as Radon Barrier., all material came from the W8. Pumps were moved to various locations throughout the day as drainage of the work areas was still underway. A significant portion of the Pond 3 area and the Diversion Channel are still under water.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	2,338 cy
Diversion channel	1,568 cy

Friday, October 23, 1998

Carr worked four scrapers on the wing dam ridge putting in the 5168 and 5167 contours hauling from the W8. Carr was able to work a excavator below the face of the dam on the interceptor channels. A Caterpillar 16G grader was used to shape the interceptor channel above the Diversion Channel from the Rock Weir to Station 30+00. Pumps were moved to various locations throughout the day as drainage of the work areas was still underway. A significant portion of the Pond 3 area and the Diversion Channel are still under water.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	4,844 cy
Diversion channel (Toe of dam)	378 cy

WEEKLY REPORT 28, BEAR CREEK TAILINGS RECLAMATION
October 19 through October 23, 1998

Saturday, October 24, 1998

Carr worked four scrapers on the wing dam ridge putting in the 5168 and 5167 contours hauling from the W8. Carr was able to work a excavator below the face of the dam on the interceptor channels. A Caterpillar 16G grader was used to shape the interceptor channel above the Diversion Channel from the Rock Weir to Station 30+00. Pumps were moved to various locations throughout the day as drainage of the work areas was still underway. Water has receded in Pond 3 area, but the Diversion Channel is still under water to station 50+00.

Carr's estimated production:

W8	3,654 cy
Diversion channel (Toe of dam)	238 cy

Carr Construction estimated quantities:

Topsoil Stripping and Direct Placing below dam	1,260 cy
Diversion Channel excavation	1,988 cy
Interceptor Channels below dam	2,604 cy
Radon Barrier in Upper Surface from W8	8,498 cy
Random Fill out side ridge from W8	2,338 cy
Random Fill from Diversion Channel	0

Powers Elevation was on site October 21, 1998
Powers Elevation was on site October 23, 1998
Powers Elevation was on site October 24, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		0
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		0
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		2
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	0
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		2
Sieve analysis (-200 sieve) tests performed		2

Test locations and results of tests are in Maxim Technologies Daily Reports 111 through 112

WEEKLY REPORT 29, BEAR CREEK TAILINGS RECLAMATION
October 25 through October 30, 1998

Monday, October 26, 1998

Carr worked five scrapers grading out the5168 contour along the Ridge between Reference axis Stations 6+00 and 12+00. Also, spotted loads in low area of the upper area that failed to meet grade specifications. Carr is experiencing difficulty in meeting grade requirements due to lack of qualified personnel. Grade control has been established on 200 ft centers by Powers Elevation and on 50 ft centers by laser level and even closer in some areas, but problems on finish grade still persist. Carr also worked on the 10:1 slope below the Ridge along the neck area. All material came from the W8 stockpile. A John Deere excavator worked the groin of the dam. Pumps were moved to various locations throughout the day as drainage of the work areas was still underway. Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	5,726 cy
Interceptor Channels below dam	140 cy

Tuesday, October 27, 1998

Carr worked five scrapers grading out the5168 contour along the North Wing Dam Ridge. Also, Carr worked six scrapers on the Random Fill 10:1 slope below the Ridge. All material came from the W8 stockpile. A John Deere excavator worked the groin of the dam. Pumps were moved to various locations throughout the day as drainage of the work areas was still underway. Carr stripped a small area of topsoil so Domson could Stockpile gravel below the dam.
Domson spread filter gravel in the Interceptor Channels.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	9,478 cy
Interceptor Channels below dam	238 cy
Topsoil stripping below dam	294 cy

Wednesday, October 28, 1998

Shut down due to heavy rain.

Thursday, October 29, 1998

Shut down due to heavy rain.

Friday, October 30, 1998

Shut down due to heavy rain.

WEEKLY REPORT 29, BEAR CREEK TAILINGS RECLAMATION
October 25 through October 30, 1998

Carr Construction estimated quantities:

Topsoil Stripping below dam	294 cy
Interceptor Channel excavation	378 cy
Radon Barrier in Upper Surface from W8	4,000 cy
Radon Barrier in Ridge from Diversion Channel	0 cy
Random Fill from W8	11,204cy
Random Fill from Diversion Channel	0 cy

Powers Elevation was on site October 26, 1998
Powers Elevation was on site October 27, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		1
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		0
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		3
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	0
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		3
Sieve analysis (-200 sieve) tests performed		3

Test locations and results of tests are in Maxim Technologies Daily Reports 113 through 115

WEEKLY REPORT 30, BEAR CREEK TAILINGS RECLAMATION
November 2 through November 14, 1998

Monday, November 2, 1998
Rained out

Tuesday, November 3, 1998
Rained out

Wednesday, November 4, 1998
Rained out

Thursday, November 5, 1998
Rained out

Friday, November 6, 1998
Rained out

Monday, November 9, 1998
Rained out

Tuesday, November 10, 1998

Carr worked 5 scrapers dumping six inch lifts over the neck area hauling from the W8. This material is being mixed with the existing wet surface to dry out the fill. If these efforts are successful, operations will be resumed after a sufficient area is prepared. No more than six inches will be placed so that these areas can be tested prior to resuming full scale operations again.
Maxim and Powers Elevation were not on site today.

Carr's estimated production:

W8	4,102 cy

Wednesday, November 11, 1998

Carr worked 5 scrapers dumping six inch lifts over the neck area hauling from the W8. This material is being mixed with the existing wet surface to dry out the fill. If these efforts are successful, operations will be resumed after a sufficient area is prepared. No more than six inches will be placed so that these areas can be tested prior to resuming full scale operations again.
Maxim and Powers Elevation were not on site today.

Carr's estimated production:

W8	4,816 cy

Thursday, November 12, 1998

Carr worked 5 scrapers dumping six inch lifts over the neck area and sections of the Pond 3 area. Three hauled from the W8 and two hauled from the diversion channel from station 18+00 to 25+00. This material is being mixed with the existing wet surface to dry out the fill. If these efforts are successful, operations will be resumed after a sufficient area is prepared. No more than six inches will be placed so that these areas can be tested prior to resuming full scale operations again.
They also worked an excavator in the chute cutting final grade.
Maxim and Powers Elevation were not on site today.

Carr's estimated production:

W8	2,772 cy
Diversion channel	2,156 cy

Friday, November 13, 1998

Carr worked 5 scrapers dumping six inch lifts over the neck area and sections of the Pond 3 area. Three hauled from the W8 and two hauled from the diversion channel from station 18+00 to 25+00. This material is being mixed with the existing wet surface to dry out the fill. Maxim personnel returned to the site today and tested the areas prepped in their absence and monitored the continuation of full scale operations.
Carr continued working an excavator in the chute cutting final grade.
Powers Elevation were not on site today.

Carr's estimated production:

W8	2,952 cy
Diversion channel	1,904 cy

Saturday November 14, 1998

Carr worked 5 scrapers dumping six inch lifts over the neck area and sections of the Pond 3 area. Three hauled from the W8 and two hauled from the diversion channel from station 18+00 to 25+00 until 11:30 AM, then they joined the other three in the W8.
Carr continued working an excavator in the chute cutting final grade.
Maxim personnel were on site but Powers Elevation was not.

Carr's estimated production:

W8	2,870 cy
Diversion channel	2,030 cy

WEEKLY REPORT 30, BEAR CREEK TAILINGS RECLAMATION
November 2 through November 14, 1998

Carr Construction estimated quantities:

Topsoil Stripping and Direct Placing	
Diversion Channel excavation	cy
Radon Barrier in Upper Surface from W8	cy
Radon Barrier in Ridge from Diversion Channel	cy
Random Fill from W8	8,594 cy
Random Fill from Diversion Channel	6,090 cy

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		0
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		0
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		4
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	0
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		1
Sieve analysis (-200 sieve) tests performed		2

Test locations and results of tests are in Maxim Technologies Daily Reports 116 through 116

WEEKLY REPORT 31, BEAR CREEK TAILINGS RECLAMATION
November 16 through November 21, 1998

Monday, November 16, 1998

Carr worked five scrapers dumping in the Pond 3 area hauling from the W8. At 1:00 PM two scrapers were moved to the topsoil pile near the chute (T-Chute) and hauled topsoil to the upper area on the east side working panels between the intermediate ridge line and the south ridge line. One scraper also worked in the diversion channel cutting an area to grade but also dumped with the other scrapers in Pond 3.
Carr continued working an excavator in the chute cutting final grade.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	3,836 cy
Diversion channel	700 cy
Topsoil placement	448 cy

Tuesday, November 17, 1998

Carr worked five scrapers hauling from the W8 to panels in the neck area and the Pond 3 area. One of the five scrapers also cut some grade along the diversion channel below the 5:1 layback slope. Four more scrapers returned to the project at 8:30 AM and started hauling topsoil from the T-Chute pile to the upper area between the intermediate ridge and the south swale on the east side. They continued cutting final grade in the chute with an excavator.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	4,718 cy
Diversion channel	182 cy
Topsoil placement	3,626 cy

Wednesday, November 18, 1998

Carr worked five scrapers hauling from the W8 to panels in the neck area and the Pond 3 area. One of the five scrapers also cut some grade along the diversion channel below the 5:1 layback slope. At 9:00 AM two more scrapers returned to the project and joined the scrapers hauling from the W8. Four more scrapers hauled topsoil from the T-Chute pile to the upper area between the intermediate Ridge and the south swale on the east side.
They continued cutting final grade in the chute with an excavator.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	5,208 cy
Diversion channel	378 cy
Topsoil placement	4,214 cy

WEEKLY REPORT 31, BEAR CREEK TAILINGS RECLAMATION
November 16 through November 21, 1998

Thursday, November 19, 1998

Carr worked seven scrapers hauling from the W8 to panels in the neck area and the Pond 3 area. One of the seven scrapers also cut some grade along the diversion channel below the 5:1 layback slope.
Four more scrapers hauled topsoil from the T-Chute pile to the upper area between the intermediate ridge line and the south swale on the east side. At 11:00 AM two of these scrapers moved to the T-15 topsoil stockpile and started placing topsoil panels next to the wing dam.
They continued cutting final grade in the chute with an excavator.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	5,446 cy
Diversion channel	798 cy
Topsoil placement	4,172 cy

Friday, November 20, 1998

Carr worked seven scrapers hauling from the W8 to panels in the neck area and the Pond 3 area. One of the seven scrapers also cut some grade along the diversion channel below the 5:1 layback slope and along the south and east ditches.
Four more scrapers hauled topsoil from the T-15 topsoil stockpile dumping topsoil panels next to the wing dam.
They continued cutting final grade in the chute with an excavator.
Billy Ray, Maxim Technologies, was on site today.

Carr's estimated production:

W8	6,216 cy
Diversion channel	938 cy
Topsoil placement	3,864 cy

Saturday, November 21, 1998

Carr worked four scrapers hauling from T-15 to panels next to the wing dam. They also worked a blade, one scraper and a roller in the neck area and the Pond 3 area doing finish work and a scraper picked up rocks throughout the area.
Extreme high winds blew sand into the chute and the chute approach covering up most of the finish work that Carr had worked on all week.

Carr's estimated production:

W8	266 cy
Channel cut	826 cy
Topsoil placement	3,570 cy

WEEKLY REPORT 31, BEAR CREEK TAILINGS RECLAMATION
November 16 through November 21, 1998

Carr Construction estimated quantities:

Topsoil Placing Upper Surface	19,894 cy
Diversion Channel excavation	3,822 cy
Radon Barrier in Upper Surface from W8	cy
Radon Barrier in Ridge from Diversion Channel	cy
Random Fill from W8	25,690 cy
Random Fill from Diversion Channel	3,822 cy

Powers Elevation was on site November 17, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		0
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		0
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		12
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	0
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		6
Sieve analysis (-200 sieve) tests performed		6

Test locations and results of tests are in Maxim Technologies Daily Reports 116 through 121

WEEKLY REPORT 32, BEAR CREEK TAILINGS RECLAMATION
November 23 through November 28, 1998

Monday, November 23, 1998

Carr worked four scrapers hauling from T-15 to panels next to the wing dam. They worked seven scrapers hauling from the W8 to Pond 3. One of these scrapers also did finish work between Pond 3 and the diversion channel. This material was also placed in the Pond 3 random fill. The excavator moved from the chute to the finger ditches at the toe of the main dam on the west side.

Carr's estimated production:

W8	6,538 cy
Diversion channel cut	238 cy
Topsoil placement	3,766 cy

Tuesday, November 24, 1998

Carr worked four scrapers hauling from T-15 to panels next to the wing dam. They worked seven scrapers hauling from the W8 to Pond 3. Three of these scrapers also did finish work between Pond 3 and the diversion channel. This material was also placed in the Pond 3 random fill. They continued cutting the finger ditches, moving to the east side, at the toe of the main dam with an excavator and Domson returned and started placing filter gravel in the finger ditches that Carr has completed on the west side.

Carr's estimated production:

W8	5,866 cy
Diversion channel cut	1,120 cy
Topsoil placement	3,976 cy

Wednesday, November 25, 1998

Carr worked four scrapers hauling topsoil from T-15 to panels next to the wing dam completing this area about 11:00 AM. They then moved back to the T-Chute topsoil pile and started placing topsoil between the intermediate ridge line and the south swale.
Three more scrapers worked all shift cutting grade on the area between Pond 3 and the diversion channel dumping on the random fill panels of Pond 3 until 11:30 AM. Carr then they moved to the 10:1 fill adjacent to Pond 3 that will form the remaining portion of the south ridge in this area. Four more scrapers hauled from W8 to the same areas as the other three, moving to the 10:1 fill at the same time because Pond 3 was finally completed. In fact all the random fill is now complete on the project except for the 10:1 slope and the 5:1 slope above it that forms the south ridge line above Pond 3 and a portion of the neck area about 800 feet long. There are some portions of cut remaining between Pond 3 and the diversion channel to complete the final grading but the fills are done and they will be finish graded on Friday and Saturday.

Carr's estimated production:

W8	6,538 cy
Diversion channel cut	870 cy
Topsoil placement	4,032 cy

WEEKLY REPORT 32, BEAR CREEK TAILINGS RECLAMATION
November 23 through November 28, 1998

Thursday, November 26, 1998

Carr did not work Thanksgiving holiday

Friday, November 27, 1998

Carr worked 3 scrapers, I blade, 1 compactor and the 50 ton roller finishing in the upper neck area.
Domson worked on putting gravel in the finger ditches on the west side of the main dam.
Powers elevation was on-site for a short period but went home sick.

Carr's estimated production:

W8	3,374 cy

Saturday, November 28, 1998

Carr worked four scrapers hauling from T-15 to panels next to the wing dam. They also worked a blade, one scraper and a roller in the neck area and the Pond 3 area doing finish work and a scraper picked up rocks throughout the area.
Extreme high winds blew sand into the chute and the chute approach covering up most of the finish work that Carr had worked on all week.

Carr's estimated production:

W8	868 cy

Carr Construction estimated quantities:

Topsoil Placing Upper Surface	19,894 cy
Diversion Channel excavation	3,822 cy
Radon Barrier in Upper Surface from W8	cy
Radon Barrier in Ridge from Diversion Channel	cy
Random Fill from W8	25,690 cy
Random Fill from Diversion Channel	3,822 cy

Powers Elevation was on site November 17, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications	0
Radon Barrier (RB) Pond 3 area and Upper Surface	
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB	0
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications	12

Random Fill (RF) outside of ridgeline

Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	0
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		6
Sieve analysis (-200 sieve) tests performed		6

Test locations and results of tests are in Maxim Technologies Daily Reports 122 through 124

WEEKLY REPORT 32, BEAR CREEK TAILINGS RECLAMATION
November 23 through November 28, 1998

Monday, November 23, 1998

Carr worked four scrapers hauling from T-15 to panels next to the wing dam. They worked seven scrapers hauling from the W8 to Pond 3. One of these scrapers also did finish work between Pond 3 and the diversion channel. This material was also placed in the Pond 3 random fill. The excavator moved from the chute to the finger ditches at the toe of the main dam on the west side.

Carr's estimated production:

W8	6,538 cy
Diversion channel cut	238 cy
Topsoil placement	3,766 cy

Tuesday, November 24, 1998

Carr worked four scrapers hauling from T-15 to panels next to the wing dam. They worked seven scrapers hauling from the W8 to Pond 3. Three of these scrapers also did finish work between Pond 3 and the diversion channel. This material was also placed in the Pond 3 random fill. They continued cutting the finger ditches, moving to the east side, at the toe of the main dam with an excavator and Domson returned and started placing filter gravel in the finger ditches that Carr has completed on the west side.

Carr's estimated production:

W8	5,866 cy
Diversion channel cut	1,120 cy
Topsoil placement	3,976 cy

Wednesday, November 25, 1998

Carr worked four scrapers hauling topsoil from T-15 to panels next to the wing dam completing this area about 11:00 AM. They then moved back to the T-Chute topsoil pile and started placing topsoil between the intermediate ridge line and the south swale.
Three more scrapers worked all shift cutting grade on the area between Pond 3 and the diversion channel dumping on the random fill panels of Pond 3 until 11:30 AM. Carr then they moved to the 10:1 fill adjacent to Pond 3 that will form the remaining portion of the south ridge in this area. Four more scrapers hauled from W8 to the same areas as the other three, moving to the 10:1 fill at the same time because Pond 3 was finally completed. In fact all the random fill is now complete on the project except for the 10:1 slope and the 5:1 slope above it that forms the south ridge line above Pond 3 and a portion of the neck area about 800 feet long. There are some portions of cut remaining between Pond 3 and the diversion channel to complete the final grading but the fills are done and they will be finish graded on Friday and Saturday.

Carr's estimated production:

W8	6,538 cy
Diversion channel cut	870 cy
Topsoil placement	4,032 cy

WEEKLY REPORT 32, BEAR CREEK TAILINGS RECLAMATION
November 23 through November 28, 1998

Thursday, November 26, 1998

Carr did not work Thanksgiving holiday

Friday, November 27, 1998

Carr worked 3 scrapers, I blade, 1 compactor and the 50 ton roller finishing in the upper neck area.
Domson worked on putting gravel in the finger ditches on the west side of the main dam.
Powers elevation was on-site for a short period but went home sick.

Carr's estimated production:

W8	3,374 cy

Saturday, November 28, 1998

Carr worked four scrapers hauling from T-15 to panels next to the wing dam. They also worked a blade, one scraper and a roller in the neck area and the Pond 3 area doing finish work and a scraper picked up rocks throughout the area.
Extreme high winds blew sand into the chute and the chute approach covering up most of the finish work that Carr had worked on all week.

Carr's estimated production:

W8	868 cy

Carr Construction estimated quantities:

Topsoil Placing Upper Surface	19,894 cy
Diversion Channel excavation	3,822 cy
Radon Barrier in Upper Surface from W8	cy
Radon Barrier in Ridge from Diversion Channel	cy
Random Fill from W8	25,690 cy
Random Fill from Diversion Channel	3,822 cy

Powers Elevation was on site November 17, 1998

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications	0
Radon Barrier (RB) Pond 3 area and Upper Surface	
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB	0
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications	12

Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	0
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		6
Sieve analysis (-200 sieve) tests performed		6

Test locations and results of tests are in Maxim Technologies Daily Reports 122 through 124

WEEKLY REPORT 33, BEAR CREEK TAILINGS RECLAMATION
November 30 through December 5, 1998

Monday, November 30, 1998

Carr worked three scrapers hauling from T-21 to the upper area on the east side between the intermediate Ridge and the south Ridge.
Three more graded out the final contours of Pond 3 hauling from the W8. These scrapers completed the rough grade in Pond 3 and then they moved to T-3 and hauled to the upper area on the west side between the intermediate Ridge and the main dam.
They also worked a hoe in the finger ditches on the east side of the main dam.
Domson also worked in the same area following Carr as they completed the ditches.

Carr's estimated production:

W8	2,170 cy
Diversion channel cut	2,002 cy
Topsoil placement	6,342 cy

Tuesday, December 1, 1998

Carr worked 6 scrapers hauling from T-37 to the upper area on the west side between the intermediate Ridge and the main dam. They used three scrapers to haul gravel for Domson from the chute area to the face of the main dam and then they hauled topsoil from T-15 to the upper area on the east side between the intermediate Ridge and the south Ridge. Three more scrapers worked on finishing the Pond 3 area.
Domson continued working on the finger ditches on the east side of the main dam and bladed the gravel on the face of the main dam.

Carr's estimated production:

W8	2,772 cy
Diversion channel cut	336 cy
Topsoil placement	7,112 cy

Wednesday, December 2, 1998

Carr worked 6 scrapers hauling from T-37 to the west side of the upper area between the intermediate Ridge and the south Ridge. Two more hauled from T-15 to the upper area on the south Ridge near the chute approach. Three more continued finishing in the Pond 3 area. (For the most part all random fill is now complete except for some Ridge work)
Carr continued working on the finger ditches with an excavator.
Domson continued work on the face of the dam and the finger ditches on the east side of the main dam.
Bob Coppin was on site today.

Carr's estimated production:

W8	2,254 cy
Diversion channel cut	448 cy
Topsoil placement	8,260 cy

WEEKLY REPORT 33, BEAR CREEK TAILINGS RECLAMATION
November 30 through December 5, 1998

Thursday, December 3, 1998

Carr worked six scrapers hauling from T-37 to the upper area on the west side between the intermediate Ridge and the south Ridge. They worked four more hauling from T-15 to the upper area on the east side grading out topsoil placed between the intermediate Ridge and the main dam earlier this year. The auger scraper worked on the final finishing of Pond 3.
Domson finished what was available on the finger ditches and started placing four inch rock on the west side of the main dam.
Carr worked an excavator at the toe of the main dam at Station 10+00, but hit some perched water in the old filter blanket of the main dam. Carr then moved to the last ditch on the east side, while a small pump was set up to pump out the center ditch.
Bob Coppin was on site today.

Carr's estimated production:

W8	658 cy
Diversion channel cut	126 cy
Topsoil placement	10,724 cy

Friday, December 4, 1998

Carr worked seven scrapers hauling from T-37 to the west side of the upper area between the intermediate Ridge and the south Ridge. Four more hauled from T-15 to the east side of the upper area between the intermediate Ridge and the main dam grading out topsoil placed earlier this year. A few loads of mud and diversion channel grading was done near station 25+00 of the diversion channel.
Domson worked on the three inch rock on the face of the main dam.

Carr's estimated production:

Diversion channel cut	140 cy
Topsoil placement	11,124 cy

Saturday, December 5, 1998

Carr worked five scrapers hauling from T-37 to the extreme west side of the upper area. One scraper cleaned up the remaining cut in the diversion channel from station 25+00 to 29+00. With the exception of a few areas of the diversion channel that are too soft to grade out, the diversion channel will, for the most part, drain to the weir.
Carr also hauled from the topsoil pile that came from the W8 to the neck area (not numbered) to the 5:1 layback slope.
No other contractors were on site today.

Carr's estimated production:

Channel cut	504 cy
Topsoil placement	4,060 cy

WEEKLY REPORT 33, BEAR CREEK TAILINGS RECLAMATION
November 30 through December 5, 1998

Carr Construction estimated quantities:

Topsoil Placing Upper Surface	47,622 cy
Diversion Channel excavation	2,842 cy
Interceptor Channels below dam	714 cy
Radon Barrier in Ridge from Diversion Channel	cy
Random Fill from W8	12,194 cy
Random Fill from Diversion Channel	2,842 cy

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications	0
Radon Barrier (RB) Pond 3 area and Upper Surface	
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB	0
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications	0
Random Fill (RF) outside of ridgeline	
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF	0
Compaction density tests (ASTM 1556 Sand Cone method) performed	0
Standard Proctor density tests (ASTM 698) performed (4 point)	0
Standard Proctor density tests (ASTM 698) performed (1 point)	0
Atterberg limit tests (ASTM C88) performed	0
Sieve analysis (-200 sieve) tests performed	0

Test locations and results of tests are in Maxim Technologies Daily Reports 125

WEEKLY REPORT 34, BEAR CREEK TAILINGS RECLAMATION
December 7 through December 16, 1998

Monday, December 7, 1998

Carr worked four scrapers hauling from T-15 to the south ridge near the chute approach until noon. Then these scrapers moved to the 5:1 lay-back slope, hauling from the unnumbered stockpile that came from the W8 road this year. They also worked seven scrapers hauling from T-37 hauling to the extreme west end of the upper area. Carr continued working the finger ditches at the toe of the main dam with an excavator, moving to the final ditch at station 10+00 at 11:00 AM.
Domson placed 3" rock on the face of the dam, the 3" inch rock is now completed from station 0+00 to 11+00.
Maxim came out and dismantled their lab as we anticipate that no further compacted fill will be placed this year.

Carr's estimated production:

Topsoil placement	12,292 cy

Tuesday, December 8, 1998

Carr worked 4 scrapers hauling topsoil from T-37 to the 5:1 layback slope. They also worked seven scrapers hauling from T-37 hauling to the extreme west end of the upper area, finishing it around 11:00AM. Two of these scrapers then moved to the 100 yr. ditch and started filling it in from the material contained within the berm of the ditch. This material was all topsoil but is classified as diversion channel cut in this report because that is the way that Carr bid it. The other five scrapers started filling in the south swale with topsoil from T-37. The swale has been left open for drainage until the upper area was completed. The upper area including the swale was completed by the end of the shift. The only areas remaining to be top soiled on the upper area are the outer perimeters that will be left open until next year to facilitate access and any final grading that may be necessary. Carr continued working the finger ditches at the toe of the main dam with an excavator.
Domson worked on placing gravel and 9" rock in the finger ditches on the east side of the main dam.

Carr's estimated production:

Diversion channel cut and fill	3,332 cy
Topsoil placement	11,046 cy

Wednesday, December 9, 1998

Carr worked three scrapers hauling from T-37 to the 5:1 layback slope. Two scrapers continued grading out sections of the 100 year ditch. All work areas were completed prior to the end of the shift and Carr started parking equipment as they completed their work areas.
Domson continued work on the finger ditches on the east side and started placing 3" rock on the face of the dam from 11+00 to 13+00.

Carr's estimated production:

Diversion channel cut	2,968 cy
Topsoil placement	2,142 cy

WEEKLY REPORT 34, BEAR CREEK TAILINGS RECLAMATION
December 7 through December 16, 1998

Thursday, December 10, 1998

Carr ran two scrapers cutting a small ledge from the Pond 2 area on the hill next to the chute. This is the upper limit of the east channel. Other cleanup projects were done with two blades, the excavator and their loader. These projects consisted of mostly drainage and erosion protection and final cleanup for the winter shutdown. Carr finished all of these projects prior to the end of their shift and most of the scrapers had left the job site.
Domson continued placing 3" rock on the face of the dam from station 11+00 to 13+00.

Carr's estimated production:

Diversion channel cut	1,484 cy

Friday, December 11, 1998

Domson finished the 3 inch rock on the face of the dam.
No other activities took place today.

December 14 - 16, 1998

Domson worked on the finger ditches at the toe of the main dam and also put 4 inch rock on the 5:1 slope above the ditches. There was not enough 4 inch rock to complete the project so more was ordered.
Due to nice weather over the week end, the frost came out of the topsoil so all available areas were ripped and seeded.

Carr Construction estimated quantities:

Topsoil Placing Upper Surface	25,480 cy
100 year Diversion Channel excavation and fill	7,784 cy
Interceptor Channels below dam	714 cy
Radon Barrier in Ridge from Diversion Channel	cy

WEEKLY REPORT 35, BEAR CREEK TAILINGS RECLAMATION
July 6 through July 9, 1999

Monday, July 5, 1999

July 4th Holiday observed

Tuesday, July 6, 1999

Carr resumed activities work for the 1999 season today. They started hauling topsoil below the ridge line near the chute approach with eight scrapers. A blade, water truck and 50 ton roller were used to proof roll ahead of the scrapers to ensure that the surface was firm and smooth. The surface was in excellent shape and required very little conditioning.

Carr's estimated production:

Topsoil	6,452 cy

Wednesday, July 8, 1999

Carr continued placing topsoil below the ridge line near the chute approach with five scrapers. They also resumed construction of the remaining section of the ridge line with three scrapers hauling from the W8 spoil pile. A blade, water truck and a 50 ton roller were used to condition the soil and to provide compaction. Maxim personnel were on site to ensure that all soil placement was meeting specifications and to perform the required test work.

Carr's estimated production:

Topsoil	6,962 cy
W8	2,180 cy

Thursday, July 9, 1999

Carr continued placing topsoil below the ridge line near the chute approach with five scrapers. They also continued construction of the remaining section of the ridge line with three scrapers hauling from the W8 spoil pile. A blade, water truck and a 50 ton roller were used to condition the soil and to provide compaction. Maxim personnel were on site to ensure that all soil placement was meeting specifications and to perform the required test work.

Carr's estimated production:

Topsoil	2,934 cy
W8	5,430 cy

Friday, July 10, 1999

Carr continued placing topsoil below the ridge line near the chute approach with five scrapers until 12:30 PM when a 627 auger scraper arrived and was added to the fleet. They also continued construction of the remaining section of the ridge line with three scrapers hauling from the W8 spoil pile. A blade, water truck and a 50 ton roller were used to condition the soil and to provide compaction. Maxim personnel were on site to ensure that all soil placement was meeting specifications and to perform the required test work.

Carr's estimated production:

Topsoil	3,010 cy
W8	6,000 cy

WEEKLY REPORT 35, BEAR CREEK TAILINGS RECLAMATION
July 6 through July 9, 1999

Carr Construction estimated quantities:

Topsoil Placing below Ridge	19,358 cy
Radon Barrier in Ridge from Diversion Channel	0 cy
Random Fill from W8	13,610 cy
Random Fill from Diversion Channel	0 cy

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		0
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		0
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		10
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		1
Standard Proctor density tests (ASTM 698) performed	(4 point)	1
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		3
Sieve analysis (-200 sieve) tests performed		7

Test locations and results of tests are in Maxim Technologies Daily Reports 126 through 129

WEEKLY REPORT 36, BEAR CREEK TAILINGS RECLAMATION
July 12 through July 16, 1999

Monday, July 12, 1999

Carr continued placing topsoil below the Ridge dumping across the old Pond 2 area with six scrapers. They also continued construction of the remaining section of the ridge line with three scrapers hauling from the W8 spoil pile. A blade, water truck and a 50 ton roller were used to condition the soil and to provide compaction. Maxim personnel were on site to ensure that all soil placement was meeting specifications and to perform the required test work.

Carr's estimated production:

Topsoil	2,610 cy
W8	6,008 cy

Tuesday, July 13, 1999

Carr continued placing topsoil below the Ridge dumping across the old Pond 2 area with six scrapers. They also continued construction of the remaining section of the ridge line with three scrapers hauling from the W8 spoil pile. A blade, water truck and a 50 ton roller were used to condition the soil and to provide compaction. Maxim personnel were on site to ensure that all soil placement was meeting specifications and to perform the required test work.

Carr's estimated production:

Topsoil	4,422 cy
W8	4,074 cy

Wednesday, July 14, 1999

Carr continued placing topsoil below the ridge line dumping across the old Pond 2 area and into the neck area with six scrapers. They completed construction of the remaining section of the ridge line with three scrapers hauling from the W8 spoil pile. Final shaping of the ridge line will be done tomorrow. A blade, water truck and a 50 ton roller were used to condition the soil and to provide compaction. Maxim personnel were on site to ensure that all soil placement was meeting specifications and to perform the required test work.

Carr's estimated production:

Topsoil	5,472 cy
W8	3,834 cy

Thursday, July 15, 1999

Carr continued placing topsoil below the ridge line dumping across the old Pond 2 area and into the neck area with seven scrapers. Final shaping of the ridge line was completed with two scrapers today and the area is ready for topsoil. Maxim personnel were on site to observe the final shaping and to load up their lab equipment. Their work was completed and they were off-site by 1:00 PM.

Carr's estimated production:

Topsoil	9,578 cy
W8	568 cy

WEEKLY REPORT 36, BEAR CREEK TAILINGS RECLAMATION
July 12 through July 16, 1999

Friday, July 16, 1999

Carr continued placing topsoil below the ridge line dumping across the old Pond 2 area and into the neck area with nine scrapers. After the topsoil was placed, bladed, rolled and re-bladed, 10 holes were augured to verify depth. One are was located that was over-filled and Carr had to cut this area back to grade and re-finish the surface. One panel was found to be slightly below specifications and additional material was brought in and the area was re-graded to specifications.

Carr's estimated production:

Topsoil	10, 552 cy

Carr Construction estimated quantities:

Topsoil Placing below Ridge	32,634 cy
Random Fill from W8	14,484 cy

Maxim Geotechnical Testing

Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		0
Radon Barrier (RB) Pond 3 area and Upper Surface		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RB		0
Compaction density tests (ASTM 2922 Nuclear method) passing project specifications		6
Random Fill (RF) outside of ridgeline		
Compaction density tests (ASTM 2922 Nuclear Method) requiring retest, RF		0
Compaction density tests (ASTM 1556 Sand Cone method) performed		0
Standard Proctor density tests (ASTM 698) performed	(4 point)	0
Standard Proctor density tests (ASTM 698) performed	(1 point)	0
Atterberg limit tests (ASTM C88) performed		1
Sieve analysis (-200 sieve) tests performed		2

Test locations and results of tests are in Maxim Technologies Daily Reports 130 through 132

WEEKLY REPORT 37, BEAR CREEK TAILINGS RECLAMATION
July 19 through July 24, 1999

Monday, July 19, 1999

Carr continued placing topsoil but moved their operation to the pond three area below the ridge with nine scrapers. After the topsoil was rolled and bladed, twenty two holes were augured to verify topsoil depth. Two areas were located that were over-filled and Carr had to cut these areas back to grade. No areas were found below specifications.
A trackhoe was used to clean out windblown material from the chute area.

Carr's estimated production:

Topsoil	9,964 cy

Tuesday, July 20, 1999

Carr continued placing topsoil in the pond three area below the ridge with nine scrapers. After the topsoil was rolled and bladed, 16 holes were augured to verify topsoil depth. All areas were found to be within specifications.
A trackhoe was used to clean out windblown material from the chute area.

Carr's estimated production:

Topsoil	10,866 cy

Wednesday, July 21, 1999

Carr continued placing topsoil in the pond three area below the ridge with five scrapers. After the topsoil was rolled and bladed, 8 holes were augured to verify topsoil depth. All areas were found to be within specifications. They also started dumping topsoil on the last remaining section of the diversion channel 3:1 slopes from station 18+00 to station 29+00. Because the slopes were steep and the material was brought in too fast, depths of topsoil varied above and below specifications. Over 40 holes were augured as extensive working of the slopes was necessary to bring them back into acceptable limits. Carr was not allowed to proceed to a new panel until the previously graded panel was brought into specifications. They eventually establish a system of grading and auguring that permitted adequate grade control and conditions improved.
A trackhoe was used to clean out windblown material from the chute area.

Carr's estimated production:

Topsoil	12,338 cy

Thursday, July 22, 1999

Carr continued placing topsoil in the pond three area below the ridge with five scrapers. 8 holes were augured to verify topsoil depth. All areas were found to be within specifications.
A trackhoe was used to clean out windblown material from the chute area.

Carr's estimated production:

Topsoil	10,510 cy

WEEKLY REPORT 37, BEAR CREEK TAILINGS RECLAMATION
July 19 through July 24, 1999

Friday, July 23, 1999

Carr continued placing topsoil in the pond three area below the ridge with five scrapers. 12 holes were augured to verify topsoil depth. All areas were found to be within specifications. Carr started cleaning up windblown silt along the diversion channel flow lines at various locations. A trackhoe was used to clean out windblown material from the chute area.

Carr's estimated production:

Topsoil	10,842 cy

Saturday, July 24, 1999

Carr worked a finish crew in the pond two area. Some material was hauled but most of the work consisted of watering, blading and rolling of the final surface.

Carr's estimated production:

Topsoil	540 cy

Carr Construction estimated quantities:

Topsoil Placing below Ridge	55,060 cy
Random Fill from W8	0 cy

WEEKLY REPORT 38, BEAR CREEK TAILINGS RECLAMATION
July 26 through July 31, 1999

Monday, July 26, 1999

Carr continued placing topsoil in the pond three area below the ridge with five scrapers. Carr completed the pond three top soiling today. 20 holes were augured to verify topsoil depth. All areas were found to be within specifications.
They started top soiling the last remaining panel on the main dam.
They also started cutting the last ditch that runs parallel with the chute.

Carr's estimated production:

Topsoil	9,258 cy
Re-grading	540 cy

Tuesday, July 27, 1999

Carr started placing topsoil in the neck area between the Pond 2 and Pond 3 area with six scrapers.

The ridge line that runs along the top of the old wing required re-shaping. Carr hauled clay from the W8 to complete this work. After the area was conditioned, rolled and bladed, the area was top soiled.

Carr's estimated production:

Topsoil	9,866 cy
W8	448 cy

Wednesday, July 28, 1999

Carr continued placing topsoil in the neck area between the pond 2 and pond 3 area with six scrapers. They also placed topsoil in the diversion channel from station 70+00 to 60+00.
20 holes were augured to verify topsoil depth. All areas were found to be found to be within specifications.

Carr's estimated production:

Topsoil	10,476 cy

Thursday, July 29, 1999

Carr continued placing topsoil in the neck area between the pond 2 and pond 3 area with six scrapers. 6 holes were augured to verify topsoil depth. All areas were found to be found to be within specifications.
They also cut out the last remaining section of the diversion channel that has been used for a haul road from W8 and the remaining section of the W8 road from the paved road to the diversion channel. The cut from these areas was used to construct the divider berm between the main diversion channel and the small interceptor ditch that runs parallel to the chute.

Carr's estimated production:

Topsoil	6,476 cy
Diversion channel cut	2,996 cy

Friday, July 30, 1999

Carr continued placing topsoil in the neck area between the pond 2 and pond 3 area with six scrapers
They also started working on several small grading projects, blending and shaping ditches and
Carr's estimated production:

Topsoil	7,406 cy
Force account grading	2,996 cy

Saturday, July 31, 1999

Carr worked a finishing crew cleaning up areas that had been worked on the previous week

Carr Construction estimated quantities:

Topsoil Placing Seepage Control Basin	7,406 cy
Diversion Channel Excavation	2,996 cy
Re-grading	988 cy
Topsoil Placing below Ridge	35,816 cy

WEEKLY REPORT 39, BEAR CREEK TAILINGS RECLAMATION
August 2 through August 6, 1999

Monday, August 2, 1999

Carr worked on various force account projects. They hauled from the W8 to fill in around the power poles to establish the 10:1 slopes along the old wing dam next to the old warehouse foundations. Work also continued in the catch basin filling in old drain ditches and placing topsoil in completed areas. The big warehouse floor and foundation were broken up completely and leveled in preparation for backfilling operations. An area at the end of the access road was stripped of topsoil for a stockpile for the asphalt coming from the access road and the grass was bladed away from the asphalt in preparation for the removal operations.

Carr's estimated production:

Topsoil (force account)	168 cy
Topsoil (chute approach)	2,192 cy
Waste (FA)	4,382 cy
Manning topsoil (Asphalt stockpile area)	504 cy
Silt cleanup in chute approach	1,782 cy

Tuesday, August 3, 1999

Carr continued placing topsoil in the old catch basin drain ditch, removing the old W8 haul road, covering rock on the W8 borrow area and top soiled sections of the diversion channel near the chute discharge.

Carr's estimated production:

Topsoil (Force account)	3,696 cy
Topsoil (Diversion channel)	4,562 cy
Force account grading	364 cy

Wednesday, August 4, 1999

Carr continued removing the old W8 haul road, covering rock on the W8 borrow area and top soiled the chute approach. They also started removing asphalt on the main access road.

Carr's estimated production:

Topsoil (Chute approach)	2,902 cy
Force account grading	3,780 cy
Asphalt removal (10cy/ld)	120 cy

Thursday, August 5, 1999

Carr placed topsoil in the chute approach, removed the old W8 haul road and continued stripping asphalt from the main access road. They also did some shaping on the W8 dump which included placing a 6-inch lift of sub-soil that was removed from the W8 originally.

Carr's estimated production:

Topsoil	2,744 cy
Force account grading	3,794 cy
Asphalt removal (10 cy/load.)	670 cy

WEEKLY REPORT 39, BEAR CREEK TAILINGS RECLAMATION
August 2 through August 6, 1999

Friday, August 6, 1999

Carr did some shaping on the W8 dump which included placing a 6-inch lift of sub-soil that was removed from the W8 originally. They started spreading the top 6" lift of topsoil on the W8 but I suspended these activities because the W8 has not been cross-sectioned yet. They continued stripping asphalt on the main access road.

Carr's estimated production:

Topsoil (force account)	2,744 cy
Topsoil W8 (suspended)	168 cy
Asphalt removal (10 cy/load.)	1,710 cy

Carr Construction estimated quantities:

Topsoil placement Chute Approach & DC	12,400 cy
Topsoil placement, Force Account	6,608 cy
Re-grading, Force Account	9,720 cy
Asphalt Removal	2,500 cy
Waste seepage control basin, Force account	4,382 cy

WEEKLY REPORT 40, BEAR CREEK TAILINGS RECLAMATION
August 9 through August 14, 1999

Monday, August 9, 1999

Carr continued stripping asphalt on the main access road.

Carr's estimated production:

Asphalt removal (10 cy/load)	2,770 cy

Tuesday, August 10, 1999

Carr continued stripping asphalt on the main access road.

Carr's estimated production:

Asphalt removal (10 cy/load)	1,820 cy

Wednesday, August 11, 1999

Carr continued stripping asphalt on the main access road.

Carr's estimated production:

Asphalt removal (10 cy/load)	1,690 cy

Thursday, August 12, 1999

Carr continued stripping asphalt on the main access road.

Carr's estimated production:

Asphalt removal (10 cy/load)	1,440 cy

Friday, August 13, 1999

Carr continued stripping asphalt on the main access road.

Carr's estimated production:

Asphalt removal (10 cy/load)	1,080 cy

Saturday, August 14, 1999

Carr worked a finish crew grading out sections of the diversion channel.

Carr Construction estimated quantities:

Topsoil placement Chute Approach & DC	cy
Topsoil placement, Force Account	cy
Re-grading, Force Account	cy
Asphalt Removal	4,210 cy
Waste seepage control basin, Force account	cy

WEEKLY REPORT 41, BEAR CREEK TAILINGS RECLAMATION
August 16 through August 20, 1999

Monday, August 16, 1999

Carr continued stripping asphalt on the main access road. They also continued working a finish crew on sections of the diversion channel.

Carr's estimated production:

Asphalt removal (10 cy/load)	1,060 cy
Diversion channel cut	450 cy

Tuesday, August 17, 1999

Carr finished stripping asphalt on the main access road and from the parking lots around the warehouse areas and the office area. They also continued top soiling the upper section of the W8 dump where we buried all the rock and started working on the cut sections of the main office drainage plan.

Carr's estimated production:

Asphalt removal (10 cy/load)	270 cy
Topsoil	3,430 cy
Force account re-grading	2,128 cy

Wednesday, August 18, 1999

Carr continued working on the cut sections of the main office drainage plan. They also continued top soiling the upper section of the W8 dump where we buried all the rock. A Cat 325 track-hoe was used to remove culverts from the access road. The culverts were given to a local rancher.

Carr's estimated production:

Topsoil	2,534 cy
Force account re-grading	7,840 cy

Wyoming recycling completed the disassembly and removal of the office building and warehouse buildings that has been ongoing over the last several weeks.

The four corners of the main office concrete slab were surveyed in as follows:

North corner	Northing	950420.15	Easting	377768.02	Elevation 5168.9
East corner	Northing	950385.26	Easting	377803.95	Elevation 5168.7
South corner	Northing	950300.05	Easting	377717.76	Elevation 5168.4
West corner	Northing	950334.69	Easting	377682.75	Elevation 5169.0

WEEKLY REPORT 41, BEAR CREEK TAILINGS RECLAMATION
August 16 through August 20, 1999

A pit to bury typical building construction materials left over from the office disassembly was dug fourteen feet wide and eight feet deep immediately adjacent to the office slab and were surveyed in as follows:

North corner	Northing	950434.08	Easting	377753.67	Elevation 5168.0
West corner	Northing	950348.76	Easting	377668.54	Elevation 5168.0
South corner	Northing	950334.69	Easting	377682.75	Elevation 5168.0
East corner	Northing	950420.15	Easting	37768.02	Elevation 5168.0

Materials deposited in this pit consisted of sheet rock, bathroom fixtures and plumbing, metal wall and ceiling studs, wiring and electrical outlets, ceiling tiles, baseboard heaters, door jambs, hot water heaters, insulation, duct work, cinder blocks etc. Alternating lifts of building materials and dirt were placed in two foot lifts, bucket tamped and walked on for three passes each lift with a Hitachi EX550LC (125,000 lb. weight class) track-hoe.
Similar procedures were used at two garbage pits (approx. 100' long x 30' feet wide x 20' deep) dug near the small warehouse concrete slab.
The coordinates of this slab are:

N 950,437.56	E 377,394.58	Elevation 5,166.2
N 950,409.39	E 377,422.68	Elevation 5,166.2
N 950,409.66	E 377,366.61	Elevation 5,166.2
N 950,106.68	E 377,954.85	Elevation 5,166.2

The coordinates of the two pits near this slab are as follows:
Pit number 1.

N 950,311.87	E 377,348.83	Elev. 5162.5
N 950,294.70	E 377,455.73	Elev. 5163.3
N 950,271.02	E 377,441.72	Elev., 5162.0
N 950,106.68	E 377,954.85	Elev. 5166.2

Office Concrete Slab:

N 950,420.15	E 377,768.02	Elevation 5168.9
N 950,385.26	E 377,803.95	Elevation 5168.7
N 950,300.05	E 377,717.76	Elevation 5168.4
N 950,334.69	E 377,682.75	Elevation 5169.0

Pit number 2 adjacent to Office Slab:

N 950,420.15	E 377,768.02	Elevation 5168.9
N 950,334.69	E 377,682.75	Elevation 5169.0
N 950,434.08	E 377,753.67	
N 950,348.76	E 377,668.54	

WEEKLY REPORT 41, BEAR CREEK TAILINGS RECLAMATION
August 16 through August 20, 1999

Thursday, August 19, 1999

Carr continued working on the main office drainage hauling in fill material from the W8. They also continued placing topsoil at the upper section of the W8 dump. A Cat 325 track-hoe continued removing culverts from the access road. After the culverts were removed, the track-hoe was fitted with a hydraulic impact rock- breaker and was used to break up the concrete flat work of the floors of the main office building and warehouse floors. Holes were broken through the floors on four-foot centers.

Carr's estimated production:

Topsoil	2,996 cy
Force account re-grading	5,194 cy

Domson worked on the final shaping of the rock in the finger drains at the toe of the dam.

Friday, August 20, 1999

Carr continued working on the main office drainage hauling in fill material from the W8.
A Cat 325 track-hoe continued breaking up the concrete flat work of the floors of the main office building and warehouse floors. Holes were broken through the floors on four-foot centers.

Carr's estimated production:

Force account re-grading	4,730 cy

Domson worked on finishing the 4" rock at the toe of the dam.

Carr Construction estimated quantities:

Topsoil placement Chute Approach & DC	cy
Diversion Channel Excavation	450 cy
Re-grading mill/Office area, Force Account	19,892 cy
Asphalt Removal	1,330 cy
W8 topsoil, Force account	8,960 cy

WEEKLY REPORT 42, BEAR CREEK TAILINGS RECLAMATION
August 23 through August 27, 1999

Monday, August 23, 1999

Carr continued working on the main office drainage hauling in fill material from the W8. They used the cat 325 track-hoe to excavate and shape the remaining finger ditches at the toe of the main dam.

Carr's estimated production:

Force account re-grading	5,908 cy

Tuesday, August 24, 1999

Carr continued working on the main office drainage hauling in fill material from the W8. They used the cat 325 track-hoe and two 627 scrapers to excavate and shape the remaining finger ditches at the toe of the main dam.

Carr's estimated production:

Force account re-grading	4,382 cy
Topsoil (finger ditch shaping)	2,436 cy

Wednesday, August 25, 1999

Carr continued working on the main office drainage hauling in fill material from the W8. They used the cat 325 track-hoe and two 627 scrapers to excavate and shape the remaining finger ditches at the toe of the main dam.

Carr's estimated production:

Force account re-grading	4,172 cy
Topsoil (finger ditch shaping)	4,584 cy

Thursday, August 26, 1999

Carr continued working on the main office drainage hauling in fill material from the W8. They also removed the top six feet of the Seepage Control dam. A small amount of topsoil was moved in the finger ditches to finish grade them.

Carr's estimated production:

Topsoil (finger ditches)	216 cy
Force account re-grading	6,544 cy

Friday, August 27, 1999

Carr continued working on the main office drainage hauling in fill material from the W8. They also continued removing the top six feet of the Seepage Control dam doing the final shaping and placing topsoil.

Carr's estimated production:

Force account re-grading	7,664 cy

Carr Construction estimated quantities:

Topsoil placement below dam	7,236 cy
Diversion Channel Excavation	cy
Re-grading mill/Office area, Force Account	28,650 cy
Asphalt Removal	cy
W8 topsoil, Force account	cy

WEEKLY REPORT 43, BEAR CREEK TAILINGS RECLAMATION
August 30 through September 4, 1999

Monday, August 30, 1999

Carr continued working on the main office drainage hauling in fill material from the W8 and topsoil from T15.

Carr's estimated production:

Force account topsoil	3,108 cy
Force account re-grading	3,876 cy

Tuesday, August 31, 1999

Carr continued working on the main office drainage hauling topsoil from T15.

Carr's estimated production:

Force account topsoil	6,500 cy

Domson placed gravel in the chute.

Wednesday, September 1, 1999

Carr continued working on the main office drainage hauling topsoil from T15. They also did some re-grading of the diversion channel as per Bob Coppin's request.

Carr's estimated production:

Force account topsoil	6,494 cy

Domson placed gravel in the chute.

Thursday, September 2,1999

Carr continued working on the main office drainage hauling topsoil from T15 and started reclaiming sections of the main access road.

Carr's estimated production:

Force account topsoil	4,826 cy
Force account re-grade topsoil	1,904 cy

Domson placed gravel in the chute.

Friday, September 3, 1999

RAINED OUT

Saturday , September 4, 1999

PUMPED WATER FROM CHUTE

Sunday September 5, 1999

PUMPED WATER FROM CHUTE

Carr Construction estimated quantities:

Topsoil placement from T15	20,928 cy
Diversion Channel Excavation	cy
Re-grading mill/Office area, Force Account	3,876 cy
Asphalt Removal	cy
Regrade topsoil, Force account	1,904 cy

WEEKLY REPORT 44, BEAR CREEK TAILINGS RECLAMATION
September 7 through September 11, 1999

Monday, September 6, 1999

I came out to finish pumping and clean up of the chute and to cut interceptor ditches around the chute to help eliminate drainage that flows onto the side slopes of the chute.

Tuesday, September 7, 1999

Carr ran their entire fleet eliminating the access road.

Carr's estimated production:

Force account topsoil	13,256 cy

Wednesday, September 8, 1999

Carr ran their entire fleet eliminating the access road.

Carr's estimated production:

Force account topsoil	18,180 cy

Thursday, September 9,1999

Carr ran their entire fleet eliminating the access road.

Carr's estimated production:

Force account topsoil	10,078 cy

Friday, September 10, 1999

Carr completed the re-grading of the access road. They worked two scrapers grading out the office and warehouse area and the rest of the fleet worked on top soiling the W8 dump.

Carr's estimated production:

Regrading from W8	3,580 cy
Topsoil	4,298 cy

Domson cleaned up the rain damage to the chute and started placing 3" rock.

Saturday , September 11, 1999

Carr worked two scrapers grading out the office and shaping the W8 in preparation for topsoil. Domson worked on placing 3" rock in the chute.

Carr's estimated production:

Regrading from W8	1,988 cy

Domson placed 3" rock in the chute.

Carr Construction estimated quantities:

Topsoil placement from T15 to Access Road	45,812 cy
Diversion Channel Excavation	cy
Re-grading mill/Office area, Force Account	5,568 cy
Asphalt Removal	cy
Regrade topsoil, Force account	cy

WEEKLY REPORT 45, BEAR CREEK TAILINGS RECLAMATION
September 13 through September 17, 1999

Monday, September 13, 1999

Carr worked on grading out the office and placing topsoil sections of the W8 dump.
Domson worked on placing 3" rock in the chute.

Carr's estimated production:

Regrading from W8	4,342 cy
Topsoil	4,270 cy

Tuesday, September 14, 1999

Carr worked on grading out and placing topsoil the office and placing topsoil sections of the W8 dump.
Domson worked on placing 3" rock in the chute.

Carr's estimated production:

Regrading from W8	544 cy
Force account topsoil	5,056 cy
Topsoil	3,228 cy

Wednesday, September 15, 1999

Carr worked on grading out and placing topsoil the office and placing topsoil sections of the W8 dump.
Domson worked on placing 3" rock in the chute.

Carr's estimated production:

Force account topsoil	658 cy
Topsoil	6,440 cy

Thursday, September 16,1999

Carr worked on grading out and placing topsoil the old Kerr McGee haul road and placing topsoil sections of the W8 dump.
Domson worked on placing size 1 riprap rock in the chute.

Carr's estimated production:

Force account topsoil	2,316 cy
Topsoil	6,228 cy

Friday, September 17, 1999

Carr worked on grading out and placing topsoil the old Kerr McGee haul road, sections of the diversion channel and placing topsoil sections of the W8 dump.
Domson worked on placing Size 1 riprap rock in the chute.

Carr's estimated production:

Force account topsoil	3,336 cy
Topsoil	4,746 cy

Carr Construction estimated quantities:

Topsoil placement	20,642 cy
Diversion Channel Excavation	cy
Re-grading mill/Office area, Force Account	4,886 cy
Asphalt Removal	cy
Topsoil, Force account	15,636 cy

WEEKLY REPORT 46, BEAR CREEK TAILINGS RECLAMATION
September 20 through September 24, 1999

Monday, September 20, 1999

Conditions were too wet for Carr to work from a week-end rain.
Domson worked on placing Size 2 Riprap in the chute.

Tuesday, September 21, 1999

Carr worked on grading out and placing topsoil the old haul roads, sections of the diversion channel and placing topsoil sections of the W8 dump.
Domson worked on placing Size-1 Riprap rock in the chute.

Carr's estimated production:

Force account topsoil	294 cy
Topsoil	154 cy

Wednesday, September 22, 1999

Carr worked on grading out and placing topsoil the old haul roads, sections of the diversion channel at both ends of the chute and placing topsoil sections of the W8 dump.
Domson worked on placing Size-1 Riprap rock in the chute.

Carr's estimated production:

Force account topsoil	644 cy
Topsoil	1,652 cy

Thursday, September 23, 1999

Carr worked on grading out and placing topsoil the old haul roads and sections of the diversion channel at both ends of the chute. Carr's work on the project was completed at the end of the shift.
Domson worked on placing 9-inch riprap rock in the chute. The rock work in the chute was completed at the end of the shift.

Carr's estimated production:

Force account topsoil	644 cy
Topsoil	,652 cy

Friday, September 24, 1999

Carr worked on grading out various spot locations that I identified and requested as needing additional grading and touch-up work. Bob Coppin was on site making a final inspection and installed galvanized steel edging on the weir. Additional aerial targets were also identified.
All contractor work was completed on the site by 3:00 PM.

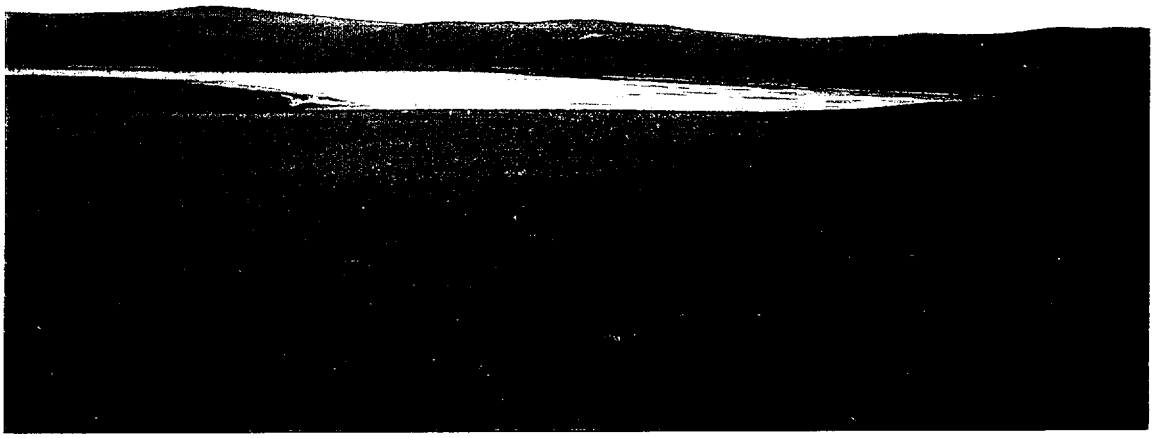
Carr's estimated production:

Force account topsoil	294 cy
Topsoil	812 cy

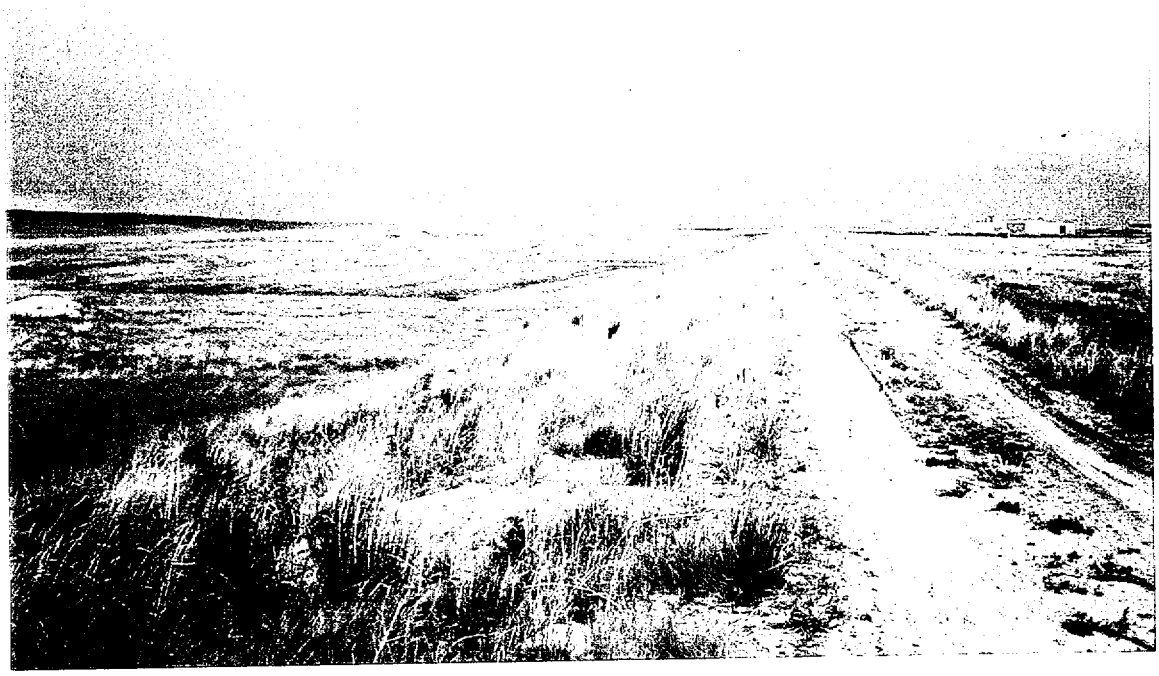
Carr Construction estimated quantities:

Topsoil placement	4,270 cy
Diversion Channel Excavation	cy
Re-grading mill/Office area, Force Account	cy
Asphalt Removal	cy
Topsoil, Force account	2,884 cy

Pond 2
Photo taken looking southeast



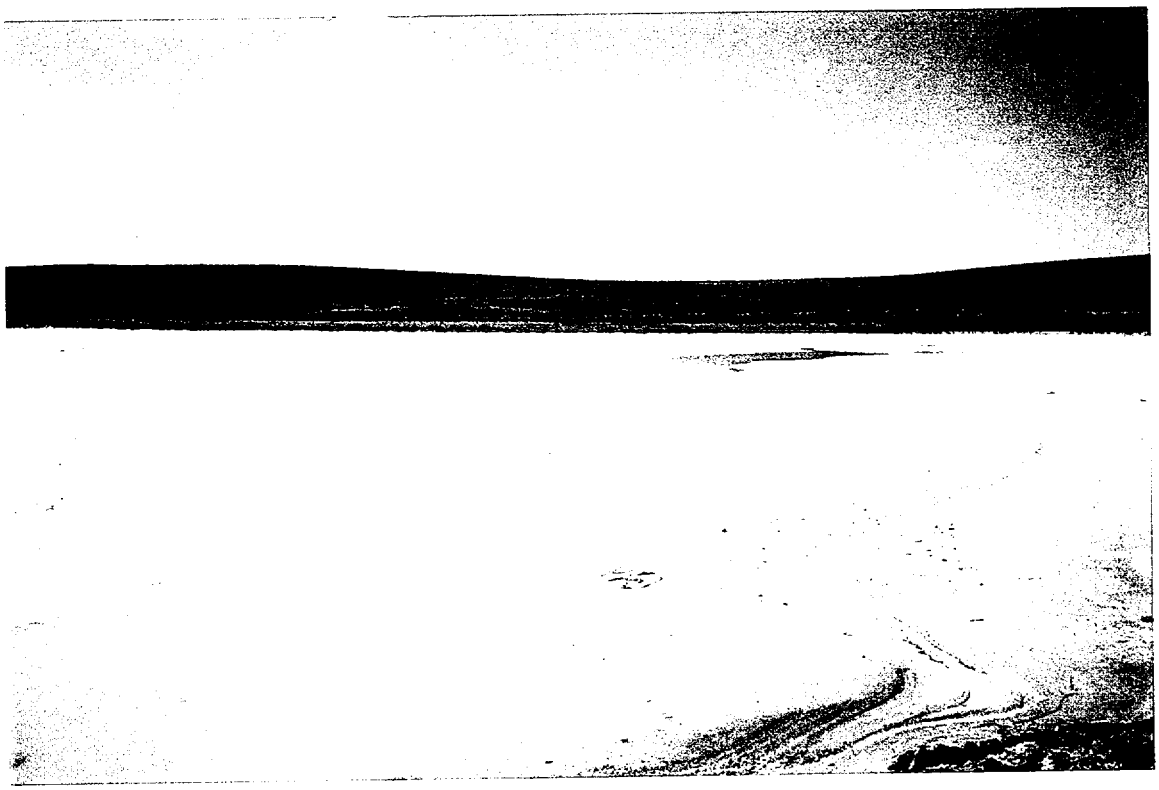
Pond 3
Photo taken looking southeast



Crest of Dam
Photo taken from west abutment looking east

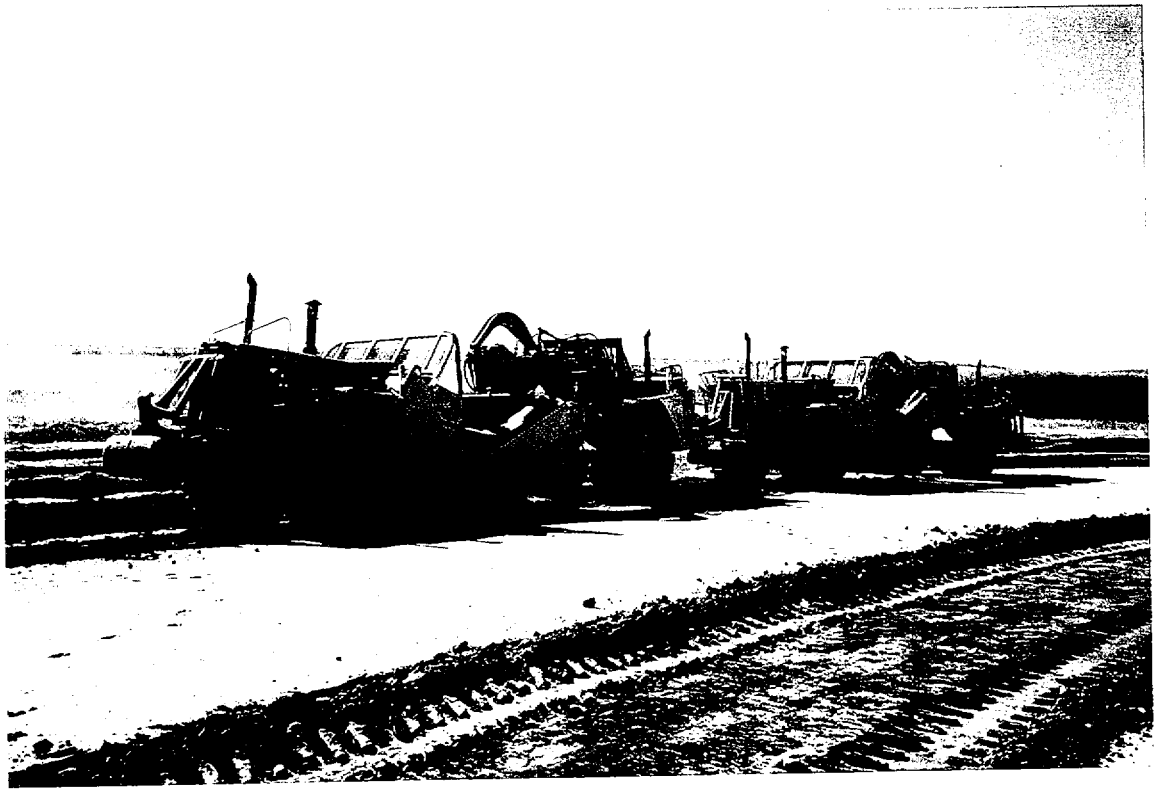
Downstream face of dam
Photo taken above west abutment looking east

Southwest edge of the Pond 3 area
Photo taken looking north



Pond 3
Photo taken from south shoreline looking northeast

Tailings excavation at edge of pond



Scrapers used to excavate tailings

Bulldozer excavation of tailings

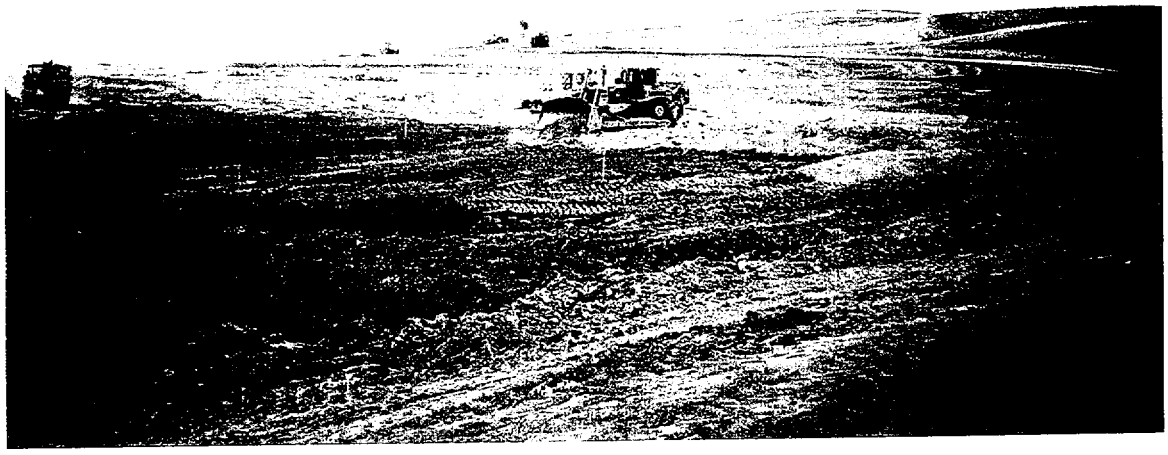
Bulldozer excavation of tailings

Scrapers working in the Pond 2 area

Southeast edge of Pond 2
Photo taken looking northeast

Southwest edge of the Pond 3 area
Photo taken looking southeast

Southwest edge of the Pond 3 area
Photo taken looking southeast

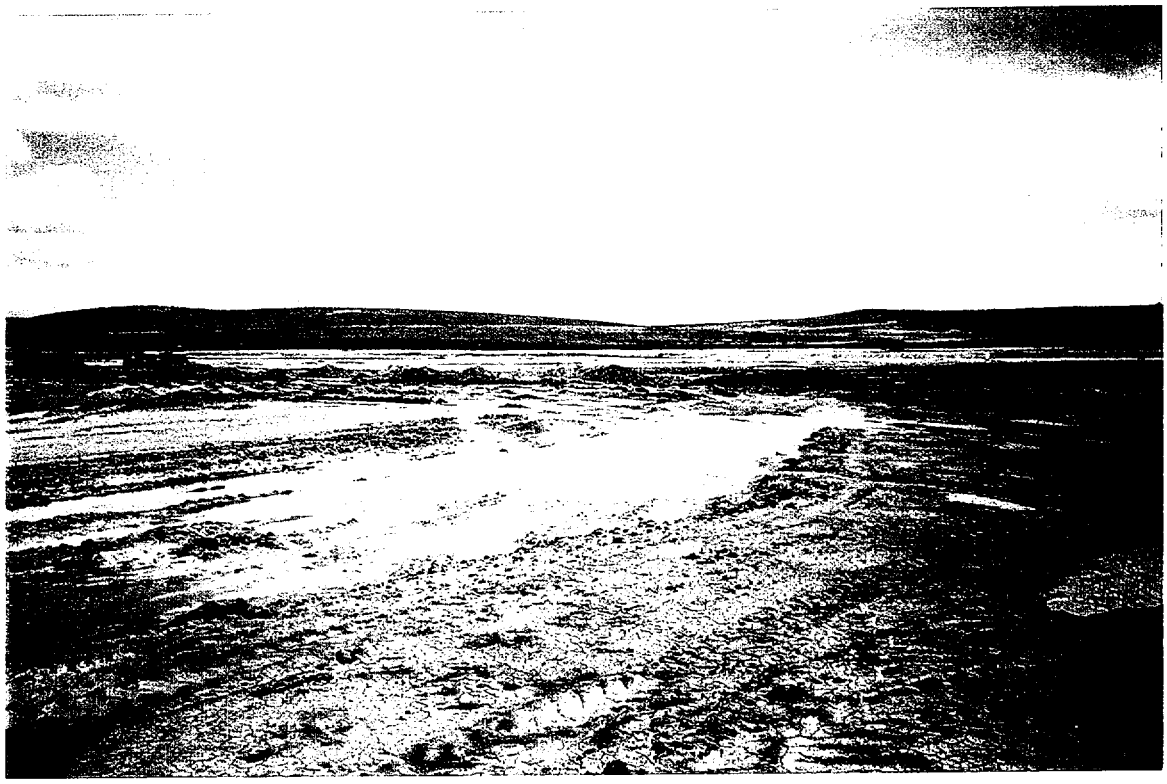


Soft ground conditions at west end of Pond 3 area

Soft ground conditions at west end of Pond 3 area

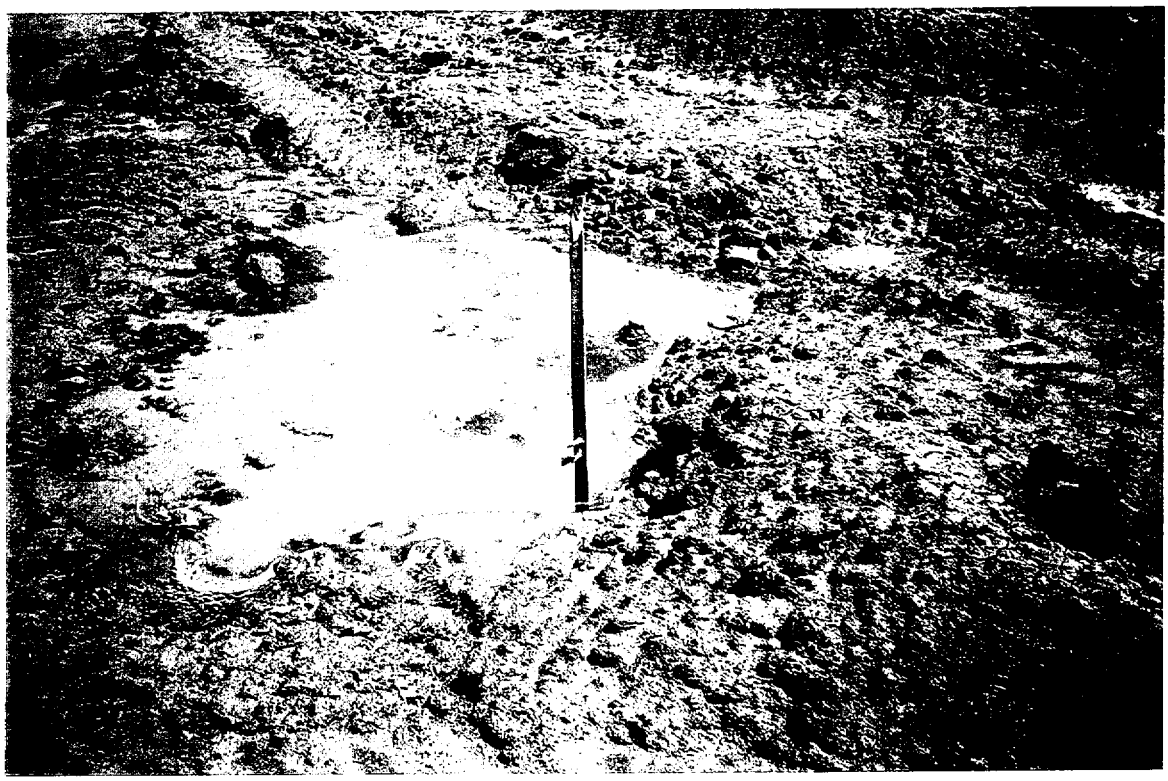
Diversion channel excavation in "neck" area

West end of Pond 1
Photo taken looking northwest

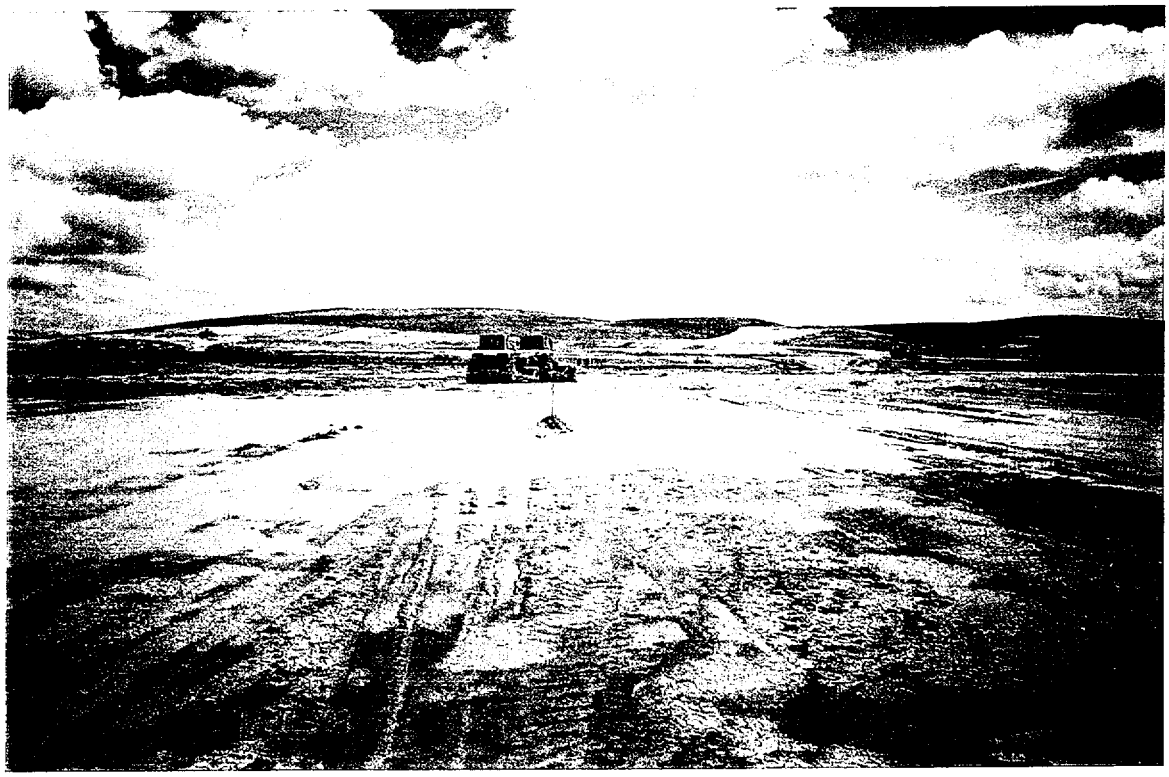


Water ponded in excavated areas after rain storm

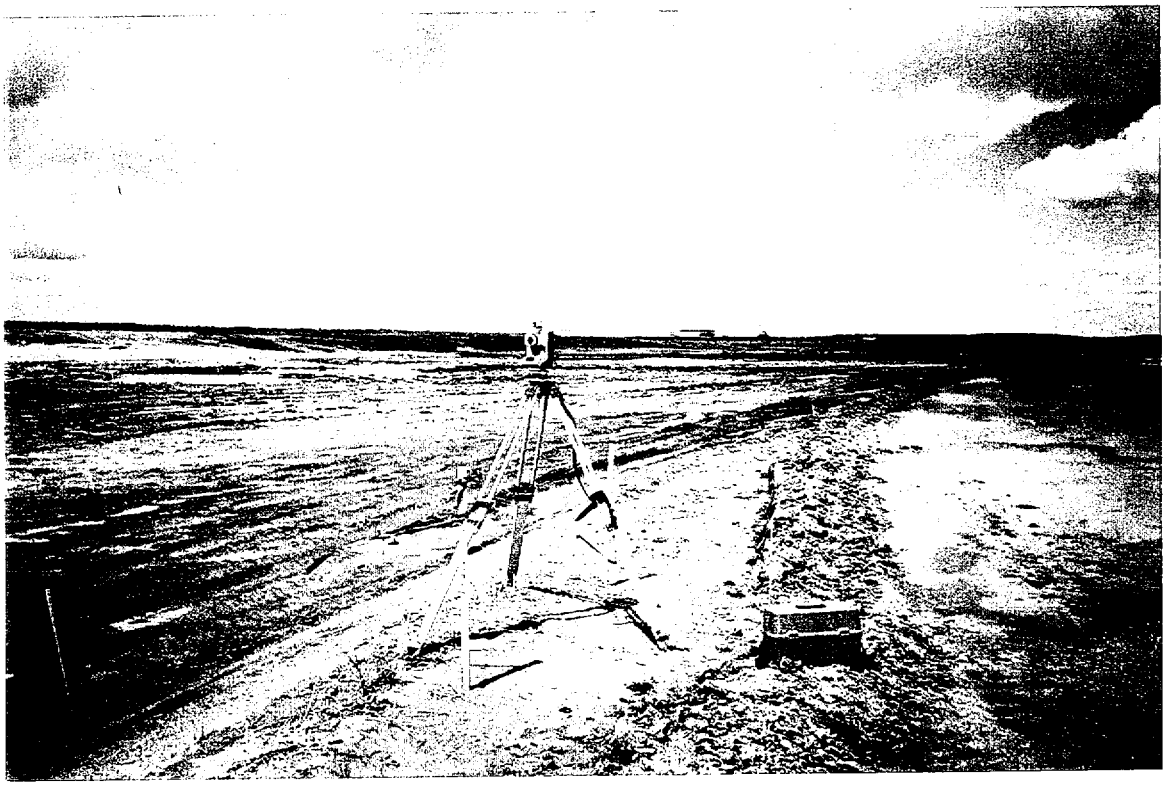
Water ponded in excavated areas after rain storm



Soft ground conditions after rainstorm



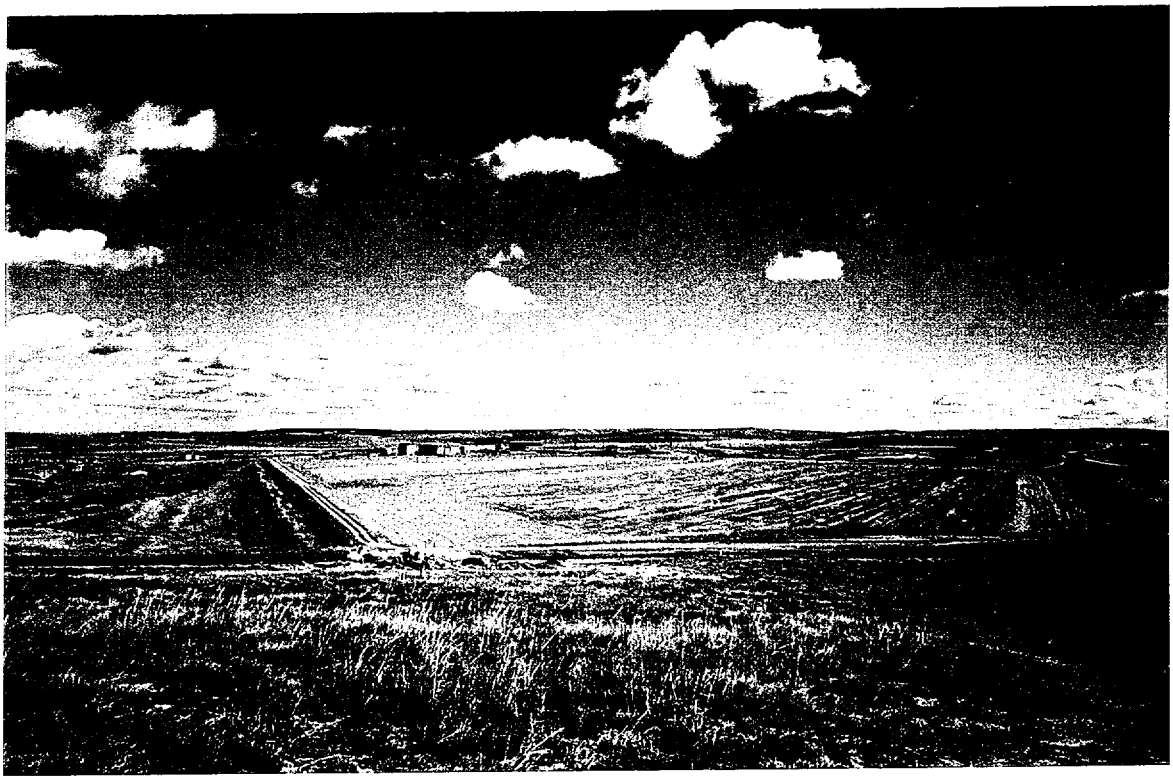
Water ponded in Pond 3
Photo taken looking southeast



Survey instrument
Photo taken looking east

South edge of the Pond 2 area
Photo taken looking west

Radon barrier placement south end of Pond 3



Upper surface
Photo taken from hill above west side of tailings area

Staking for radon barrier placement

Modifier scraper filled with rocks
Used to provide compaction

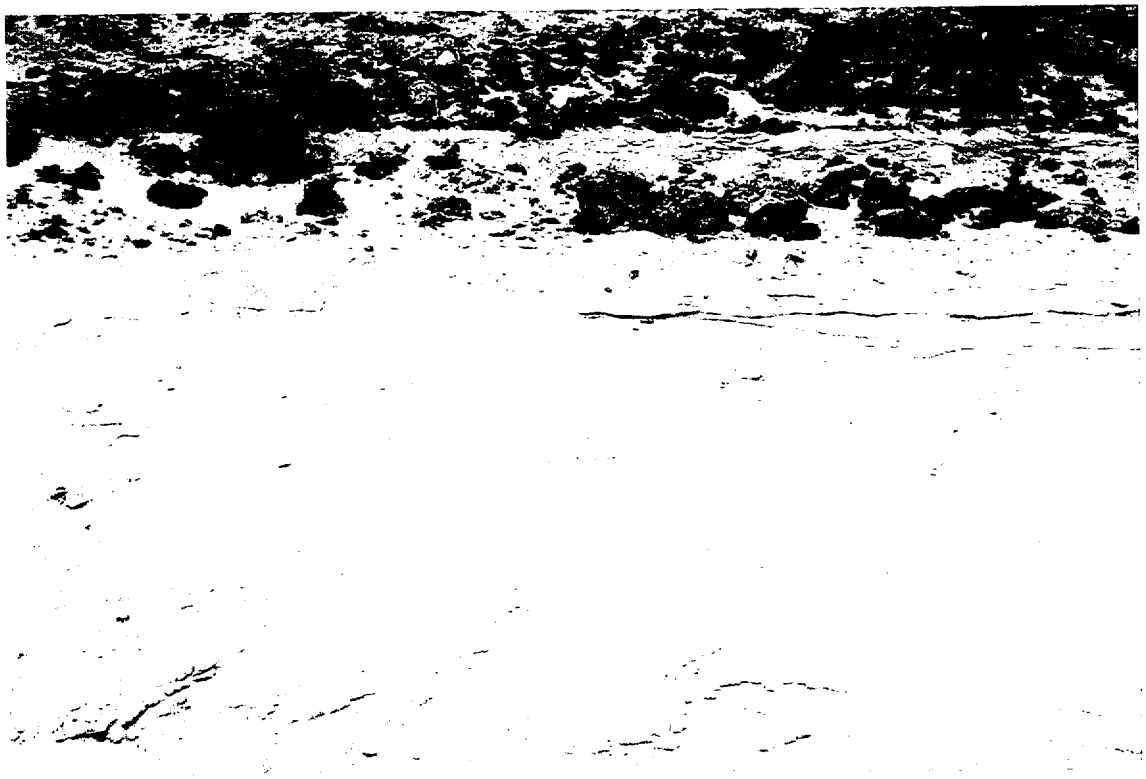
Snow in channel along north wing dam
Photo taken looking south

South side of Pond 2 area
Photo taken looking east

May 1, 1998

Guernsey Quarry, D50 min = 24 inches
Rock size was increased since visit on Feb 20, 1998

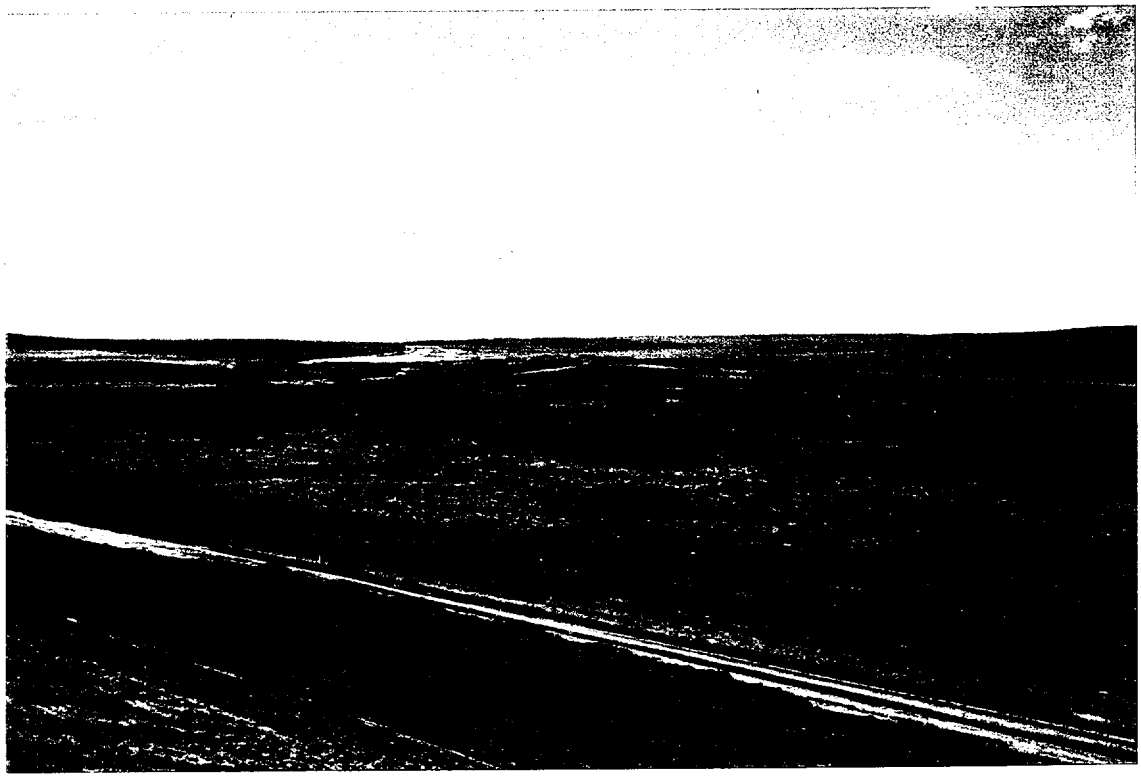
Guernsey Quarry, D50 min = 24 inches



Chute excavation
Sandstone rock east side of chute

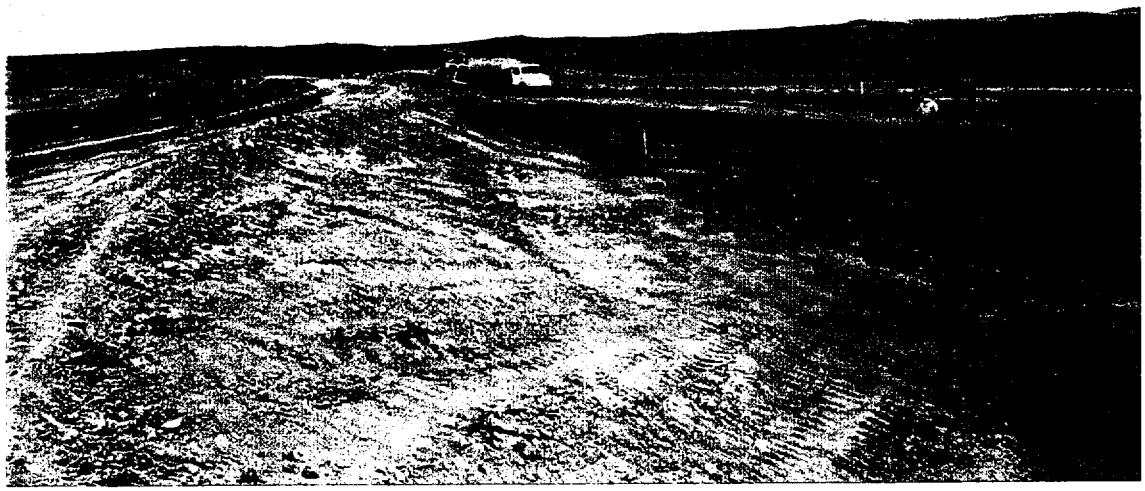
Chute excavation
Claystone near Station 3+60

Downstream face of dam
Photo taken from east abutment looking west
Note stakes identifying stations and depth of fill



Downstream face of dam, diversion channel in distance
Photo taken from crest of dam near Station 14+00 looking northwest

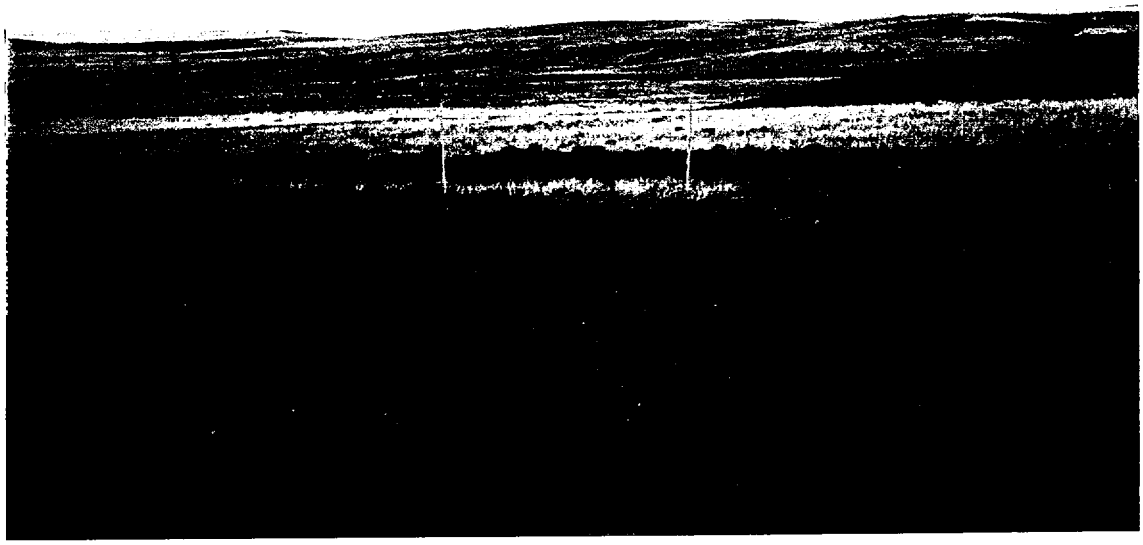
May 1, 1998



Diversion channel
Photo taken from west abutment looking north

Vegetation being stripped from down stream face of dam
Photo taken from east side looking west
Note eroded channel at right side of photo

Existing 100 Year Channel
Note topsoil stripped in preparation for Diversion Channel construction



Topsoil stripped at outlet of Rock Weir

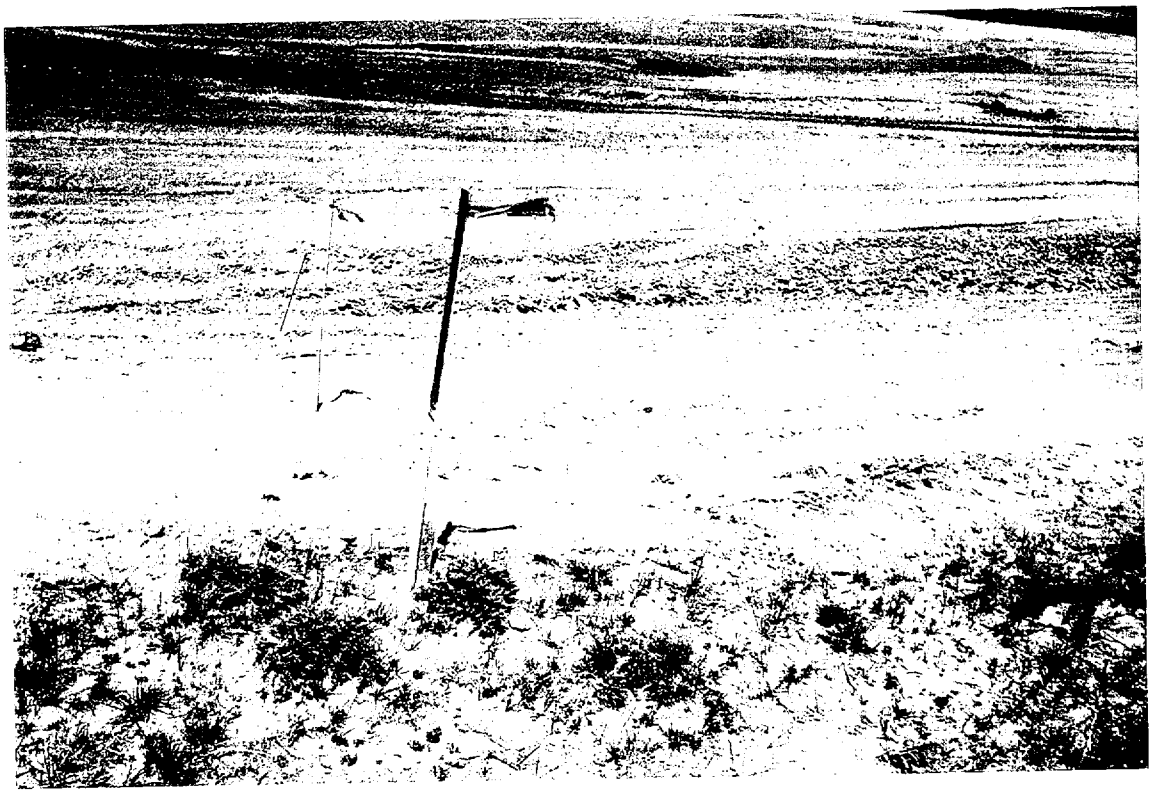
Face of dam and upper surface from overlook on west side

Water-truck applying water to fill on face of dam at west end of dam

Diversion Channel and face of dam
Photo taken from west side of diversion channel near Station 6+00

Diversion channel
Photo taken from bottom of channel near Station 7+00 looking west

May 15, 1998



Diversion channel near Station 20+00
Photo taken from east side of channel looking west
Water was present at 9:00 A.M.

Diversion channel near Station 2+00
Photo taken from bottom of channel looking west

Downstream face of dam
Photo taken from crest of dam looking northwest
Caterpillar 815 Compactor

Downstream face of dam
Photo taken from crest of dam looking northwest
Scrapers on return trip to Diversion Channel

May 15, 1998

Downstream face of dam
Photo taken from east abutment looking west

Downstream face of dam
Photo taken from east abutment looking west
Motor Grader was used to key existing embankment into the lifts being placed

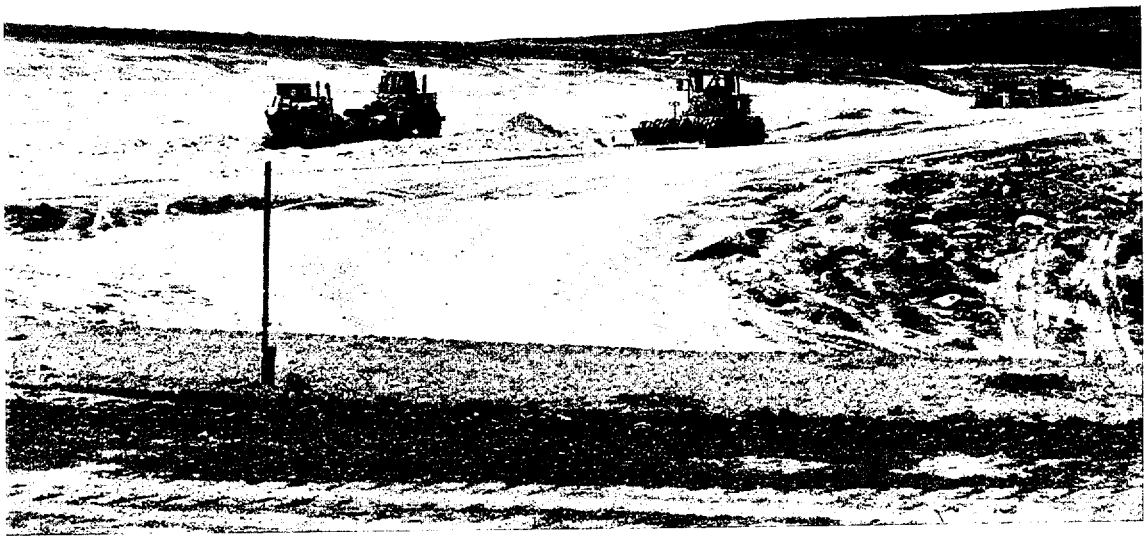
May 29, 1998

Diversion channel near Station 6+00
Photo taken from bottom of channel looking east

West embankment for Rock Weir
Photo taken looking northwest

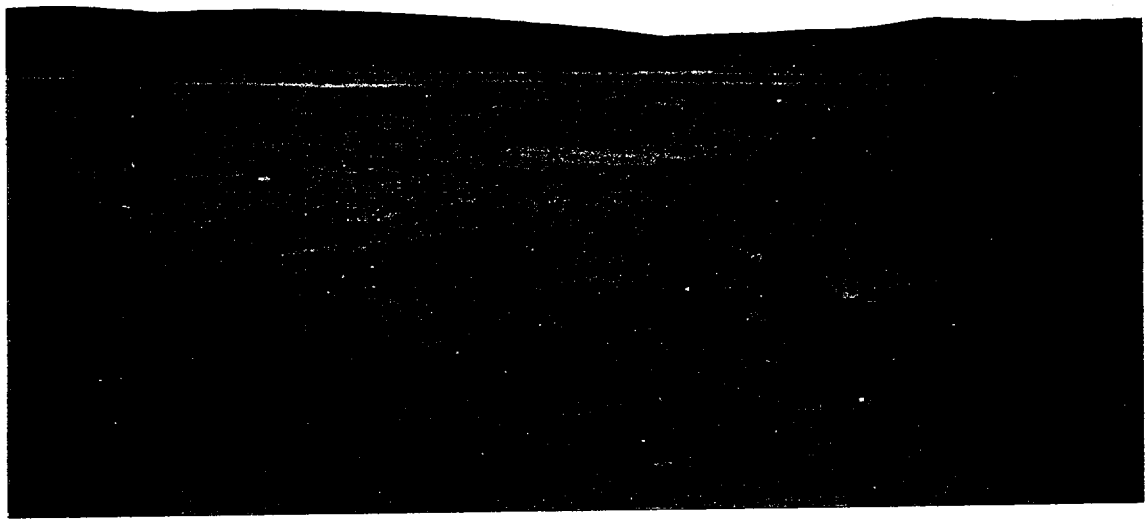
May 29, 1998

Rock Weir near Station 2+00
Photo taken from bottom of channel looking southwest
Note clayey soil in the excavation

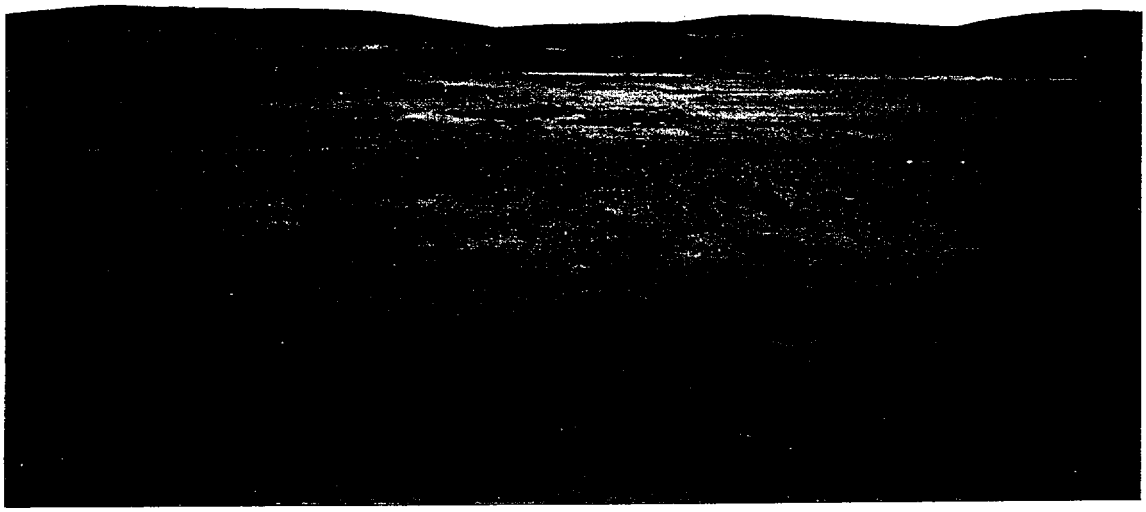


Diversion Channel near station 14+00
Photo taken from crest of dam looking northwest

May 29, 1998



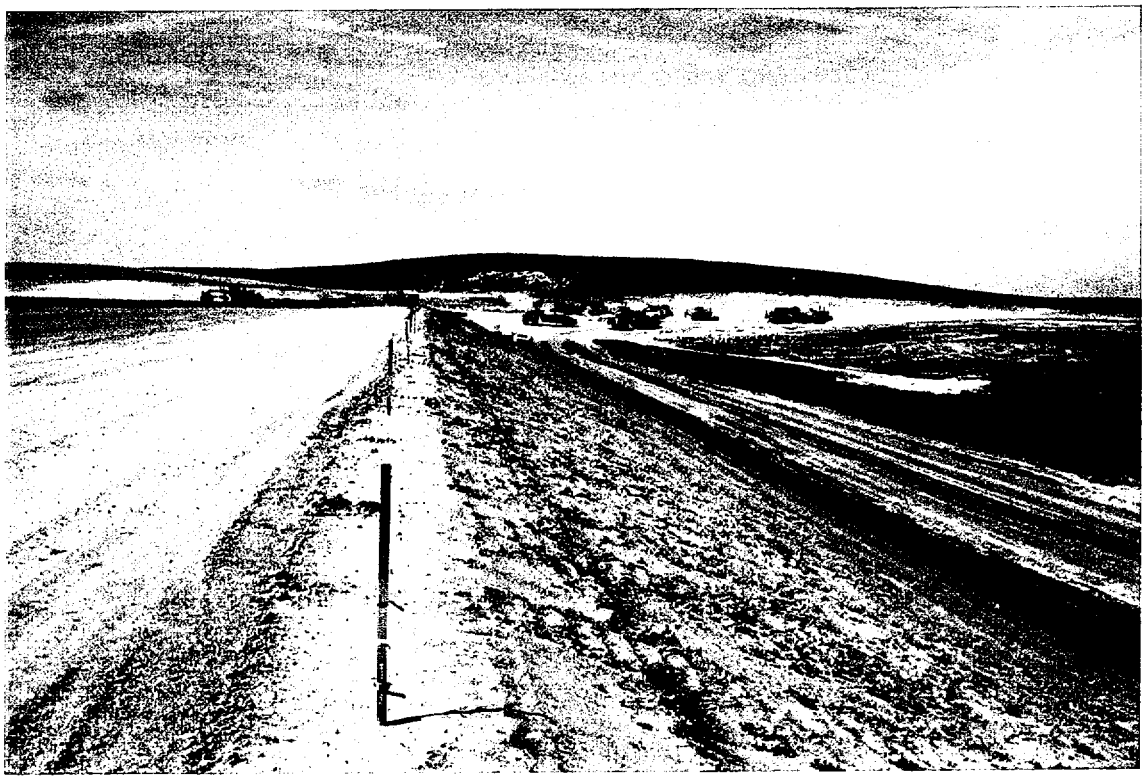
Pond 3
Note surface of pond is free of surface water
Test pit near center of photo was dry



Pond 3 area
Photo taken from Diversion Channel looking southeast
Note no water is present on the surface of Pond 3

Upper surface fine grading
Photo taken from west abutment looking east

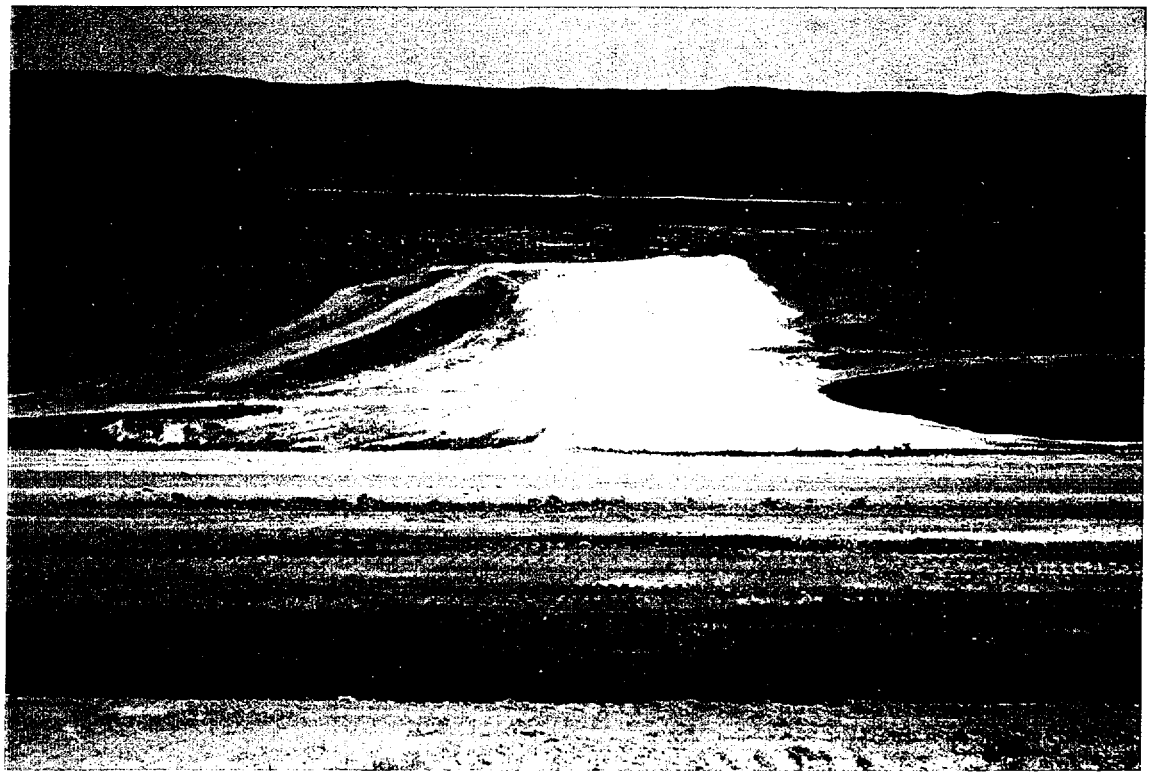
Upper surface
Photo taken from crest of dam near Station 12+00 looking west



Downstream face of dam
The 4:1 reclamation slope is approximately 30 ft from the crest
Note existing embankment still needs the vegetation stripped

Downstream face of dam
Photo taken from crest near Station 6+00 looking east

May 29, 1998



Station10+00 Channel below dam
Photo taken from crest of dam near Station 10+00

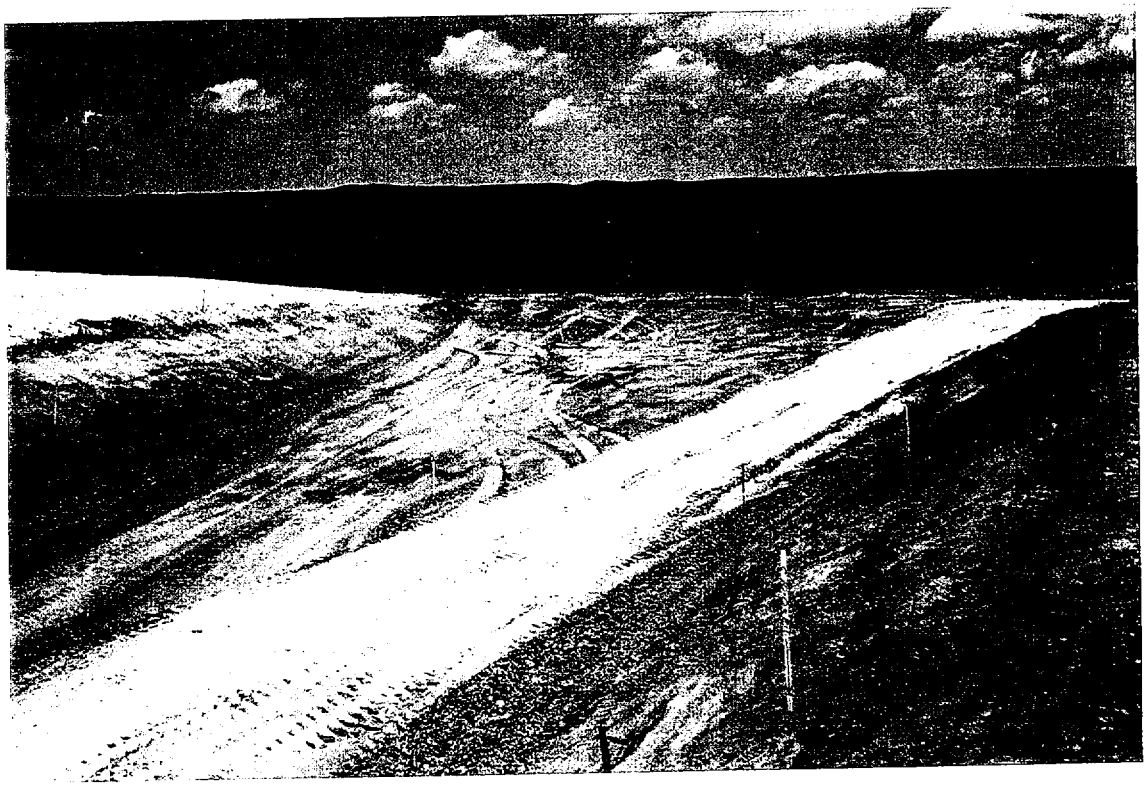
Bench on downstream face of dam
Fill being placed to produce 4:1 slope
Photo taken from dam crest near Station 11+00

Diversion Channel Stations 0+00 to 3+00
Photo taken from Station 0+00 looking southwest

Rock Weir topsoil stripped for east embankment
Photo taken from Station 0+00 looking southeast

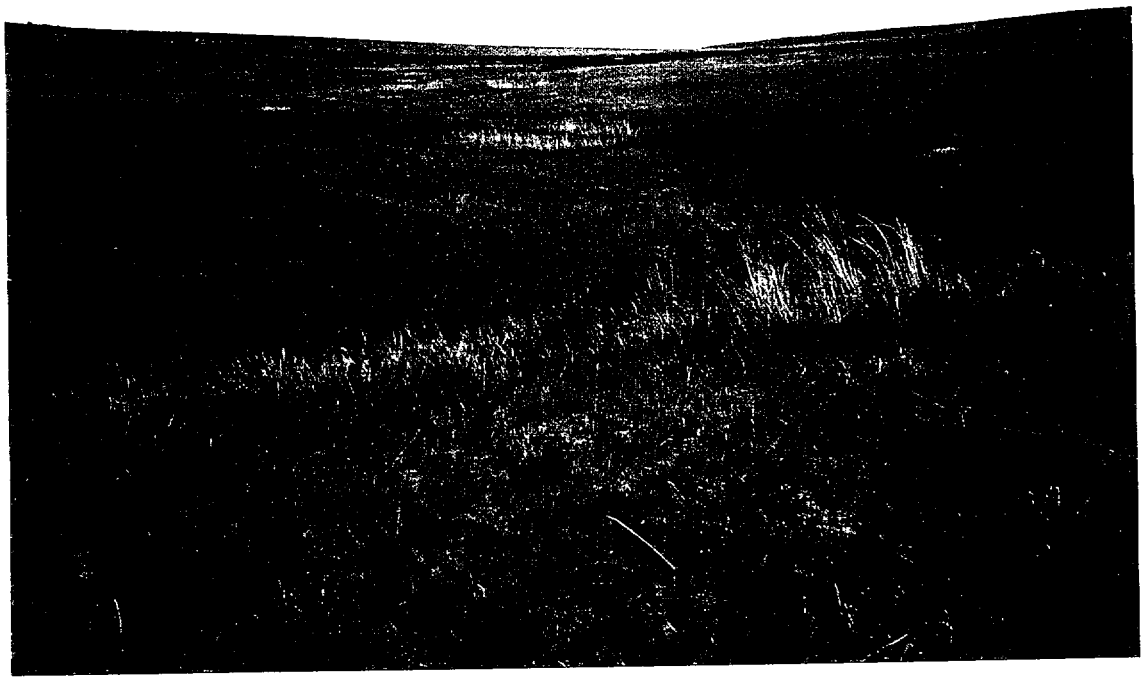
June 12, 1998

Downstream face of dam
Photo taken from crest of seepage control dam
Note Station 10+00 channel has been filled in



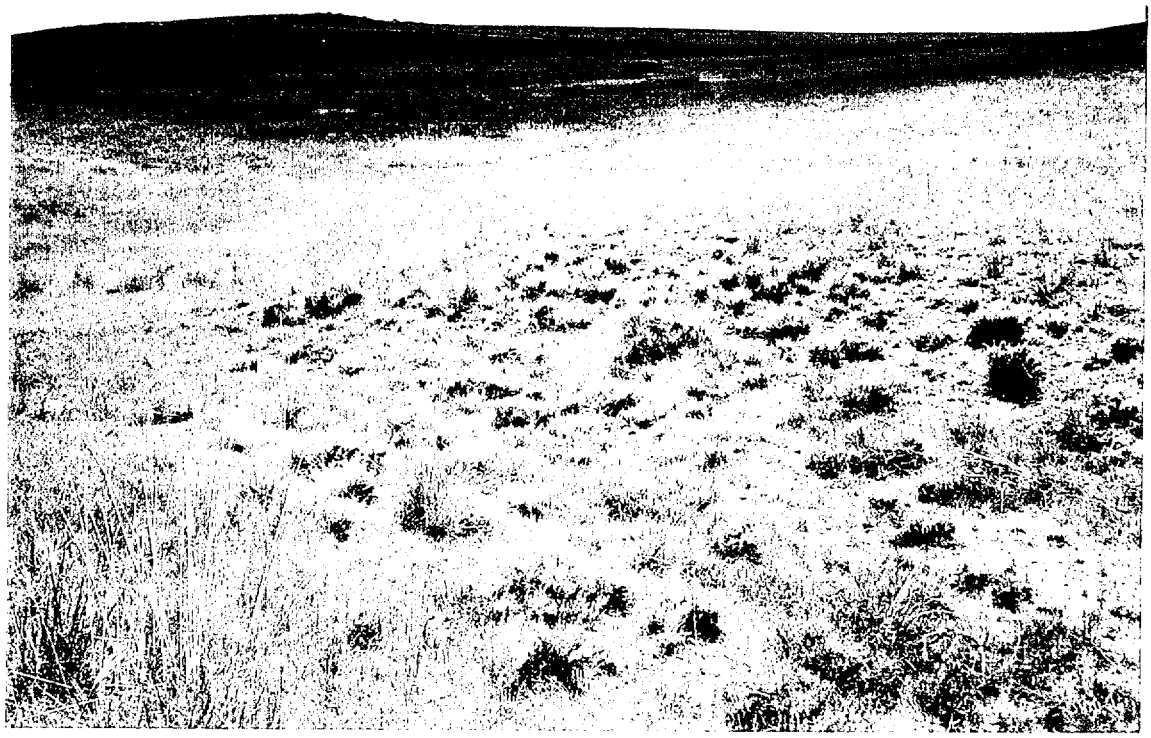
Outlet of Rock Weir
Photo taken from east embankment looking northwest

Pond 3 area and Diversion Channel
Photo taken from south channel looking north
Note topsoil stockpile above west side of Diversion Channel

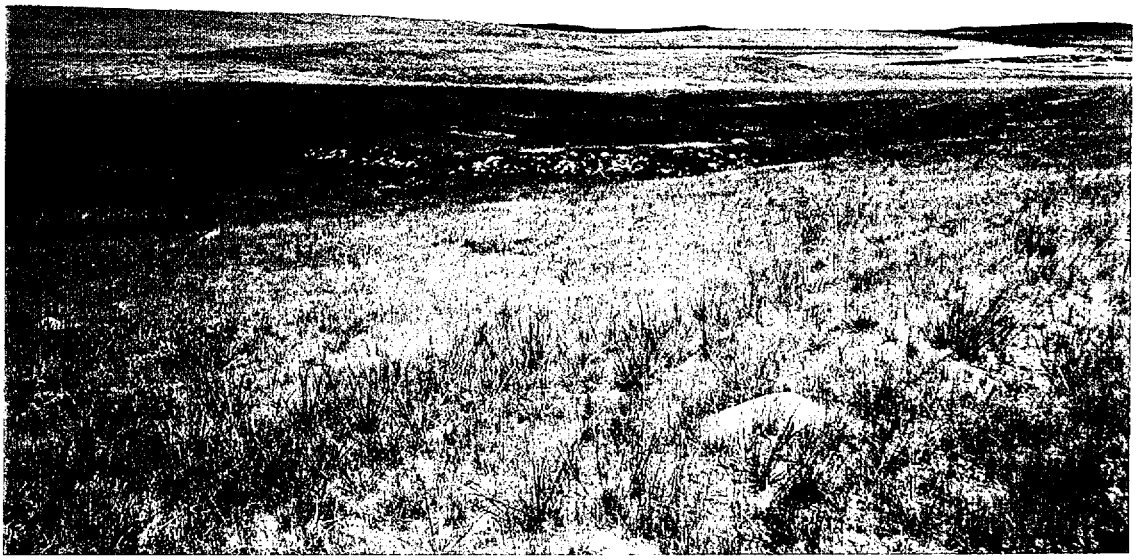


Existing conditions South Channel
Photo taken looking south
Note the 100-Year Diversion Channel near the horizon

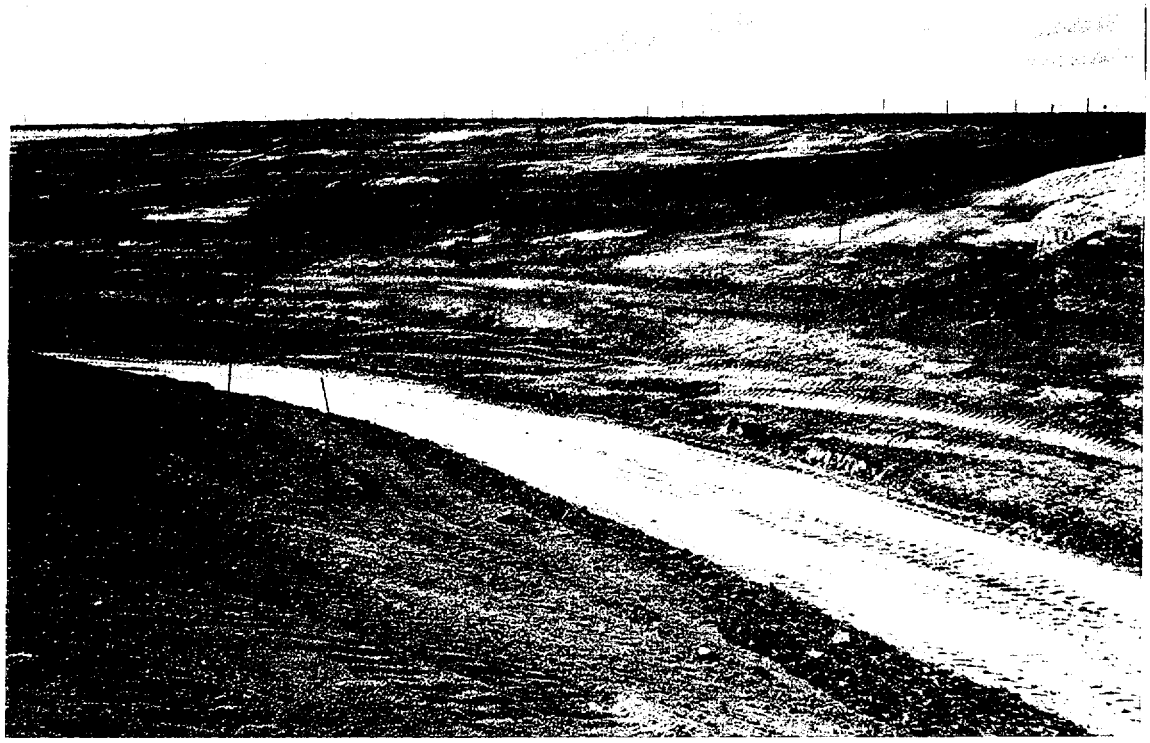
June 12, 1998



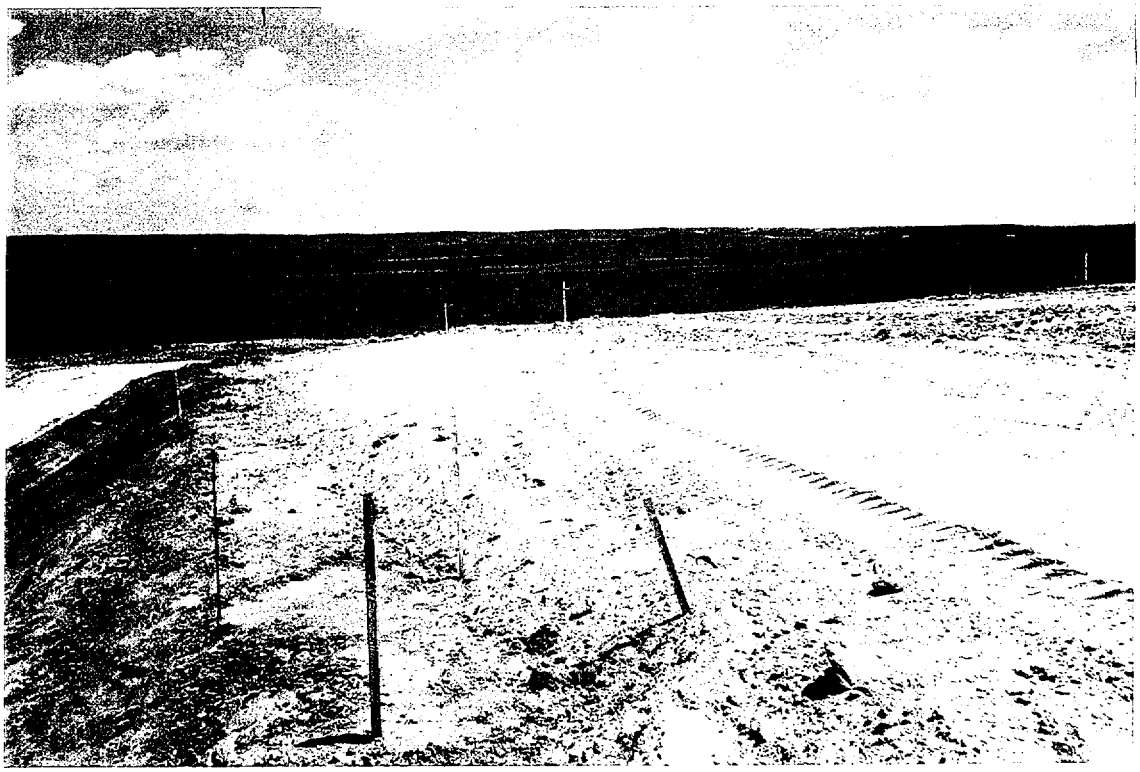
Existing conditions South Channel
Photo taken looking south



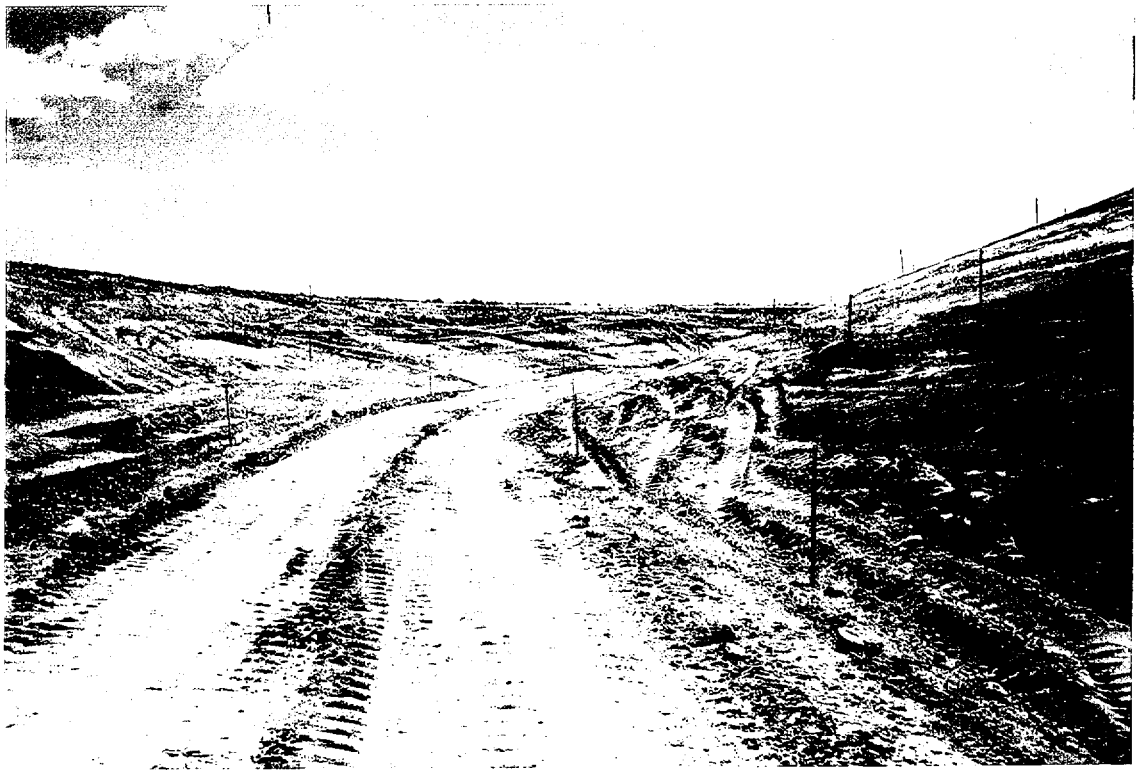
South Channel
Photo taken from top of 100-Year Diversion Channel looking northwest
Riprap in the 10-Year Channel is visible near center of photo



Diversion Channel Stations 2+00 to 4+00
Photo taken from east embankment looking southwest



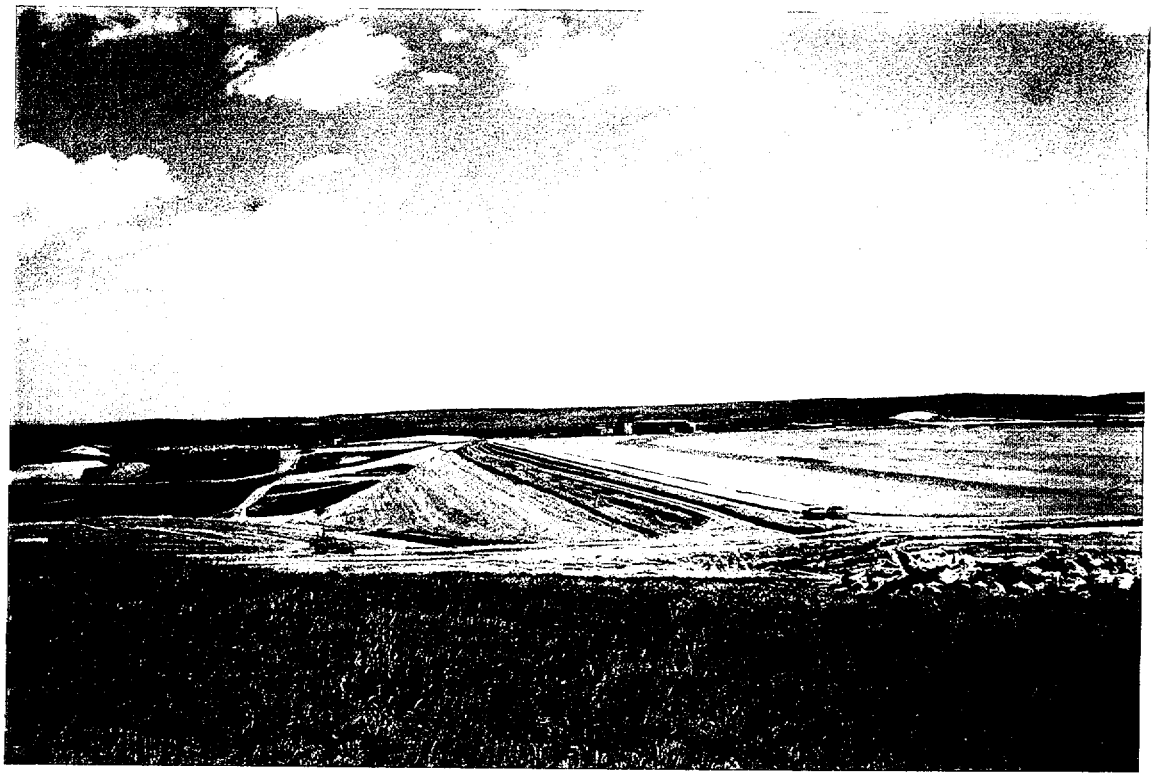
Rock Weir embankment
Note flat area for topsoil placement at slope transition



Diversion Channel near Station 4+00
Photo taken from bottom of channel looking northwest

Water wagon and compactor working on Diversion Channel Embankment
Photo taken from top of embankment looking north

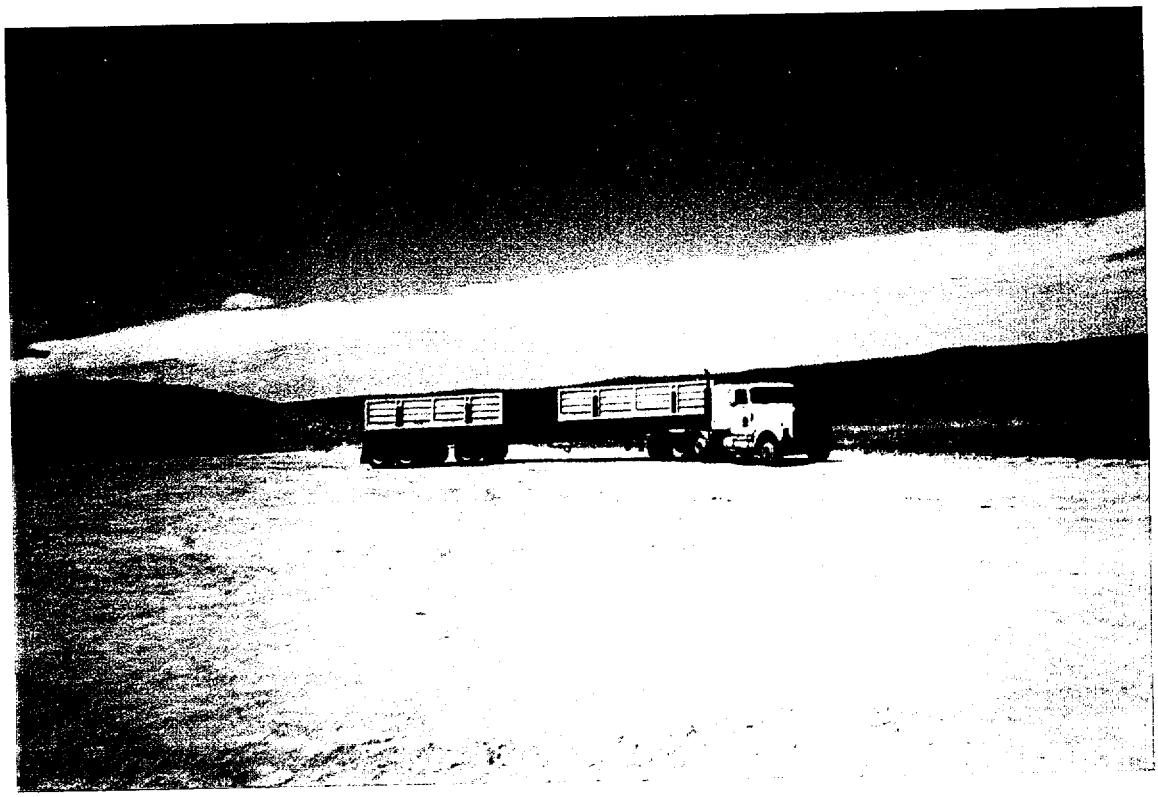
Downstream face of dam
The 4:1 reclamation slope is approximately 6-ft from the crest
Note existing embankment is excavated to provide horizontal surface



Downstream face of dam
Photo taken from overlook on west side of tailings area

Downstream face of dam
Photo taken from overlook on west side of tailings area looking east

Fine grading of Upper Surface
The area between the crest of the dam and the intermediate ridge has been completed
Photo taken from overlook on west side of tailings area



Loaded truck making turn in stockpile area near Rock Weir

Truck dumping first load of D_{50} = 24 inch riprap
at stockpile area near the Rock Weir

Lower surface near Station 8+00
Photo taken from Ridge looking south
Note D6 Bulldozer can still travel across Pond 3 surface

Lower surface Pond 3
Photo taken from Ridge near Station 4+00 looking southwest

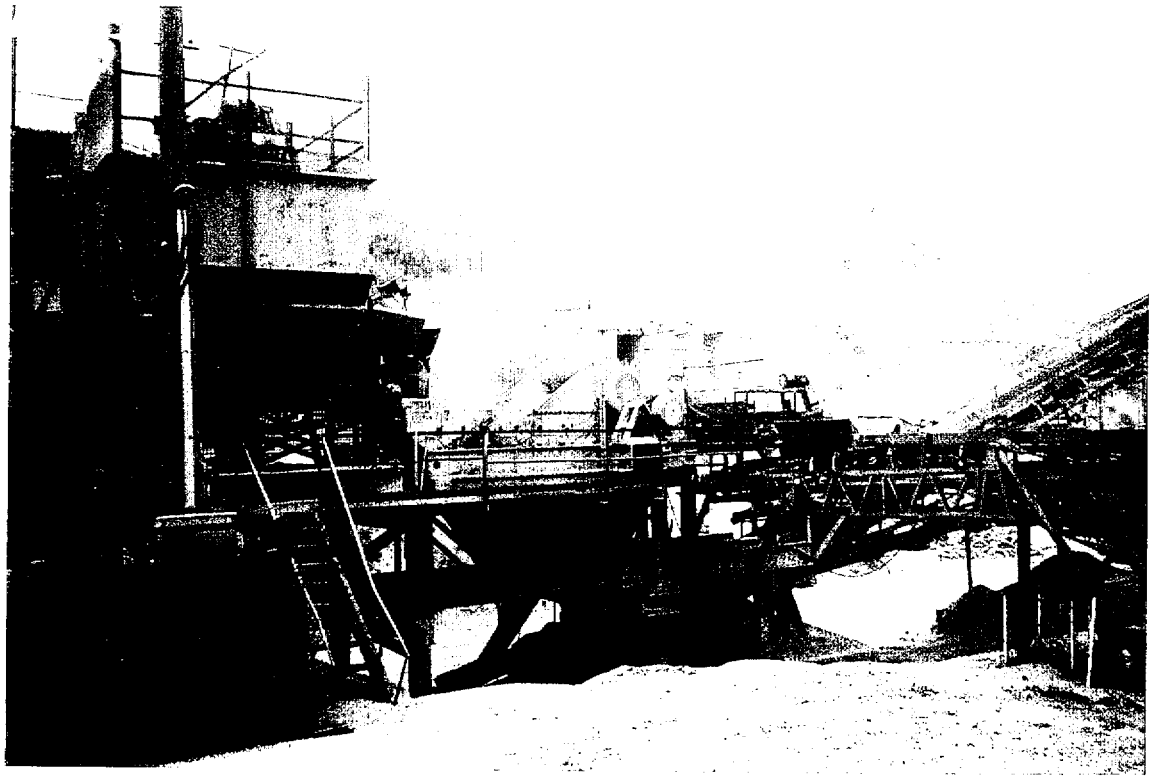
Temporary berm near Ridge
constructed to prevent runoff from upper surface to flow the lower surface
Photo taken looking east

West side of Pond 3
Photo taken from temporary access road looking east

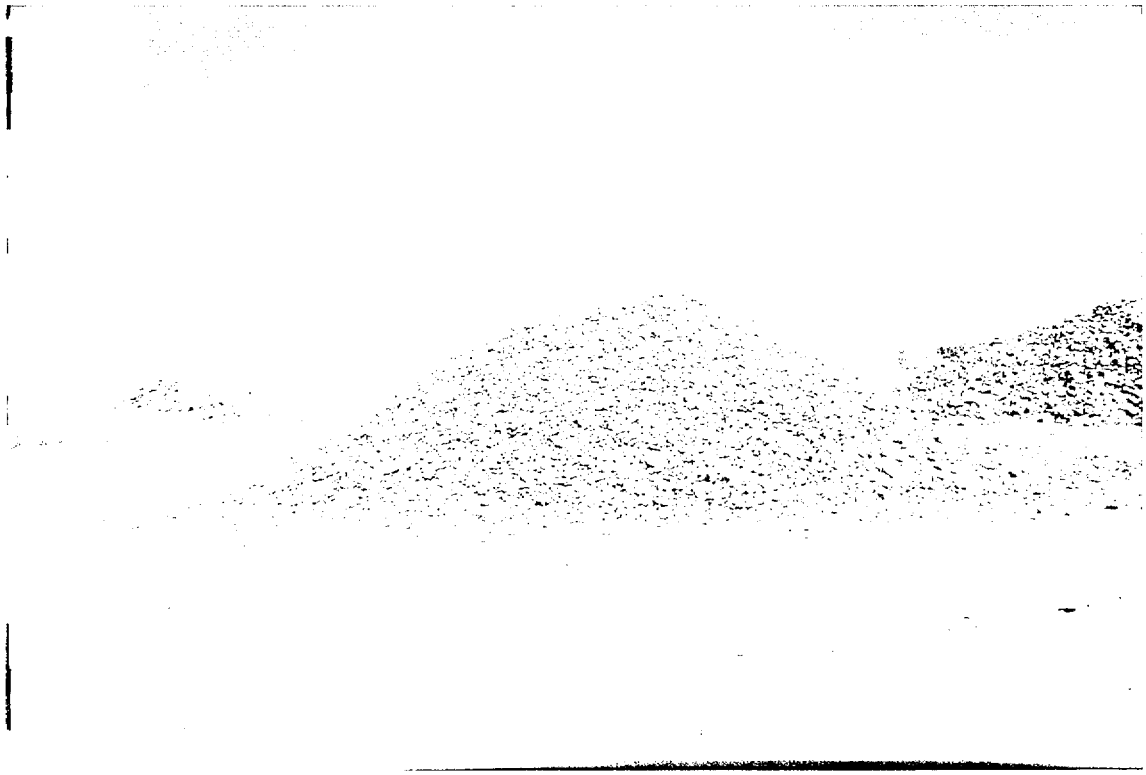
Motor grader conditioning the W8 stockpile

Tailings area from office area looking west
Equipment is grading upper surface

Guernsey Stone Co.
Crusher operation making D_{50} = 3 inch Rock

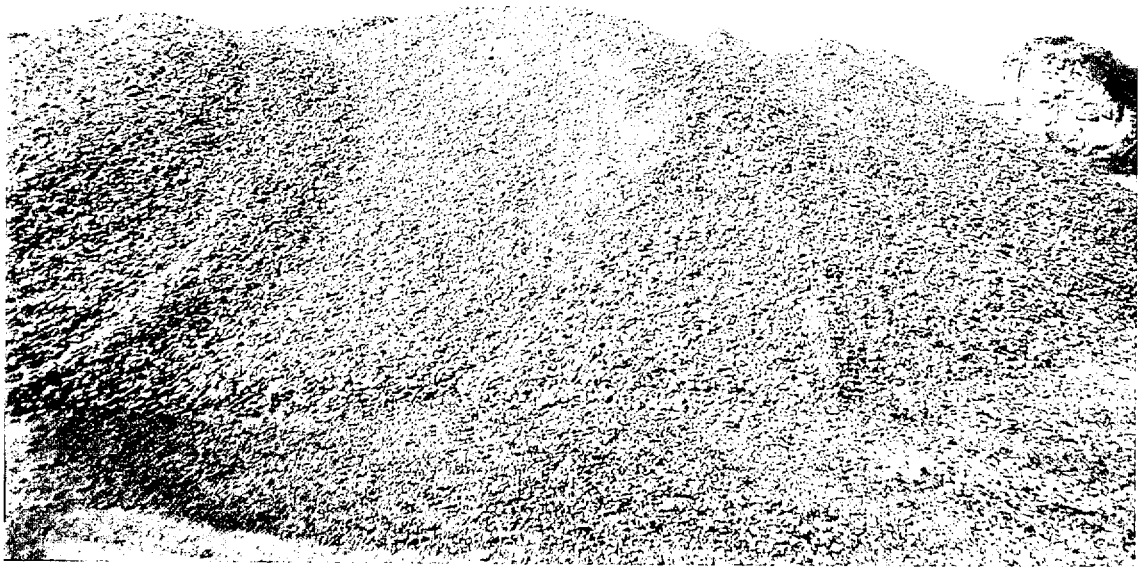


Guernsey Stone Co.
Stock pile at end of conveyor D_{50} = 3 inch Rock



Menter Sand and Gravel
3-inch Rock Stockpile

Close-up of 3-inch Rock

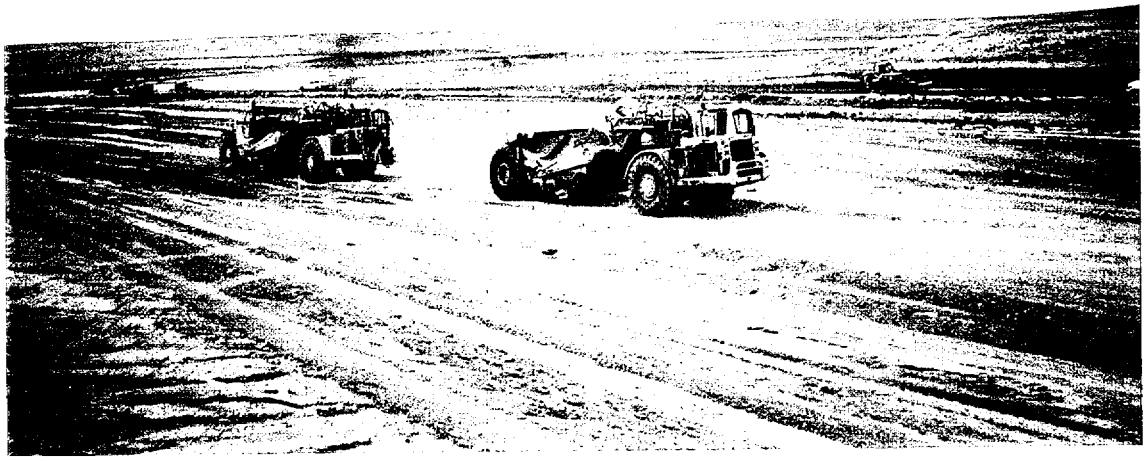


Menter Sand and Gravel
Gravel stockpile to be used for Chute

Stockpile of D50 = 24-inch Riprap
Stockpile is east of chute
Photo taken looking west

Chute
Photo taken from haul road looking north
Note desiccation cracks in clay at the stilling basin

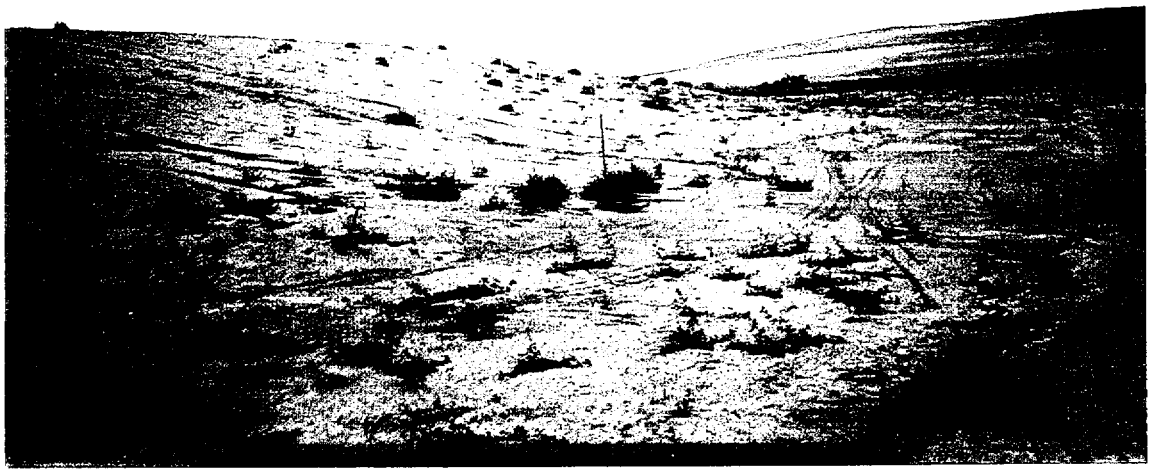
Pond 2 Area, Chute profile near horizon
Photo taken from cut slope of diversion channel looking east



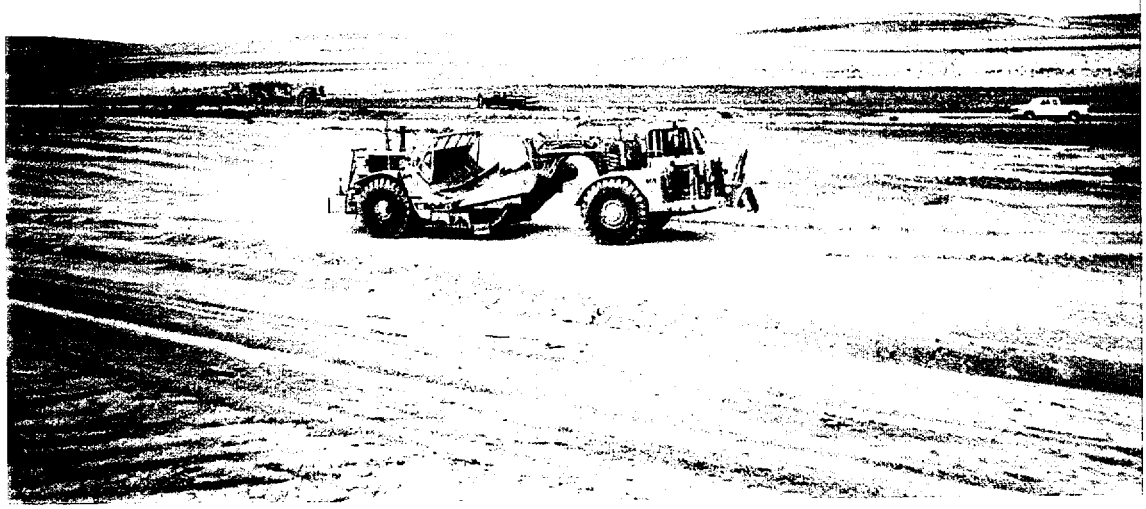
Scrapers working on Lower Surface
Generally the scrapers work in pairs
Photo taken from ridge looking southeast

Water from July 2, 1998 rainstorm still present in
the temporary berm near the diversion channel

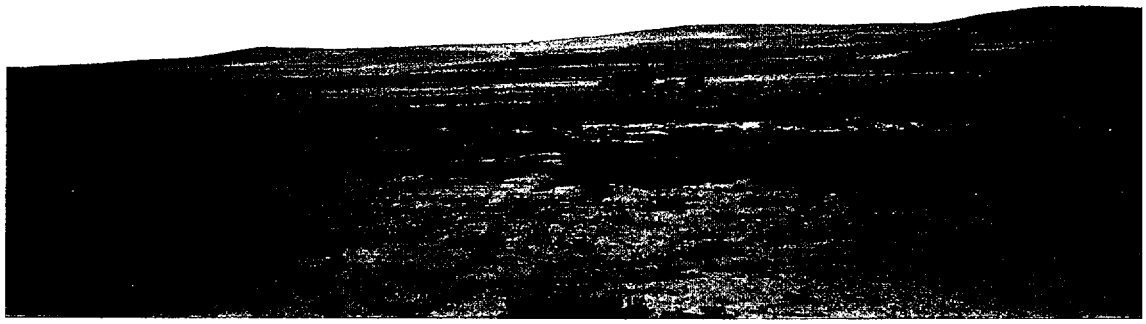
Interim cover tailings surface near ridge
The stakes mark the location of the ridge as designed
Toe of slope from 1997 excavation is approximately 30 ft from the ridge



Ridge near west side of tailing area
Photo taken looking east



Scraper working on lower surface near Dam Reference Axis Station 10+00



Pond 3 Area
Note vegetation

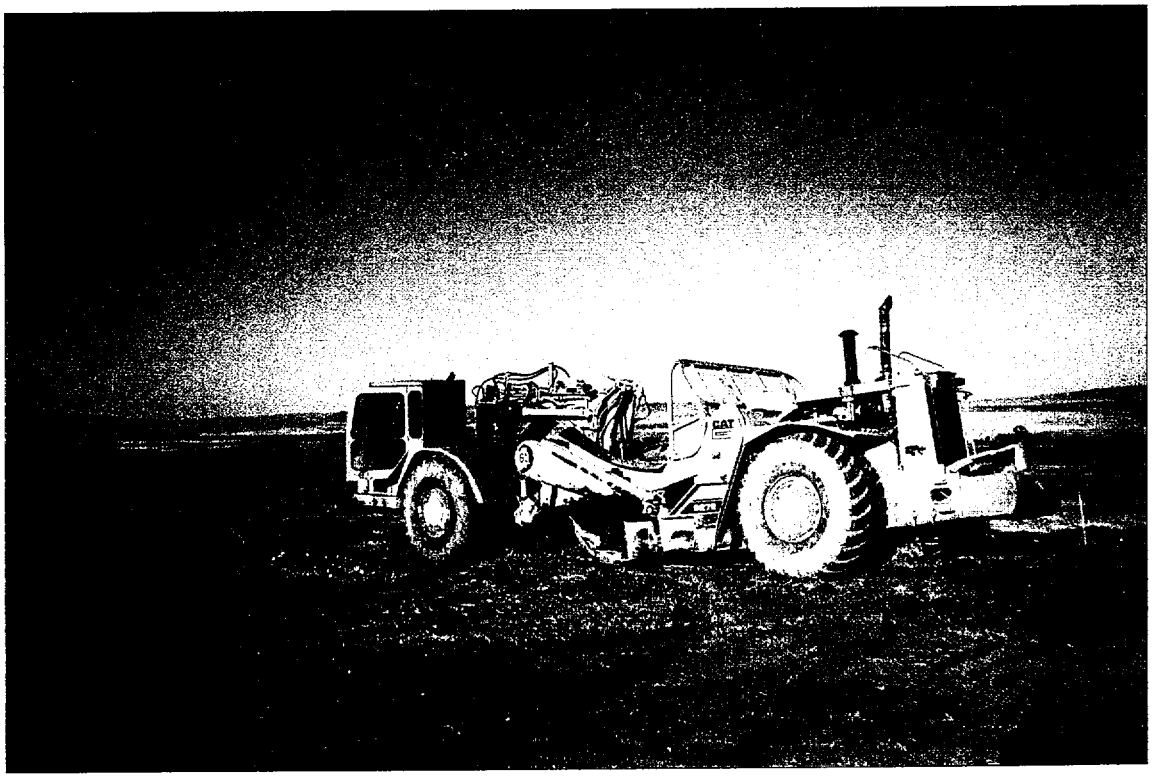
Lower surface near Reference Axis Station -2+00
Photo taken from Diversion Channel looking southeast
Note desiccation cracks in Pond 3 surface

Temporary berm to keep runoff from Upper Surface flowing to Lower Surface
Photo taken from Ridge near Station 18+00 looking west

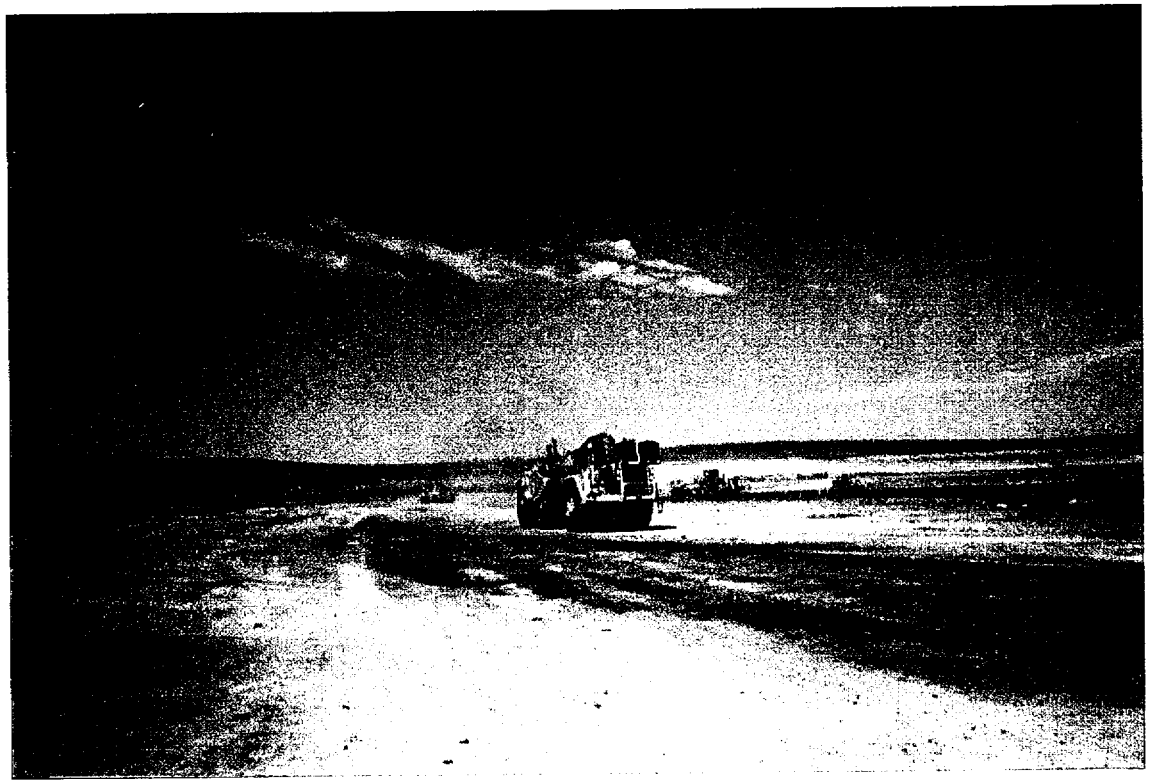
Pond 2 Area

Pond 3 Area
Photo taken from Diversion Channel near Station 28+00
Looking south east

Scrapers placing Radon Barrier on Lower Surface



CAT 627E Scraper

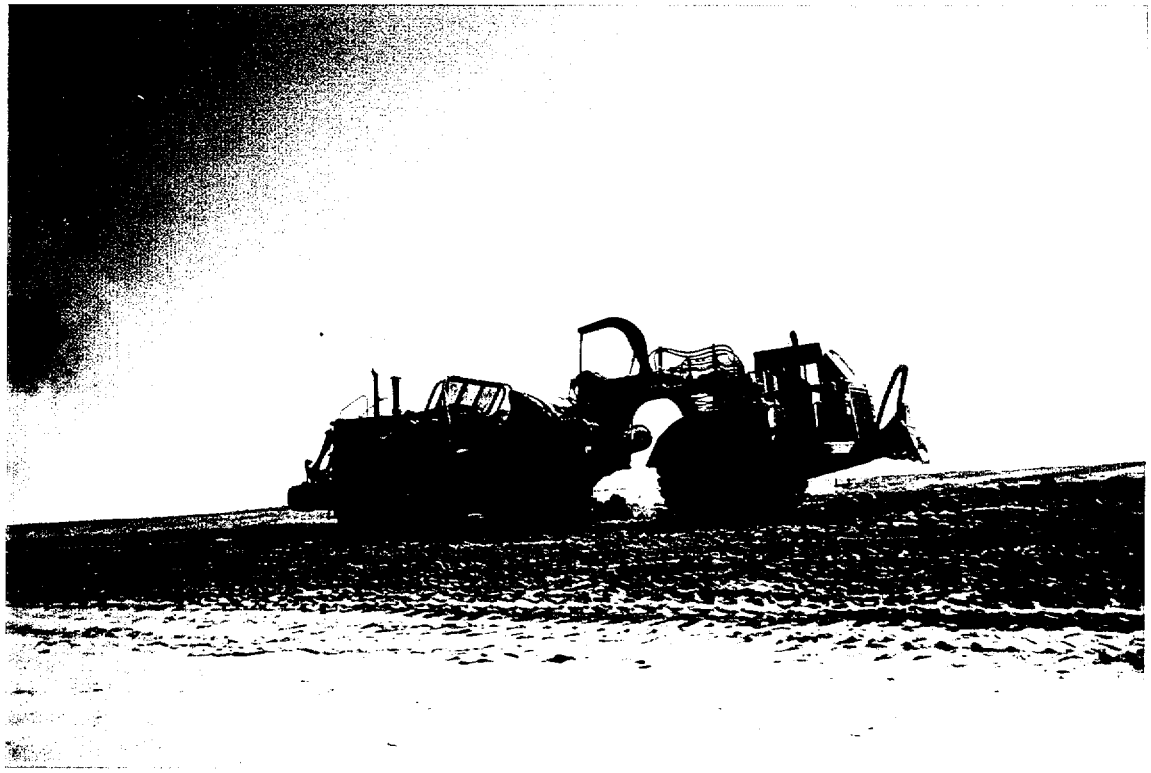


Scraper on haul road to and from W8 stockpile

Lower Diversion Channel near East Channel junction

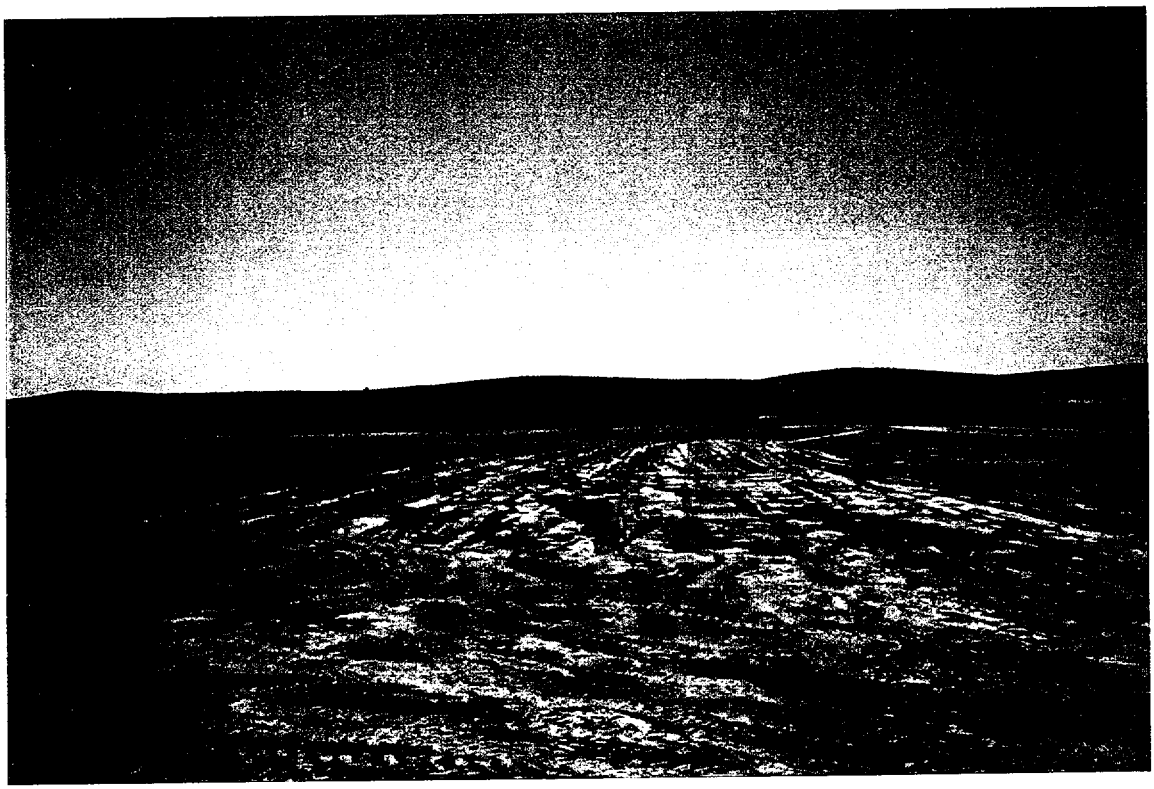
Lower Surface Radon Barrier placement

CAT CP 433 C Compactor
Compacting fill on Upper Surface



Scraper placing "Tailings Fill on Upper Surface
The tailings cut is near completion

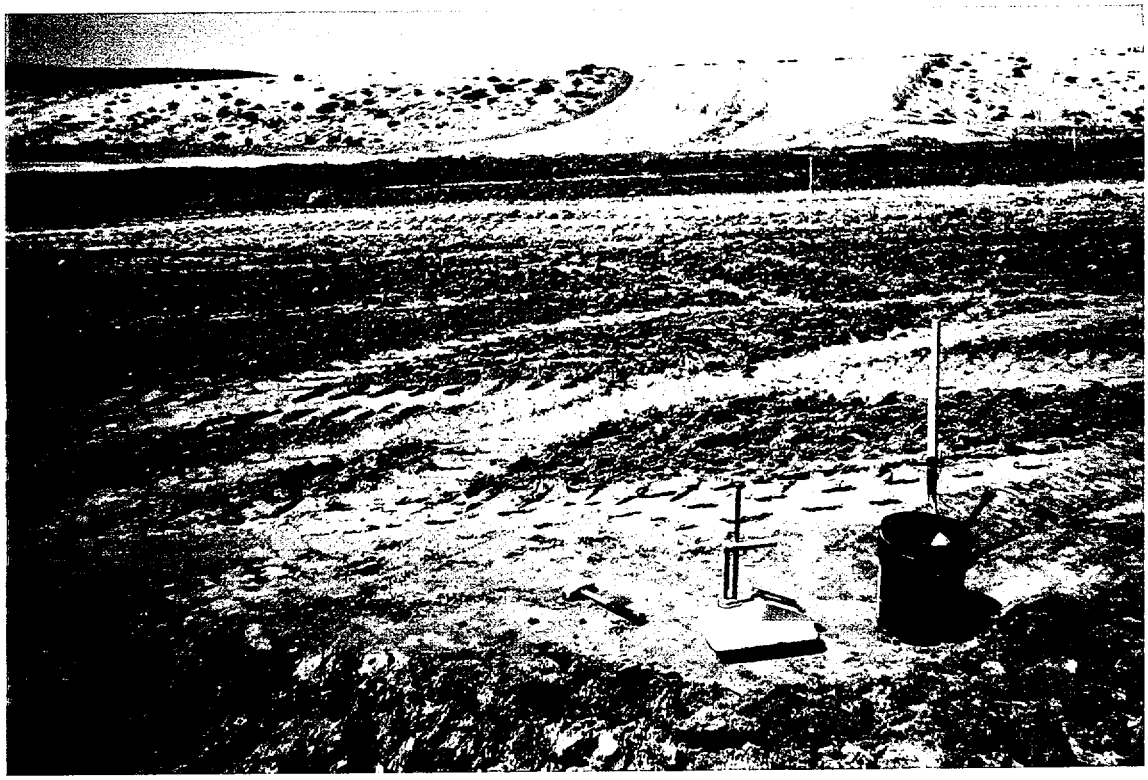
Tailings cut near Ridge
W8 soils and Pond 3 clay overlay the tailings



The soils at the west end of Pond 3 were dry enough
to be excavated with scrapers

Scrapers loading tailings cut

Billy Ray Geotechnical Consultant

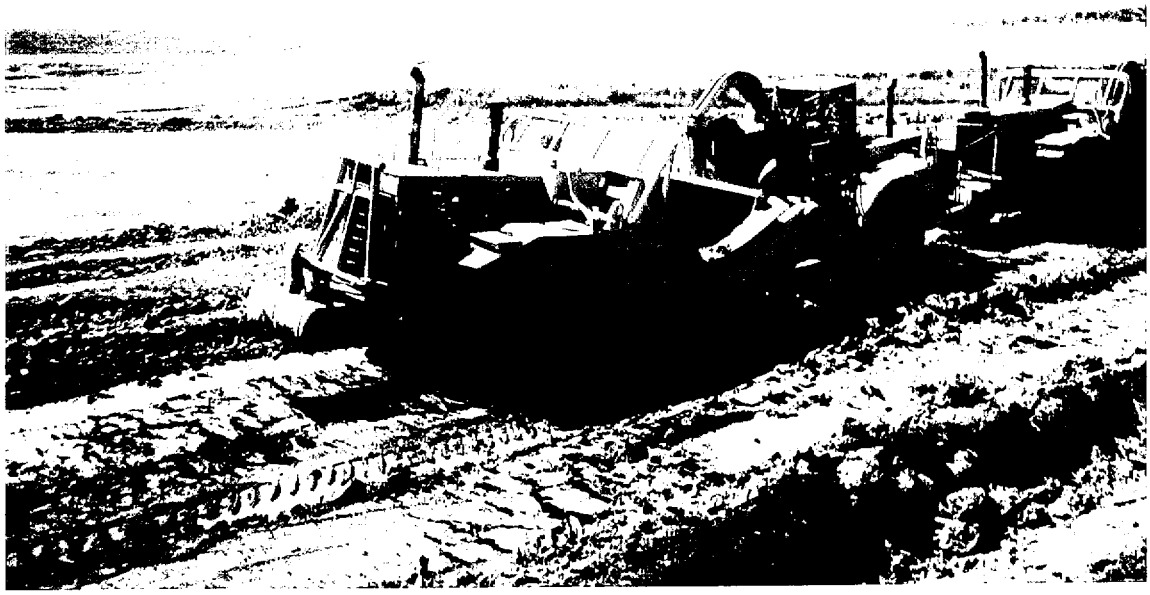


Nuclear Density Gage used to test soil compaction

Lower Surface near Ridge Dam Reference Axis Station 6+00

Lower surface near Reference Axis Station -2+00
Photo taken from Diversion Channel looking southeast

Converted Scraper filled with Rocks used to compact soils



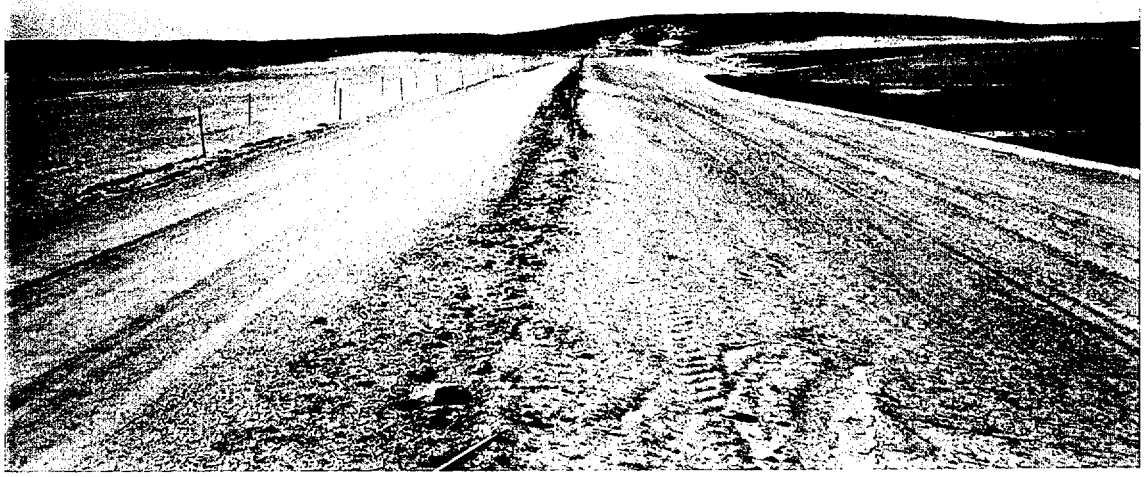
Scrapers loading tailings cut

Excavated tailings near Ridge at west end of tailings area

Tailings, Contaminated Soil, and W8 Soil
Excavated from Lower Surface near Ridge at the west side of the Tailings Area

Upper Surface Radon Barrier placement
Photo taken from crest of dam near station 14+00 looking south

Down stream face of dam
Note area adjacent to groin on dam has been graded



Crest of dam
Photo taken from Station 16+00 looking west

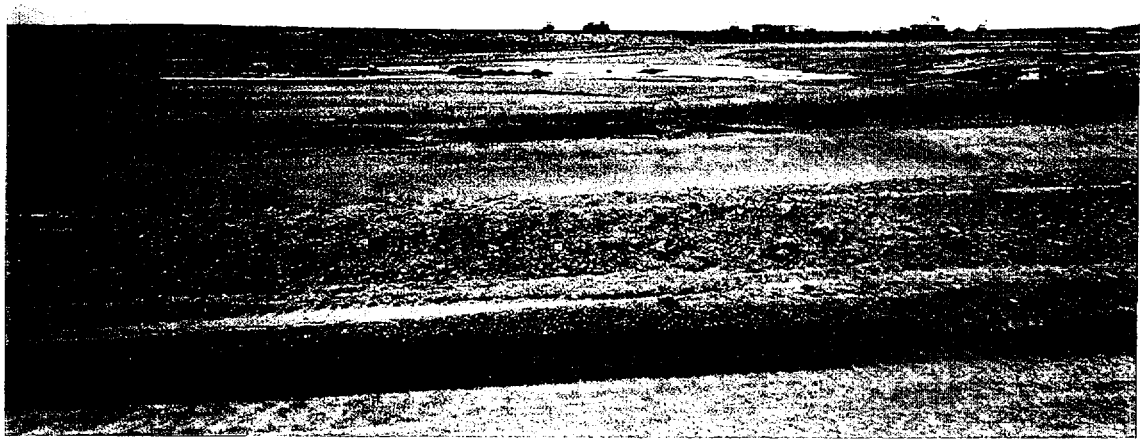
Crest of dam
Photo taken from Station 2+00 looking east
Note no erosion rills from ¾ inch rainfall

Filled in Station10+00 Channel
Note saturated soil but no standing water

Diversion Channel near Station 6+00
Note topsoil has been place on east embankment

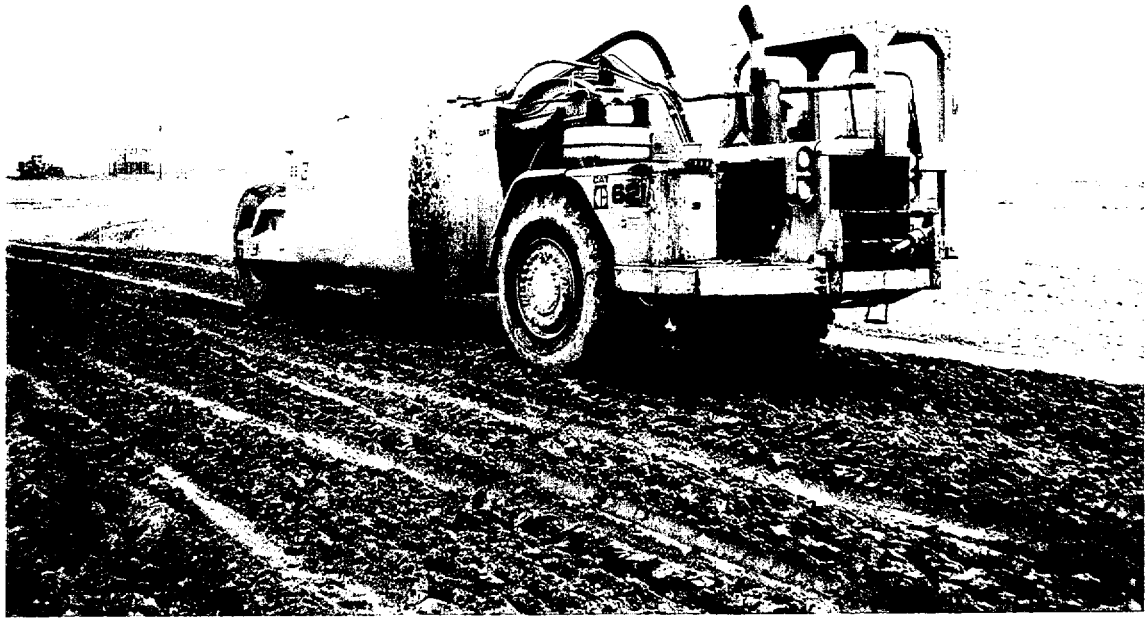
Scraper placing topsoil on Diversion Channel 5:1 slope
Photo taken from Station 3+00 looking south

Topsoil on Diversion Channel embankment
Photo taken at Station4+00 looking north



Pond 2 area
Photo taken from Diversion Channel looking northeast

Haul road for W8 soils
Low spots were filled with W8 soils to allow the scrapers to place
W8 Radon Barrier on the Upper Surface



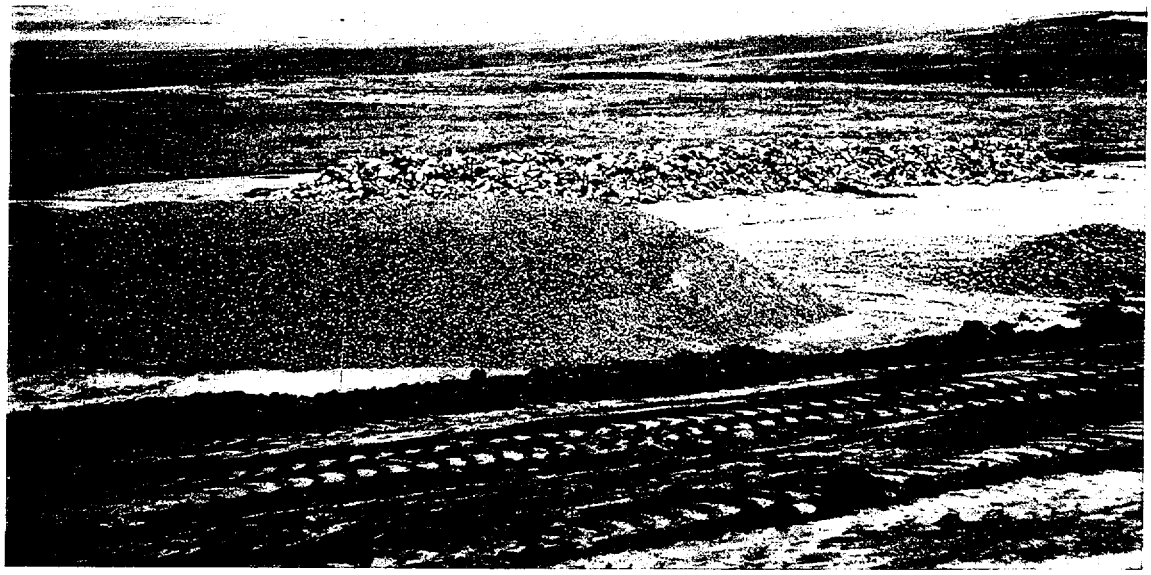
Water wagon was still needed to add moisture to the W8 Radon Barrier
Radon Barrier is being place on Upper Surface near Ridge

Filter gravel for Chute stockpiled at south end of Chute

Jim Smith checking depth of topsoil on Diversion Channel embankment

Radon Barrier placement near Ridge on Upper Surface

Diversion Channel excavation
High clay content of these soils required additional work
to increase the moisture content

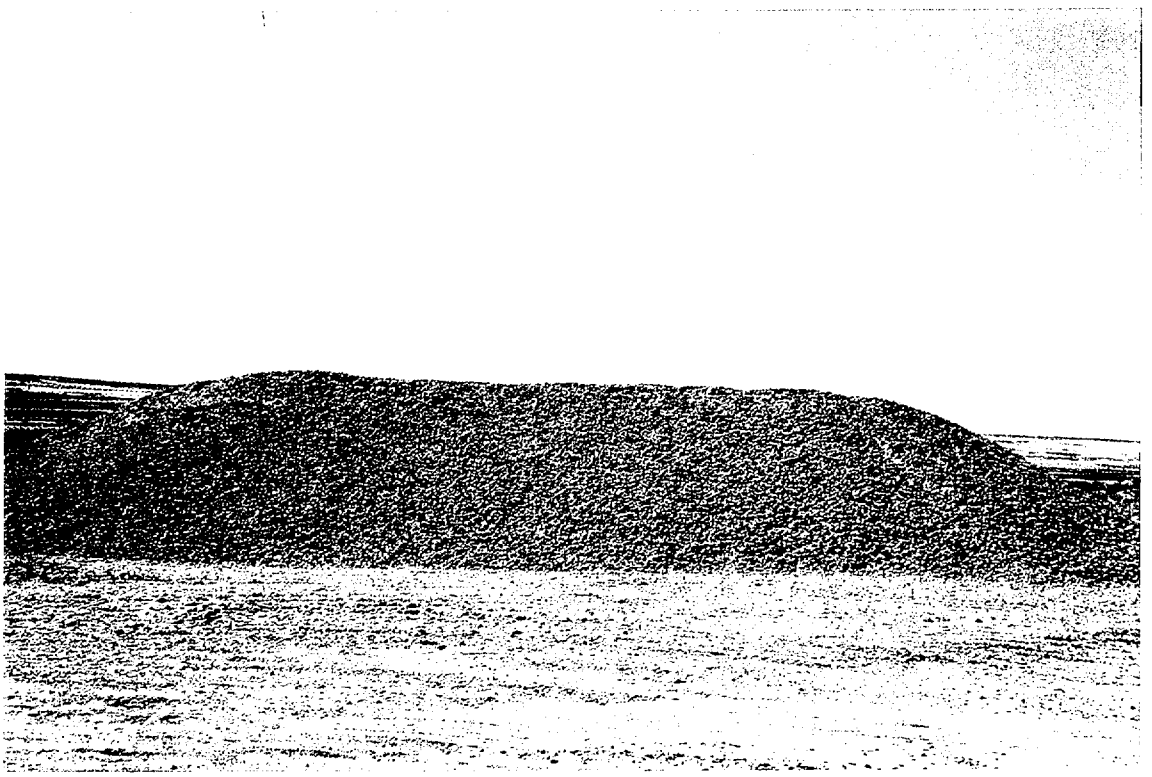


Filter Gravel and D50 = 15 inches Riprap stockpiles near Rock Weir

Size # 2 Riprap stockpile for Rock Weir

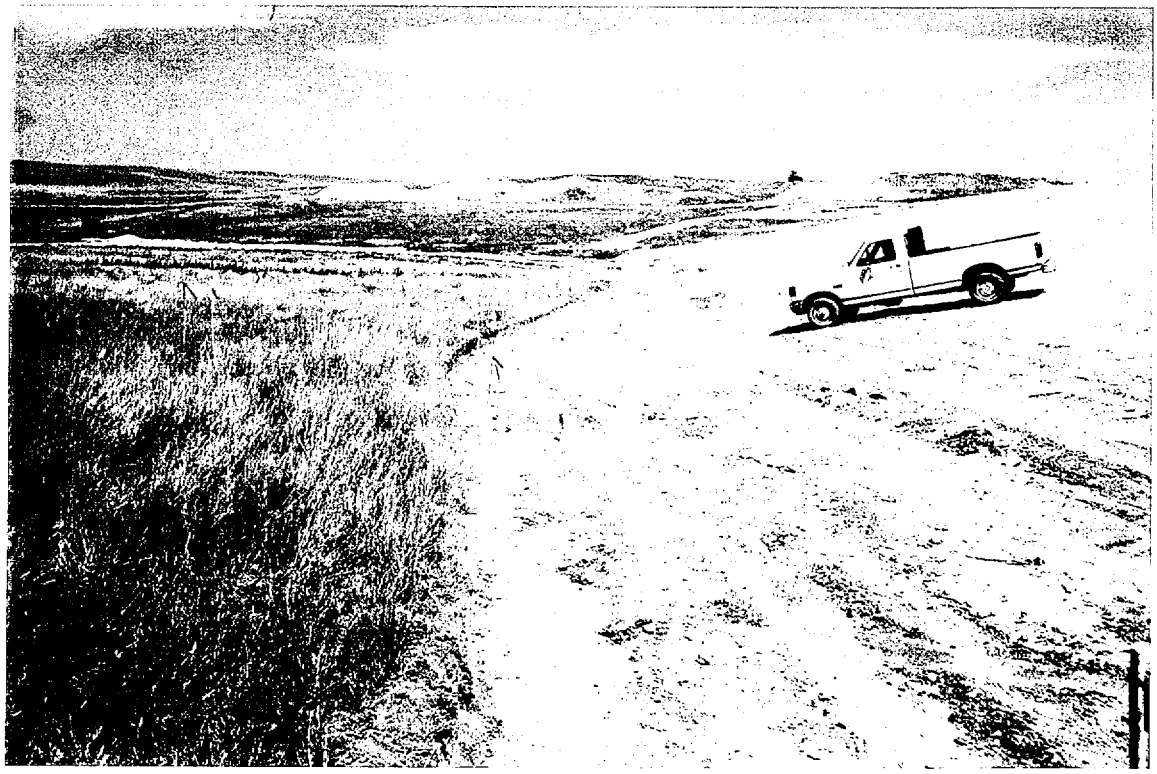
Size # 2 Riprap stockpile for Rock Weir
Size #3 Riprap in distance only one truckload delivered

Stockpile of D50 = 3 inch Rock from Menter Gravel



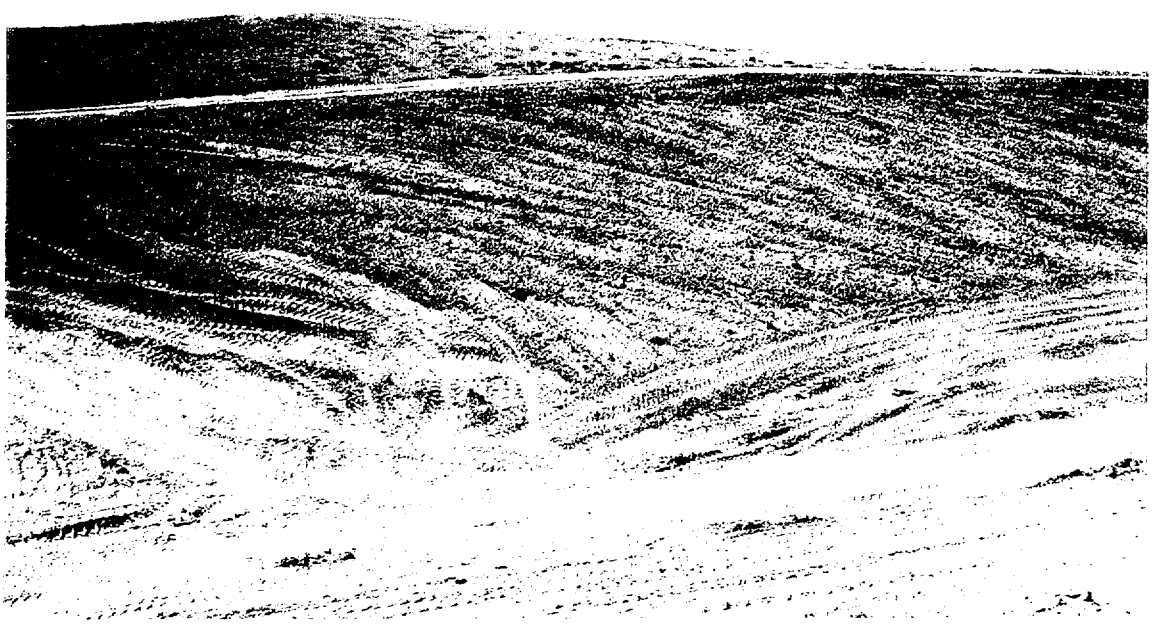
Stockpile of D50 = 3 inch Rock from Menter Gravel
For use in the Rock Weir

Down stream face of dam and east groin area
Photo taken from Rock Weir area looking south



Down stream face of dam
Note survey stakes in area adjacent to groin of dam
Preparing to excavate groin channel

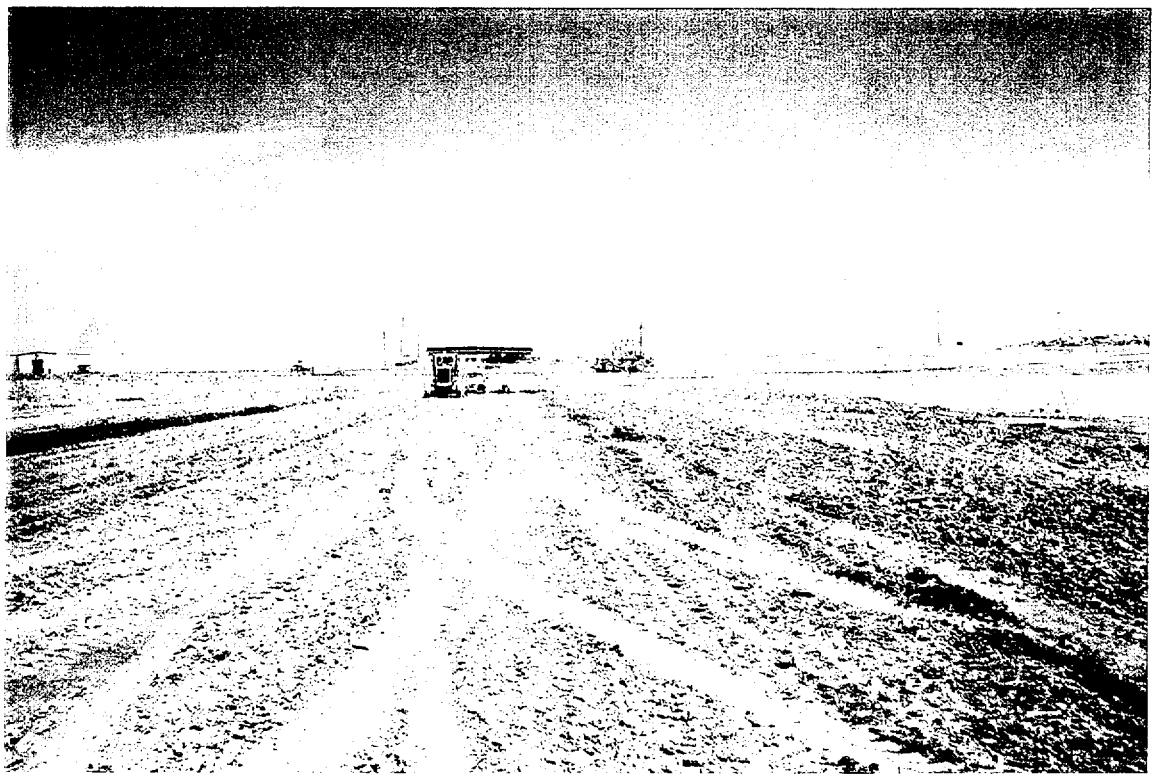
Diversion Channel with topsoil placed on bottom and on side slopes
Photo taken from Station 15+00 looking north



Diversion Channel with topsoil placed on side slopes
Note path of scrapers is at approximately 45 degrees to 3:1 side slope
Photo taken from Station 16+00 looking west

Scraper placing radon barrier on lower surface Pond 3 area
This is the last of the radon barrier to be placed on the lower surface
Photo taken from Diversion Channel Station 23+00 looking east

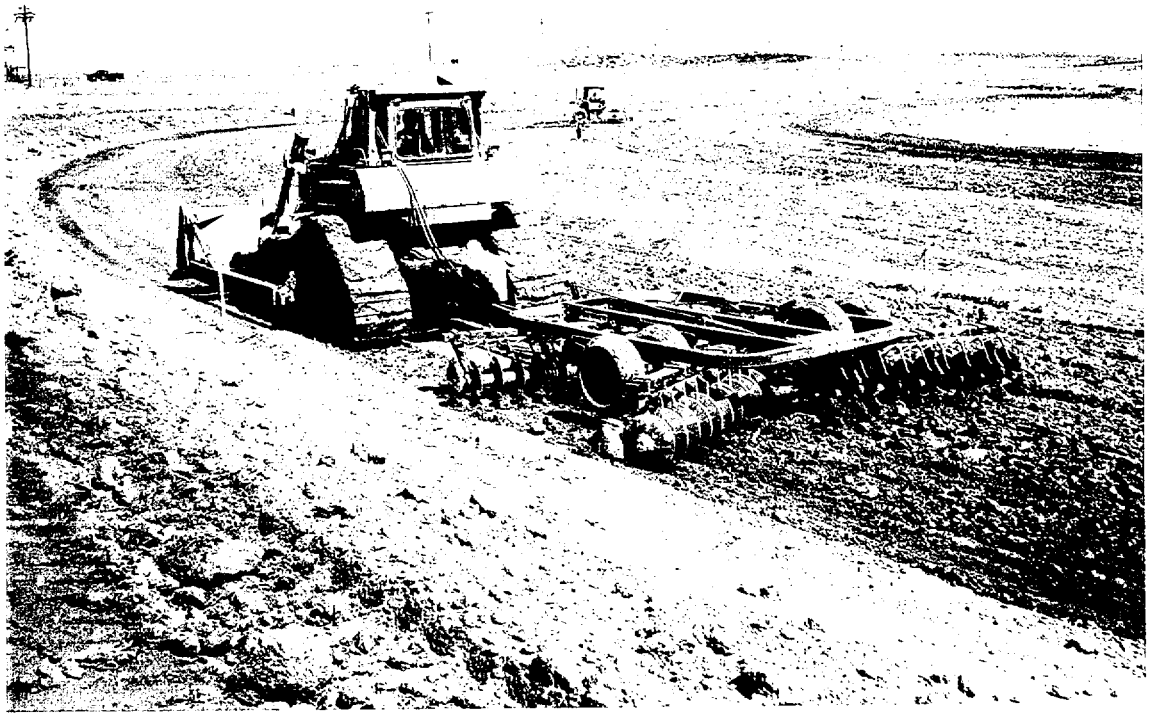
Water truck adding moisture to radon barrier soils



Upper Surface radon barrier placement
Near Ridge Reference Axis Cross Section 12+00
Photo taken looking east

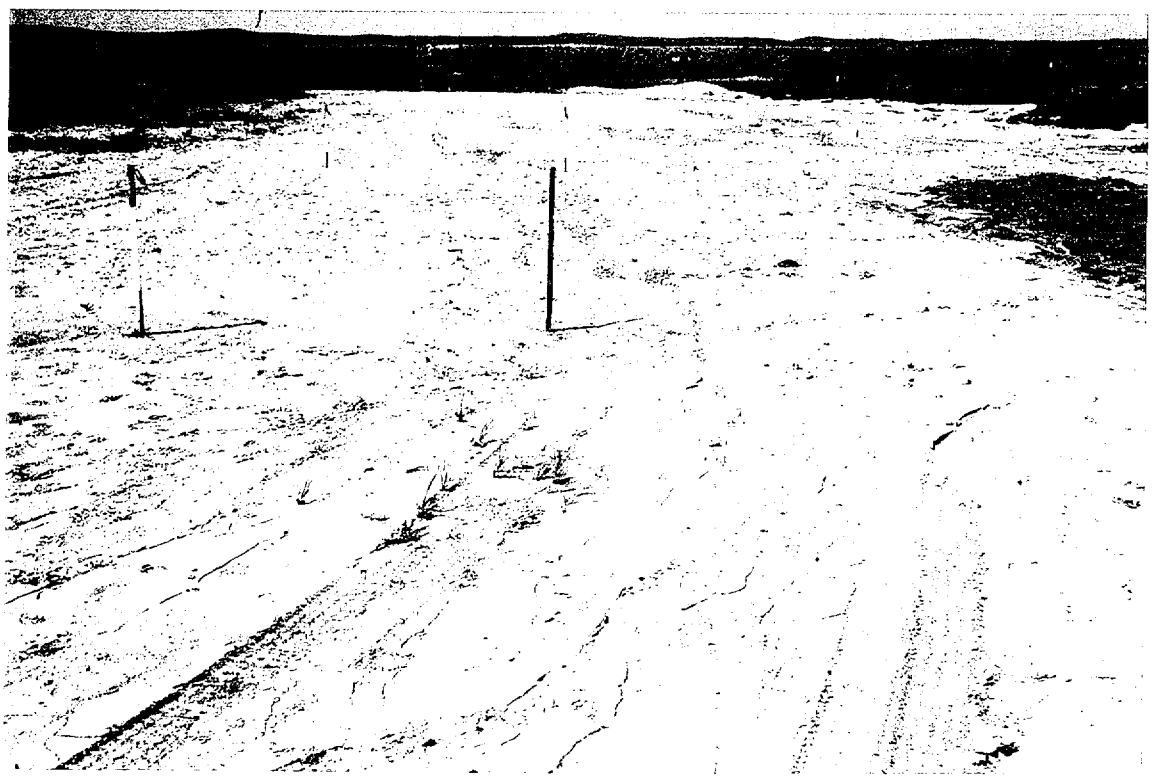
Max Carpenter, Powers Elevation Company Surveyor
Random fill placement in Pond 2 area
Photo taken from Lower Surface looking east

D6 Caterpillar dozer pulling disk used to mix soil
Radon Barrier placement on upper surface



D6 Caterpillar dozer pulling disk used to mix soil
Radon Barrier placement on upper surface

East groin of dam
Area has been overfilled and will need to be excavated for the groin channel



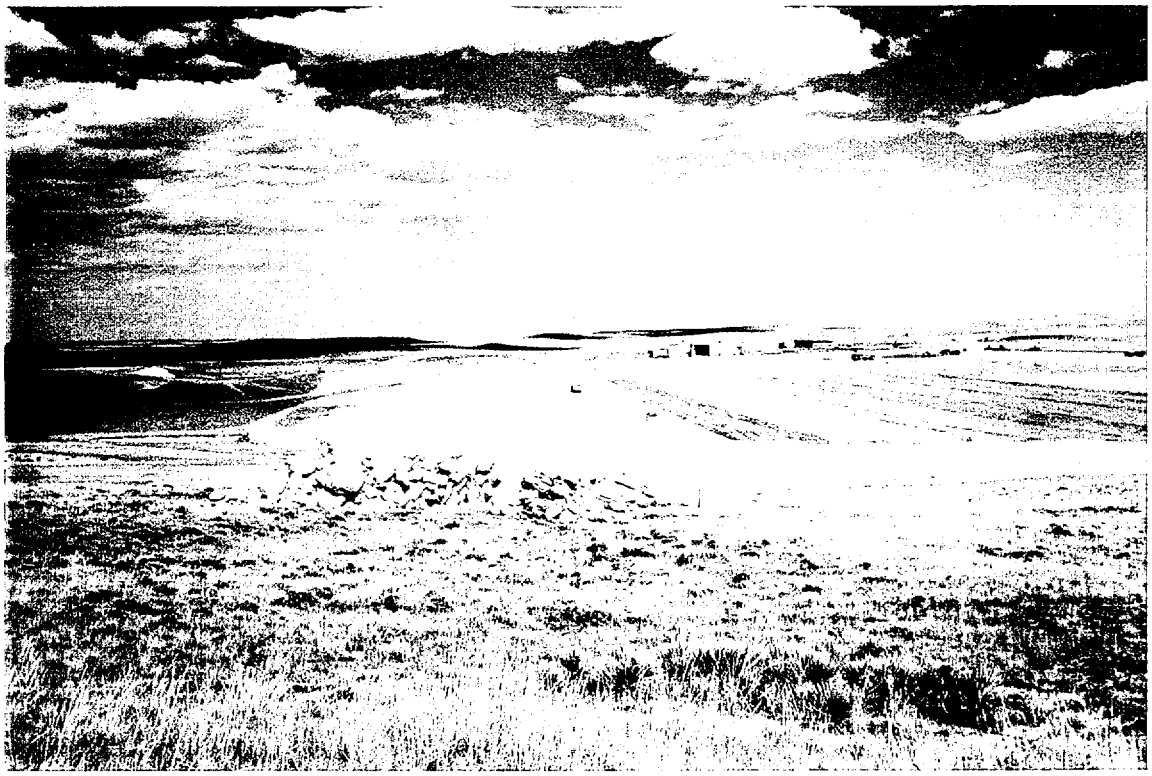
Survey stakes on Station 10+00 channel
Channel has been filled to allow access during filter gravel and rock placement

Topsoil placement on upper surface
Photo taken from west side looking east

Upper Surface and haul road to W8 Stockpile
Photo taken from overlook on west abutment

Pond 3 area and East channel
Photo taken from overlook on west abutment

Upper Surface and downstream face of dam
Photo taken from overlook on west abutment

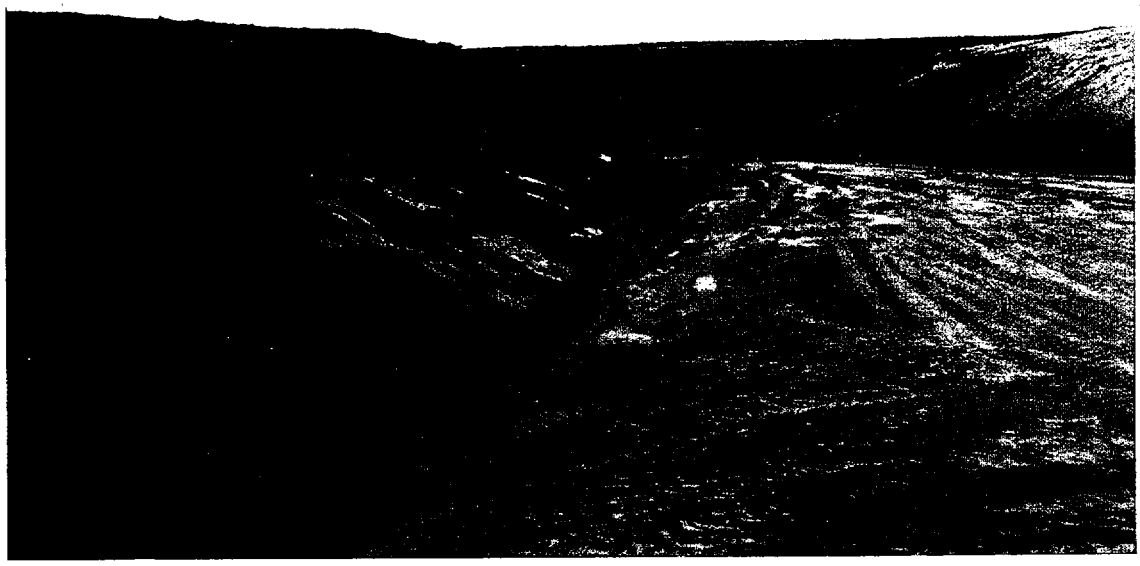


Down stream face of dam and east groin area
Photo taken from west abutment looking east

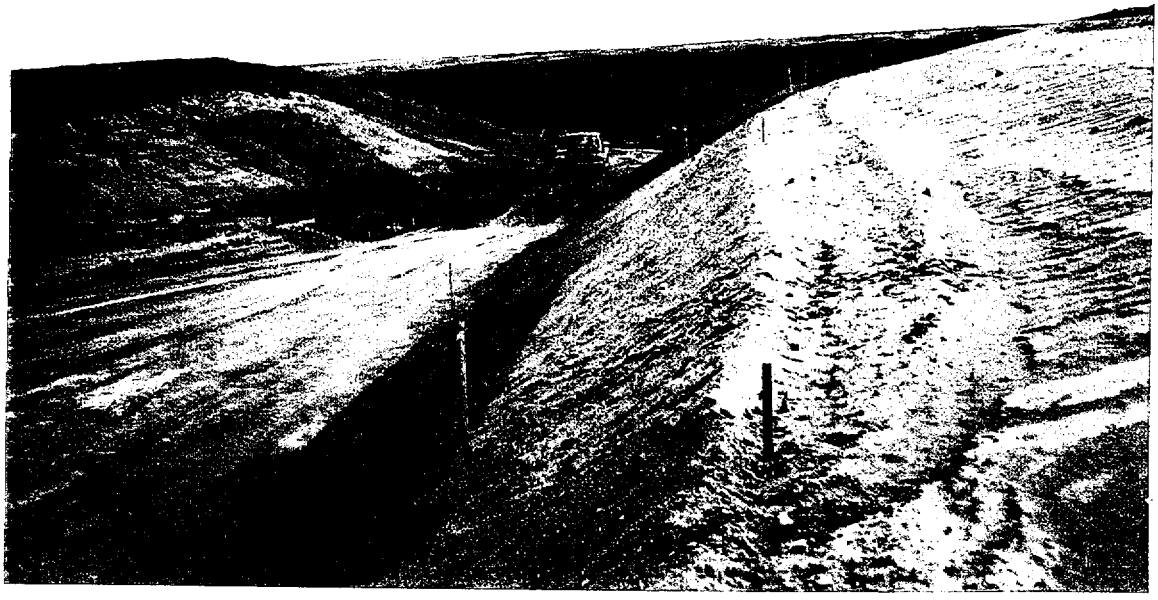
Down stream face of dam
Note topsoil stripped adjacent to groin of dam
Preparing to excavate groin channel

West Interceptor Channel elevation 5110, topsoil stripped
Photo taken from dam crest Station 7+00 looking northeast

West Interceptor Channel elevation 5130, topsoil stripped
Photo taken from dam crest Station 4+00 looking northeast



Rock Weir after finish grading excavation
Photo taken from Station 0+00 looking south



Rock Weir west side after finish grading
Photo taken from Station 0+00 west side looking south

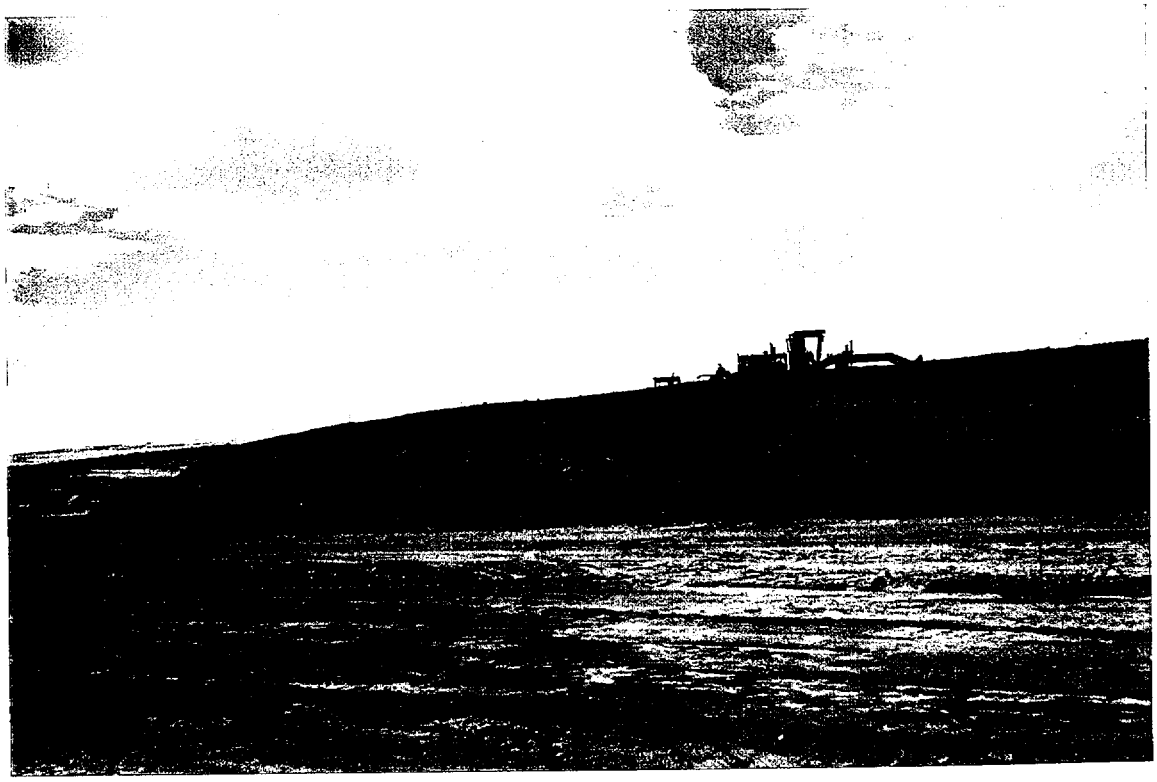
Chute approach finish grading
Photo taken from near Station 10+00 looking downstream

Chute approach and ridge
Photo taken from west slope break looking downstream

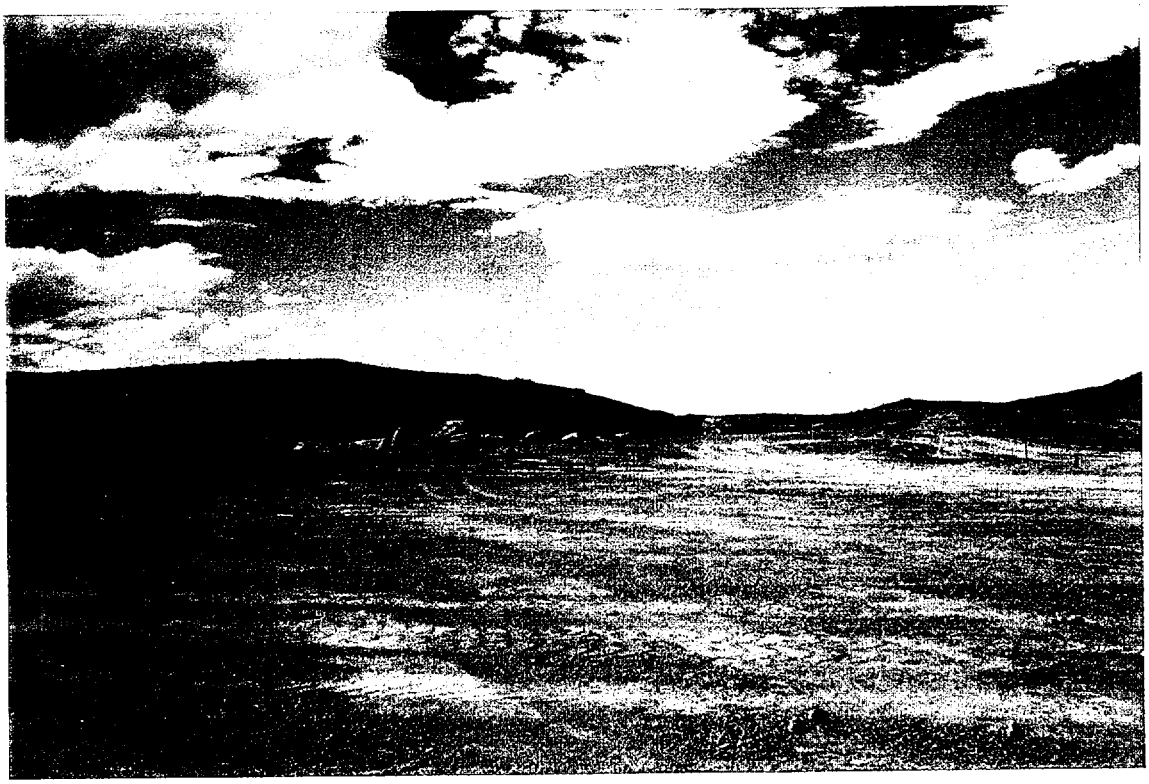
Chute Approach
Photo taken from near Station 6+00 Chute Approach looking upstream

Radon Barrier extension material being placed
Ridge near Chute Approach

Random fill placement adjacent to Ridge
Photo taken from near reference axis Station 16+00 looking west



Random fill placement adjacent to Ridge
Photo taken from near reference axis Station –2 + 00 looking north



Sandstone rock from Diversion Channel excavation temporary stockpile
Rocks to be moved to area west of the Diversion Channel

Lower Surface
Photo taken from Ridge looking south

West Ridge fill placement
Photo taken from west side of Diversion Channel looking east

West Ridge fill placement
Photo taken from west side of Diversion Channel looking east

Random fill placement near Ridge
Photo taken from near Reference axis Station 8+00 looking east

Random fill placement
Photo taken from Chute looking west

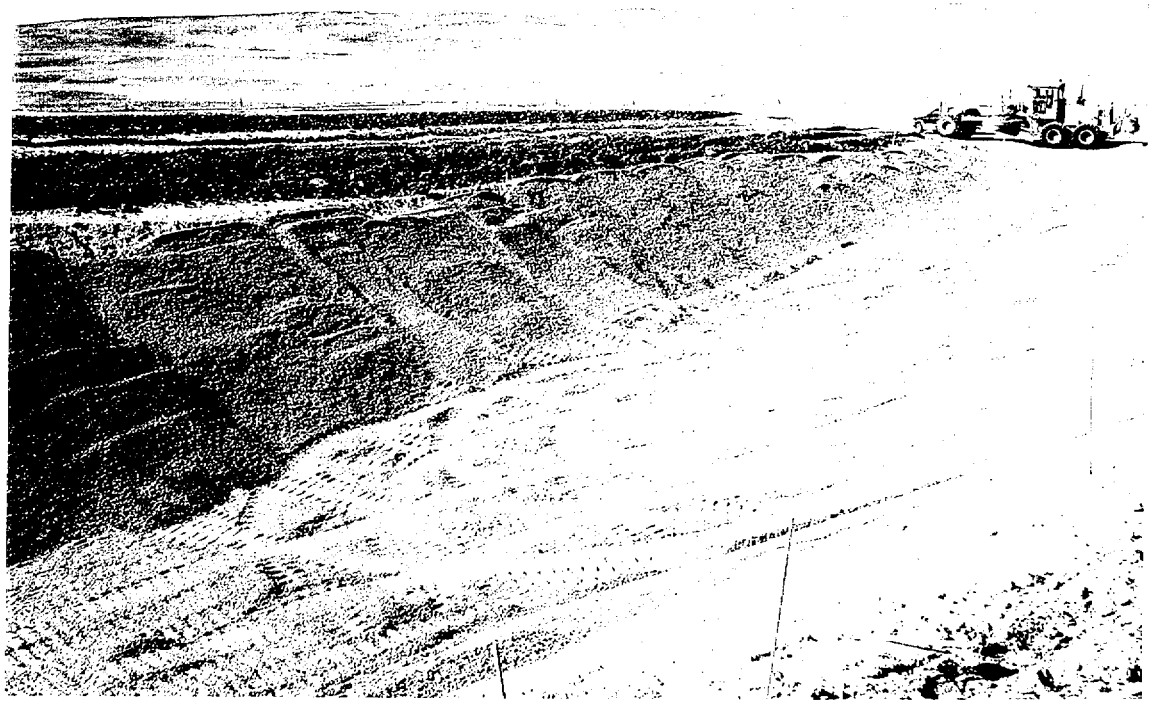
Pond 3 area
Photo taken from west side of Diversion Channel looking south

Upper Surface
Photo taken from overlook on west abutment

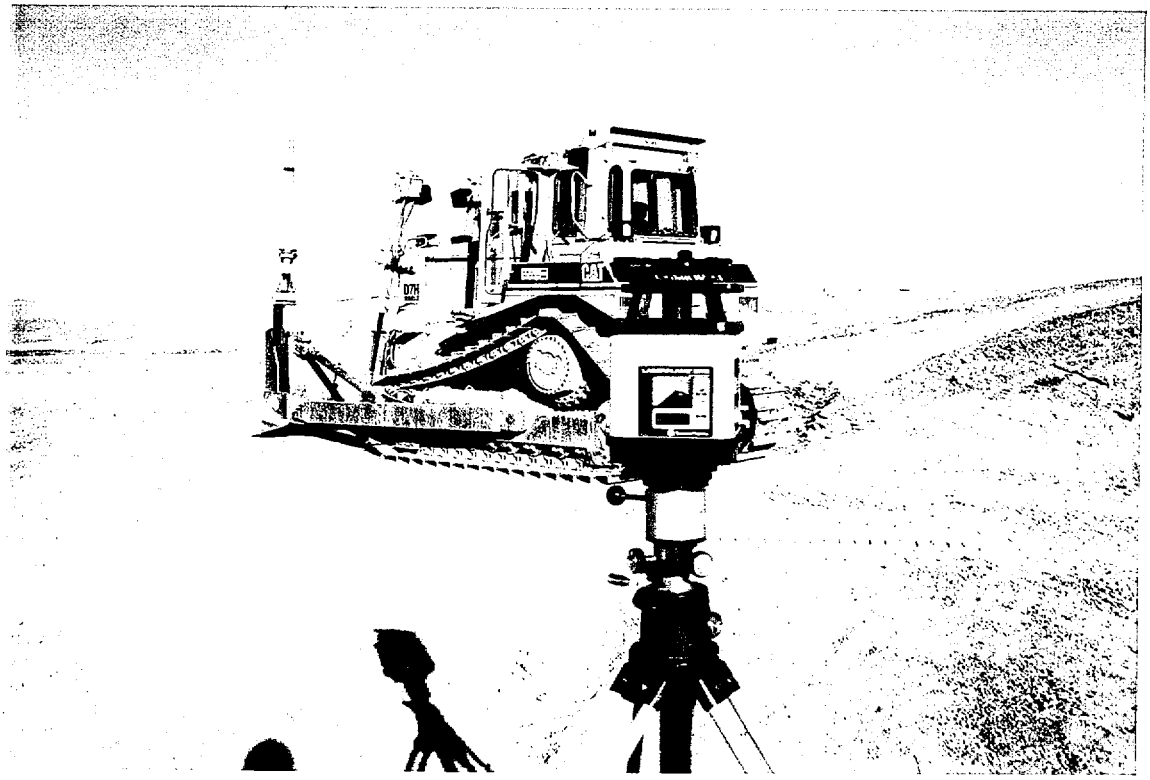
Caterpillar 966F Loader hauling filter gravel

Caterpillar 966F Loader constructing ramp for access to Rock Weir

Filter gravel placed on bottom of Rock Weir

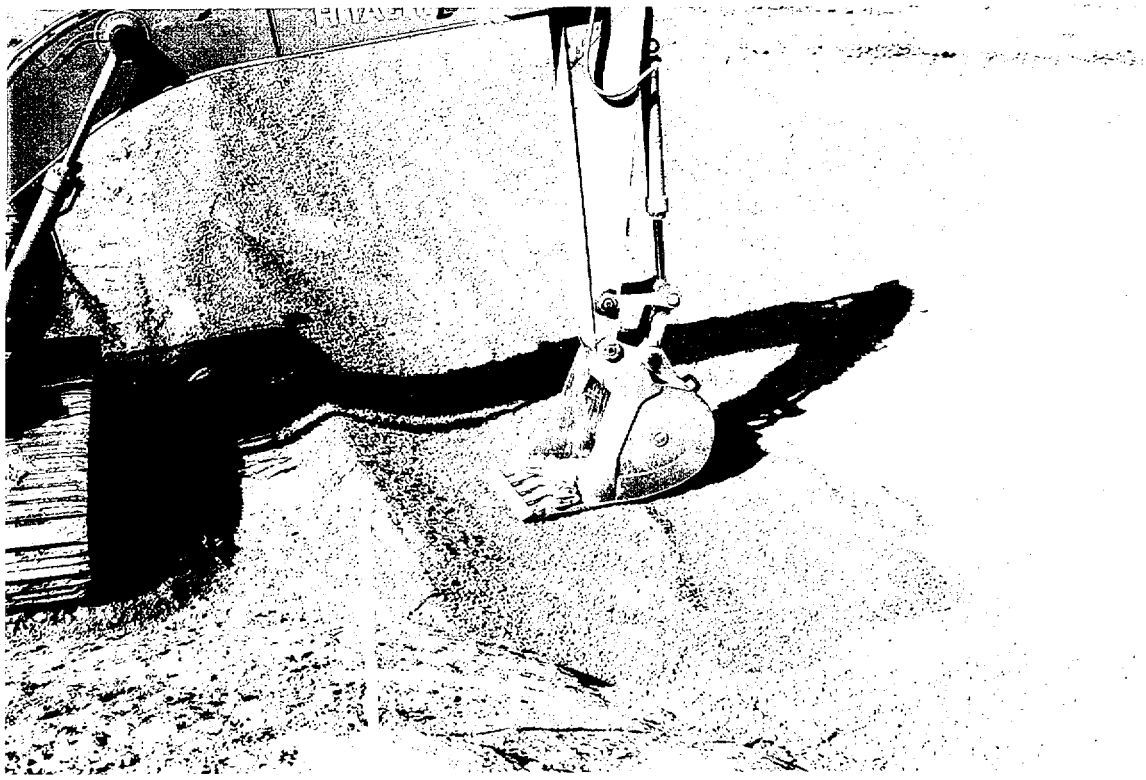


Filter gravel placed on side slopes of Rock Weir



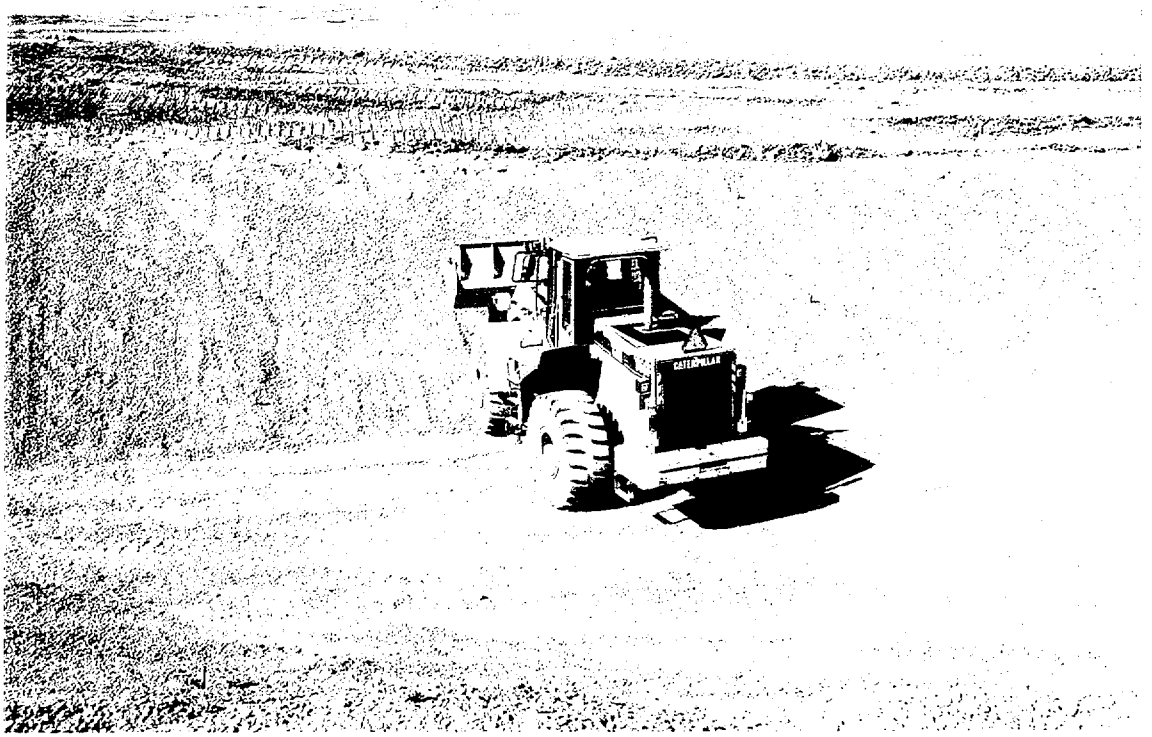
Cat D7H Bulldozer with laser sensor mounted to blade

Caterpillar 966F Loader spreading filter gravel on side slopes



Hitachi excavator spreading filter gravel near Station 2+00
Photo taken from east bank looking west

Hitachi excavator spreading filter gravel near Station 1+60
Photo taken from Station 0+20 looking southwest

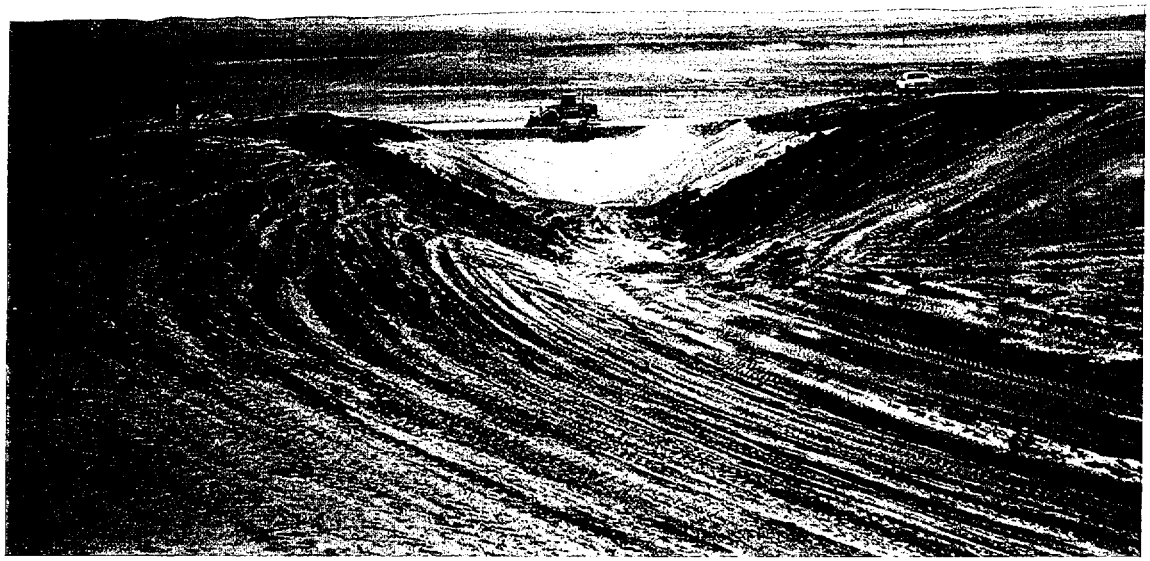


Loader compacting side slopes of Rock Weir

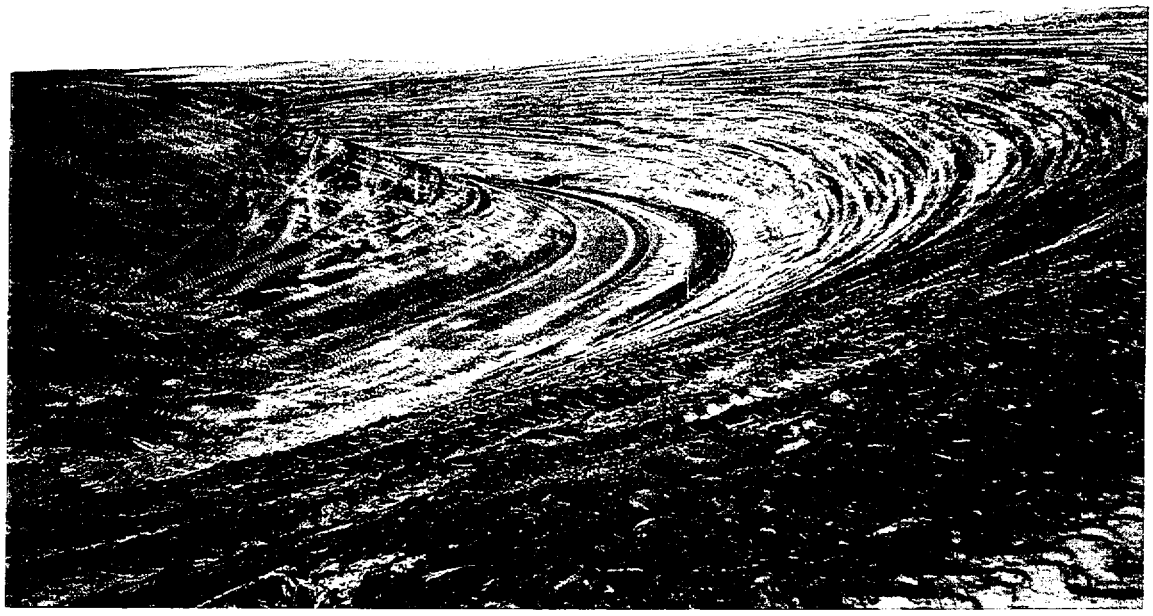
Loader compacting filter gravel on side slopes

Hitachi Excavator spreading filter gravel on west side slope

Slope stakes on downstream face of dam
Photo taken from west side of Diversion Channel looking east



Rock weir filter gravel
Photo taken from Diversion Channel Station 4+00 looking north



Diversion Channel with topsoil
Photo taken from west side of Diversion Channel looking south

Chute Approach
Photo taken from near Station 4+00 Chute Approach looking upstream

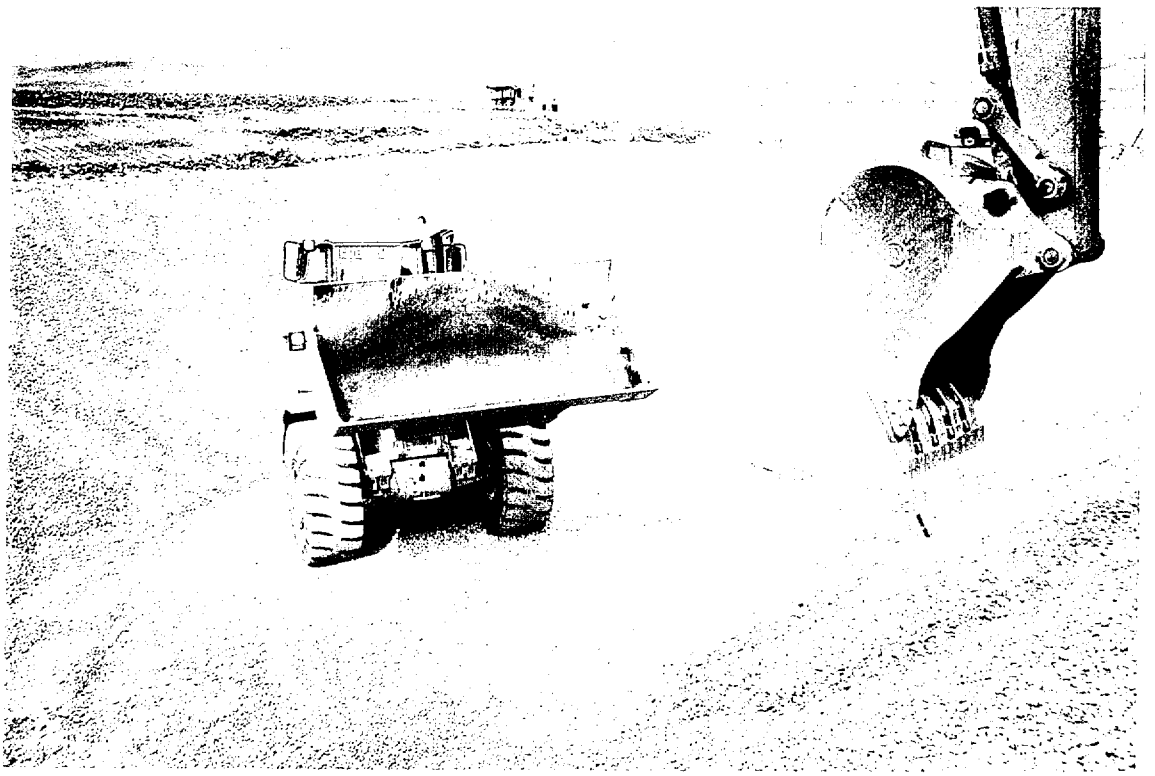
Chute Approach
Photo taken from Chute Approach Station 5+00 looking downstream

Random fill placement near Ridge
Photo taken from near Chute Approach Station 5+00 looking west

Diversion Channel near Station 18+00
Photo taken from bottom of channel looking south

Diversion Channel
Excess topsoil removed
Photo taken from Station 2+00 looking south

Hitachi Excavator
Grading side slopes of Rock Weir



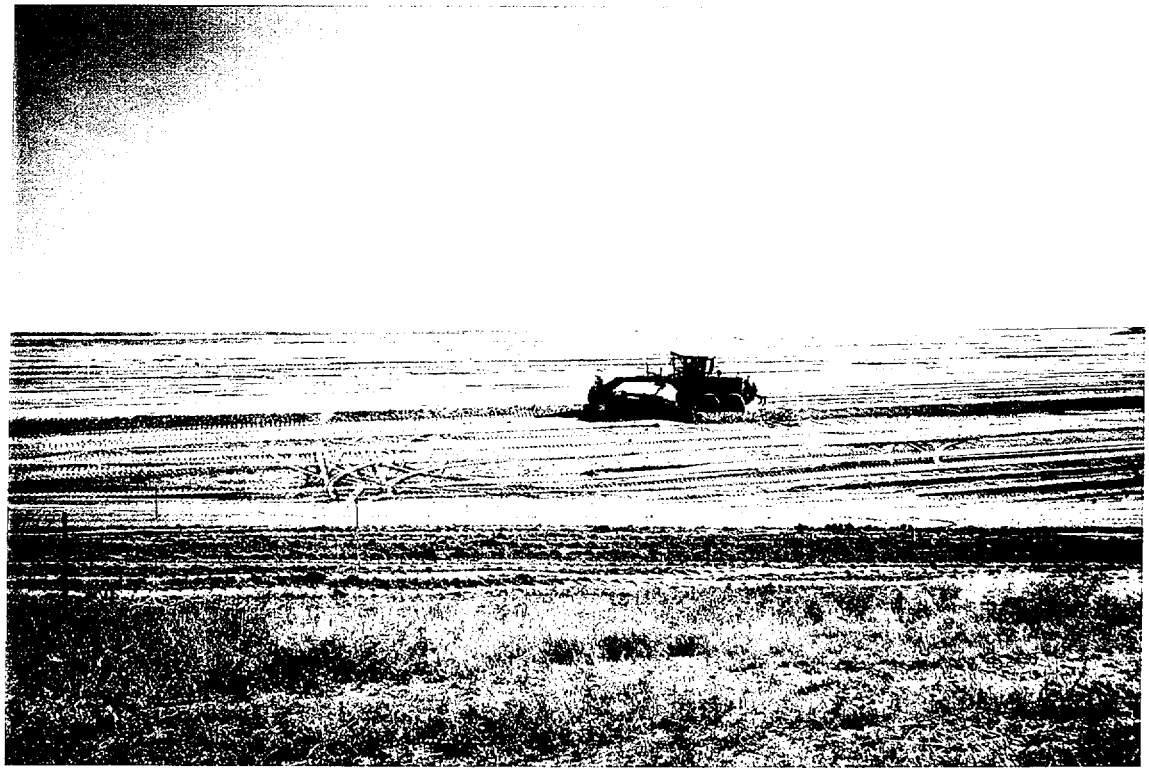
Hitachi Excavator grading side slopes, Note plate welded across teeth
Filter gravel on bottom of Rock Weir compacted by Loader

Filter gravel placed on west side slopes of Rock Weir
Note filter gravel berm at Station 2+00 bottom of photograph

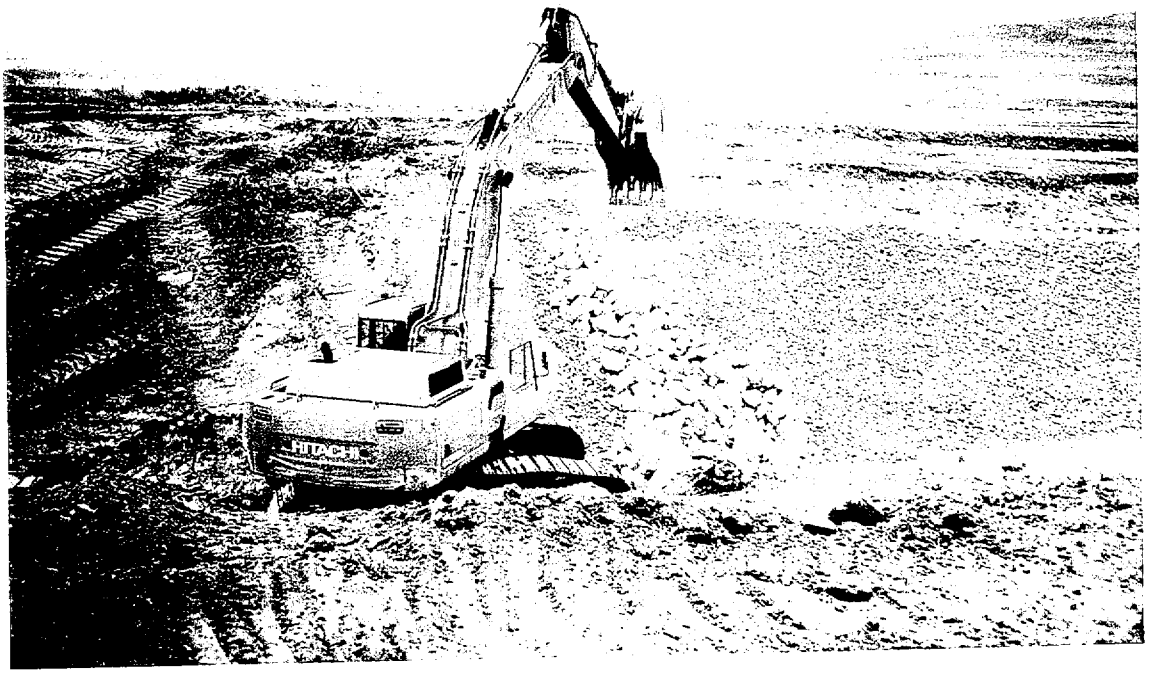
First load of 3-inch Rock placed on east side slope of Rock Weir

Loader placing 3-inch rock on east side slope of Rock Weir

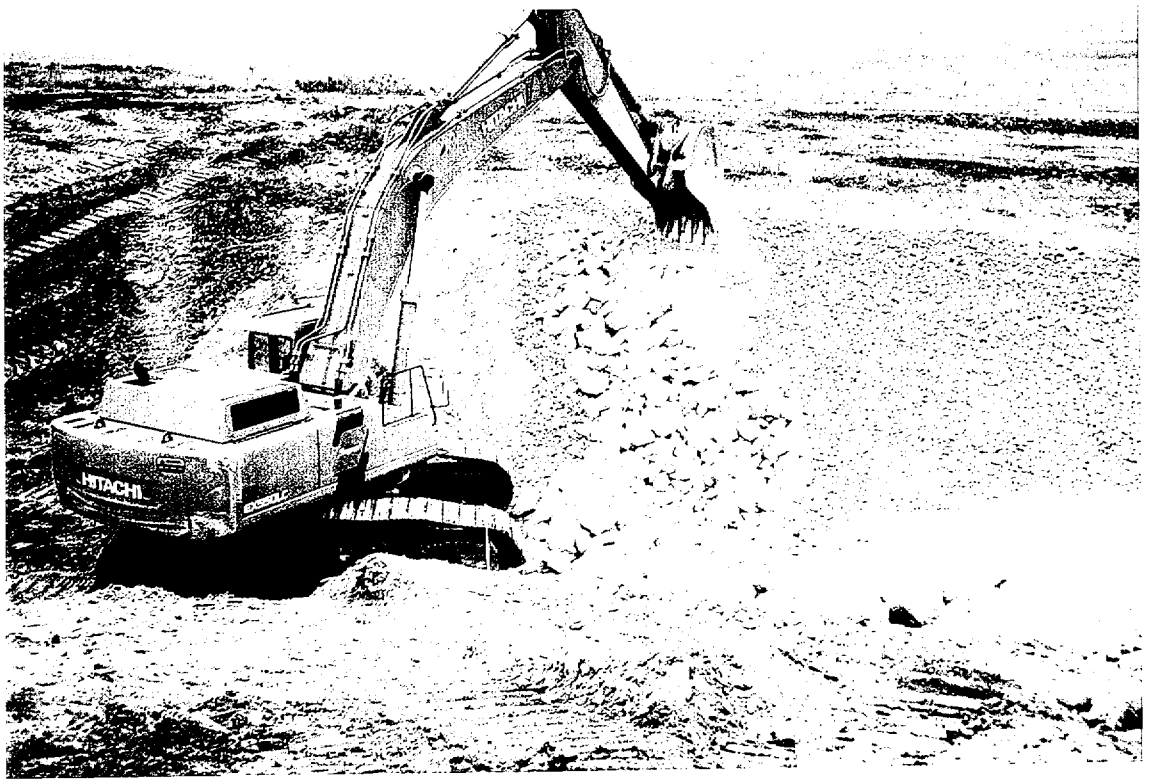
Loader compacts bottom filter gravel
There is no binder in the filter gravel so it is easily displaced



Carr Construction Caterpillar 14 G Motor Grader working on the face of the dam

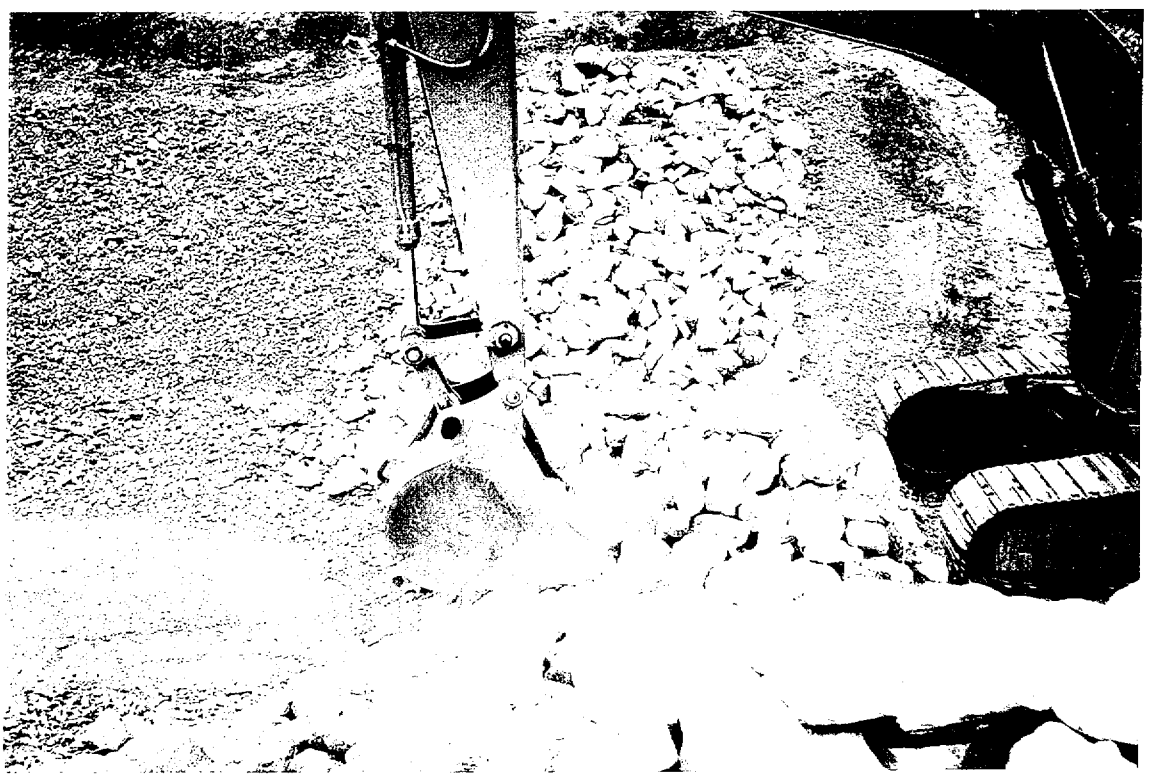


Hitachi excavator spreading Size #2 Riprap near Station 2+00
Photo taken from east bank looking west



Hitachi excavator spreading filter gravel near Station 2+00
Photo taken from Station 2+00 looking west

Loader feed the Size #2 Riprap to the Hitachi Excavator
Near Station 2+00 of Rock Weir

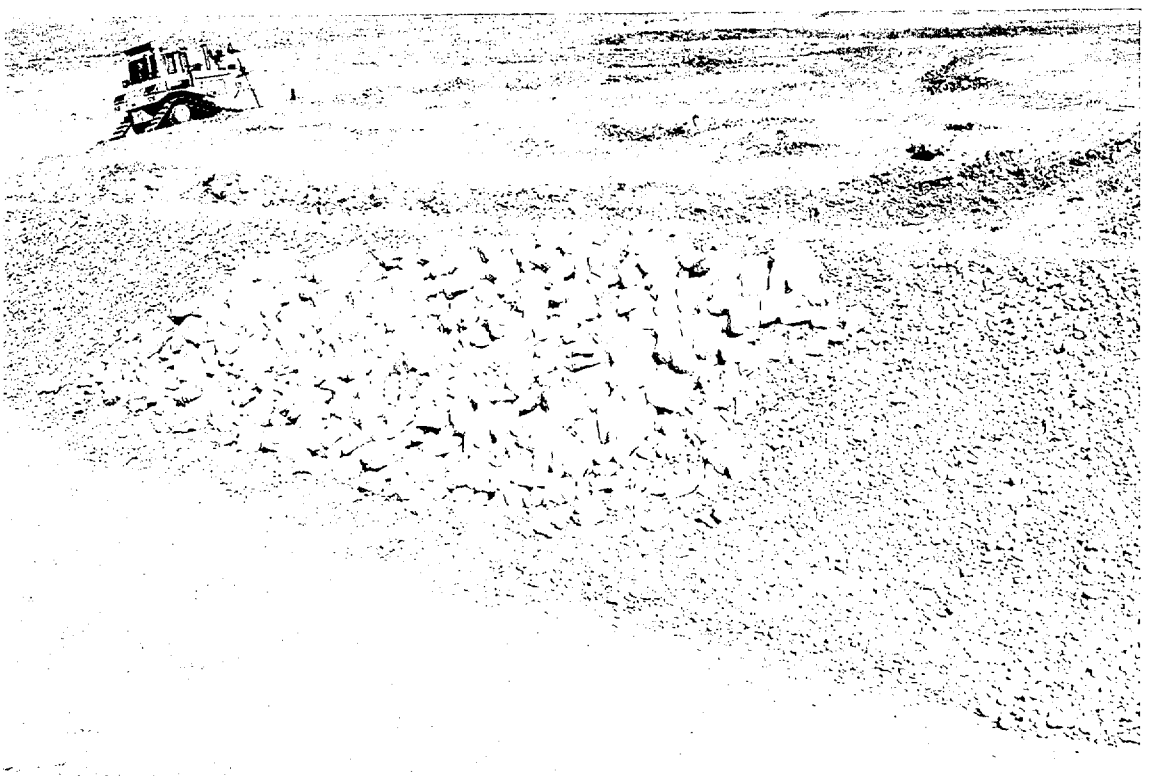


Hitachi Excavator loading bucket on bottom and placing Size#2 Riprap high on side slopes

Caterpillar 966F loader spreading 3-inch Rock in 10 ft wide panel on bottom
The reach of the bucket is about 10 ft

Hitachi Excavator with tracks on Size #2 Riprap
Placing Size #3 Riprap

Trig Domson operation Hitachi Excavator

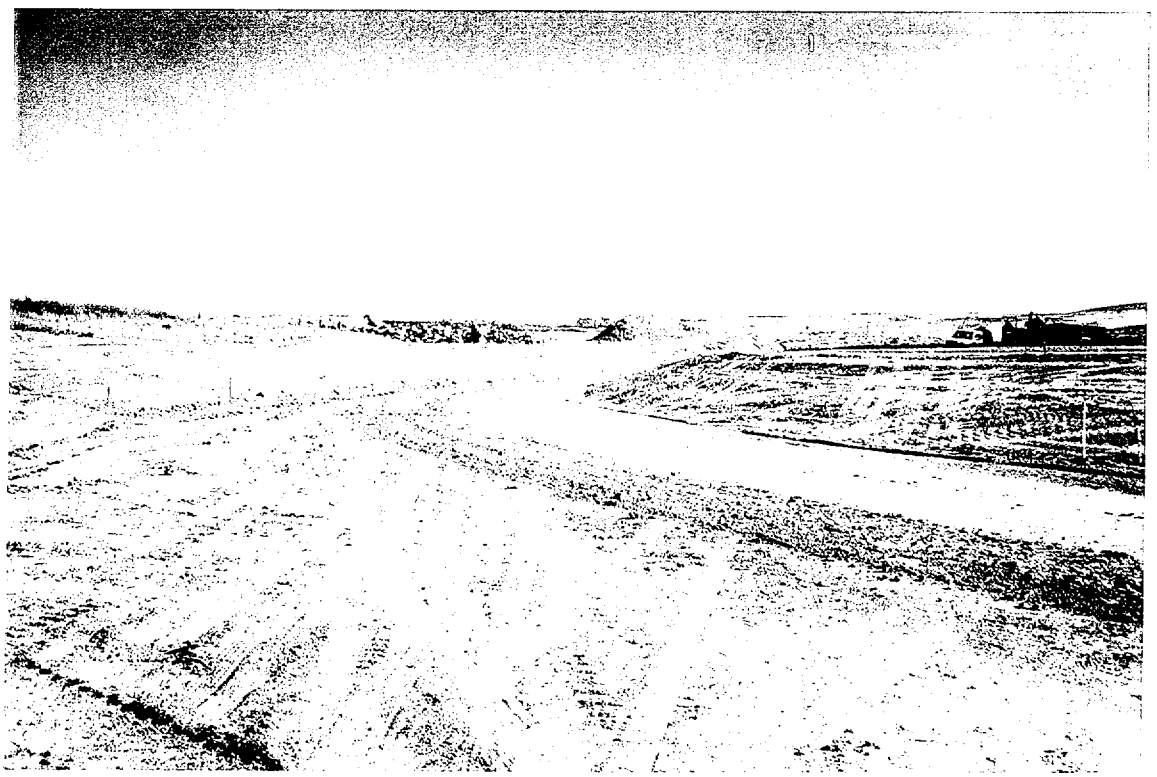


Size #2 Riprap placed on east side slope of Rock Weir

Loader feeding Size #3 Riprap to Hitachi Excavator

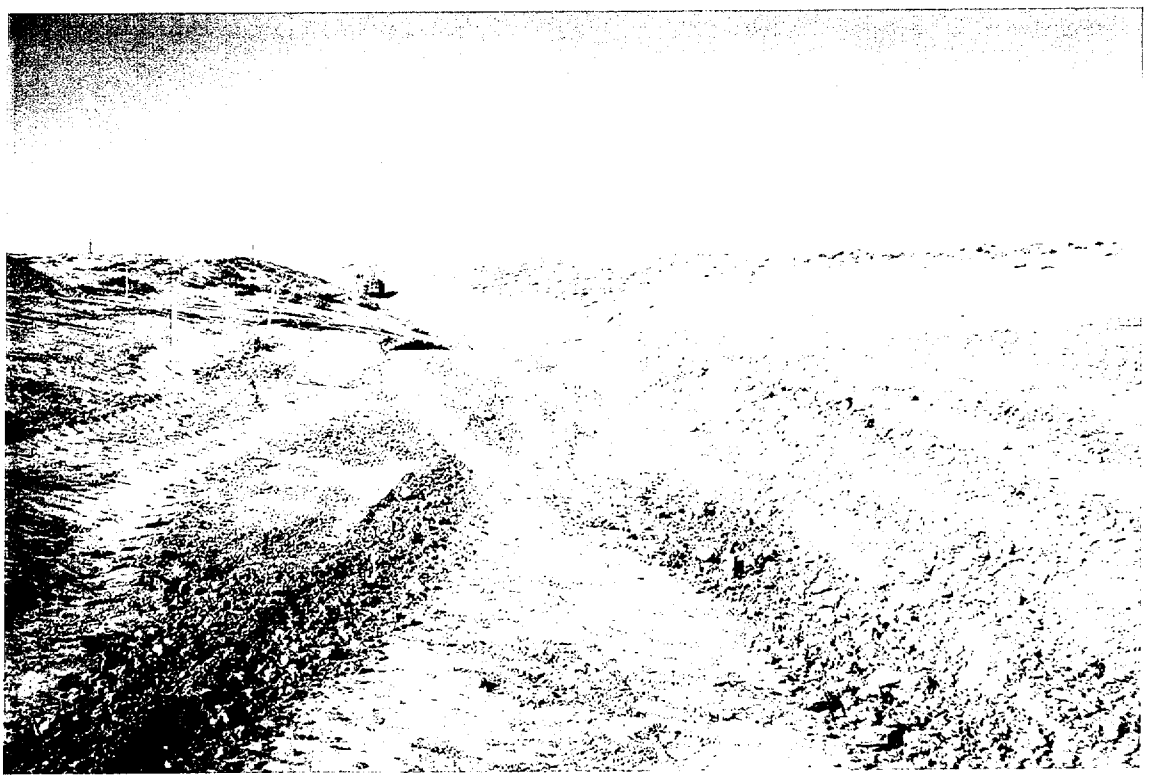
Size #3 Riprap being placed on east side slope of Rock Weir

Hitachi Excavator on east embankment moving Size #3 Riprap
Photo taken from Station 0+00 looking south



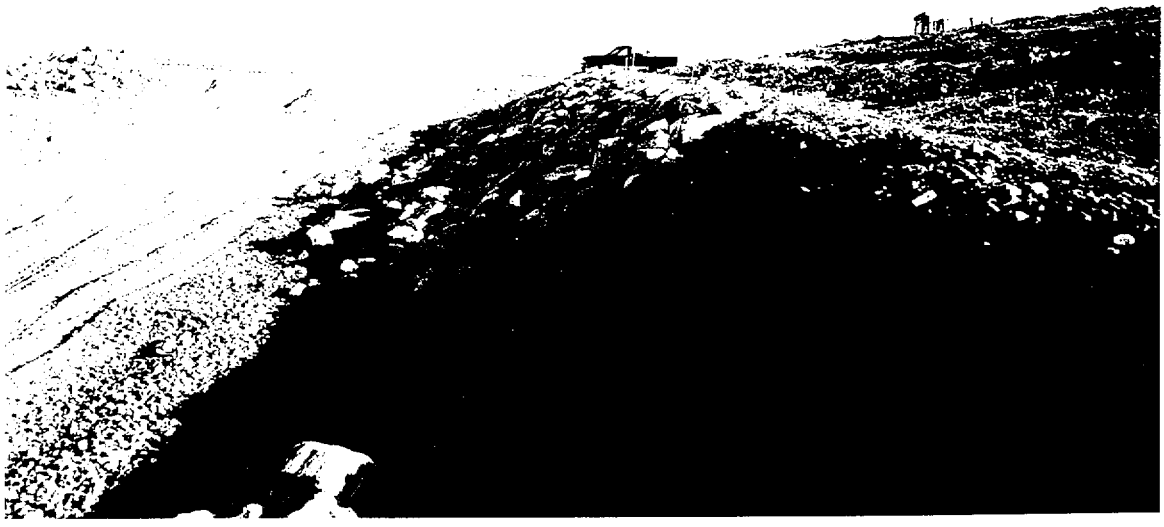
Chute Approach near Station 7+00
Photo taken looking south

Chute near Station 4+60
Photo taken looking east



Chute near Station 4+60 west side
Photo taken looking north

Rain on October 4, 1998 softened the bottom and delayed work until October 9, 1998
Photo taken from east embankment Station 2+00 looking north



Size #2 Riprap on east side slope
Thickness is only 1.5 to 2.5 ft additional riprap is required

Size #2 Riprap on west side of Rock Weir
Photo taken near Station 2+00 looking north

Loader adding additional Size #2 Riprap o[illegible]st side slope of Rock Weir

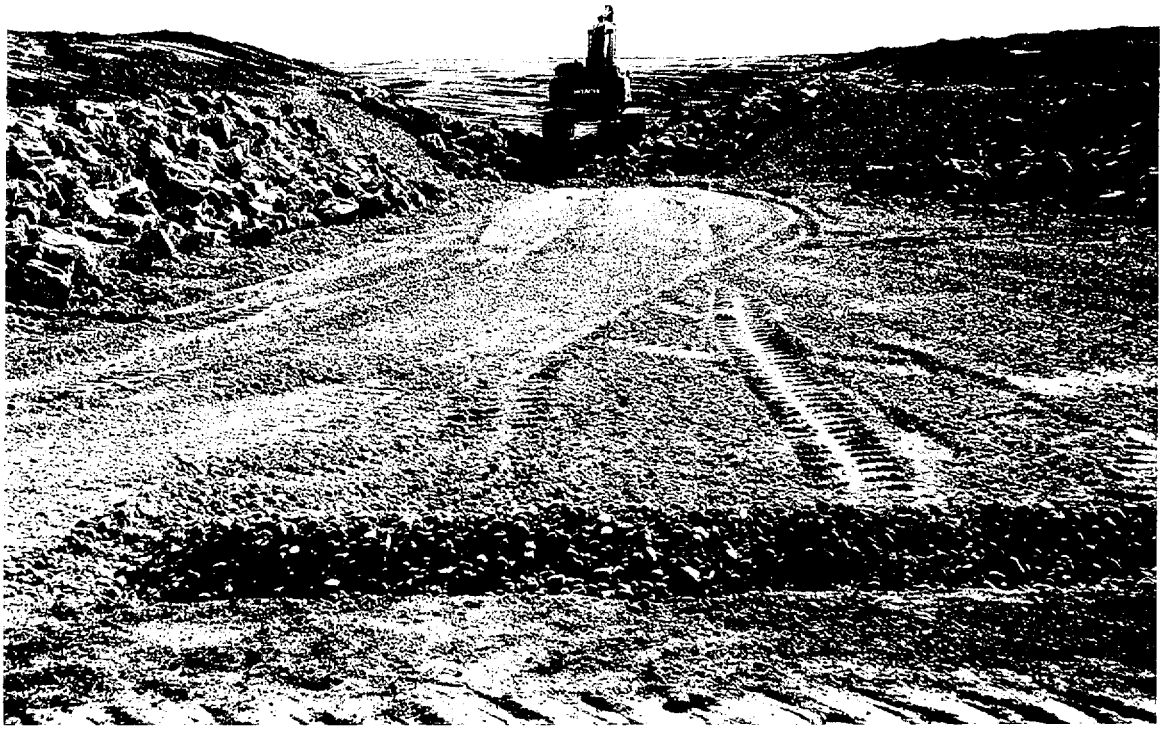
Caterpillar 966F loader adding Size #2 Riprap to east side slope

Loader adding additional Size #2 Riprap to west side slope

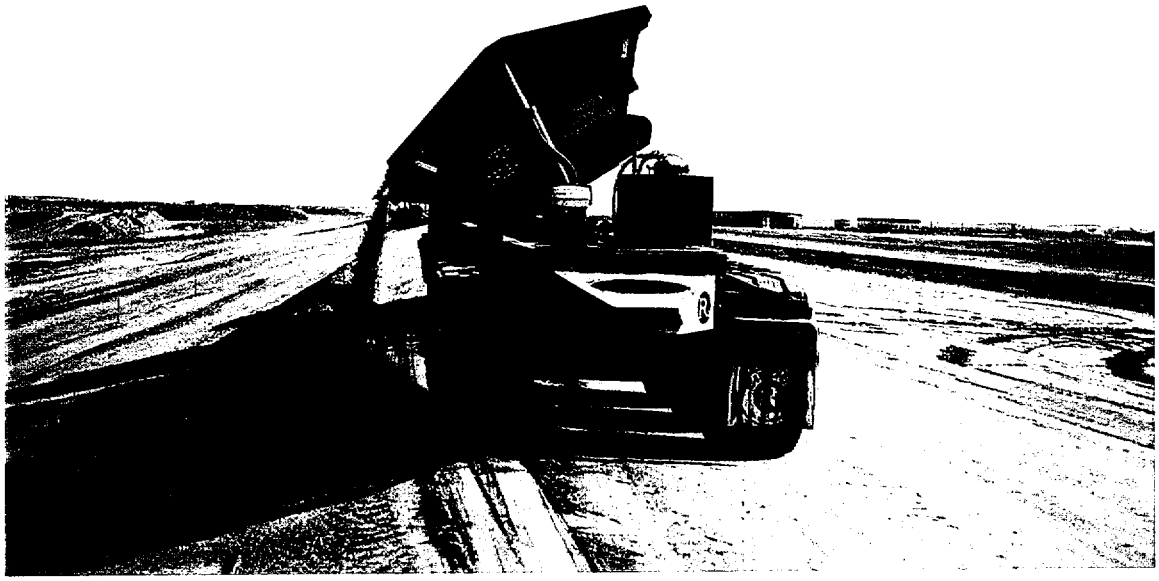
Loader picking-up Size #2 Riprap at stockpile near Rock Weir

Downstream face of dam
Storm winds knocked out nearly all of the lath
Reference axis line reestablished to check laser set-up

Gravel mound built to raise the height of the tripod used to hold the laser level
The sensor on the Bulldozer was approximately 10 ft above the bottom of the blade

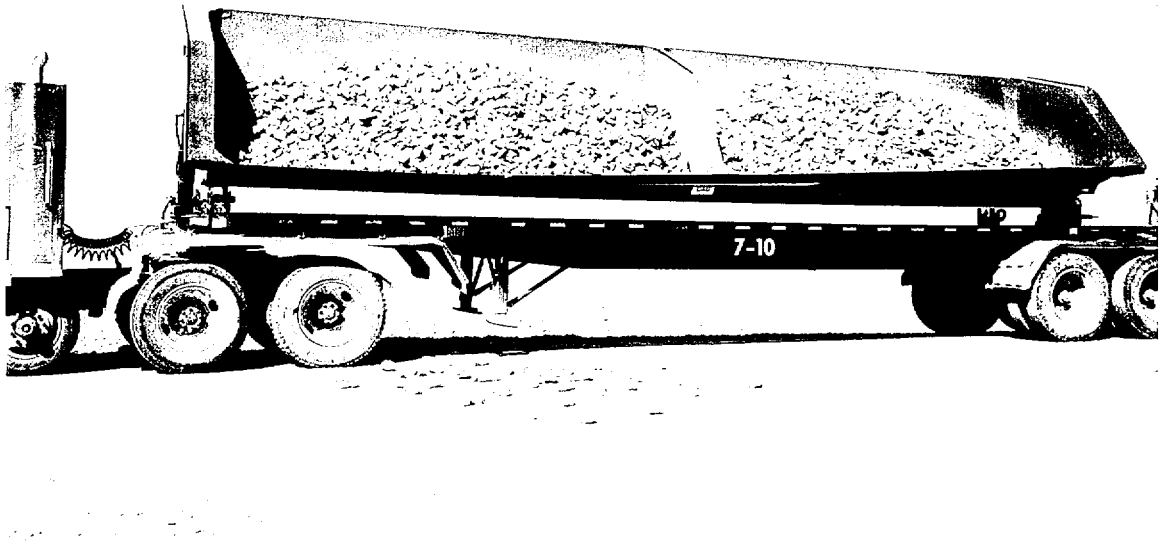


Filter gravel on bottom of Rock Weir leveled by using bucket of loader
The bottom was leveled several times to reduce the depth of tracks and development of thin spots



Filter gravel being dumped by Side dump trucks at crest of dam
Photo taken near Station 2+00 looking east

Approximately four loads of filter gravel were dumped at location
Caterpillar 14G Motor Grader was used to spread filter gravel



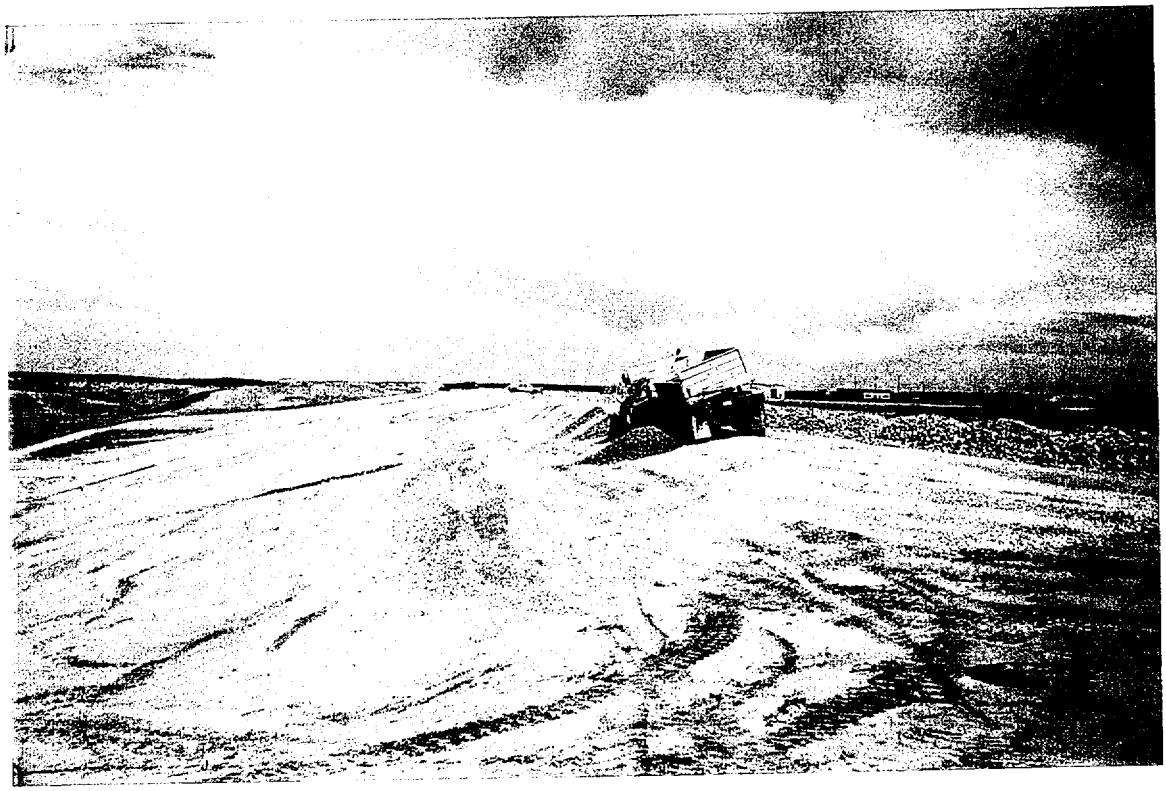
Dumping 3-inch Rock near crest of dam

Windrows of 3-inch rock dumped along crest of dam
Photo taken near Station 12+00 looking west

Caterpillar D7H Bulldozer with laser sensor on blade
When used to level filter gravel the tracks pulled up clay when backing up the slope

Caterpillar 14GMotor Grader used to spread filter gravel

Stockpiled 3-inch Rock near crest of dam
Photo taken near Station 2+00 looking east



Filter gravel dumped after spreading with motor grader

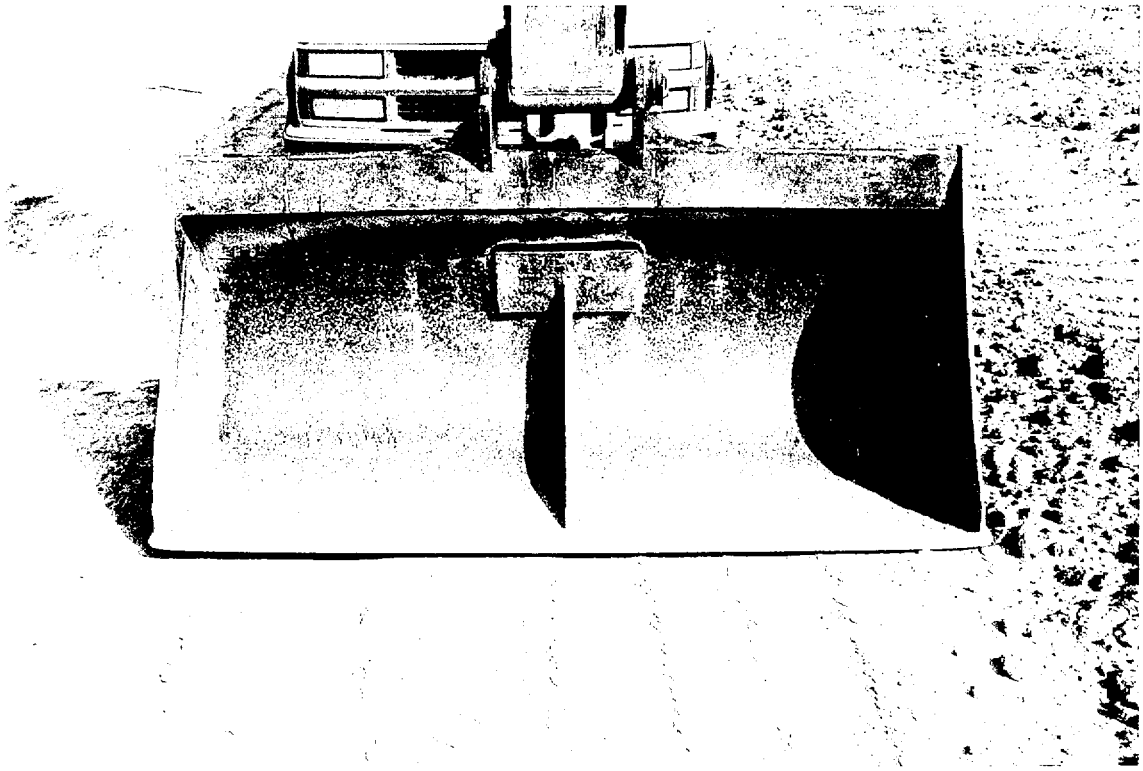
D_{50} = 3 inch Rock placed on downstream face of dam
Photo taken from west abutment looking east

D_{50} = 3 inch Rock placed on downstream face of dam
Rock was placed with loader and spread with backhoe

Billy Ray Maxim Technologies
Conducting Schmidt Hammer tests on Size #3 Riprap stockpile at Chute

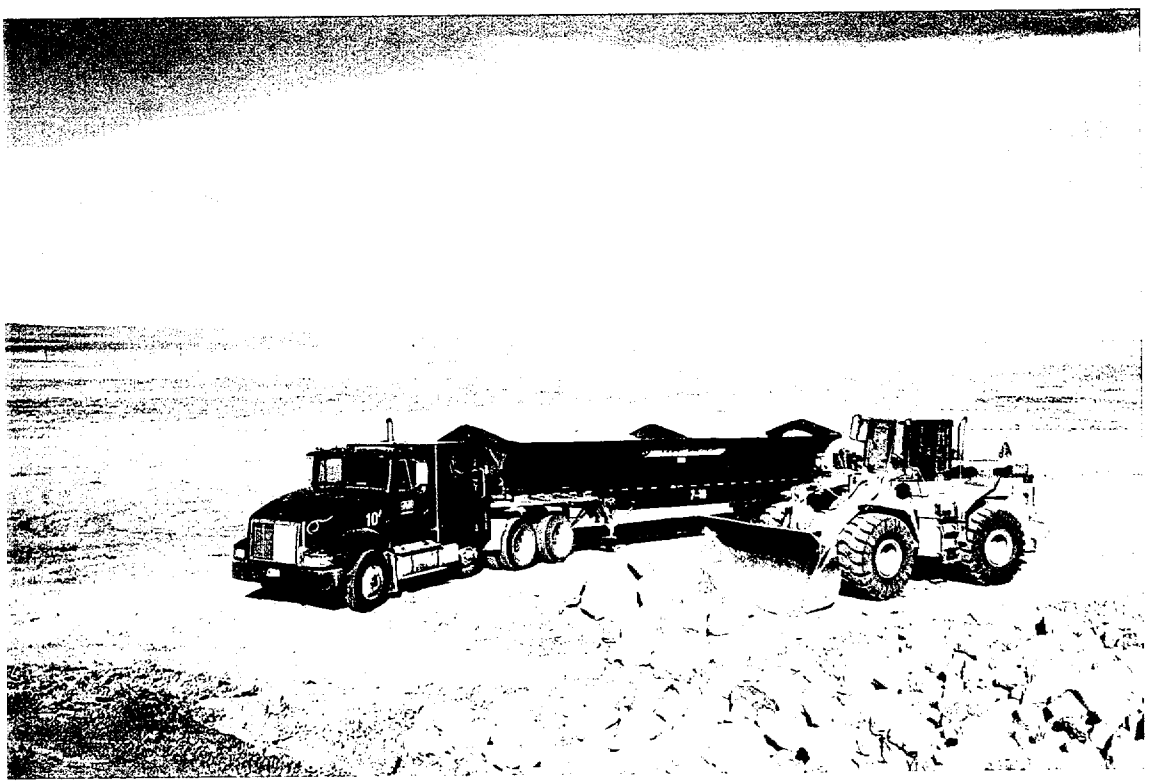
Billy Ray Maxim Technologies
Conducting Schmidt Hammer tests on Size #3 Riprap stockpile at Chute

Komatsu backhoe used to spread the 3-inch rock



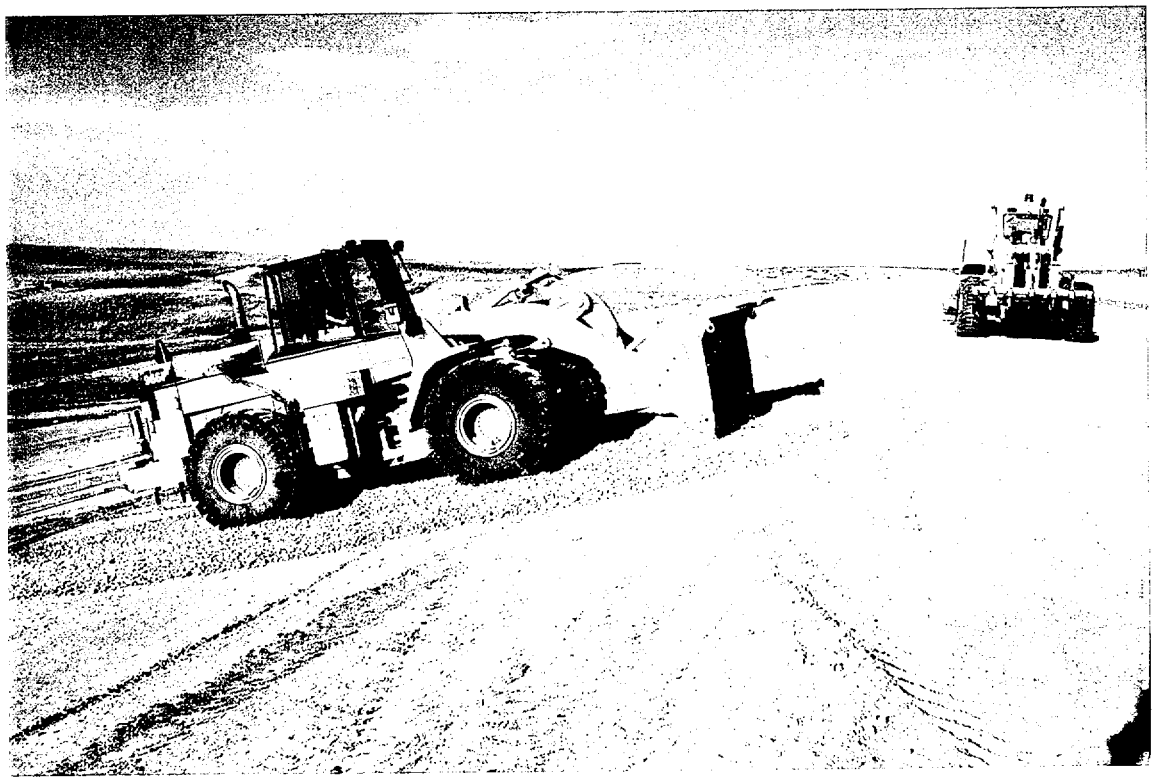
The bucket on the Komatsu backhoe is 7-ft wide

Hitachi Excavator moving Size #3 riprap from bottom to side slopes
Photo taken from east embankment looking west



Side dump truck preparing to dump load of Size #3 riprap
Photo taken from west embankment looking northeast

Domson's Caterpillar D7 Bulldozer parked at groin of dam
The laser sensor on the Bulldozer did not allow the bulldozer to spread the filter gravel in a 4-inch thick layer



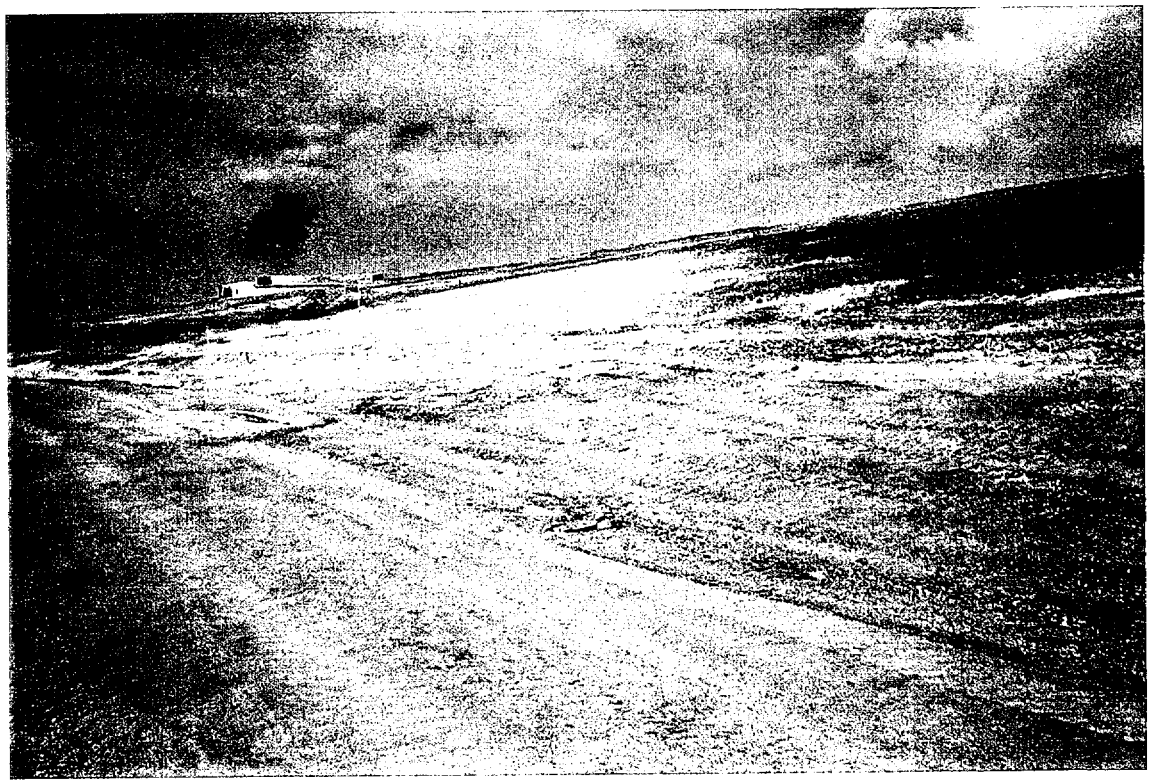
Filter gravel from pile at dam crest near Station 10+00 leveled by using bucket of loader
Using the loader to spread the filter gravel was the preferred method

Filter gravel being dumped by Side dump trucks at crest of dam
Photo taken from Seepage Control dam looking south

Caterpillar 14G Motor Grader was used to spread filter gravel
This method of spreading the filter gravel worked well at the crest of the dam
but produced segregation at the toe of the slope

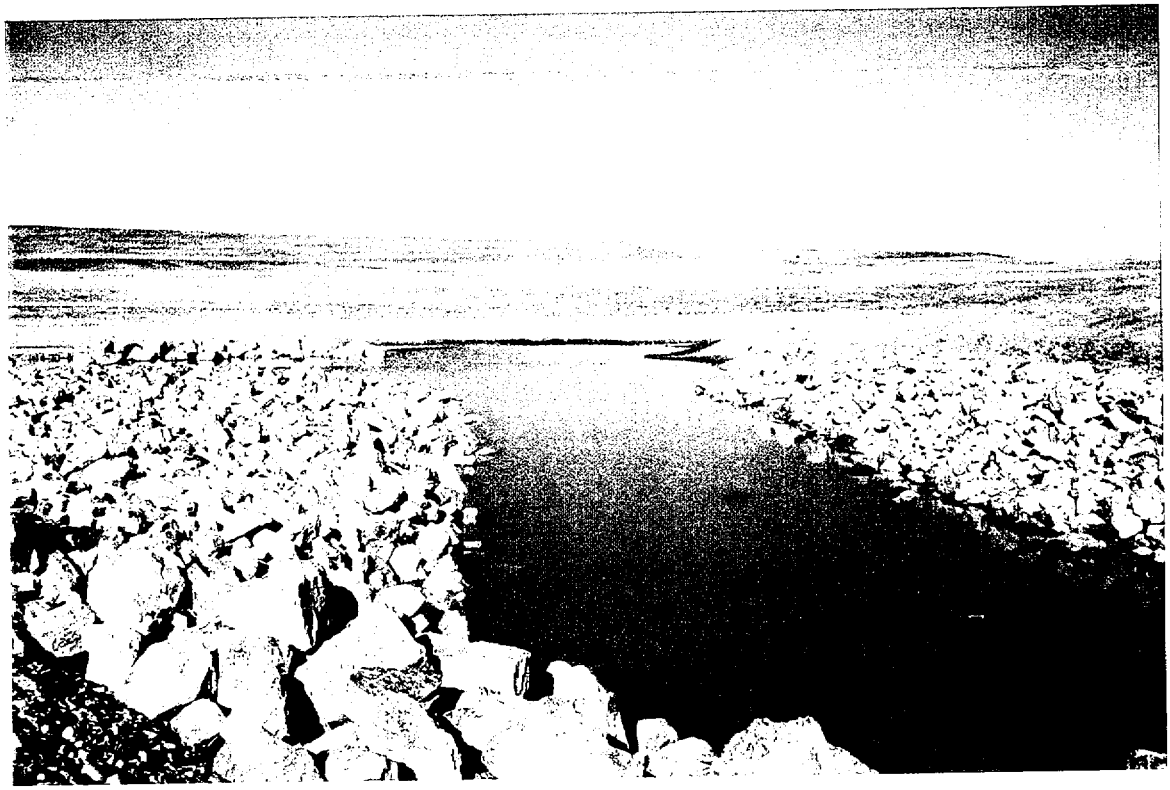
Radon sampling equipment
Testing last section of Radon Barrier

Radon sampling equipment
Testing last section of Radon Barrier



Diversion Channel near Station 18+00
Photo taken from bottom of channel looking at east bank
Note excavation through sandstone section

Diversion Channel near Station 18+00
Photo taken from east bank looking south
Note clay soils in bottom of channel



Rock Weir
Photo taken from west bank near Station 2+00 looking north

Water spread out over the grass at the outlet of the Rock Weir

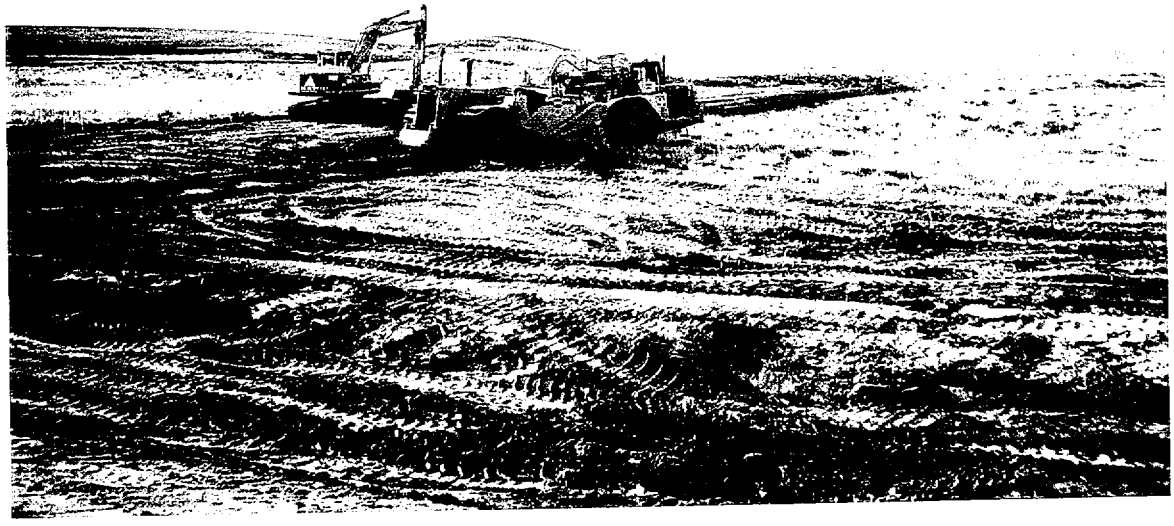
Interceptor channel below dam at elevation 5110 west side
Photo taken near toe of dam looking north

Filter Gravel placed on downstream face of dam
Photo taken from east side looking west

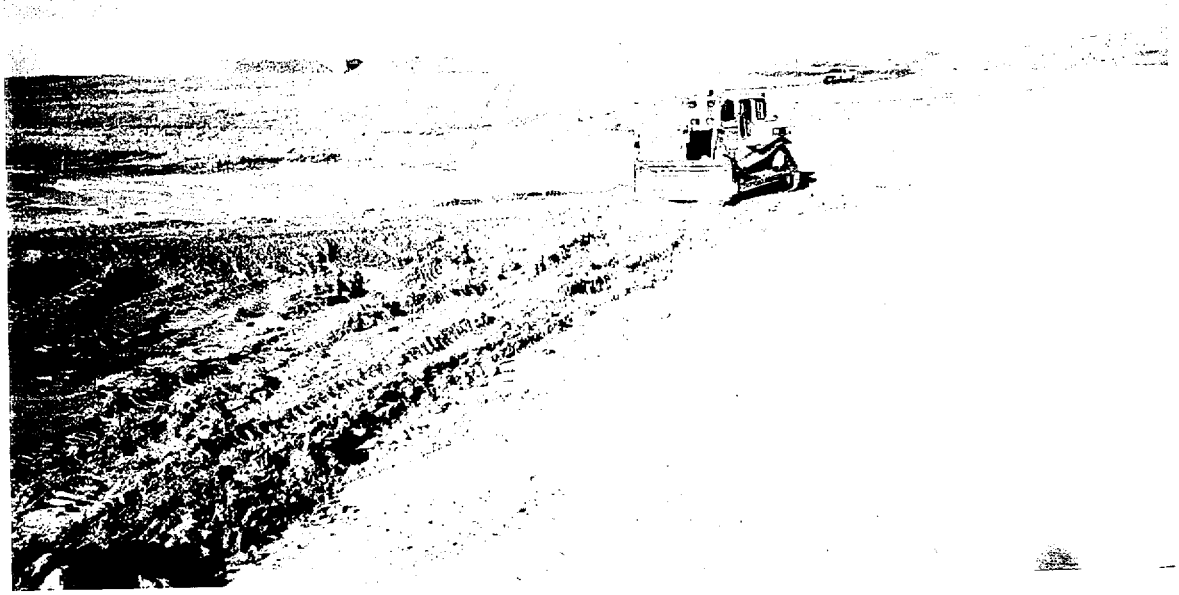
Random fill below Ridge
Photo taken near Reference Axis Station 6+00 looking east

Remaining filter gravel stockpile

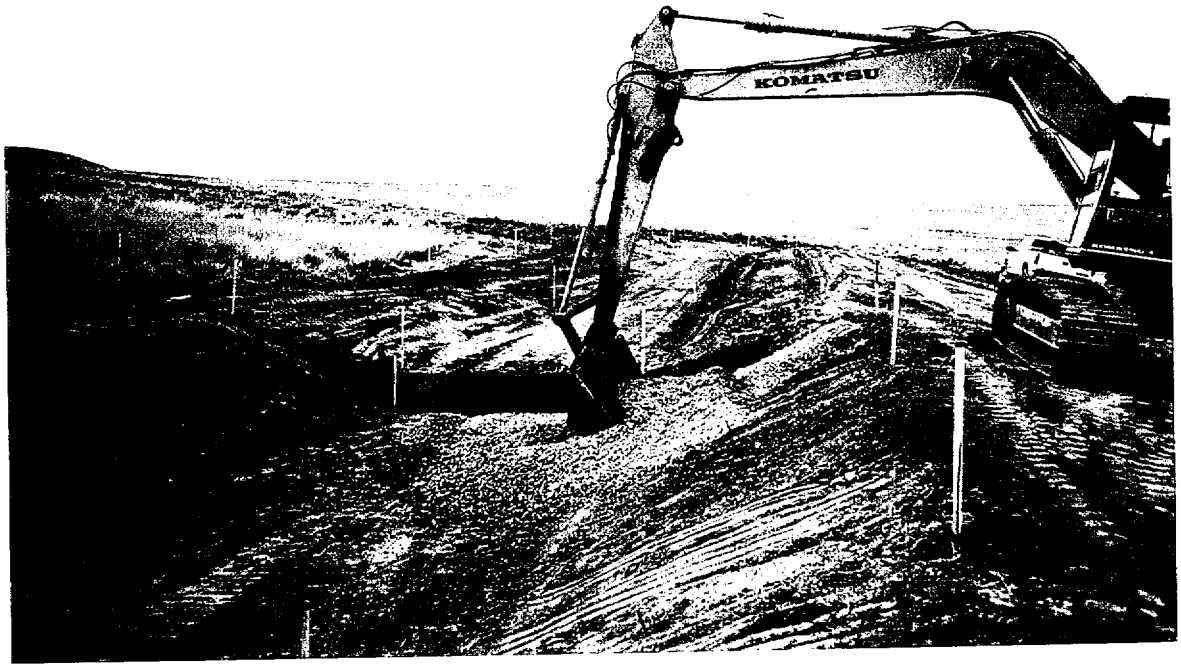
North Wing Dam
Stakes marking location of Ridge



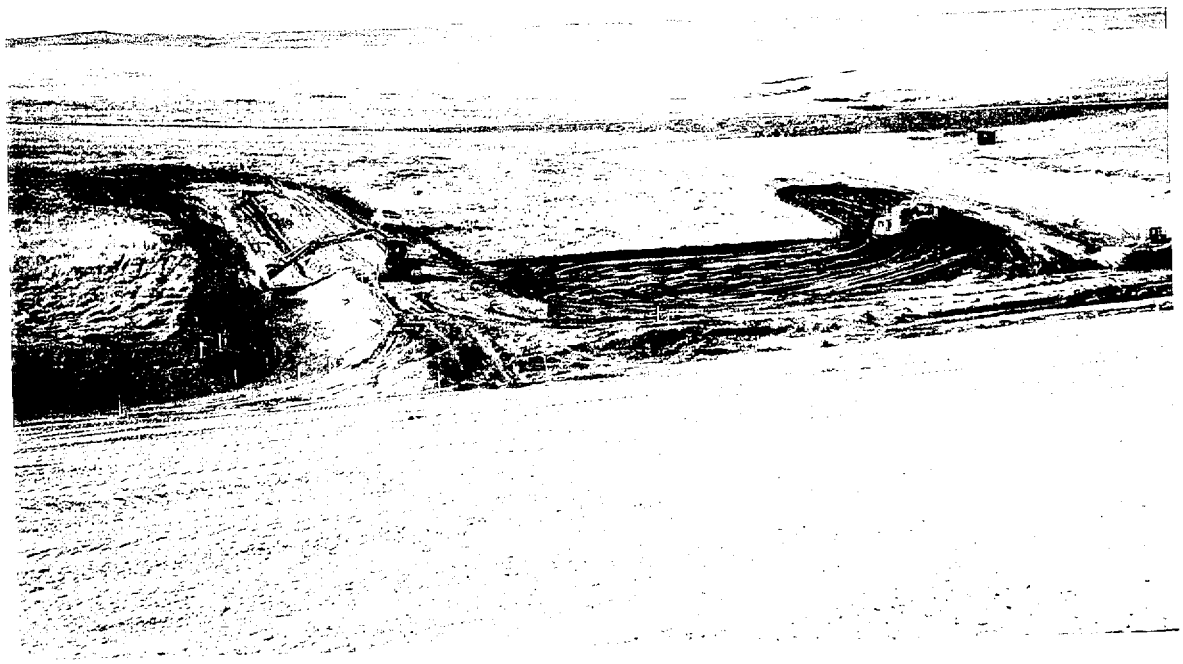
Stripping topsoil to provide an area for stockpiling rock
Photo taken near toe of dam looking north



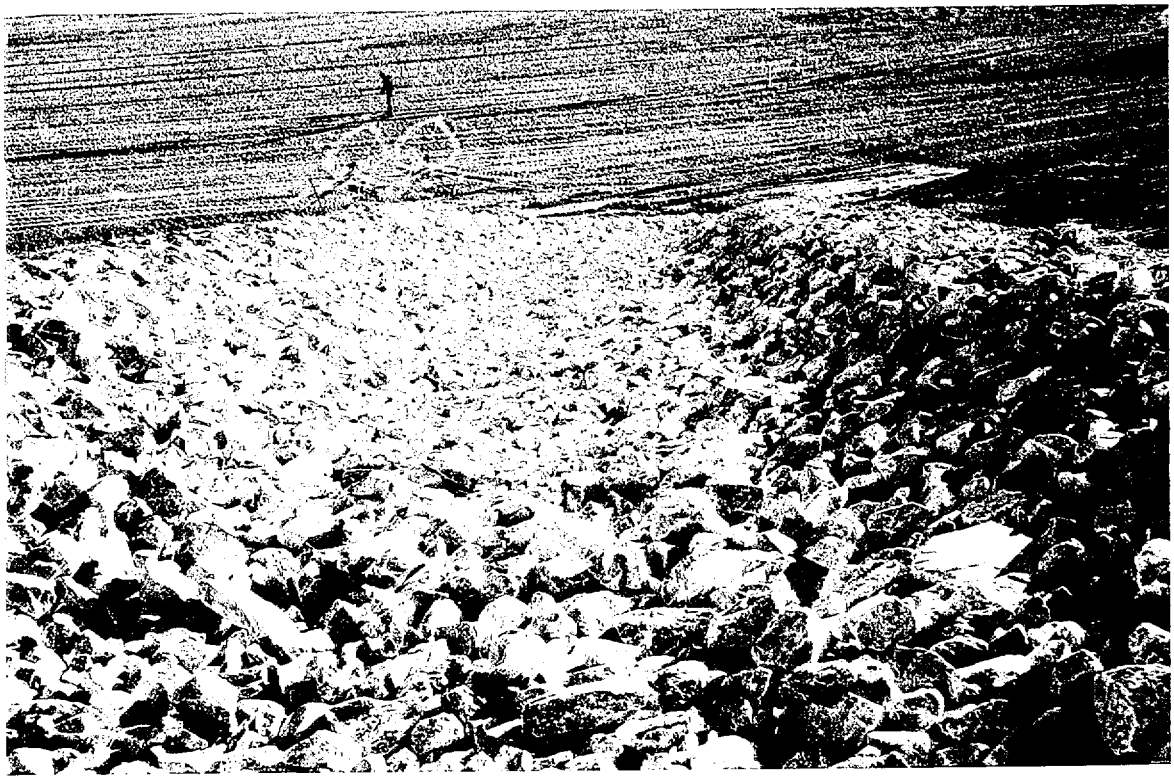
Making access road across the Station 10+00 Channel
Photo taken from toe of dam looking east



Placing filter gravel in inceptor channel below dam
Photo taken near Station 6+00 looking north



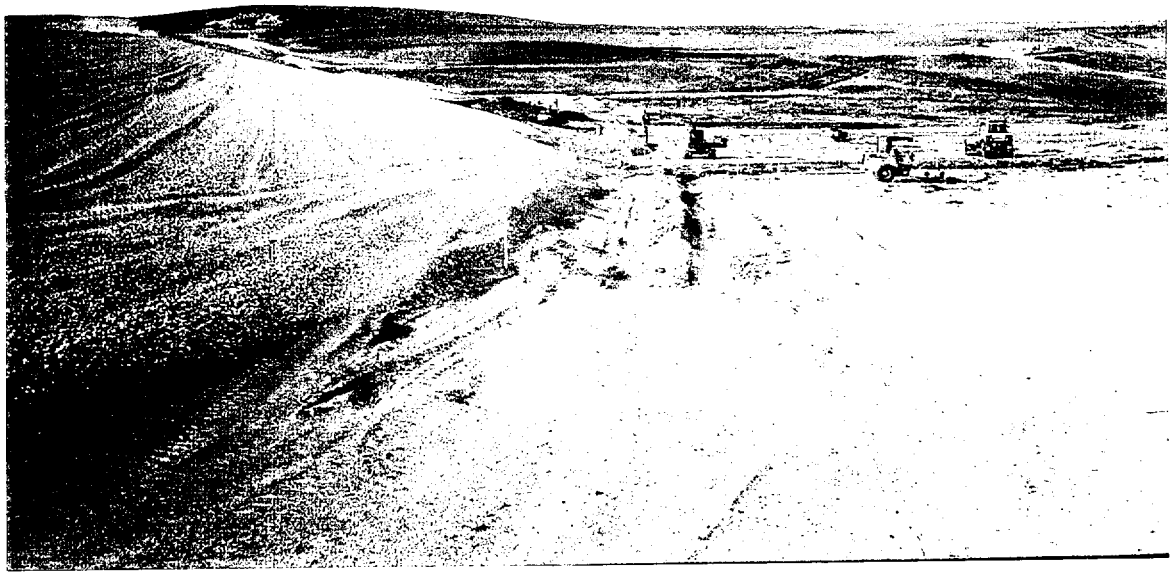
Interceptor Channel west side
Topsoil stripped to provide area for rock stockpile
Photo taken from crest of dam looking north



Size #1 Riprap placed in Interceptor Channel

Scrapers hauling topsoil to upper surface

Stockpile of sandstone rock from diversion channel excavation
Photo taken from Pond 3 looking west

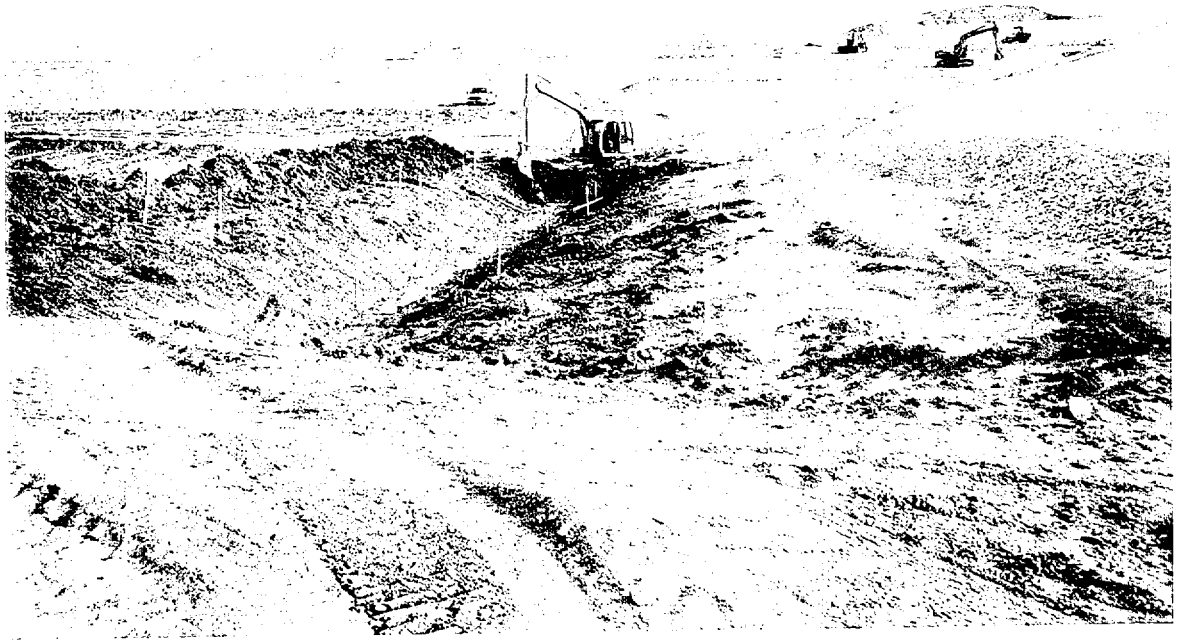


Excavating for east groin ditch
Most of the gravel has been placed on the face of the dam
Photo taken from east abutment looking west

Domson's backhoe spreading filter gravel in west groin trench

Filter gravel in west interceptor channel at elevation 5130
Photo taken near Station 6+00 looking north

Size #1 Riprap placed in west interceptor channel



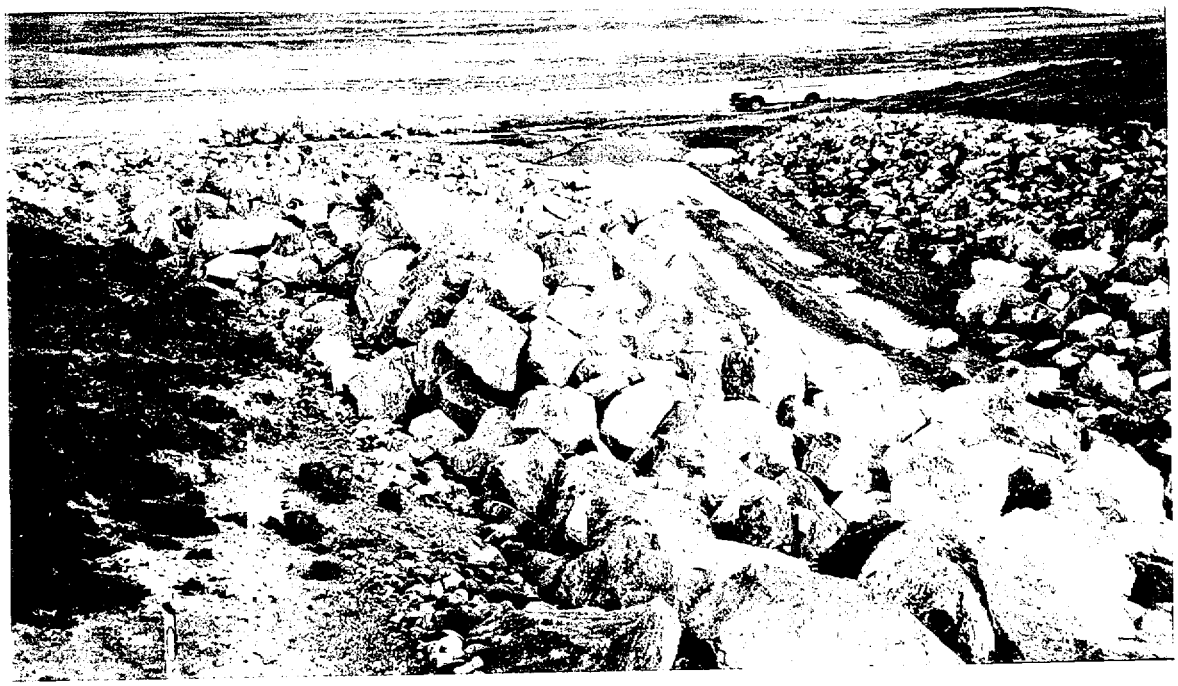
Excavation of groin trench west side between elevation 5130 and 5110
Photo taken looking east

Groin trench west side elevation 5130 to crest
Photo taken near Station 6+00 looking west

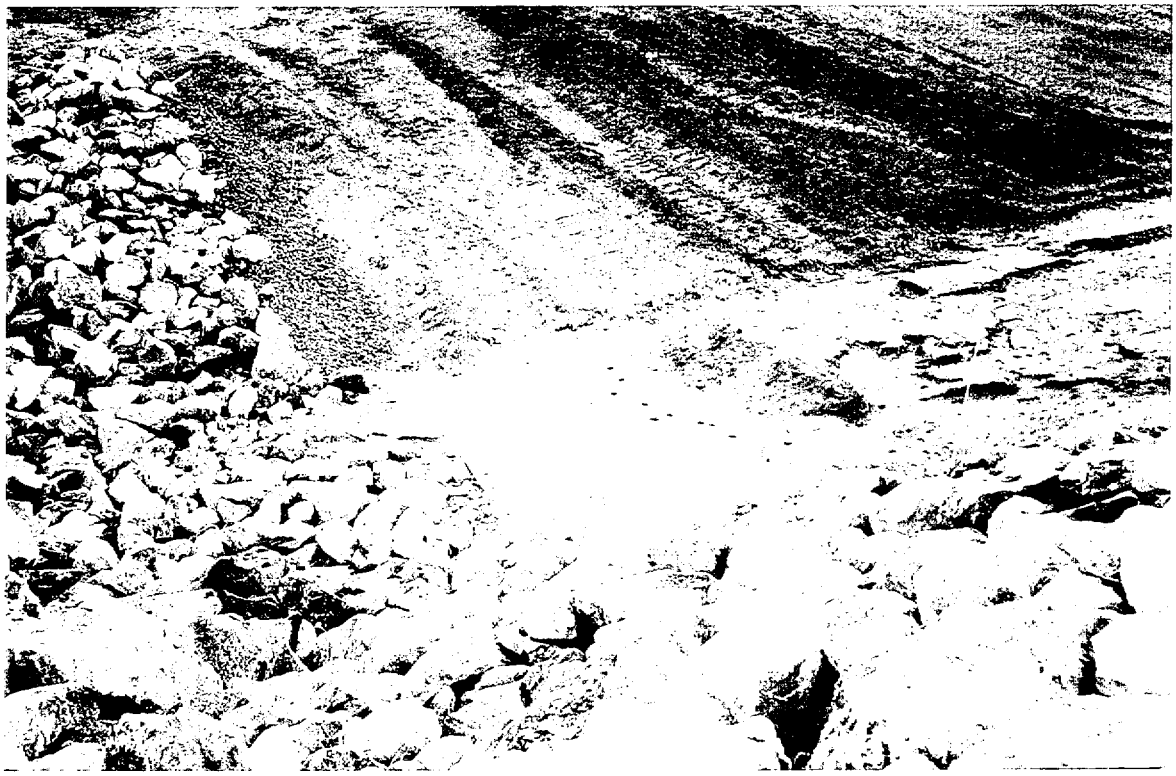
Filter Gravel on donwstream face of dam
Stakes marking transition location at elevation 5129

Rock Weir after pumping out water
Photo taken from Station 0+00 of Rock Weir looking south

Rock Weir
Photo taken from Station 0+00 of Rock Weir looking south

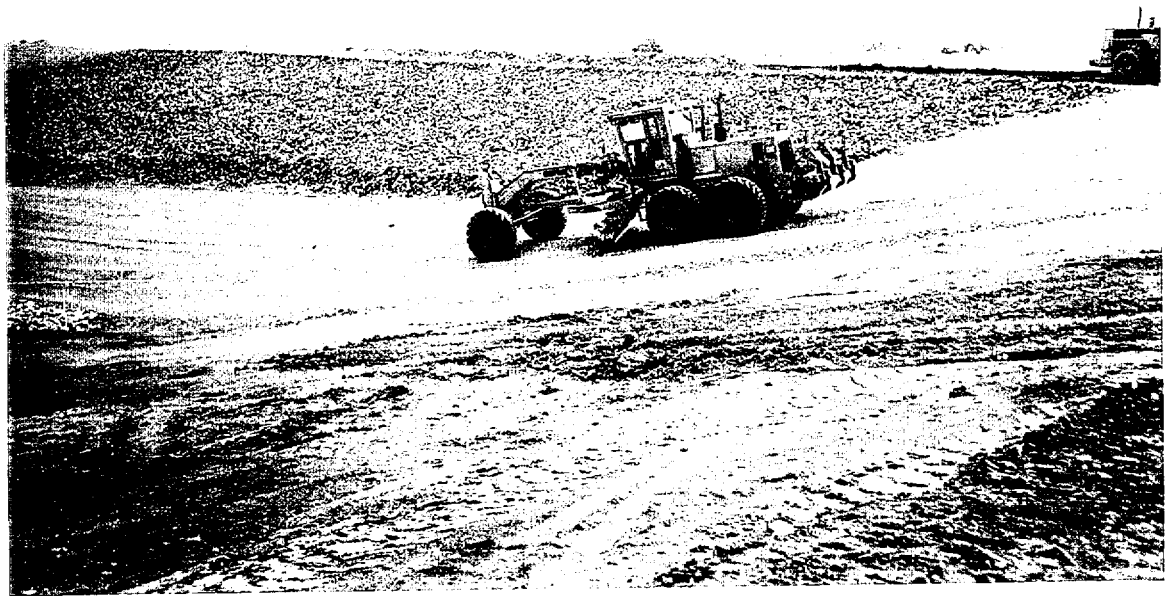


Rock Weir
Photo taken at Station 2+00 of Rock Weir looking north

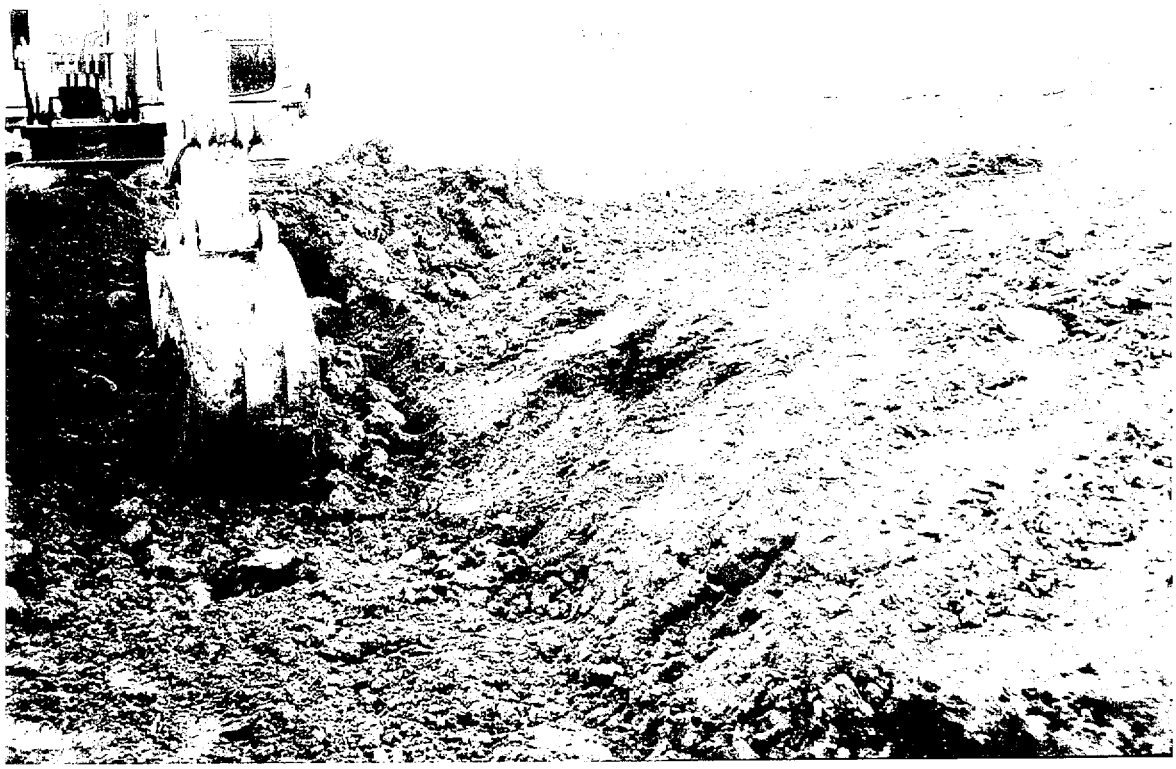


Rock Weir near Station 2+00
Photo taken from west bank looking east

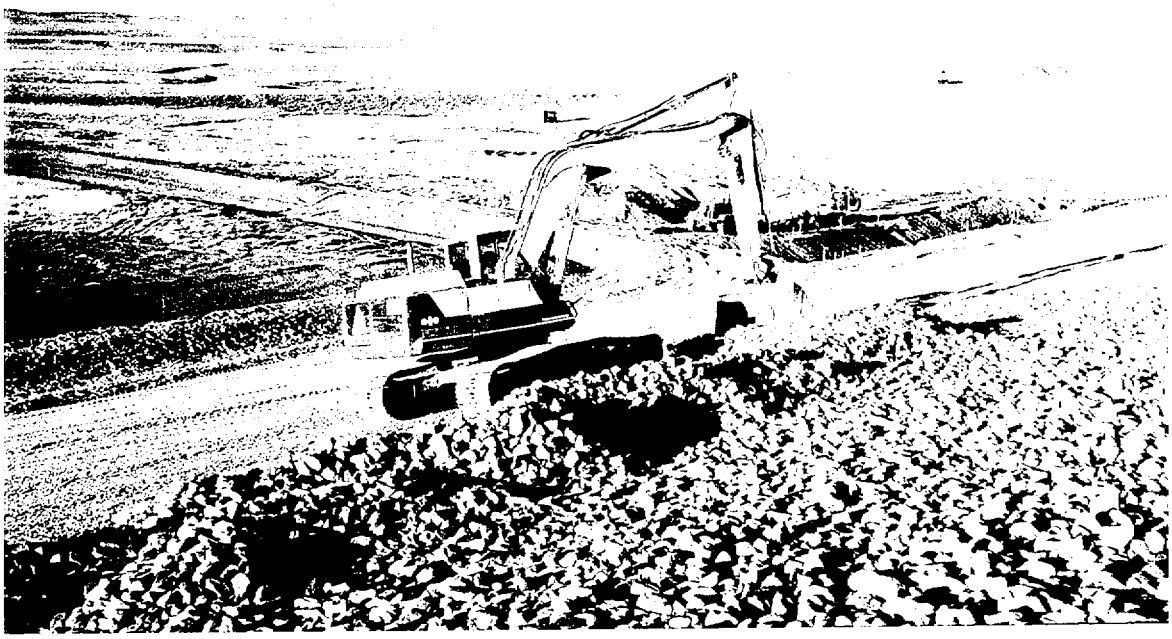
Water ponded in Diversion Channel near Station 4+00



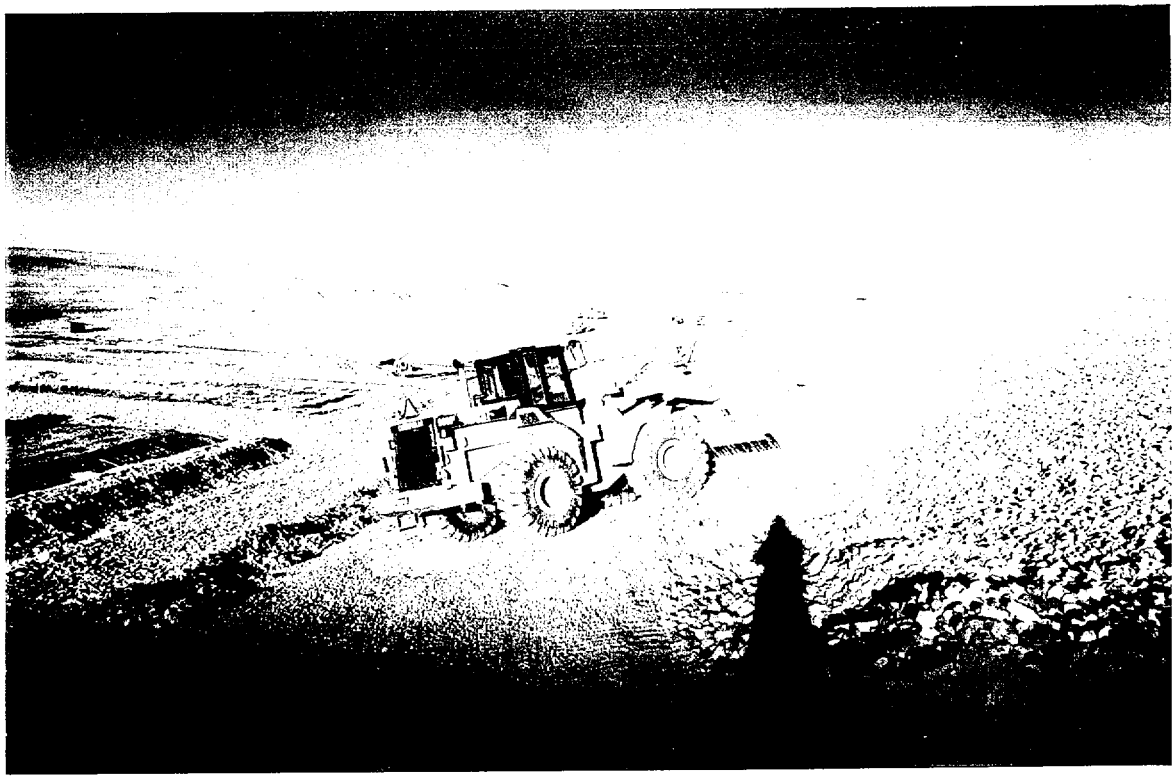
Domson's Motor Grader spreading filter gravel at west abutment
Photo taken from west bank of the Diversion Channel looking southeast



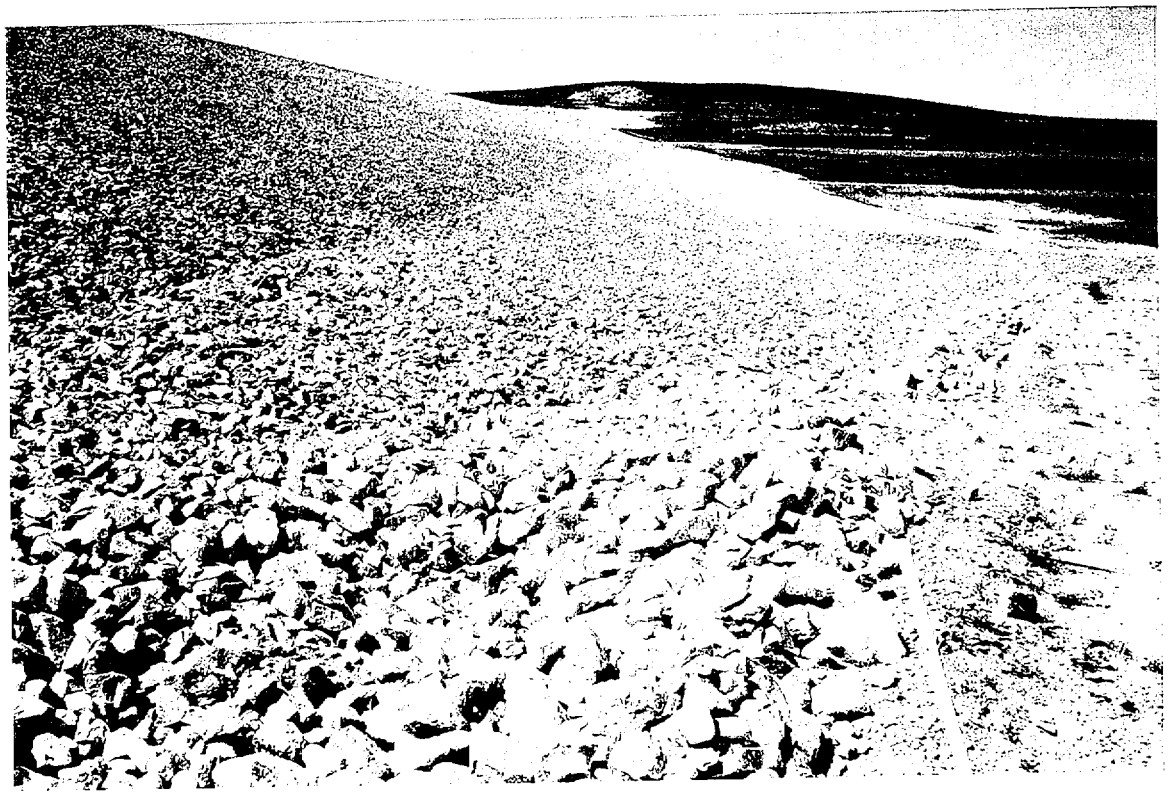
Carr's Backhoe excavating west groin trench



Placing 3-inch rock lower west side of dam



Loader was used to carry 3-inch rock from stockpile on crest of dam

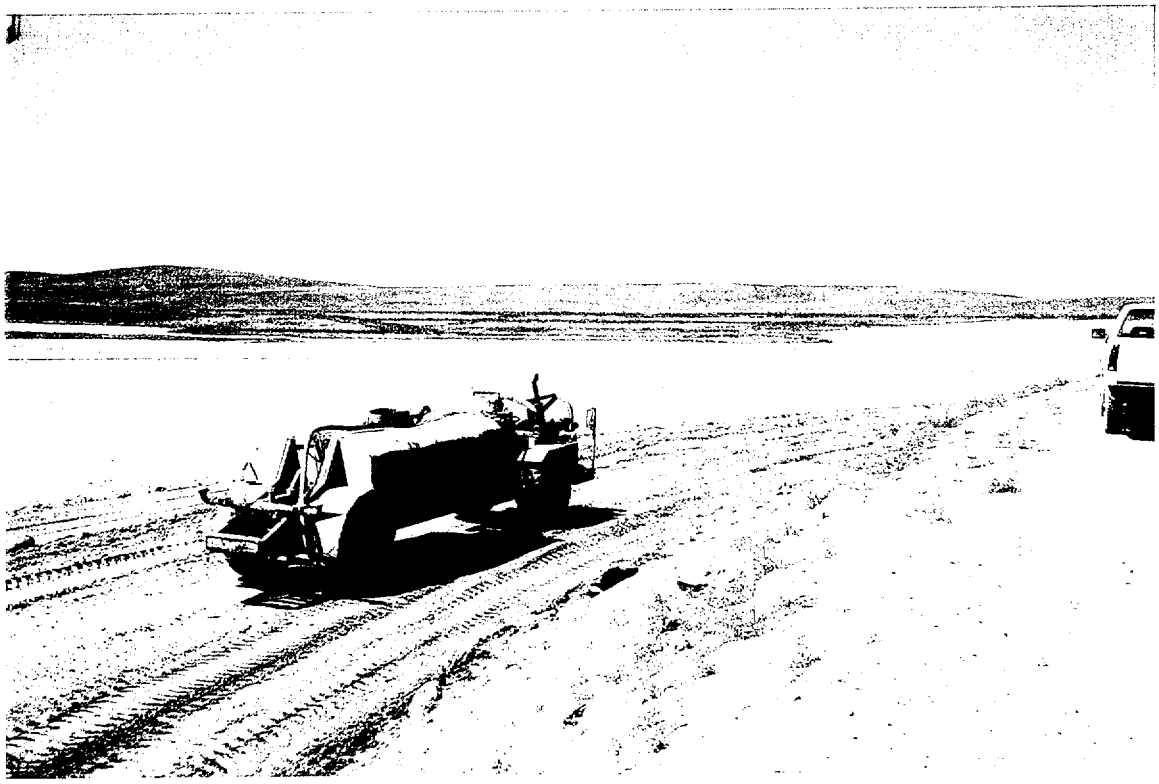


3-inch Quartzite Rock on upper portion of dam face has reddish color
4-inch Dolomite on the lower portion of the dam has lighter color
Photo taken from east bank looking west

Rock placement on the channels below the dam is not yet complete
Photo taken at Station 12+00 of Dam

Diversion Channel Vegatation
Photo taken near Diversion Channel station looking north

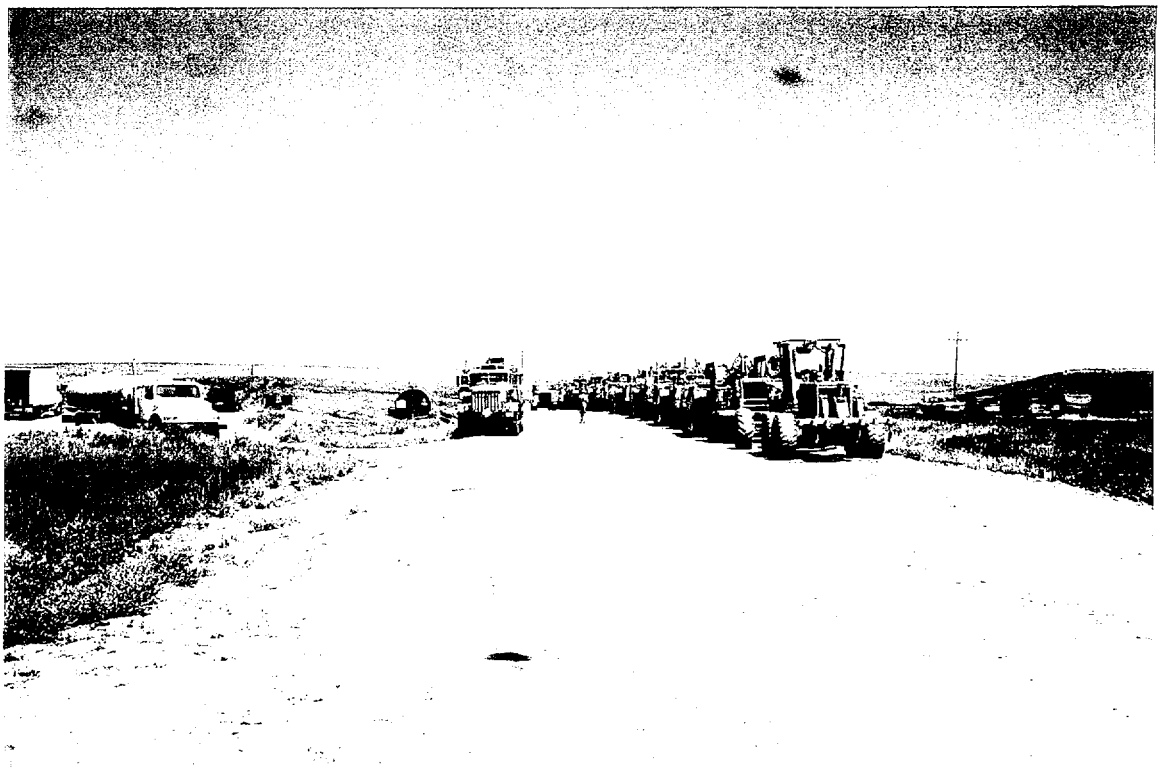
Diversion Channel area south of Station 16+00
Still needs to have topsoil placed
Photo taken from east side of channel looking south



Random fill below Ridge
Water Truck used to add moisture to the fill
Photo taken near Reference Axis Station 14+00 looking west

Ridge
Photo taken from Ref Axis Station 4+00 looking east

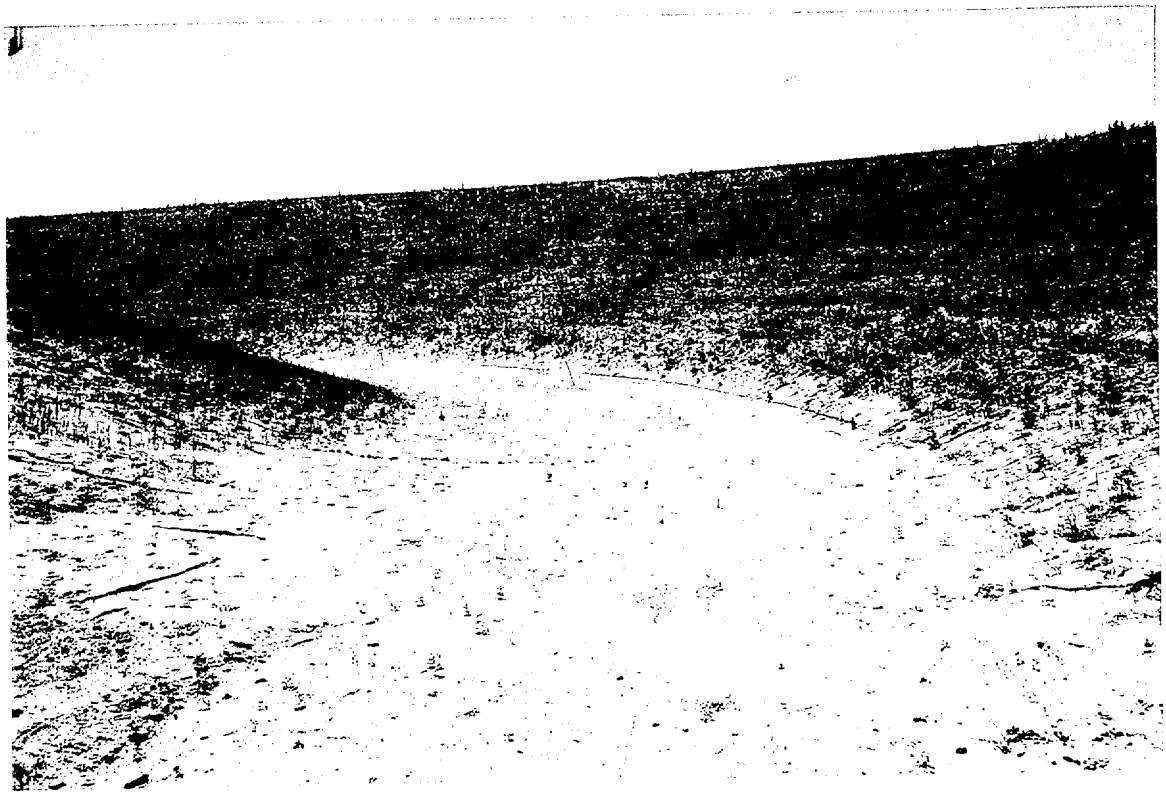
Rock stockpiles for the Chute
Photo taken near east side of Chute looking northeast



Carr's equipment fleet
Photo taken near W8 access road looking north

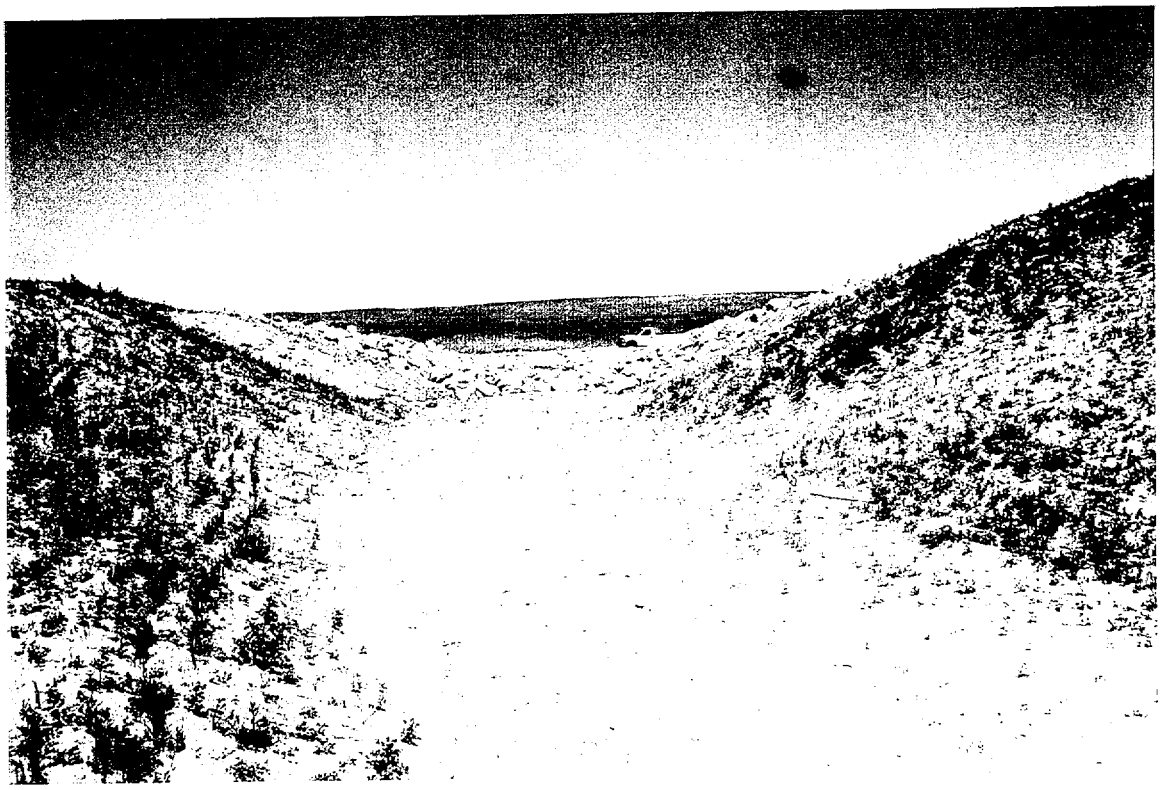
Rock Weir west side
Photo taken from Diversion Channel Station 2+00 looking north

Rock Weir west side
Photo taken from east side Diversion Channel Station 2+00 looking west



Bottom of Diversion Channel needs final grading and topsoil
Photo taken from Diversion Channel Station 2+00 looking south

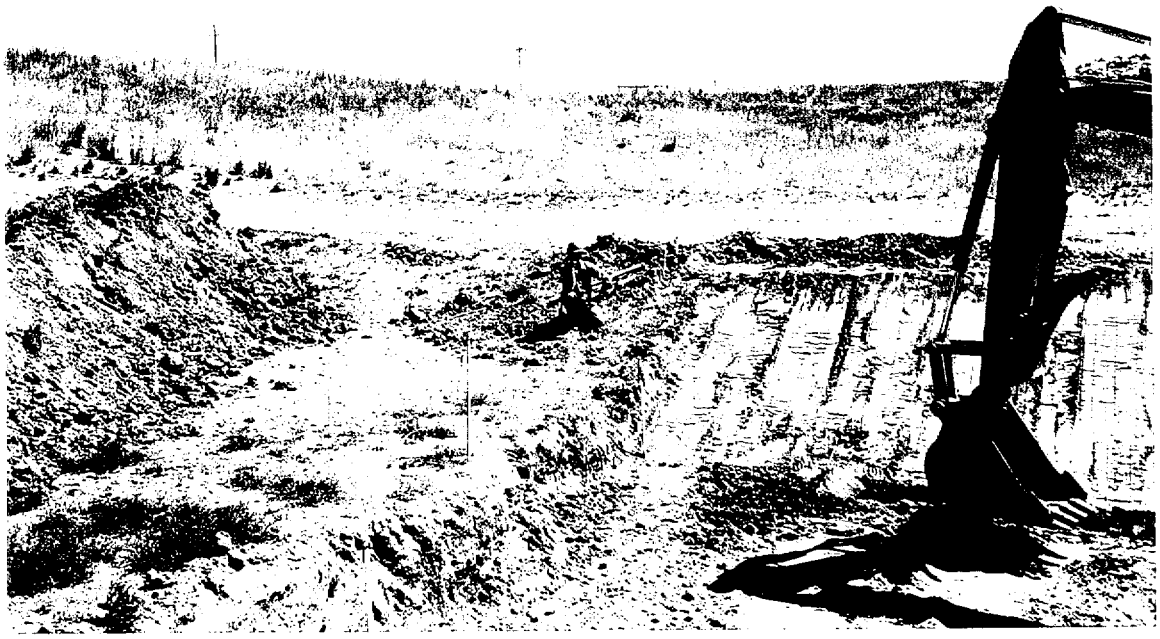
Bottom of Diversion Channel needs final grading and topsoil
Photo taken from Diversion Channel Station 2+50 looking south



Diversion Channel Vegatation & Rock Weir
Photo taken near Diversion Channel Station 3+00 looking north

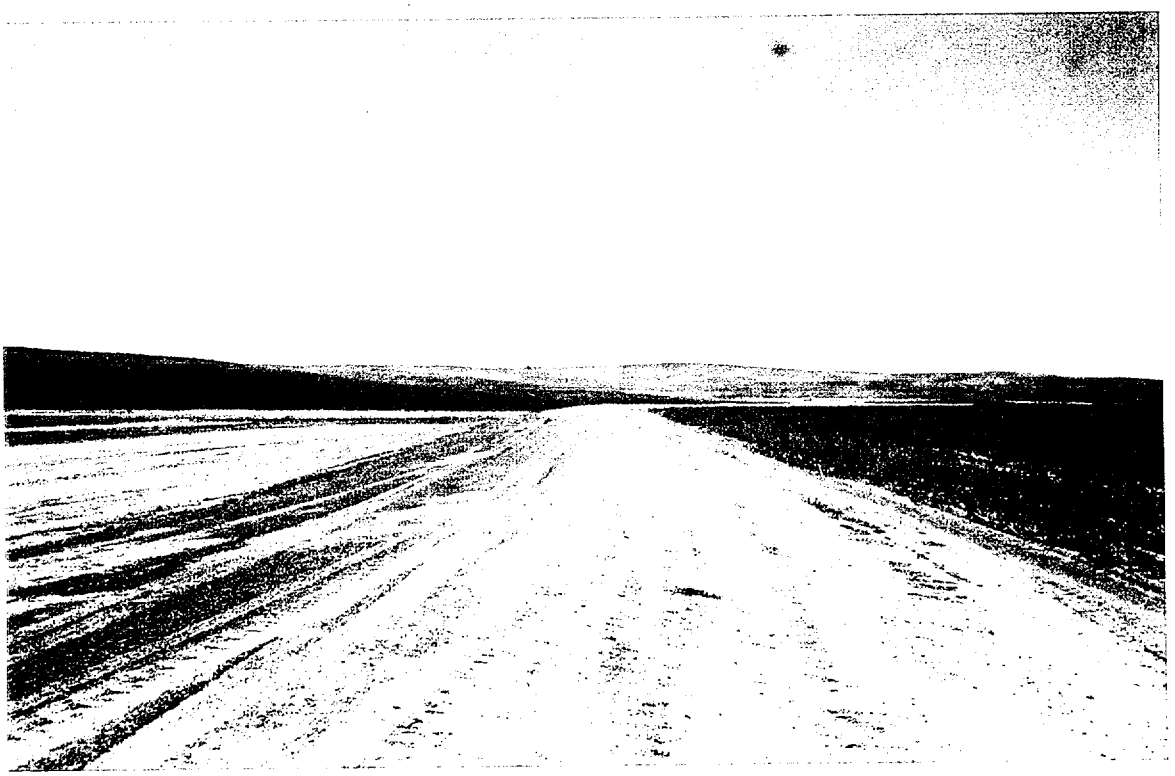
East side of Rock Weir
Photo taken from west side looking east

Excavating and compacting the upper end of the Chute
Photo taken looking northeast from west side of the Chute



Excavating and compacting the upper end of the Chute
Photo taken looking northeast from west side of the Chute
Note temporary dam to prevent runoff from entering the Chute

Topsoil placed on lower surface
Photo taken from west bank of Chute looking west



Ridge after topsoil placement
Photo taken near Reference axis Station 14+00 looking west

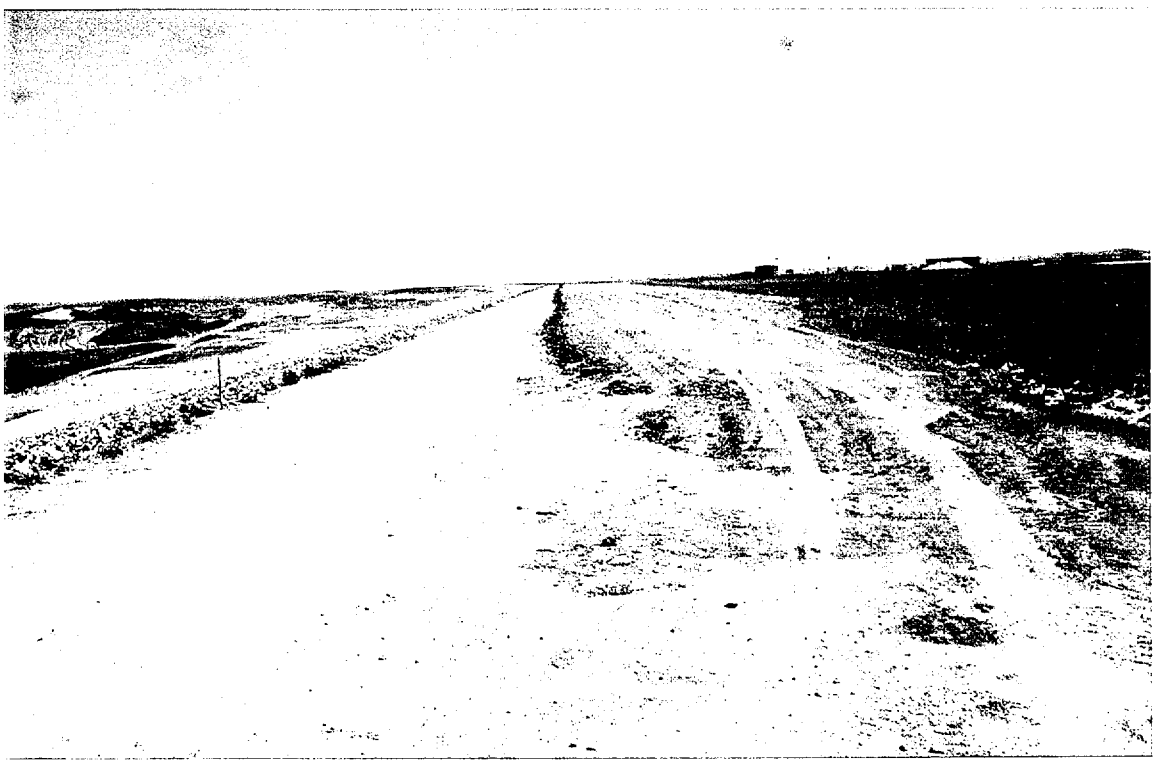
Ridge after topsoil placement
Scraper fleet placing topsoil on southwest end of lower surface
Photo taken near Reference axis Station 12+00 looking west

Ridge after topsoil placement
Photo taken near Reference axis Station 4+00 looking west

Scraper fleet placing topsoil on Lower Surface
Photo taken from Ridge looking south

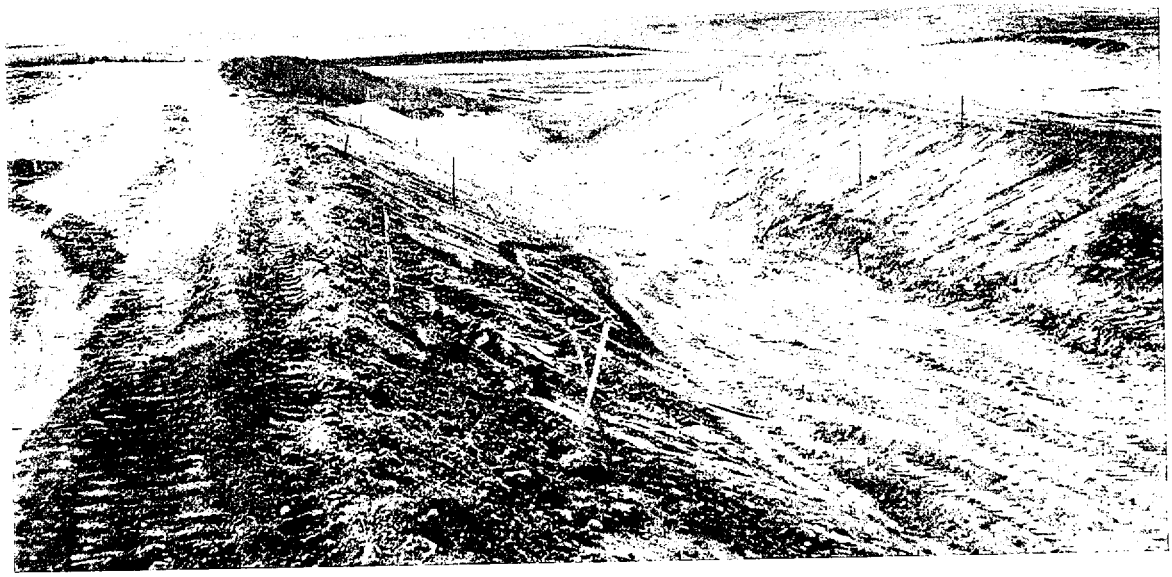
Diversion Channel after topsoil placement
Photo taken near Station17+50 looking northwest

Diversion Channel after topsoil placement
Photo taken near Diversion Channel Station 18+00 looking west



Crest of Dam topsoil placement within 20 ft of crest
Photo taken from west abutment looking east

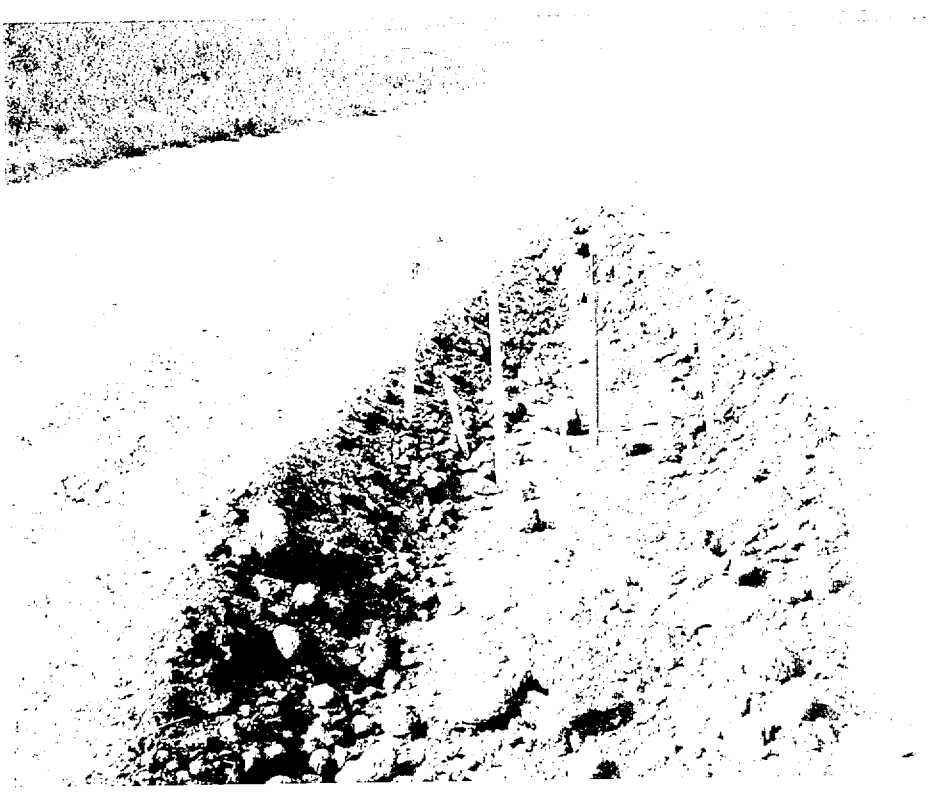
Temporary dam at upper end of the Chute
No rain has produced runoff
Photo taken looking northeast from west side of the Chute



Upper end of the Chute
Photo taken looking south from east side of the Chute

Filter gravel stockpile for Chute

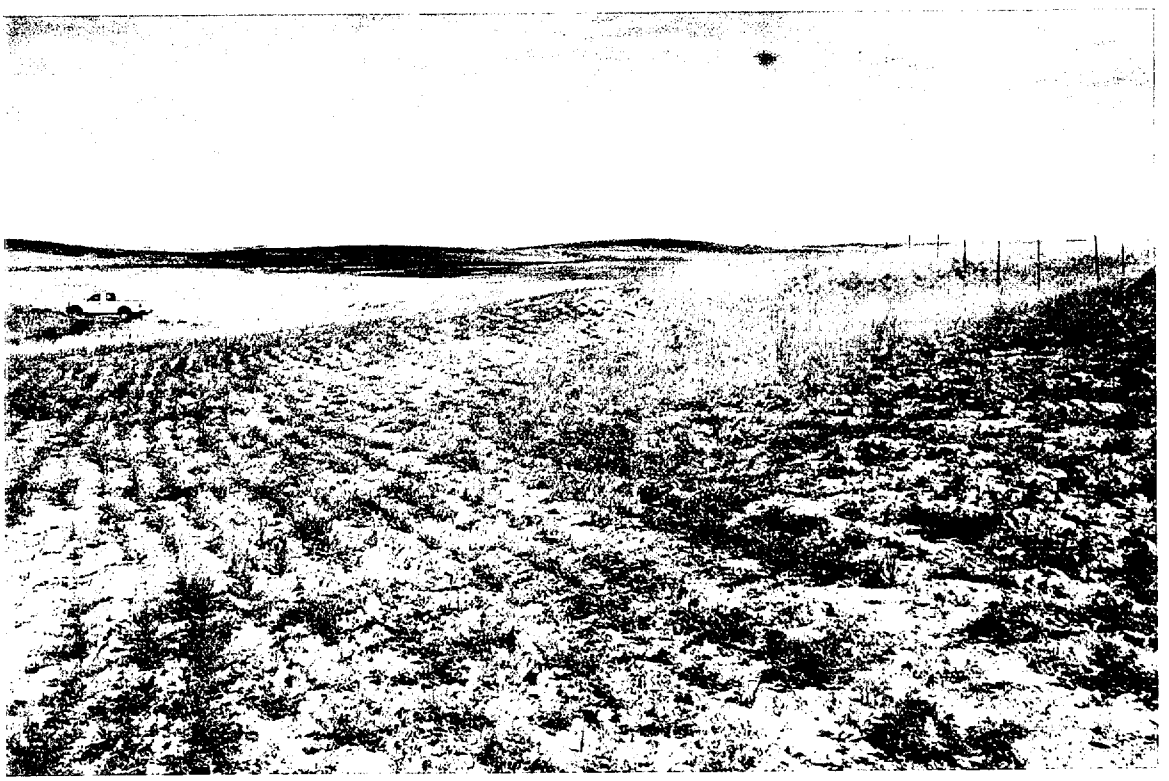
Flowline of the Diversion Channel
Photo taken near Diversion Channel Station 70+00 looking west



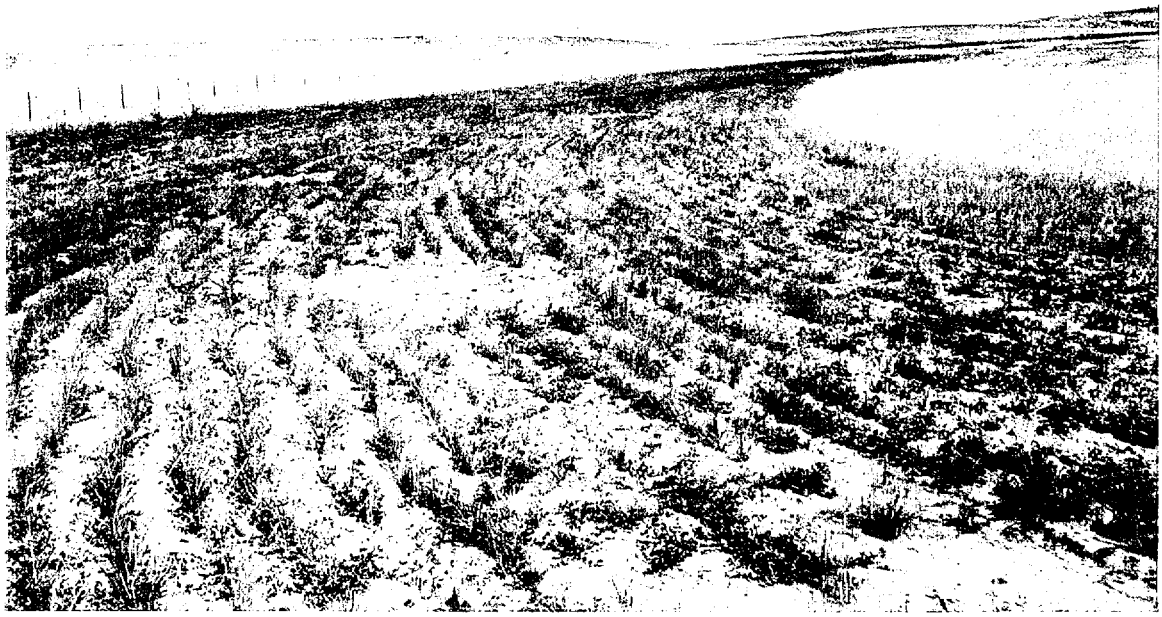
Survey control point
Photo taken near Diversion Channel Station 65+00 looking west

Diversion Channel flowline
Photo taken near Diversion Channel Station 50+00 looking east

Topsoil placed in the South Channel
Photo taken near old 100-year channel looking north



Reclamation vegetation
Photo taken near South Channel looking northwest

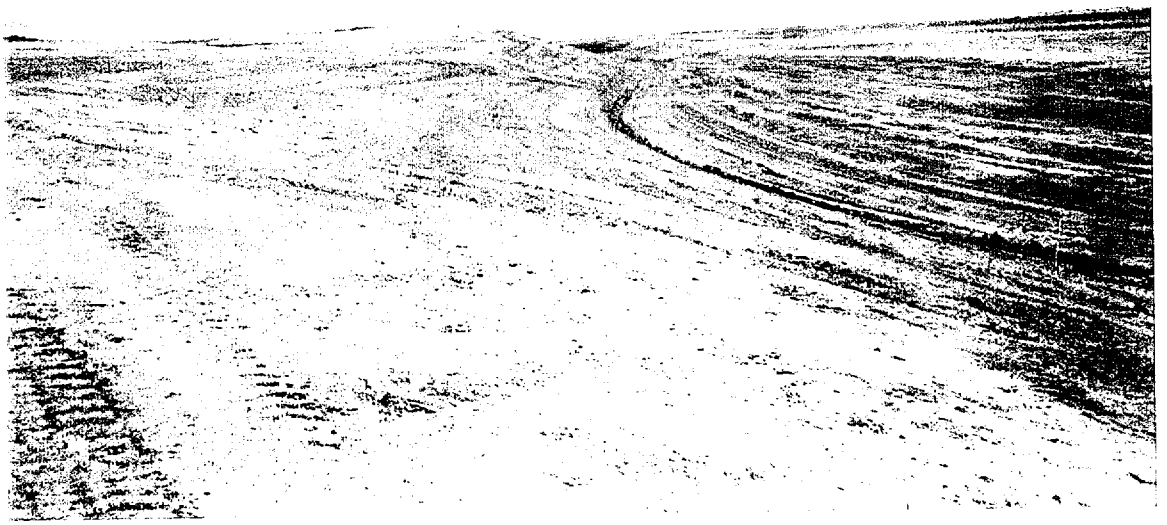


Reclamation vegetation, 100-Year Diversion Channel was removed
from the South Channel to near Diversion Channel Station 37+00
Photo taken looking north

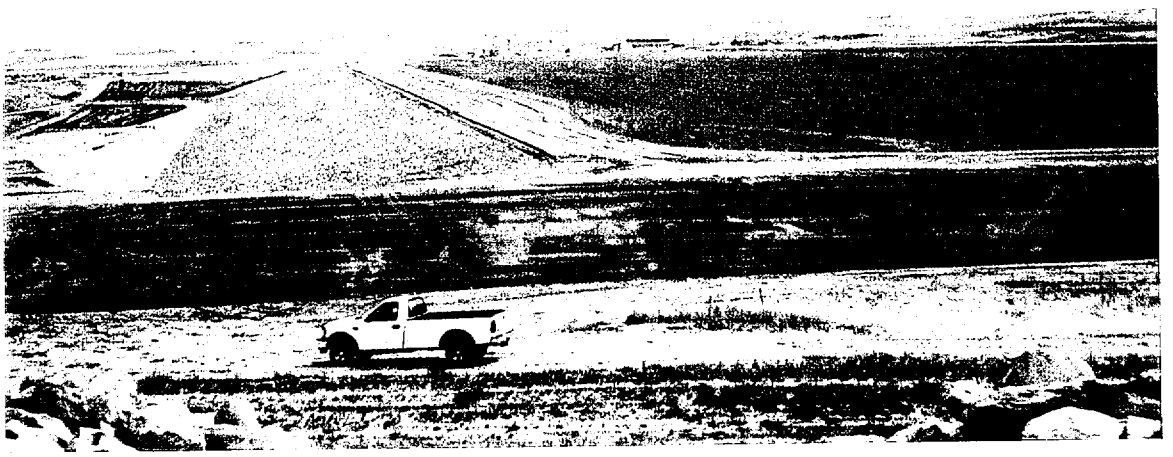
Diversion Channel and South Channel after topsoil placement
Photo taken from west side of Diversion Channel looking south

Reclaimed 100 Year Diversion Channel
Photo taken from west side of Diversion Channel looking south

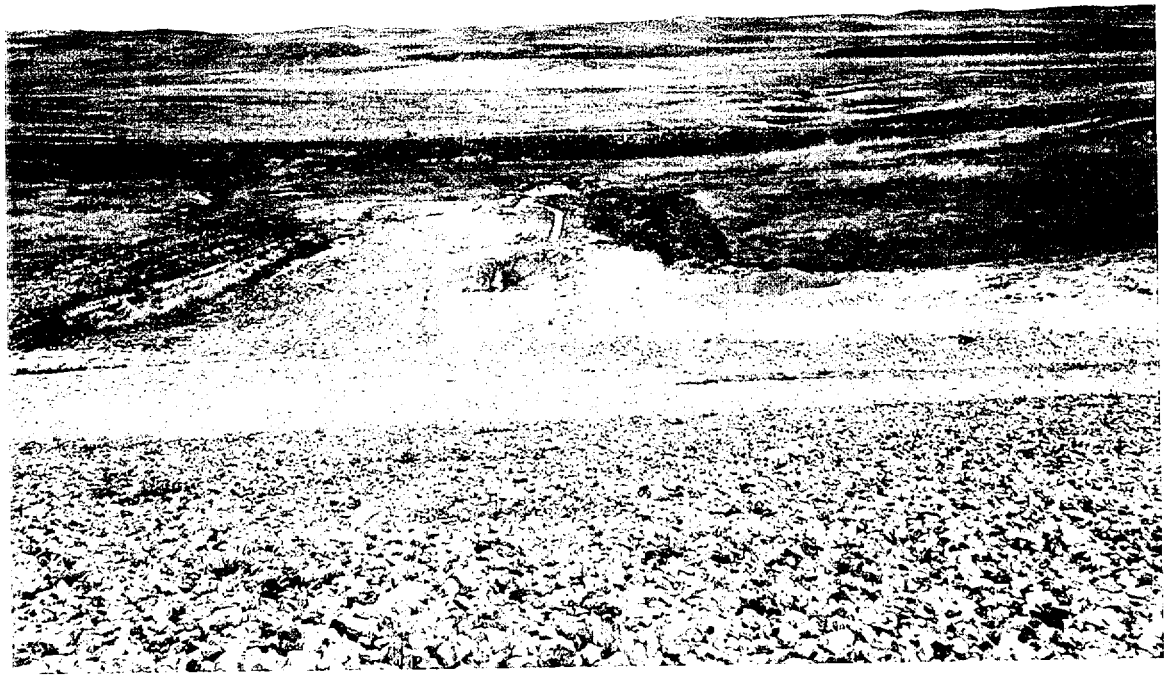
Outlet of Interceptor Channel that flows south
Photo taken looking north



Diversion Channel after topsoil placement
Photo taken looking north



Downstream face of Dam and Diversion Channel
Photo taken from above west abutment looking east



East side Interceptor Channels below dam
Photo taken near Reference Axis Station 10+00 looking northeast

Channel at Station 10+00
Photo taken from Dam Crest near Reference Axis Station 10+00 looking north

Stilling basin of Chute
A trench was excavated through the claystone bottom and 3 ft into sandstone
The excavated trench was filled with gravel to reduce the time water is ponded

Flowline of the Diversion Channel
Photo taken from east side of Chute looking south

Rock weir
Photo taken near Diversion Channel Station 3+00 looking north

Rock Weir
Photo taken near Diversion Channel Station 2+00 looking north

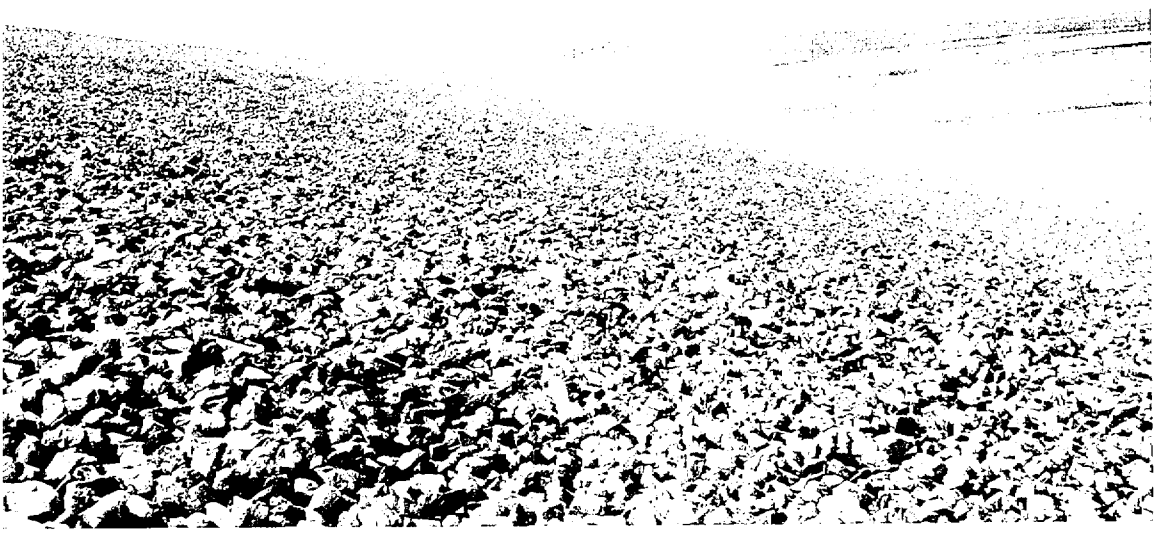
Filter gravel and 3-inch rock placed at Station 0+00 of Rock Weir
Gravel was leveled to 0.01 ft to promote uniform flow
Photo taken from east side looking west

Rock Weir
Photo taken from east side looking southwest

Trig Domson placing remaining 4-inch rock on downstream face of dam
Photo taken looking south from Seepage Control Dam

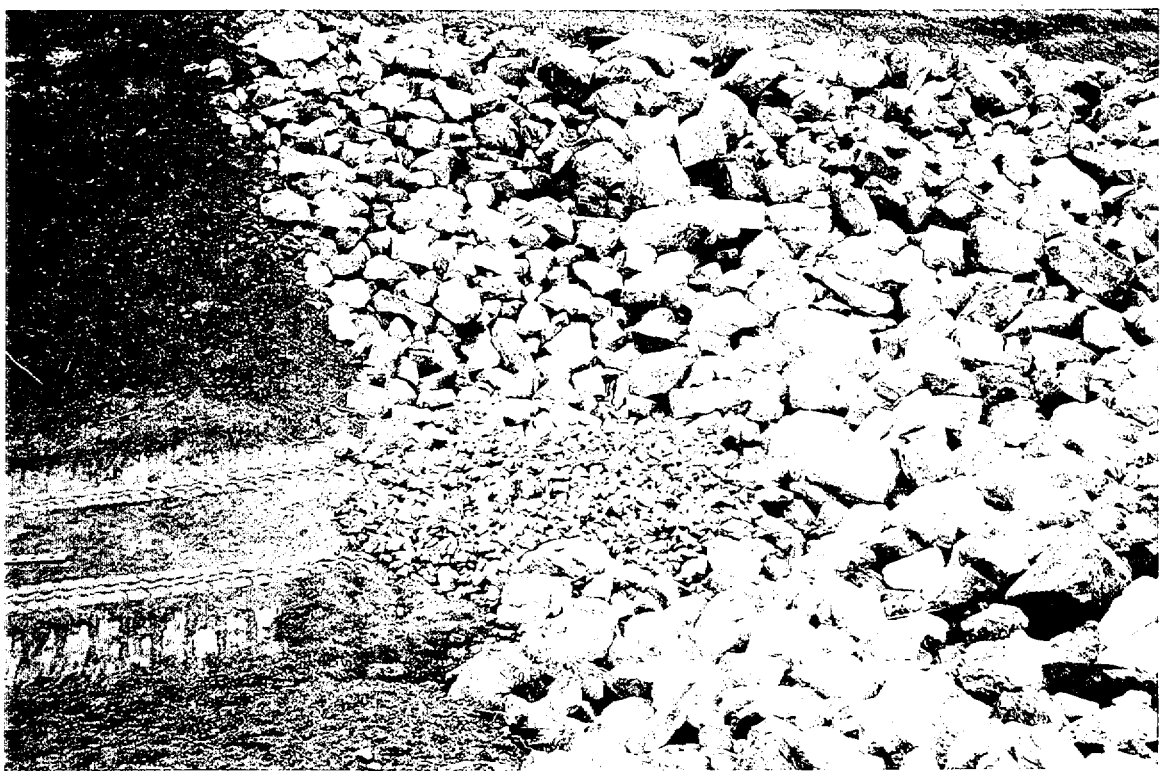
A steel blade was welded to the bucket of the backhoe to aid in spreading the rock
Photo taken from dam face looking northwest

Staking for East Interceptor Channel at elevation 5130
Photo taken looking north



Downstream face of Dam
Photo taken from east abutment looking west

Domson putting finishing touches on Rock Weir
Photo taken looking southwest from Station 0+00



3-inch Rock was placed on the bottom of Rock Weir at Station 1+80 to 2+00
Photo taken looking west from east side of Rock Weir

Domson putting finishing touches on east side of Rock Weir

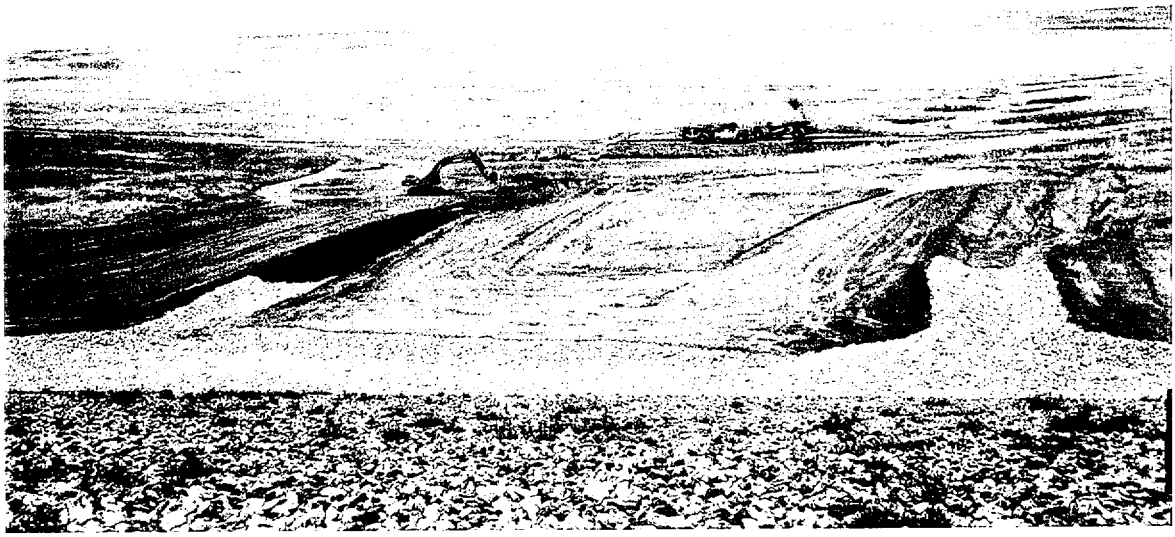
The 3-inch Rock used to fill in voids in the Size 2 Riprap
extended up approximately 2-ft from the bottom of the Rock Weir
Photo taken from east side of Rock Weir looking west

All Rock from the stockpile adjacent to the Rock Weir has been removed
Downstream face of dam and Seepage control dam in distance
Photo taken from top of east bank of Rock Weir looking southeast

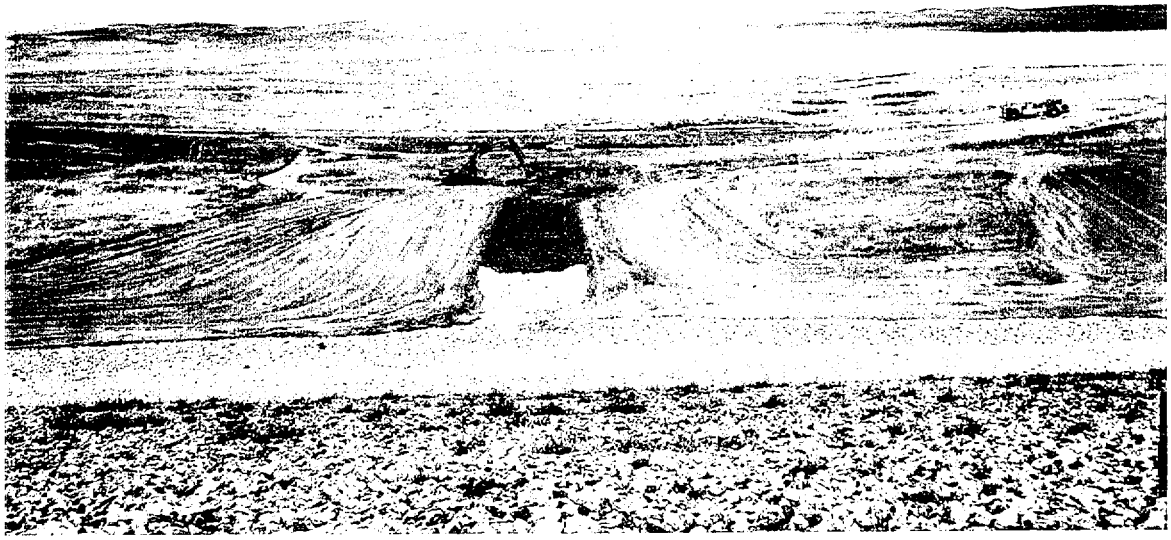
Topsoil places adjacent to crest of dam
Rock placement below dam is complete

East dam interceptor channel Elevation 5130
Photo taken from dam crest looking north

East dam interceptor channel Elevation 5110
Photo taken from dam crest looking north



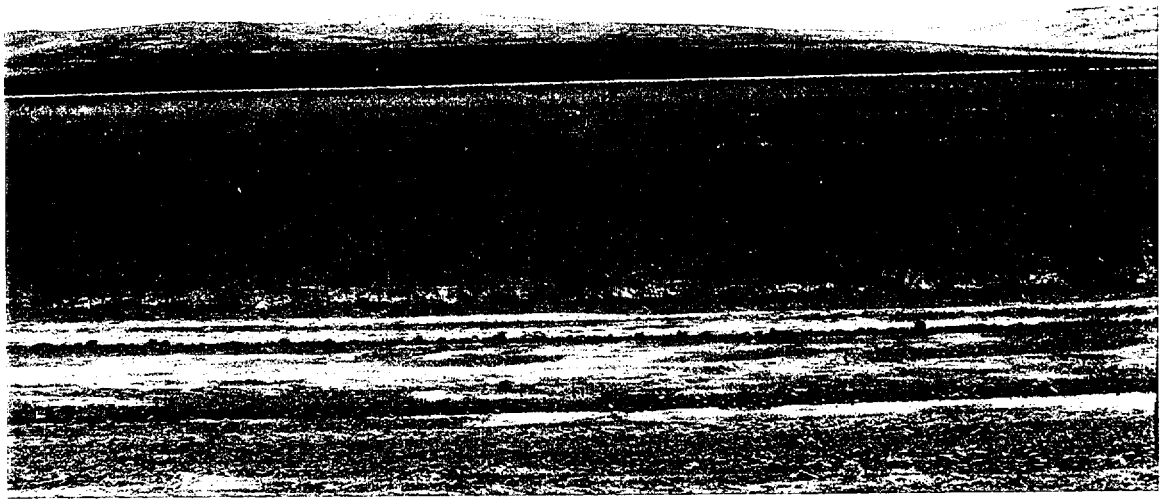
Grading area around old seepage control sump pump
Photo taken from dam crest looking north



Channel at Dam Reference axis Station 10+00
Photo taken from dam crest looking north

West dam interceptor channel Elevation 5110
Photo taken from dam crest looking north

West dam interceptor channel Elevation 5130
Photo taken from dam crest looking north

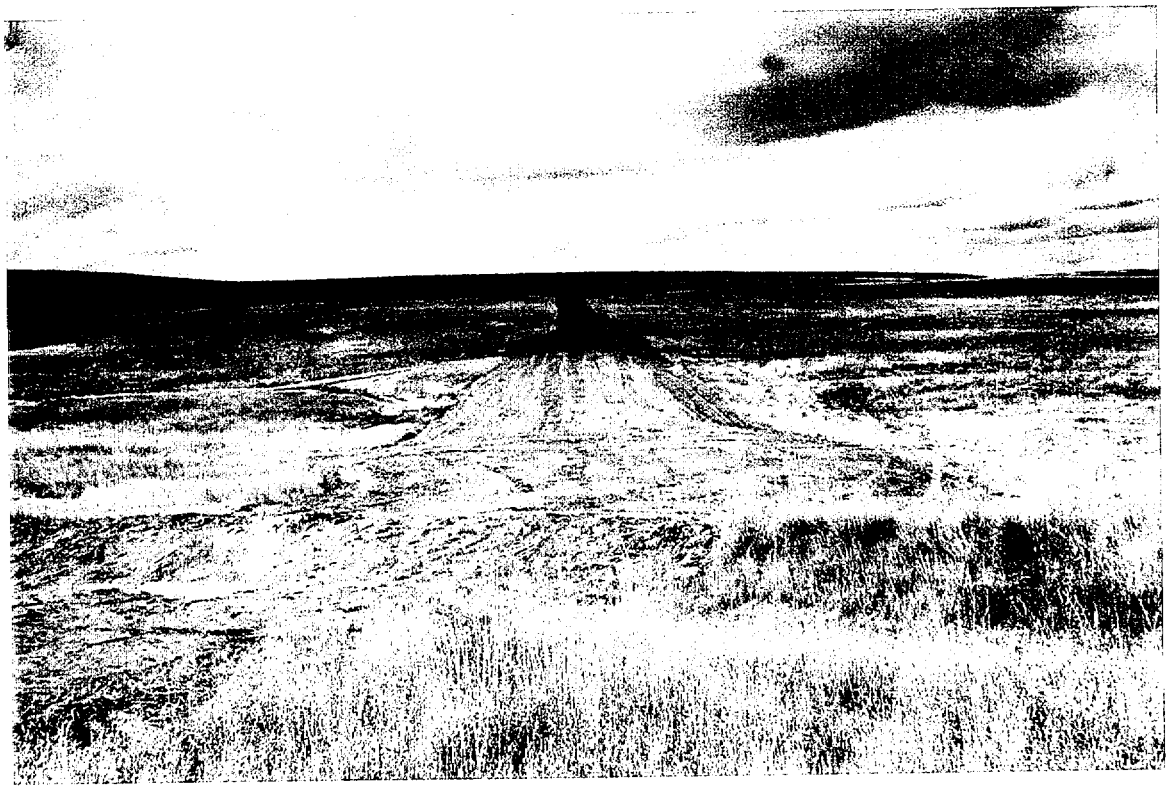


Vegatation on the upper surface
Photo taken from Ridge looking north

Vegatation on the upper surface
Photo taken from Ridge looking north

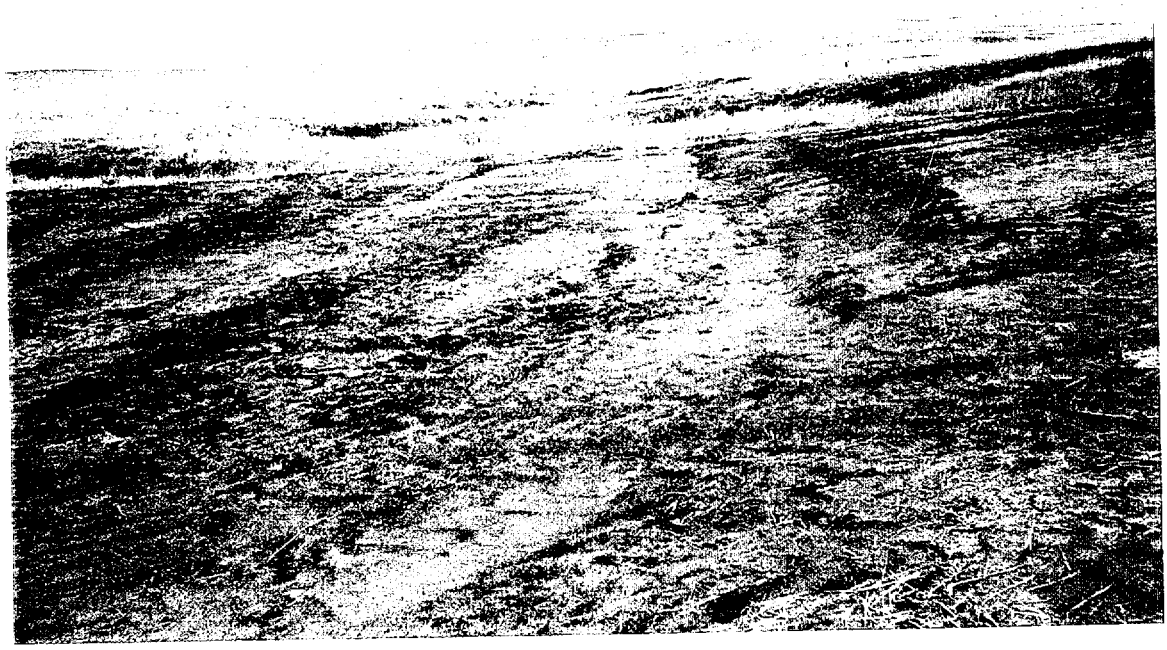
Stockpile of 3-inch Rock southeast of Chute
Photo taken looking east

Downstream face of Dam
Photo taken from east side looking west



Seepage Control Dam after topsoil placed
Photo taken looking west from east abutment

Existing drainage channels on the east side of the Seepage Control Dam
Reestablished to increase drainage area flowing into wetland pond
Photo taken looking southwest



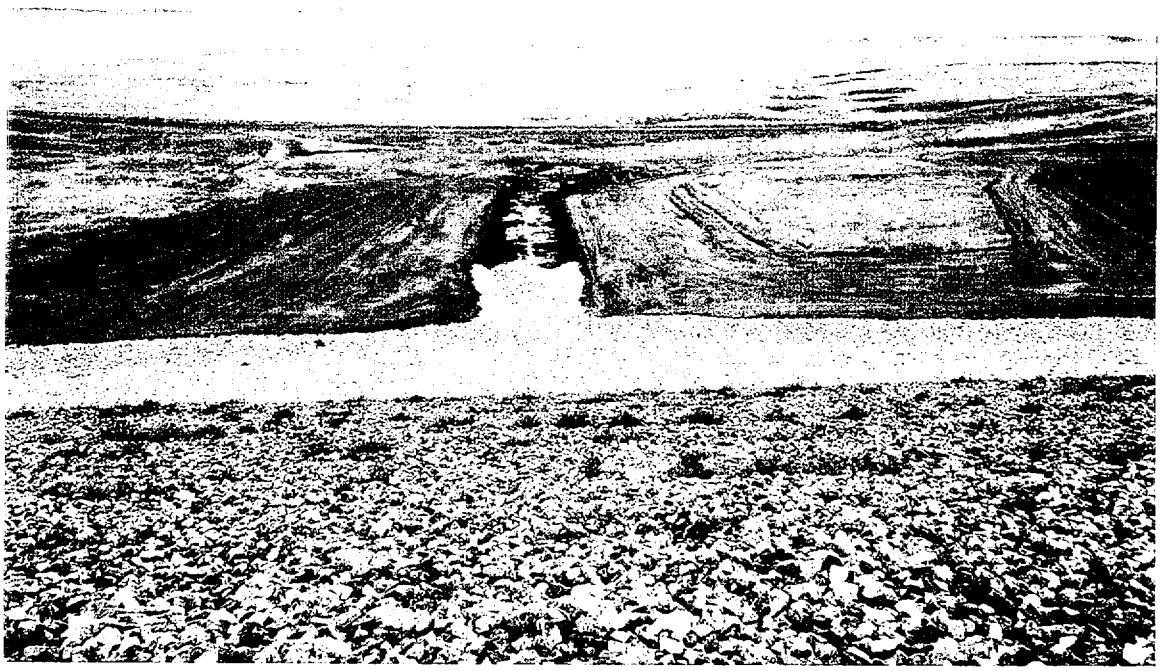
Spillway on east abutment of Seepage Control Dam
Needs additional work

Station 10+00 Channel below dam
Photo taken from Seepage Control Dam looking south

Water ponded in Rock Weir from rainfall on September 2, 1999
Photo taken from east side of Rock Weir looking west

Water ponded in Rock Weir
Photo taken from west side looking northeast

East dam interceptor channel Elevation 5110, some ponding occurred
Photo taken from dam crest looking north



Channel at Dam Reference axis Station 10+00
Photo taken from dam crest looking north

Water ponded in Diversion Channel
Photo taken from east bank near Station 12+00 looking northwest

Water ponded in Diversion Channel
Photo taken from east bank near Station 17+00 looking southwest

Water ponded in Diversion Channel
Photo taken from east bank near Station 20+00 looking south

Water ponded on lower surface
Photo taken from Diversion Channel looking southeast

Filter gravel in Chute
Photo taken looking south from west bank

Filter gravel on east side of Chute
Photo taken looking east from west bank

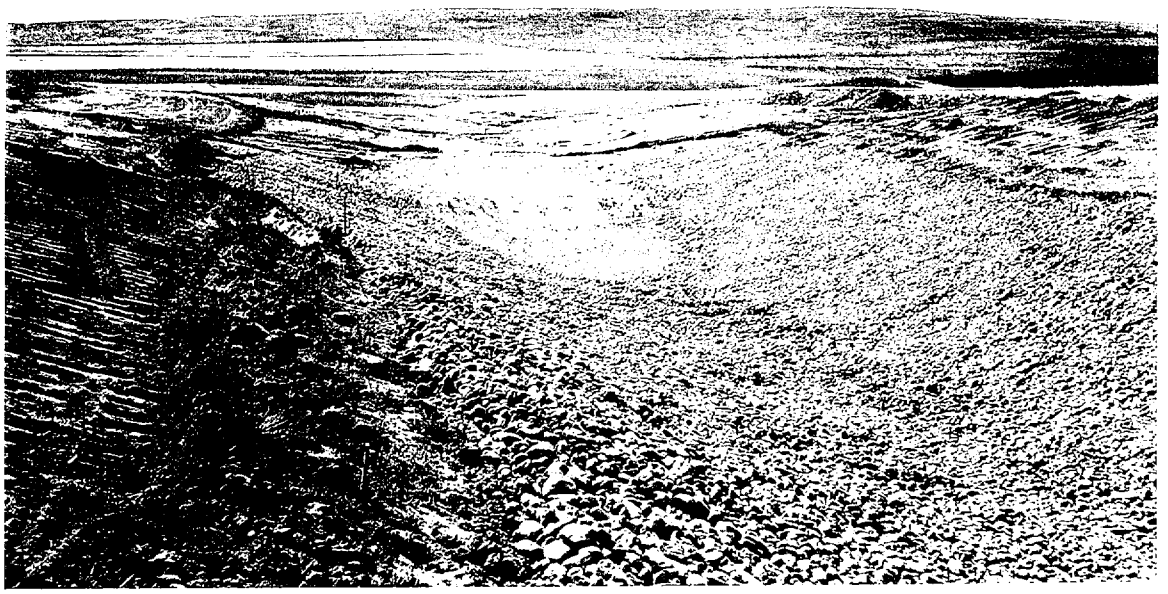
Placement of D_{50} = 24" Riprap in Chute
Photo taken looking west from east bank

Trig Domson just finished placement of D_{50} = 24" Riprap in Chute
Photo taken looking west from east bank

Chute control section
Photo taken from Chute Approach Station 0+45 looking south

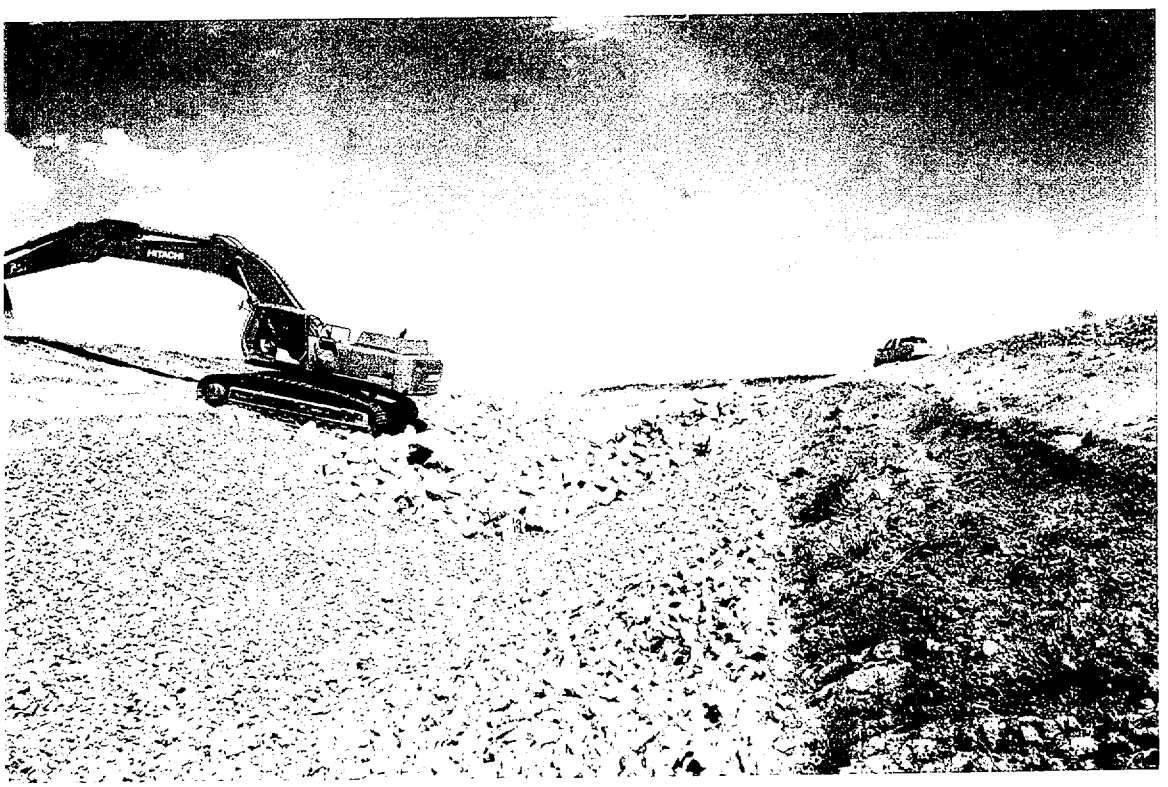
Loader used to transport riprap from stockpile to side slopes of chute

3-inch rock on west side of Chute
Photo taken from east bank looking west



Filter gravel in Chute
Photo taken looking south from east bank

Interceptor Channel on east side of Chute
The purpose of the Interceptor channel is to reduce erosion on the Chute side slopes
Photo taken looking south from east bank



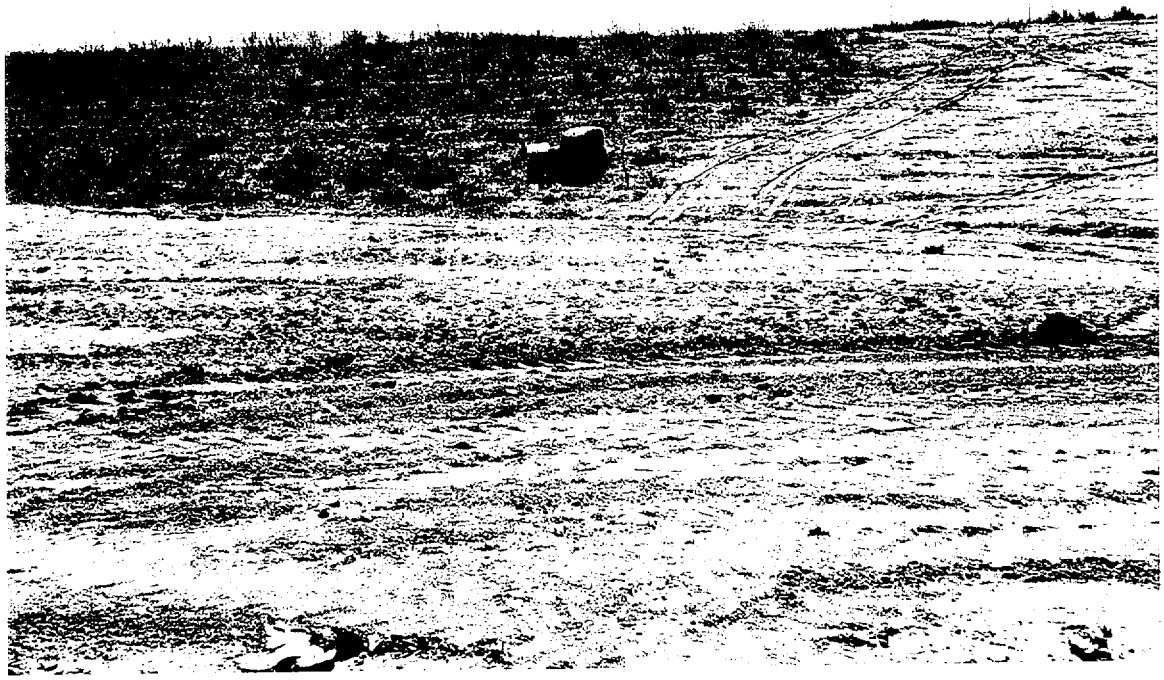
Size #1 Riprap placement complete
Photo taken from east bank looking north

Loader moving Size #2 Riprap to Chute
Photo taken from east bank looking north

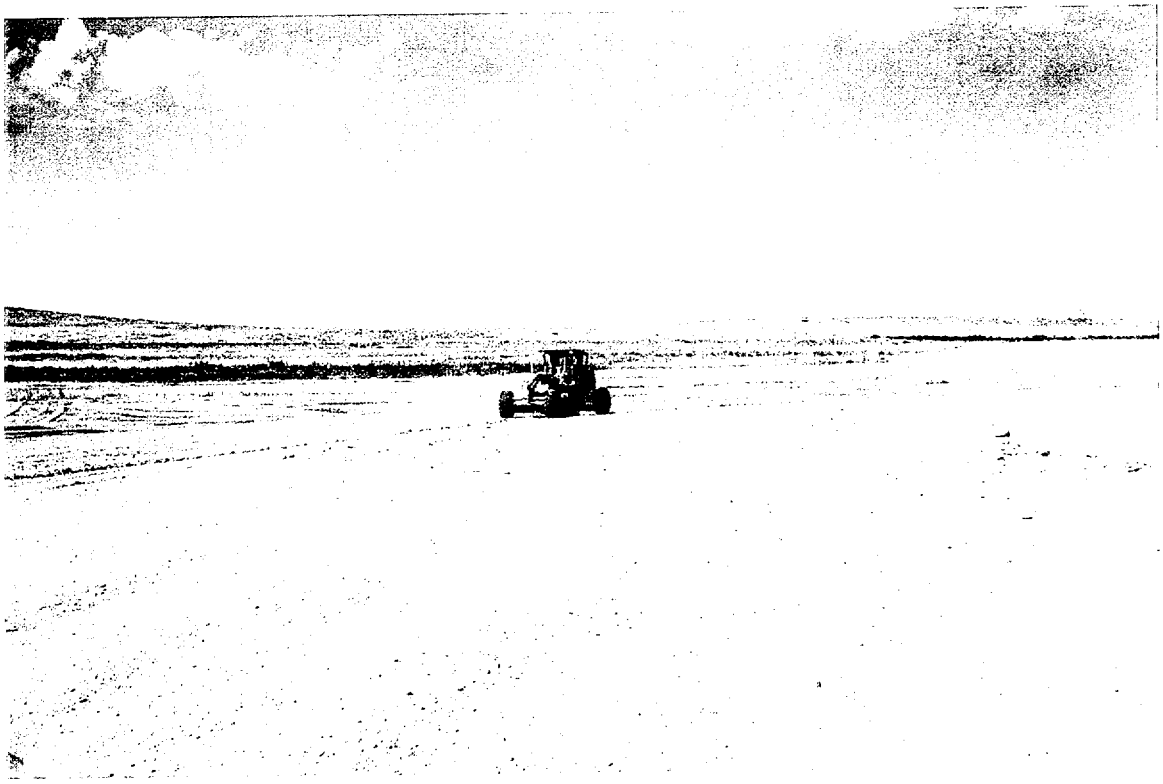
Riprap stockpile for Chute

3-inch River Gravel stockpile for lower portion of Chute
Photo taken looking east

Adjusting the Flowline of North Channel
Photo taken from west bank of Chute looking west



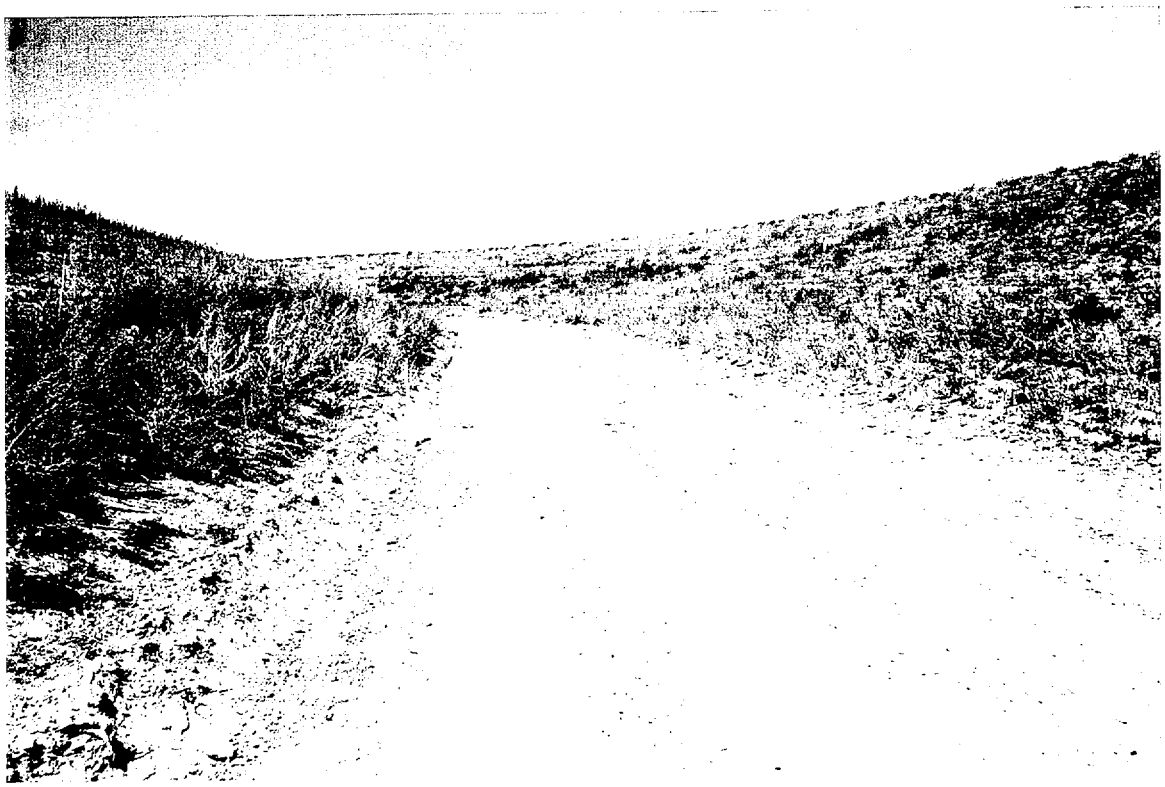
Confluence of South Channel and Main Diversion Channel
Photo taken near Diversion Channel Station 40+00 looking west



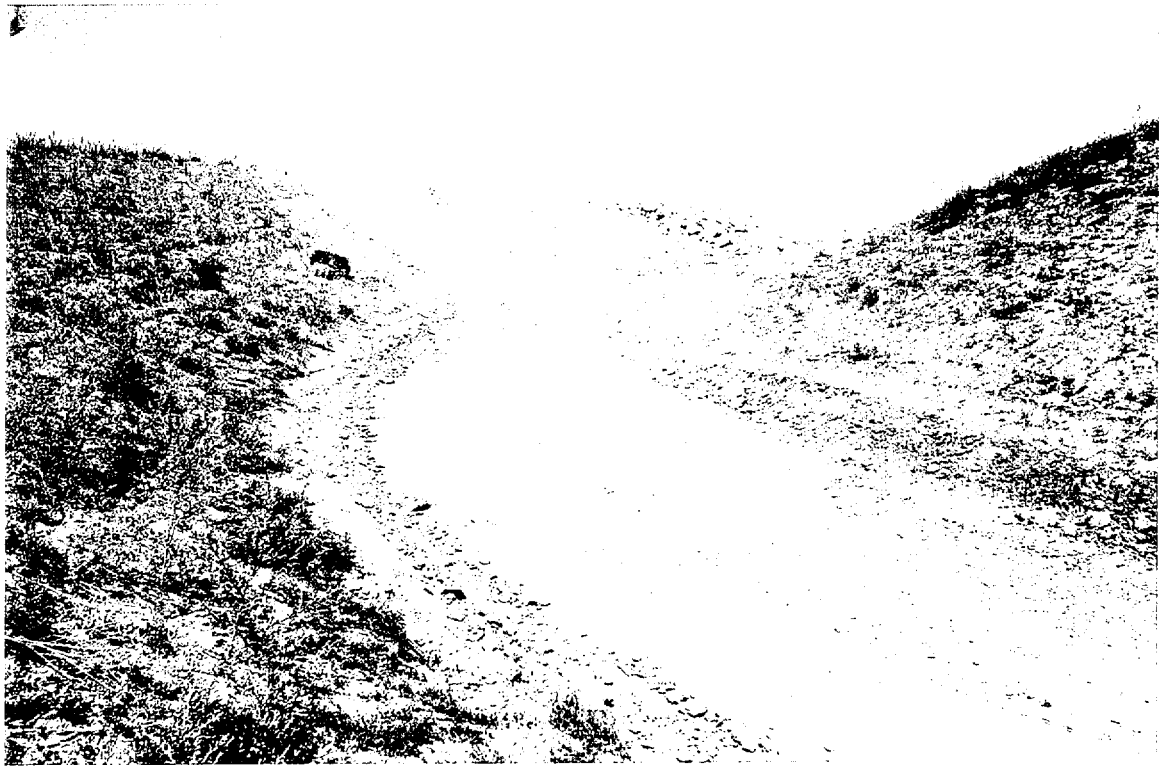
Motor Grader making fine grade adjustments on Diversion Channel
Photo taken looking northwest

Motor Grader made fine grade adjustments on Diversion Channel
Photo taken near Diversion Channel Station 54+00 looking northeast

Motor Grader made fine grade adjustments on Diversion Channel
Photo taken near Diversion Channel Station 22+00 looking north



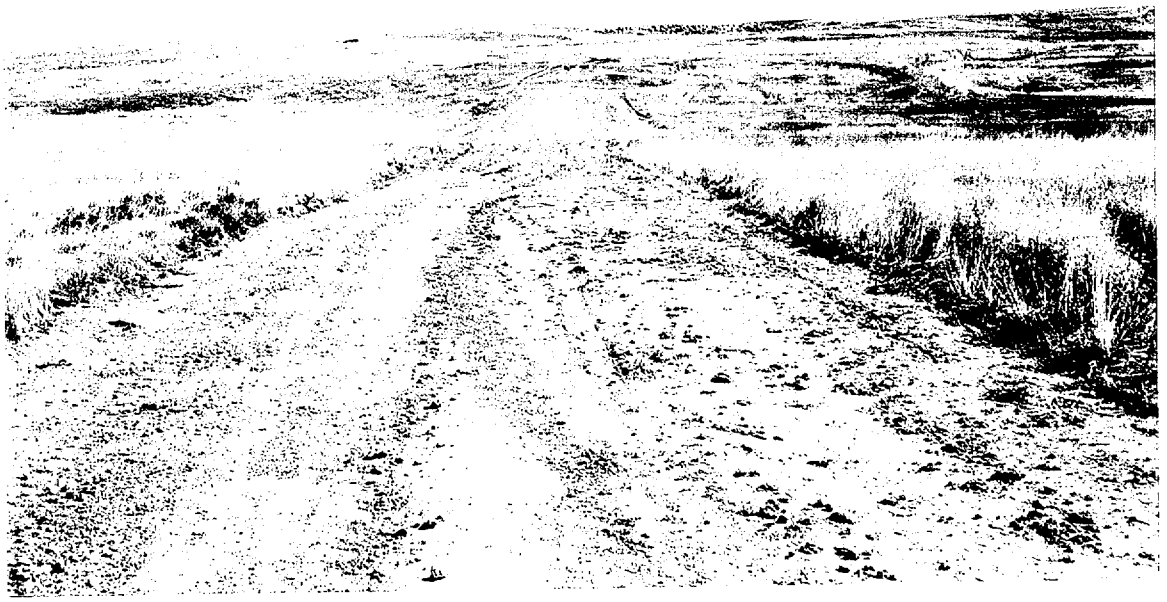
Survey stakes for fine grade adjustments on Diversion Channel
Photo taken near Diversion Channel Station 12+00 looking north



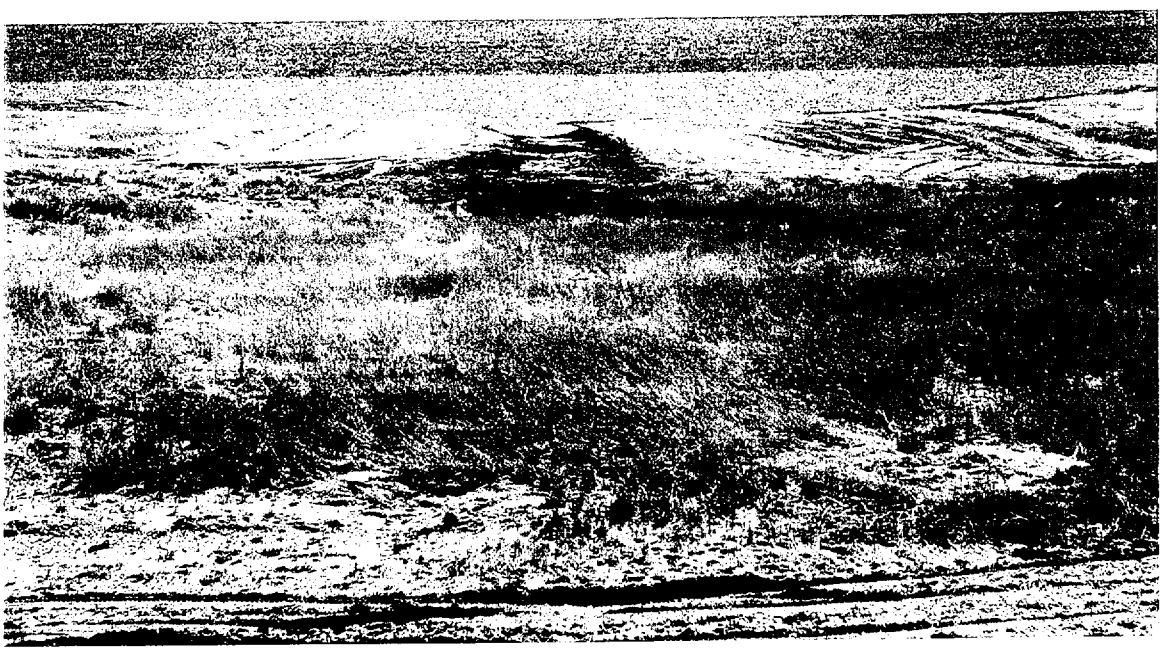
Temporary road used to exit Diversion Channel, Rock Weir in distance
Photo taken near Diversion Channel Station 4+00 looking northwest

Diversion Channel bottom will be graded to reduce low spots
Photo taken near diversion Channel Station 4+00 looking south

Soil below Rock Weir is still wet from Sept 2, 1999 storm
Photo taken looking east



Temporary Road from Rock Weir to Seepage Control Dam
Photo taken from west side looking east

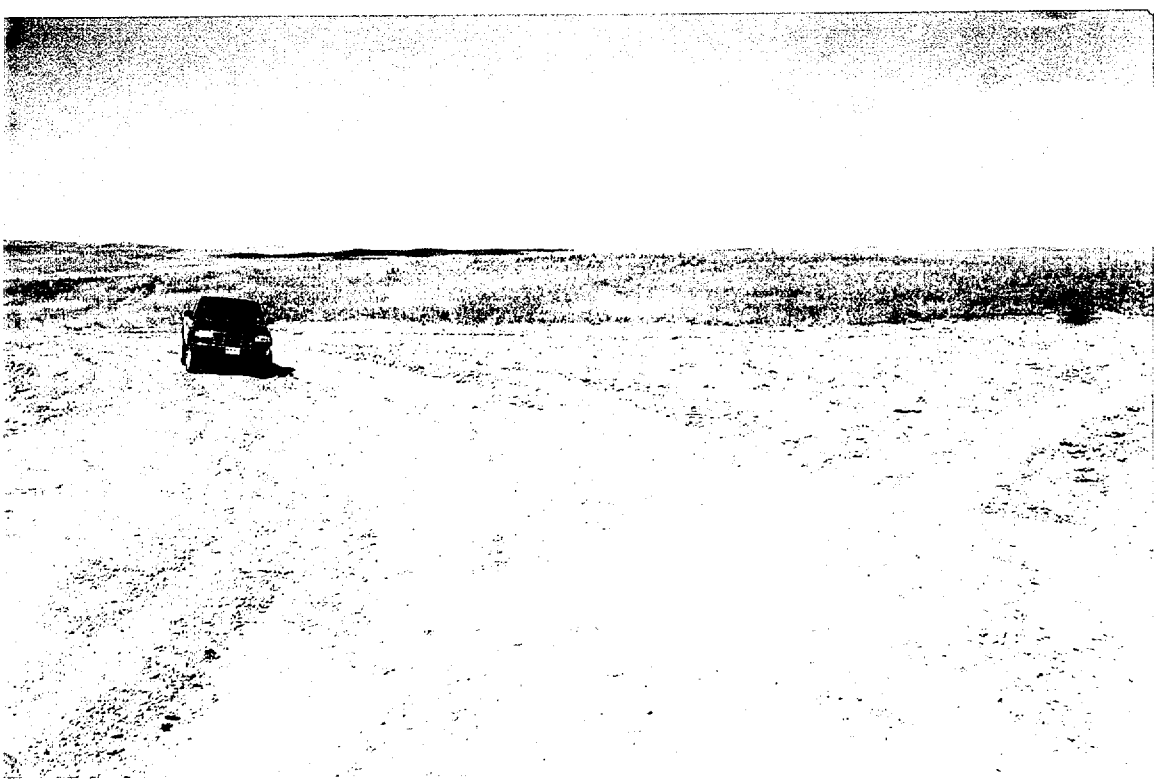


Channel at Station 10 +00 below Dam
Photo taken from Seepage Control Dam looking south

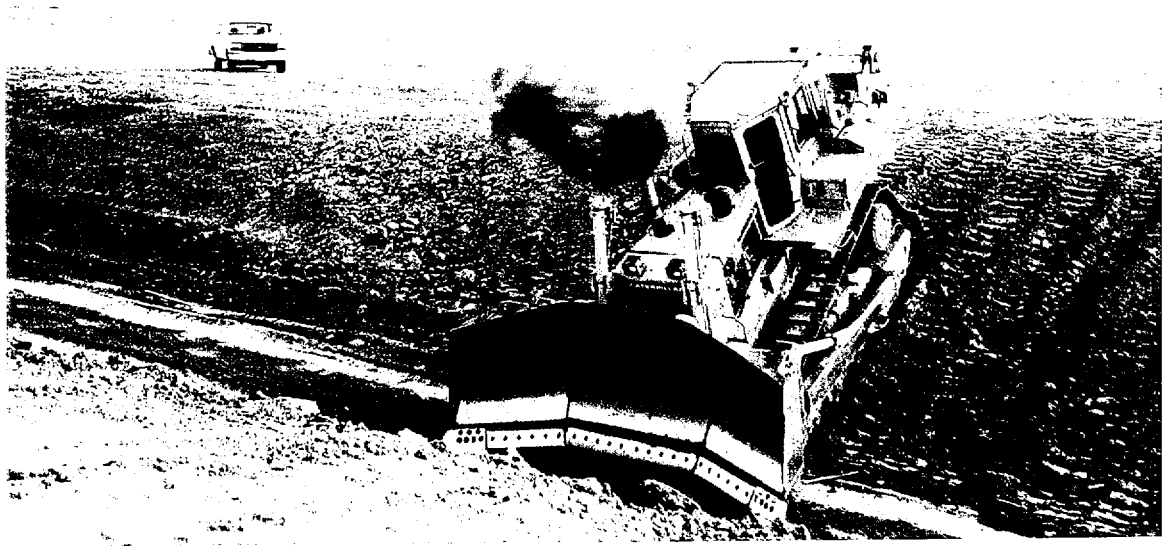
Spillway for Seepage Control Dam
Photo taken looking north

Outlet of Seepage Control Dam Spillway
Photo taken looking north

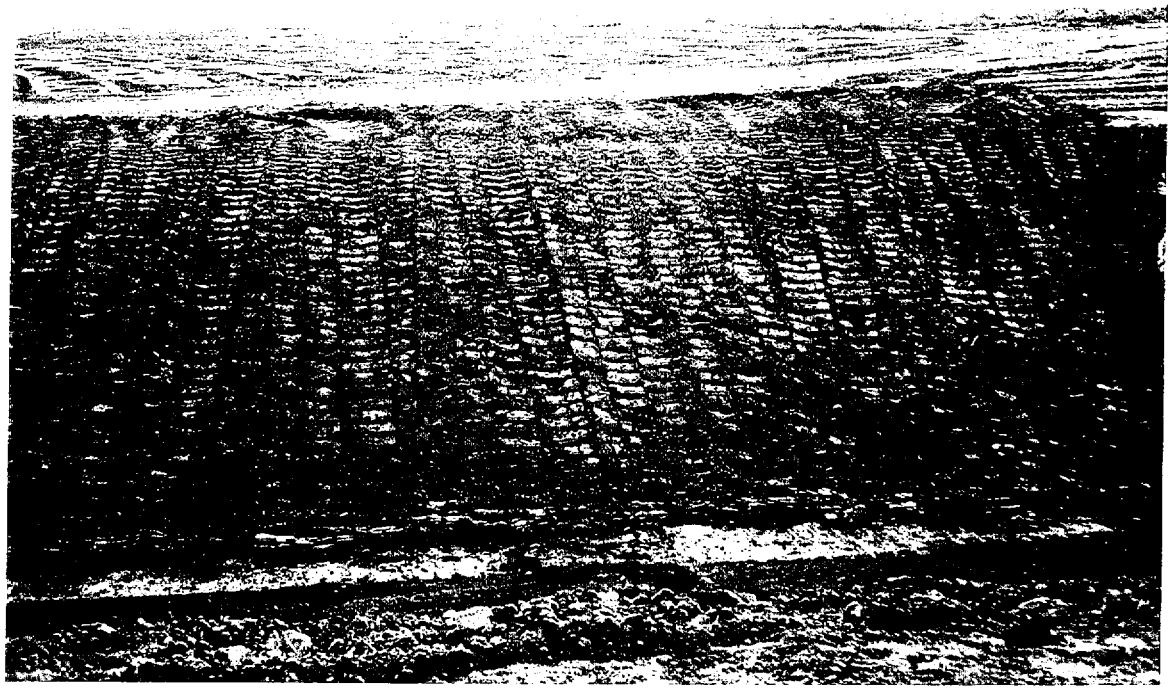
Ditch diverting runoff into the Seepage Control Reservoir reestablished
Photo taken looking north



Outlet of channel draining Mill Site
Photo taken looking north



Caterpillar Bulldozer compacting 2:1 side slopes in the Cute Approach



Compacted side slopes in the Chute Approach

Riprap at entrance to Chute
Photo taken from west bank looking southeast

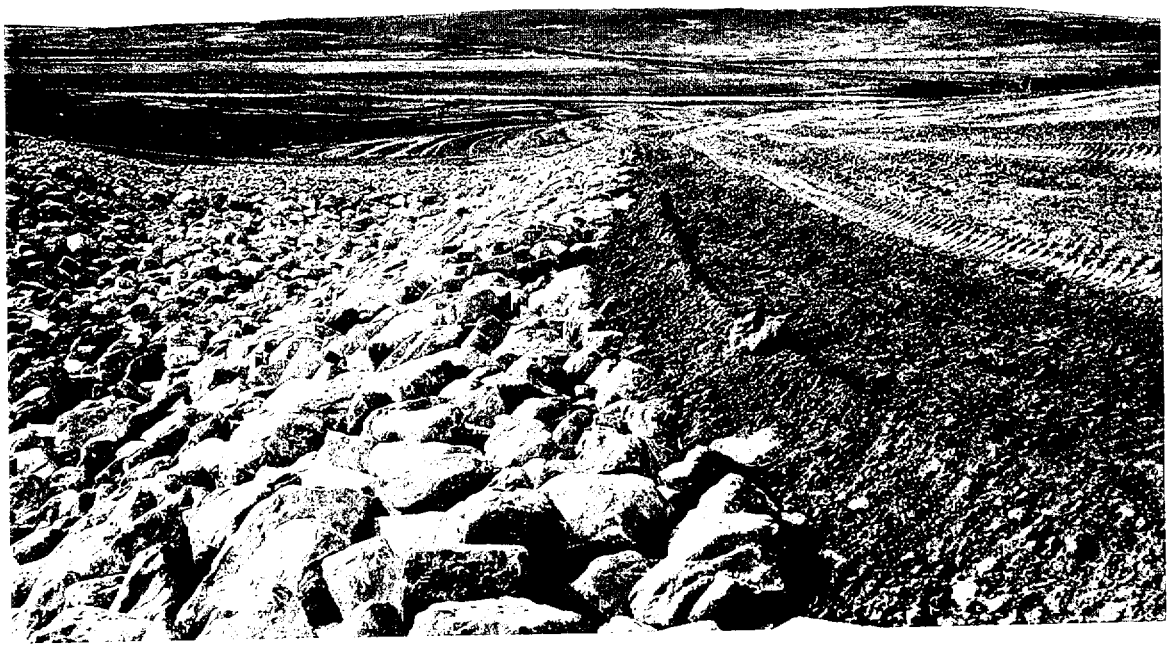
Chute control section
Photo taken from Chute entrance looking south

Chute control section
Photo taken from Chute Station 50+00 looking north

Chute Size #2 Riprap
Photo taken near Chute Station 0+50 looking south

Rock stockpile at southwest side of Chute has been removed
Photo taken looking southwest from west side of the Chute

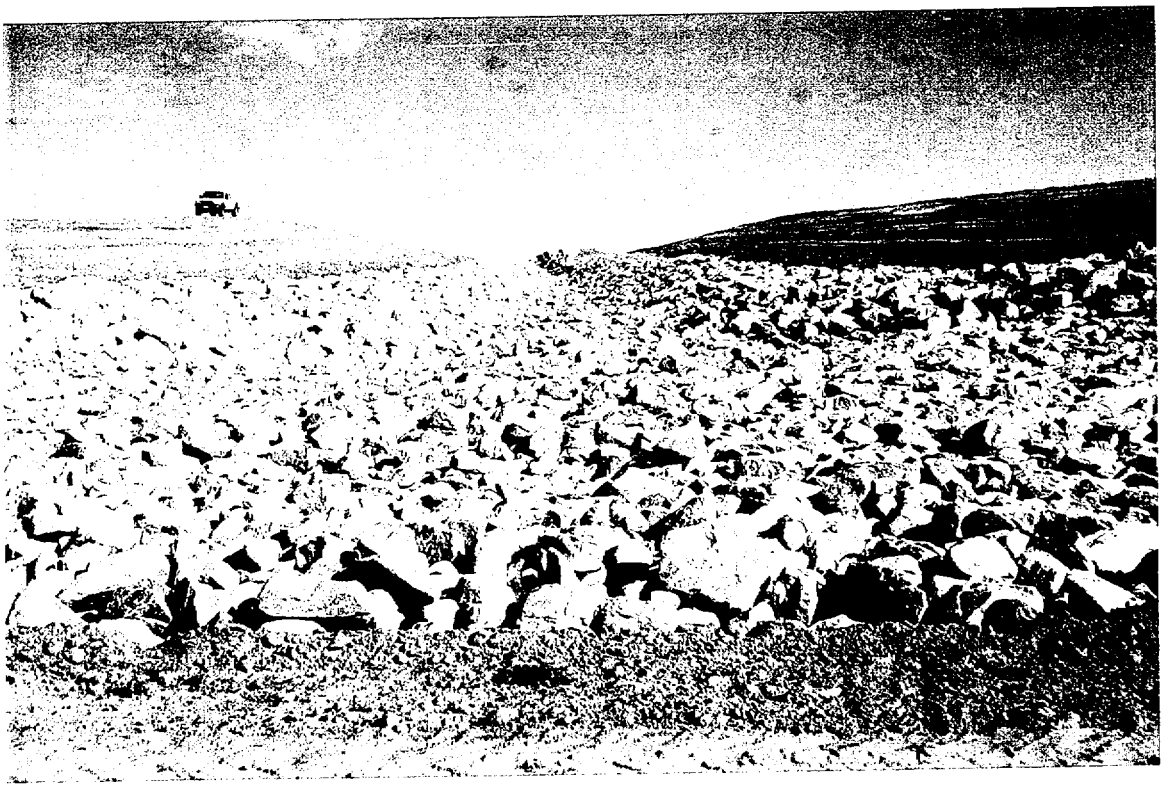
Stilling basin and apron of the Chute
Photo taken looking south from west side of the Chute



Topsoil was placed on side slopes of Chute above riprap

Stilling Basin of Chute
Photo taken near Chute Station 2+70 looking south

Chute Size#2 Riprap
Photo taken near Chute Station 2+70 looking north

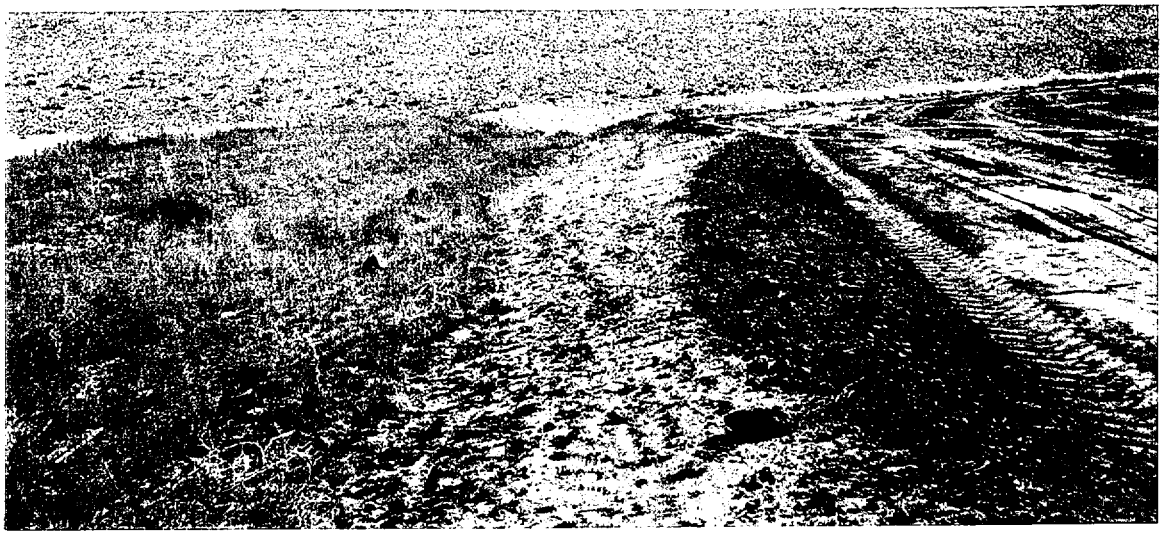


D_{50} = 9-inch Riprap at Apron of Chute
Photo taken near Chute Station 4+60 looking north

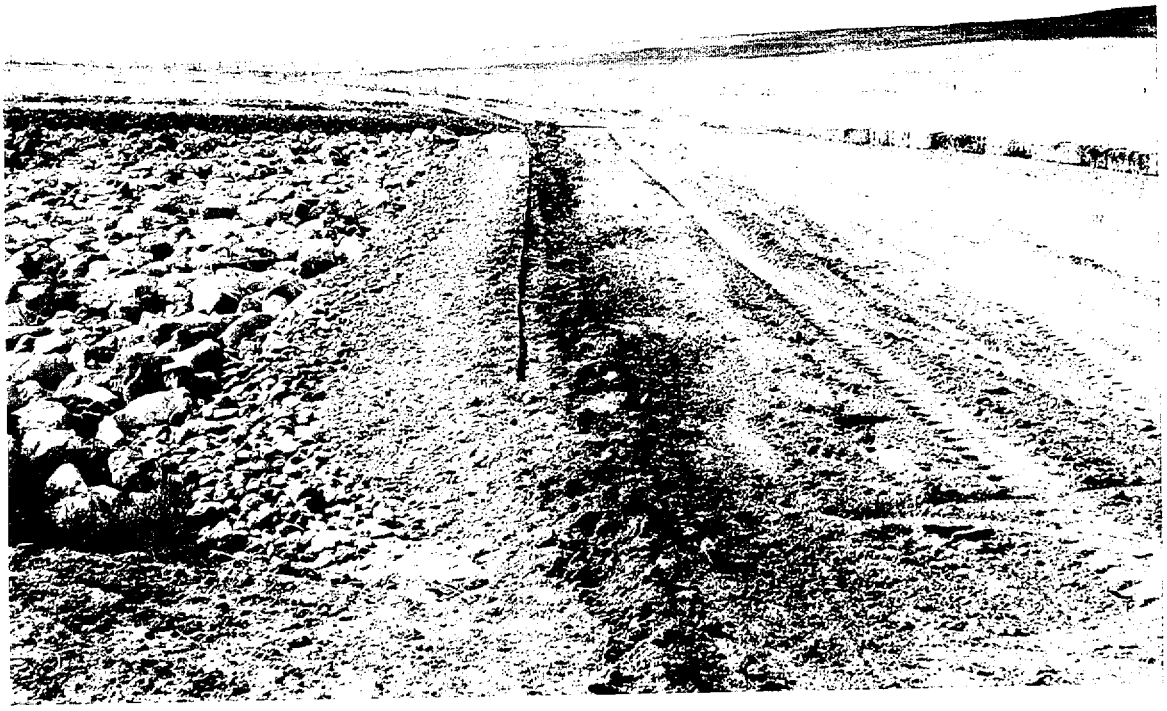
D_{50} = 9-inch Riprap at Apron of Chute
Photo taken from east side of Chute Station 4+60 looking north

Diversion Channel below Chute
Note all rock stockpiles have been removed

Area below Diversion Channel embankment
Photo taken east of Diversion Channel Station 3+00 looking south

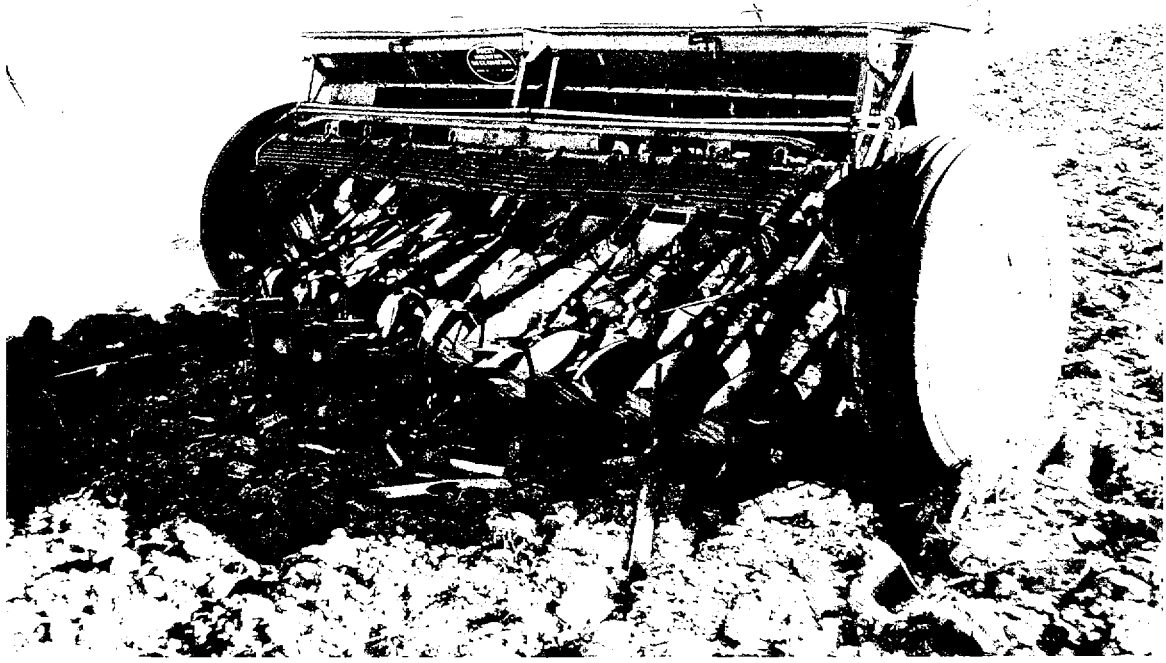


Fine grading of topsoil near Elevation 5130 West interceptor channel below dam
Photo taken looking south



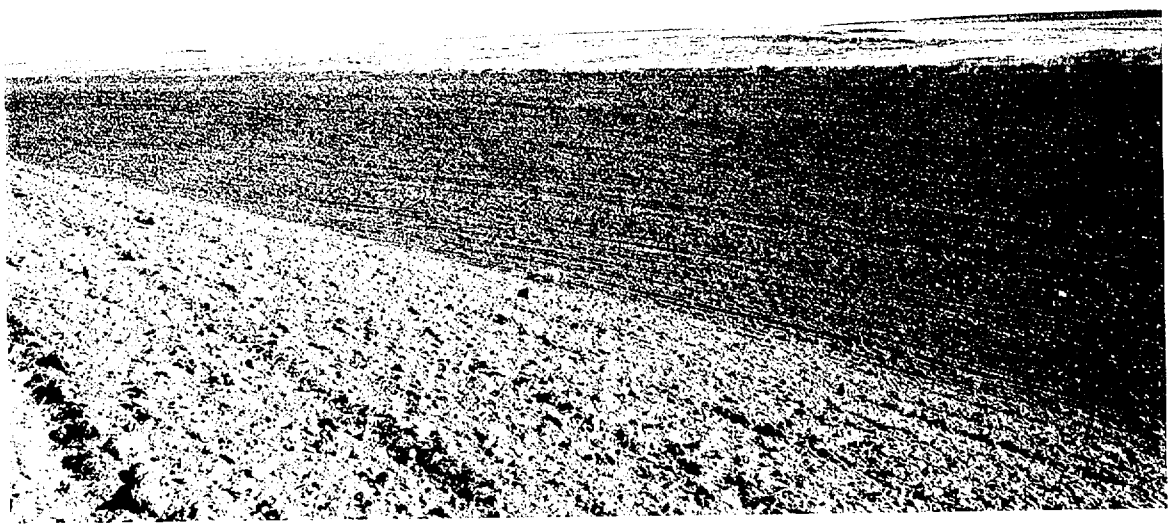
Metal edging placed at outlet of Rock Weir
Photo taken looking west

Metal edging placed at outlet of Rock Weir, installation in progress, when completed metal edging top edge will be at same elevation as filter gravel
Photo taken looking northwest



Drill seed attachment pulled by tractor

Disc attachment



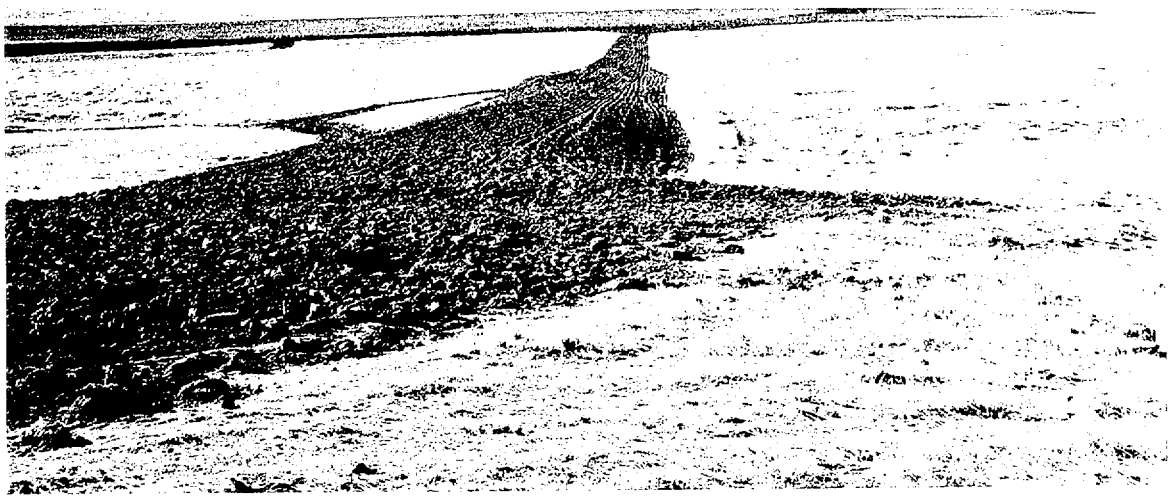
Ripped topsoil in the Diversion Channel
Photo taken from west side looking east

West bank of the Diversion Channel ready for drill seeding
Photo taken near Station 15+00 looking north

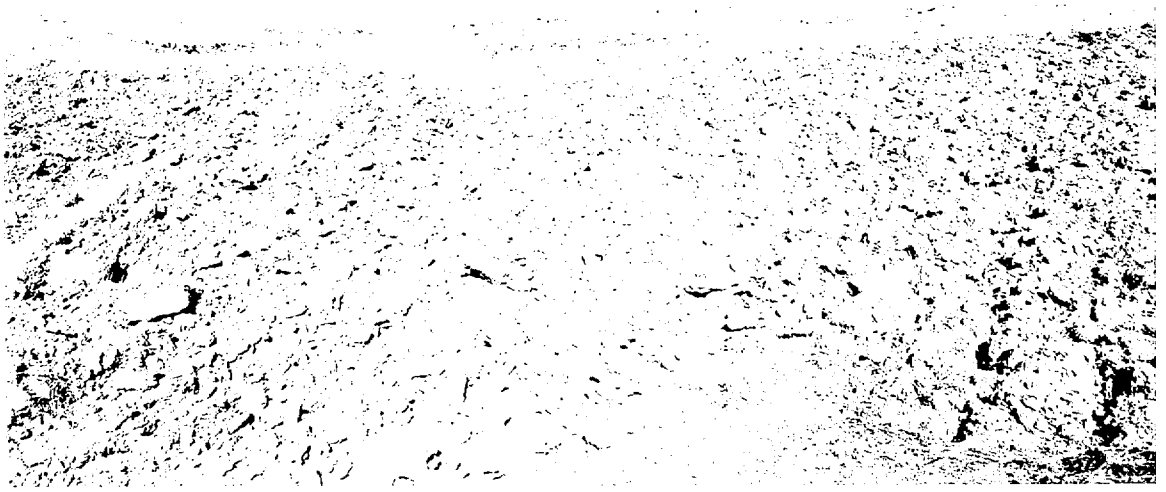
Crest of dam and east bank of Diversion Channel ready for seeding
Photo taken at west sandstone stockpile looking east

East bank of Diversion Channel ripped and ready for seeding
Photo taken near Diversion Channel Station 17+00 looking southeast

Topsoil below outlet of Rock Weir ripped and ready for seeding
Straw bales placed at edge of disturbed area
Photo taken looking northwest



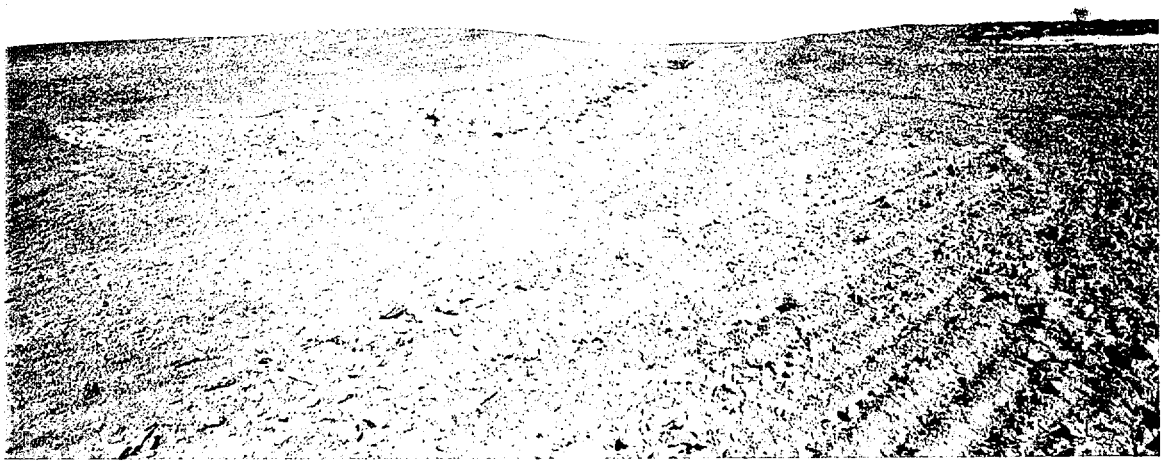
Seepage Control Dam and road used to access Rock Weir ripped and ready for seeding
Photo taken looking west



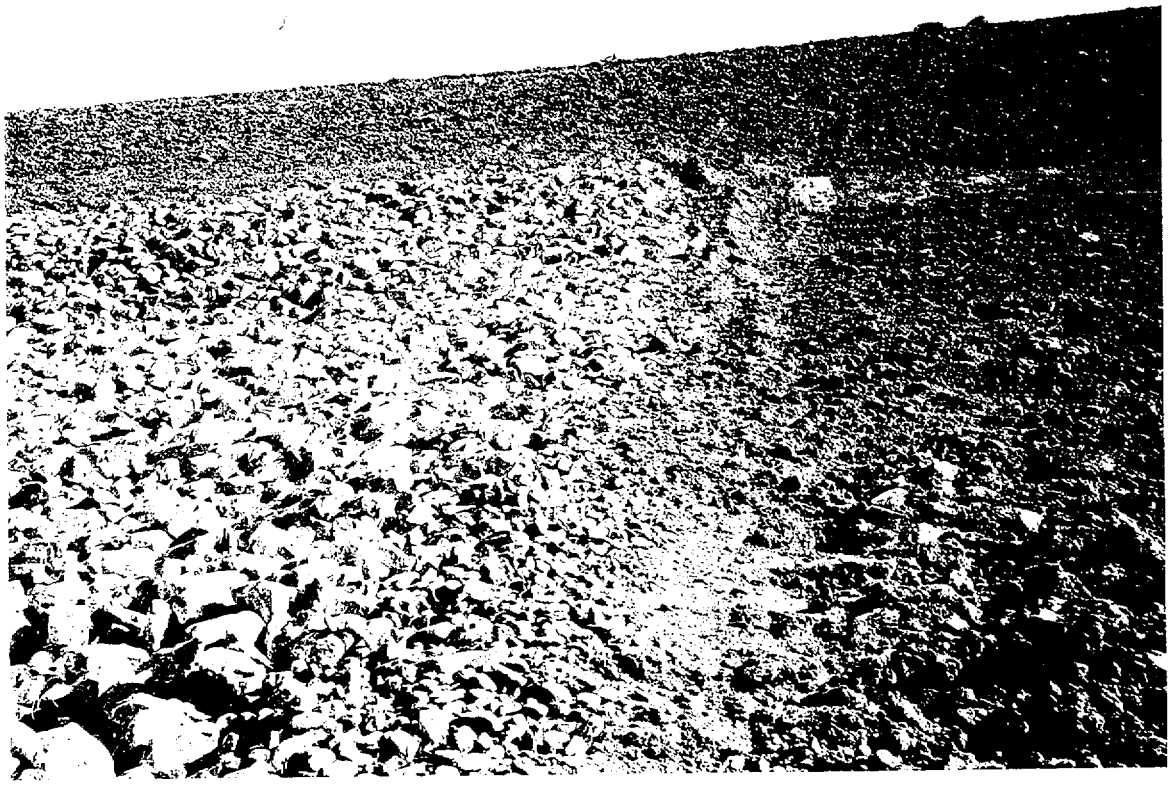
Spillway for Seepage Control dam ripped and ready for seeding
Photo taken looking north

Upstream face of Seepage Control Dam
Photo taken looking west

Topsoil adjacent to groin channel below dam ripped and ready for seeding
Photo taken looking west



Topsoil around Chute ripped and ready for seeding
Photo taken looking north



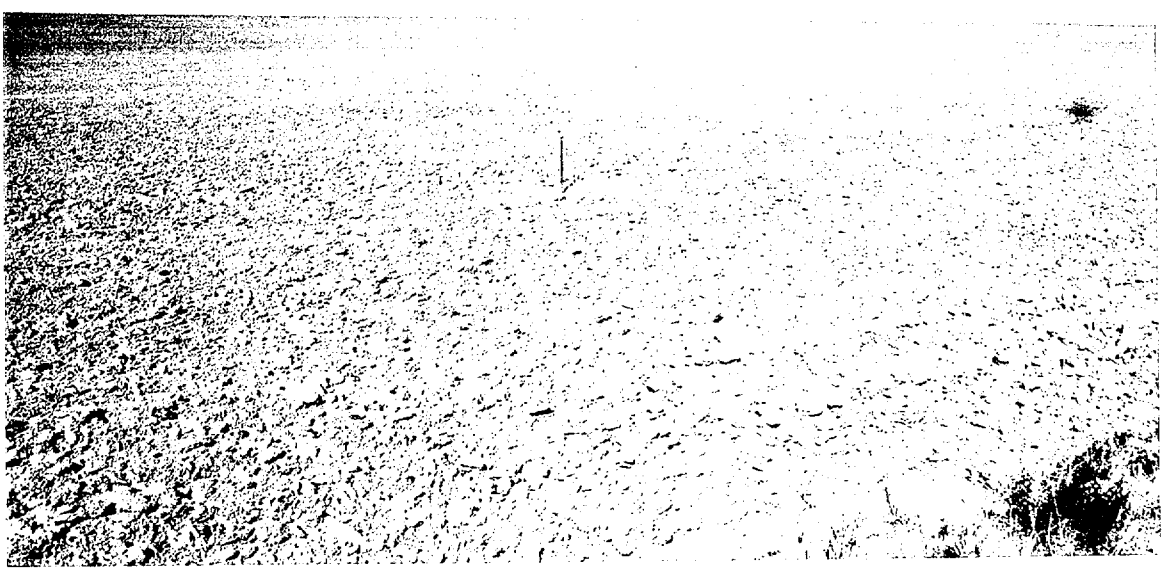
Transition from Rock to topsoil at outlet of Chute
Photo taken looking east

Tumbleweeds in Chute
Photo taken looking north

Lower Surface below Chute ripped and ready for seeding
Photo taken looking northeast from 5:1 slope above Diversion Channel

Lower Surface ripped and ready for seeding
Photo taken looking north from 5:1 slope above Diversion Channel

Interceptor channel above the Diversion Channel on south side of the tailings area
Photo taken looking east



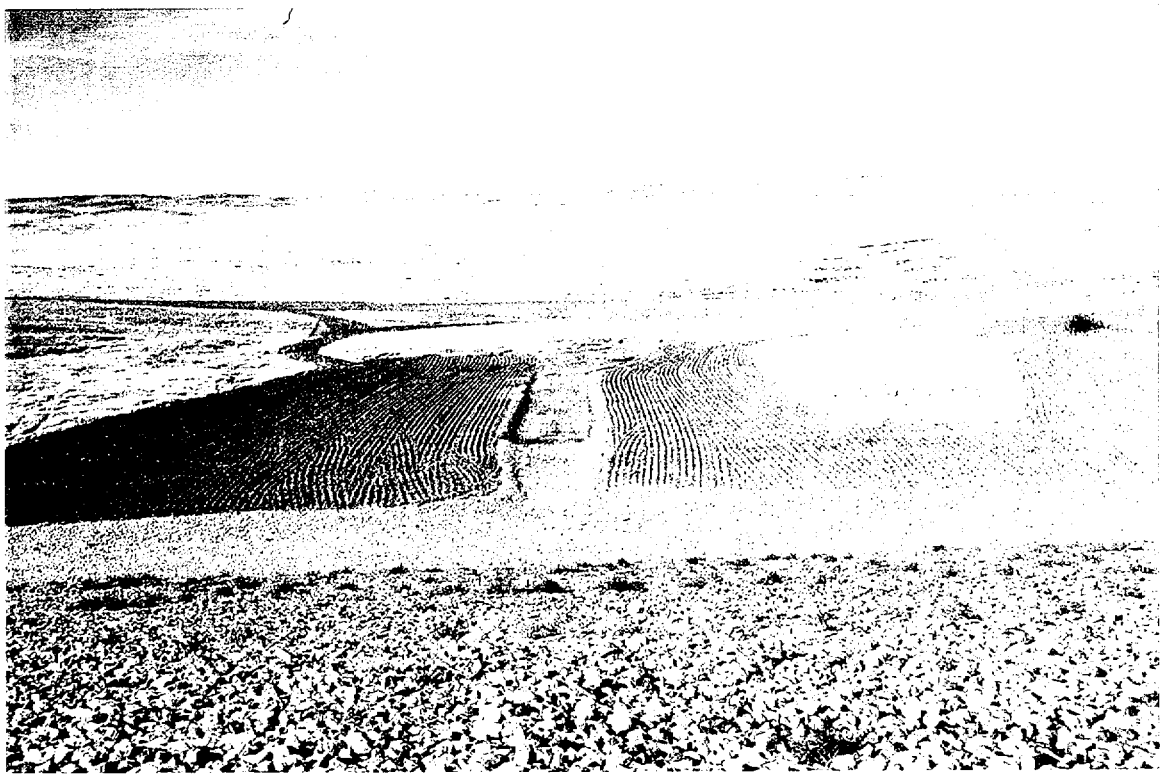
Aerial panel location after panel material removed
Photo taken looking north

Lower Surface ripped and ready for seeding
Photo taken looking east

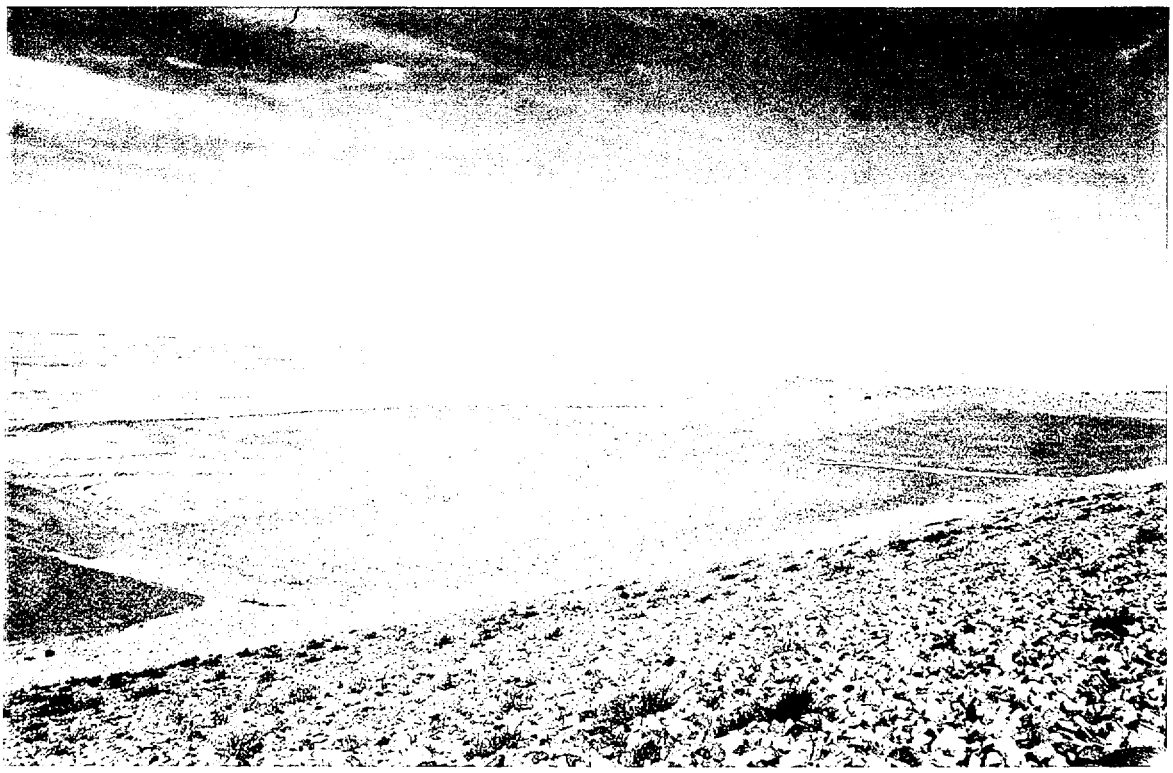
Ridge ripped and ready for seeding
Photo taken looking east

One year old vegetation on Upper Surface
Photo taken looking east

Crest of dam ripped and ready for seeding
Photo taken near Reference Axis Station 10+00 looking east



Crest of dam and east bank of Diversion Channel ready for seeding
Photo taken at west sandstone stockpile looking east



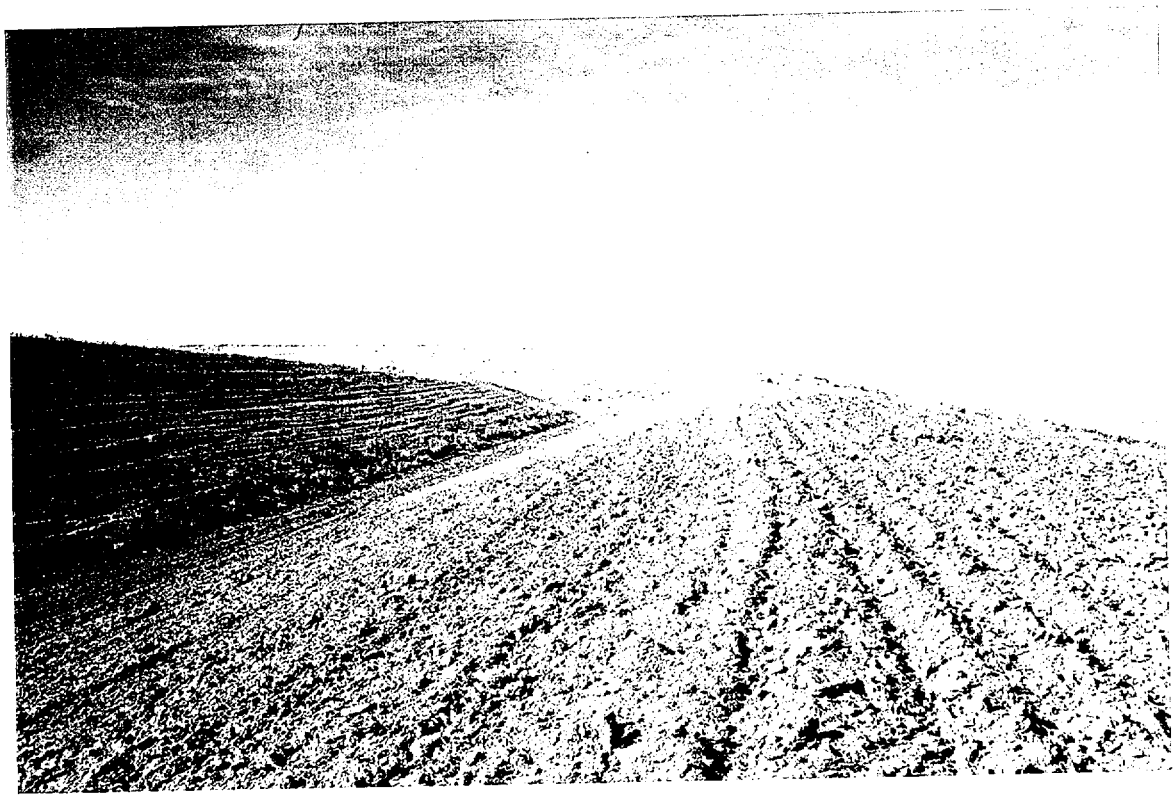
Area below dam ripped and ready for seeding
Photo taken near Reference Axis Station 10+00 looking north

East side of area below dam ripped and ready for seeding
Photo taken looking northeast from crest of dam

Crest of dam ripped and ready for seeding
Photo taken looking east from crest of dam near Reference Axis Station 4+00

Topsoil below dam ripped and ready for seeding
Photo taken looking northeast

Topsoil north of west groin of dam ripped and ready for seeding
Photo taken looking northeast



Diversion Channel ripped and ready for seeding
Photo taken looking north

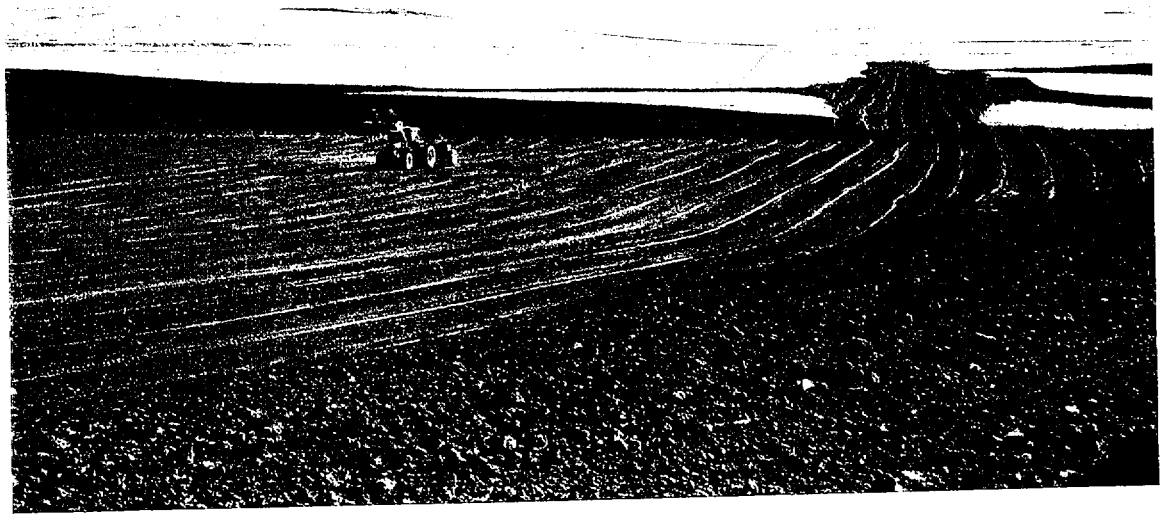
Diversion Channel ripped and ready for seeding
Photo taken near Diversion Channel Station 20+00 looking north

Topsoil in the Pond 3 area dam ripped and ready for seeding
Photo taken looking northeast

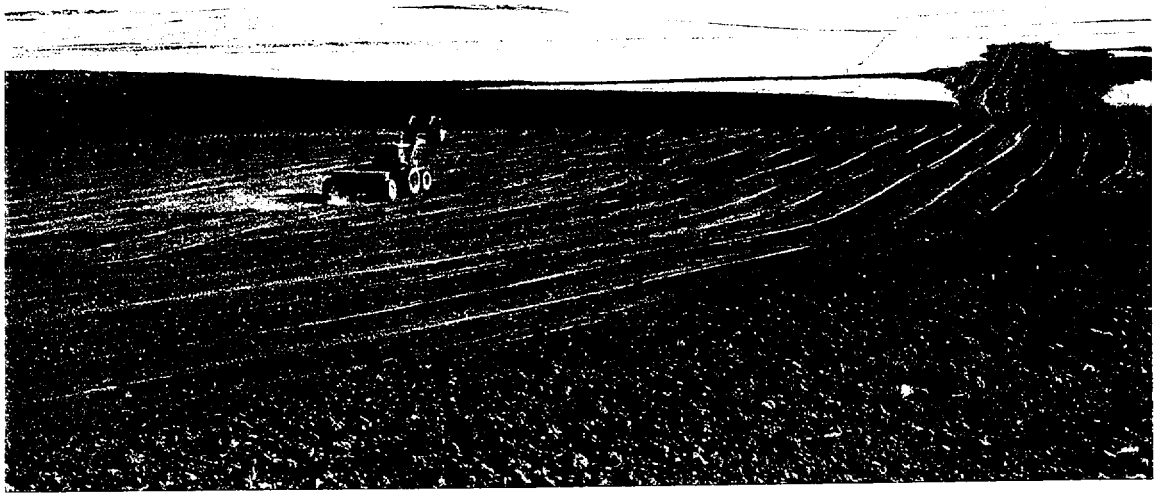
Topsoil west side of tailings area ripped and ready for seeding
Photo taken looking northeast

West side of tailings area
Photo taken looking north

South side of tailings area
Photo taken looking south from west side of tailings area

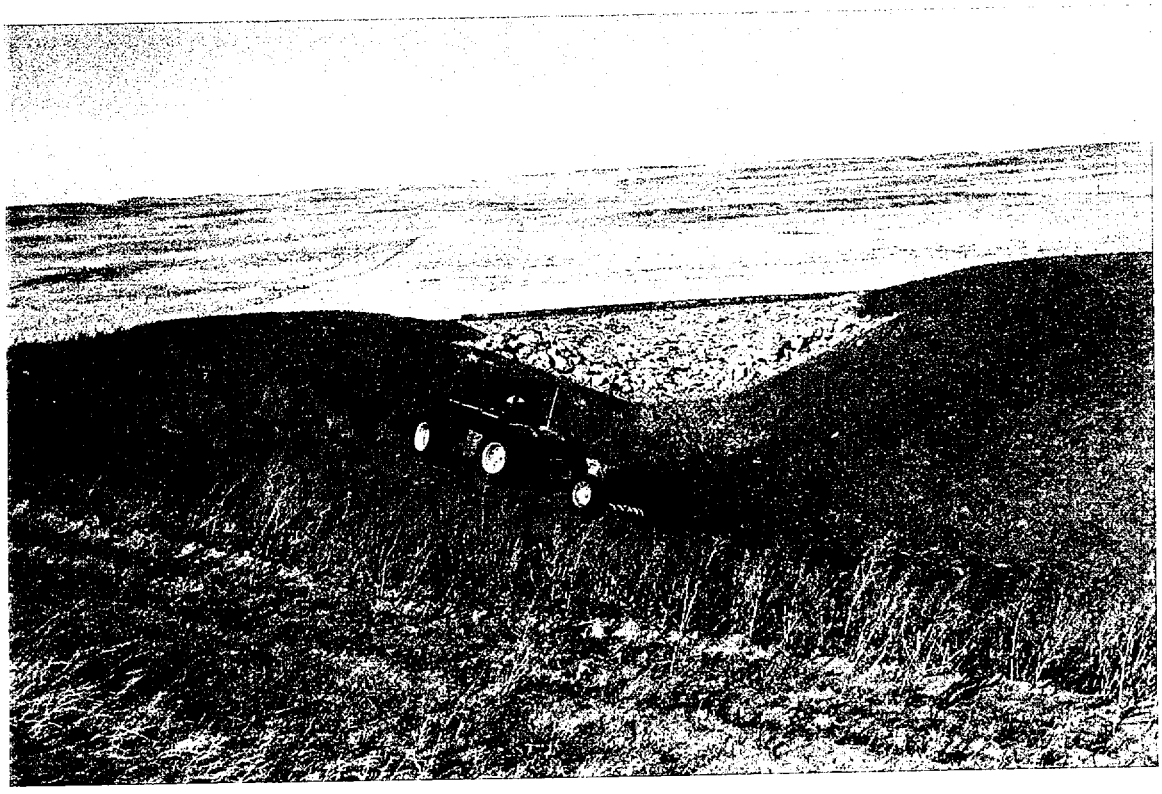


Seeding on Lower Surface Pond 3, South channel at right side of photo
Photo taken looking south

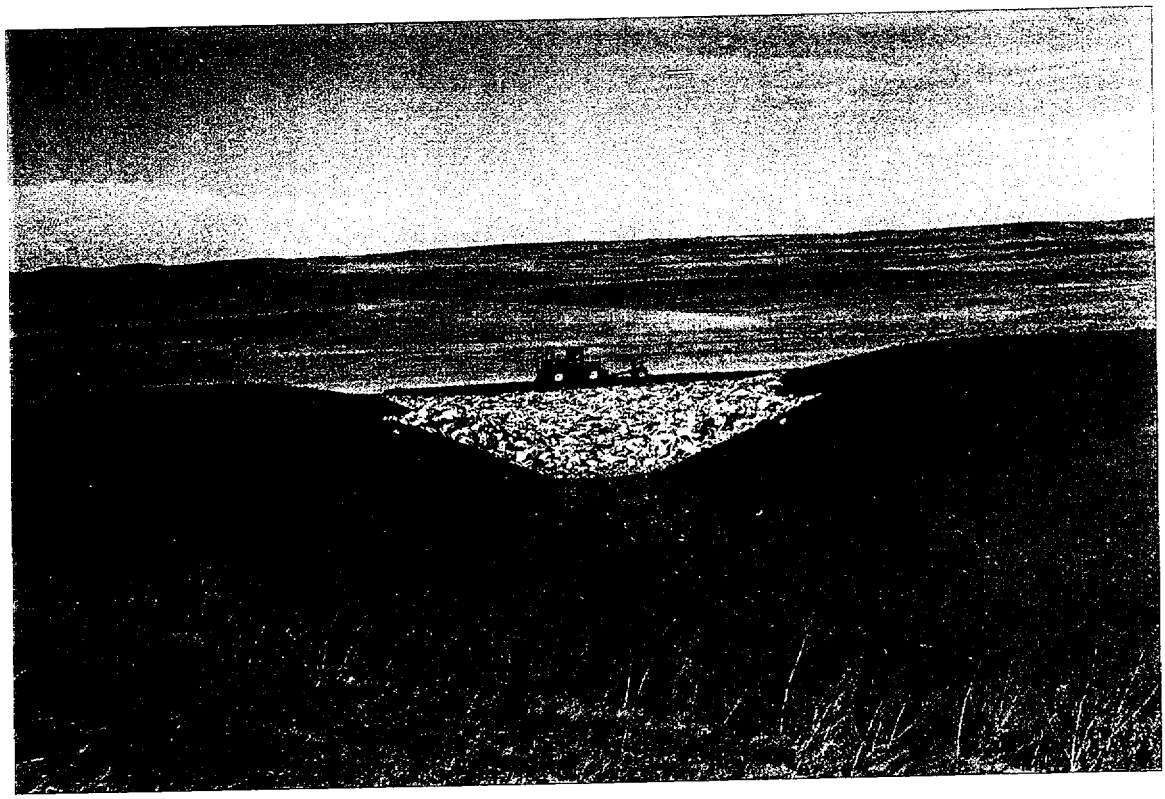


Seeding on Lower Surface Pond 3, South channel at right side of photo
Photo taken looking south

Seeding the Diversion Channel slopes near the Rock Weir
Photo taken looking north from west bank of Diversion Channel

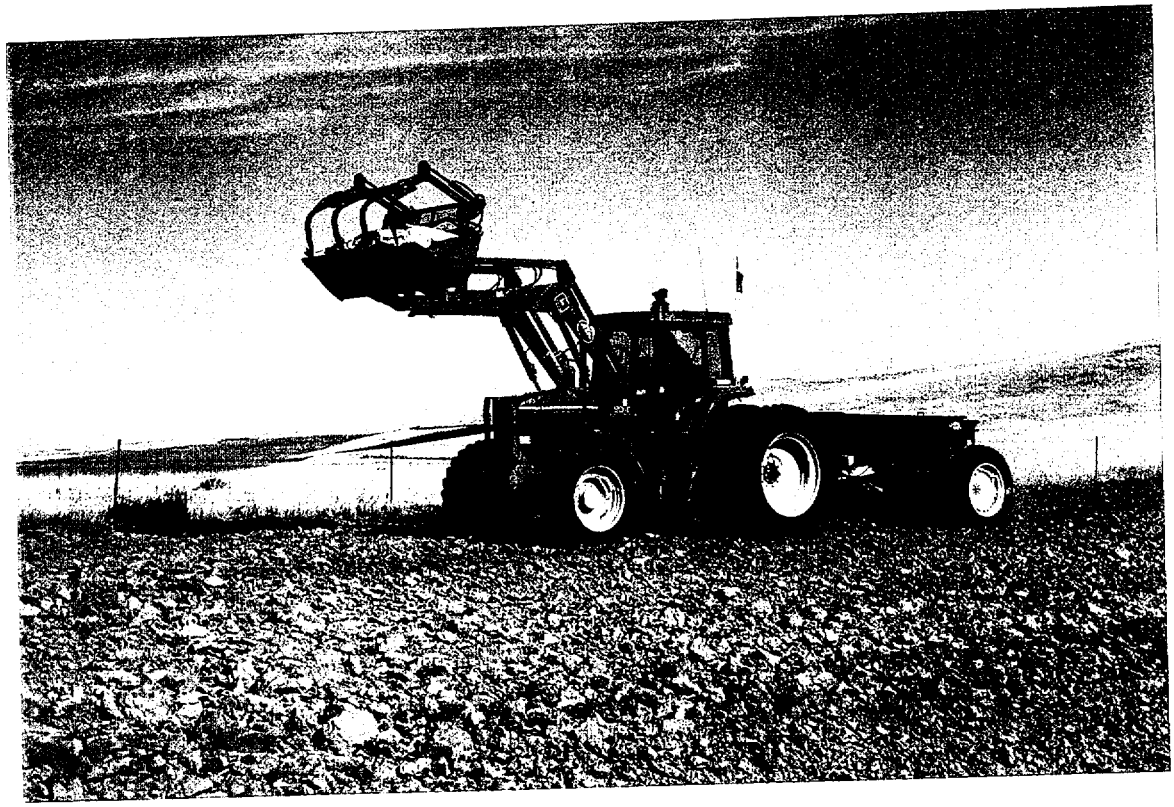


Seeding the Diversion Channel slopes near the Rock Weir
Photo taken looking north from west bank of Diversion Channel



Seeding the area below the Rock Weir
Photo taken looking north from west bank of the Diversion Channel

Seeding Northeast Channel
Chute is visible just above tractor
Photo taken looking Northwest



Tractor with load of seed
Seeding access road

Seeding area adjacent to mill site.
The area in the foreground is where the warehouses were located.
Photo taken looking Northwest

December 1999

BEAR CREEK URANIUM
TAILINGS AREA RECLAMATION

APPENDIX B

RADON FLUX MEASUREMENTS

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 3, 1999

Mr. Gary Chase
Bear Creek Uranium Company
P.O. Box 366
Casper, WY 82602

SUBJECT: EVALUATION OF RADON FLUX MEASUREMENTS AT BEAR CREEK SITE AND ISSUE OF AMENDMENT NO. 41 TO LICENSE SUA-1310

Dear Mr. Chase:

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the radon flux measurement data submitted by Bear Creek Uranium Company (BCUC) letters dated April 2, 1998, November 30, 1998, and March 3, 1999.

In the April 2, 1998, submittal, BCUC provided radon flux measurement data obtained in October 1997 from the completed portion of the radon barrier (about 40 percent of the cell cover) of the tailings cell. BCUC was unable to complete construction of the radon barrier in 1997 due to abnormal amounts of rain. NRC staff considered this a preliminary report and provided nine comments to BCUC on July 28, 1998. The staff noted that the date of data submission did not comply with Title 10, Code of Federal Regulations, Part 40 (10 CFR 40), Appendix A, Criterion 6(4), that requires the licensee to report the detailed results within 90 days of analysis completion (the laboratory report to BCUC was dated October 4, 1997); however, there was no safety significance associated with the delay.

By letter dated November 30, 1998, the flux data obtained in August 1998 for the remainder of the mill tailings pile was submitted along with the October 1997 quality assurance data requested by the staff. The combined data indicate that the 10 CFR 40, Appendix A, average radon flux criterion of 20 $pCi/m^2/s$ is not exceeded. In fact, most of the test results were below the laboratory's practical quantitative limit of 0.5 and the highest value was 3.8 $pCi/m^2/s$.

After review of the data, the staff concludes that the radon flux test results and supporting quality assurance data indicate that the requirements of 10 CFR 40, Appendix A, Criterion 6(1) and (2), have been met for the tailings disposal cell at the BCUC mill and tailings site in Wyoming. The cell average measured radon flux rate should be reported in the site final completion report and this acceptance letter referenced.

In addition, the BCUC letter dated November 30, 1998, requested revisions to License Conditions No. 49.A.(3) and 49.B to reflect completion of construction milestones, and extension of the December 31, 1998, date for completion of erosion protection, to December 31, 1999, due to adverse weather conditions which precluded completion of construction. These revisions to the license are acceptable to the NRC staff, and the revised license is enclosed. The actions requested by BCUC will result in no significant change in the types or

significant increase in the amounts of any radiological effluent that may be released offsite. An environmental report is not required from BCUC since the amendment does not meet the criteria of 10 CFR 51.60(b)(2). An NRC staff environmental assessment was not performed, since this action is categorically excluded under 10 CFR 51.22(c)(11).

If you have any questions regarding this letter, please contact Ken Hooks, the NRC Project Manager for the Bear Creek site, at (301) 415-7777.

Sincerely,

King Stablein

N. King Stablein, Acting Chief
Uranium Recovery and
Low-Level Waste Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 40-8452
License No. SUA-1310
Amendment No. 41

Enclosure: As stated

cc: Russel Edge, DOE, Grand Junction
Rick Chancellor, WDEQ, Cheyenne
E. Scott, BCUC

ENERGY LABORATORIES, INC.
SHIPPING: 2393 SALT CREEK HIGHWAY • CASPER, WY 82601
MAILING: P.O. BOX 3258 • CASPER, WY 82602
E-mail: energy@trib.com • FAX: (307) 234-1639 • PHONE: (307) 235-0515 • TOLL FREE: (888) 235-0515
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Large Area Activated Charcoal Cannister (LAACC) Radon Flux Report

Project:	**Bear Creek Uranium**	**Date Set:**	**09-30-97**
Location:	**North of Douglas, WY**	**Date Remove:**	**10-01-97**
Report Date:	**October 9, 1997**	**Date Counted:**	**10-02-97**
Weather:	**Clear, bright with min. temperature of 56°F.**		

Method: Energy Laboratories, Inc.'s employees placed and retrieved LAACC units. EPA Method 115 per 40 CFR 61 (NESHAPs). Radon Flux results have been corrected for instrument & charcoal background counts.

Lab ID	LAACC #	Cannister #	Location	09-30-97 Time Set	10-01-97 Time Remove	Radon Flux pCi/m^{2}s
97-	57582	26	101	RAD-1	13:30	14:14	<0.5
97-	57583	21	117	RAD-2	13:32	14:15	<0.5
97-	57584	31	99	RAD-3	13:33	14:15	<0.5
97-	57585	1	110	RAD-9	13:36	14:16	<0.5
97-	57586	24	84	RAD-8	13:39	14:17	<0.5
97-	57587	39	83	RAD-8	13:39	14:17	<0.5
97-	57588	32	93	RAD-7	13:40	14:17	<0.5
97-	57589	37	100	RAD-6	13:42	14:18	<0.5
97-	57590	35	88	RAD-12	13:45	14:19	<0.5
97-	57591	7	102	RAD-13	13:46	14:19	0.7
Replicate	-	-	102	RAD-13	13:46	14:19	0.6
97-	57592	13	92	RAD-14	13:47	14:20	<0.5
97-	57593	4	118	RAD-15	13:49	14:21	<0.5
97-	57594	28	89	RAD-16	13:51	14:21	<0.5
97-	57595	23	115	RAD-24	13:53	14:23	<0.5
97-	57596	15	90	RAD-23	13:55	14:23	<0.5
97-	57597	12	94	RAD-22	13:56	14:24	<0.5
97-	57598	22	104	RAD-21	13:59	14:24	0.8
97-	57599	33	87	RAD-21	13:59	14:24	1.0
97-	57600	20	95	RAD-20	14:01	14:25	0.7
97-	57601	5	81	RAD-19	14:03	14:25	<0.5
Replicate	-	-	81	RAD-19	14:03	14:25	<0.5
97-	57602	29	86	RAD-18	14:04	14:26	<0.5
97-	57603	3	111	RAD-27	14:06	15:06	0.6
97-	57604	25	116	RAD-28	14:08	15:07	0.5
97-	57605	14	96	RAD-29	14:09	15:07	<0.5
97-	57606	38	113	RAD-30	14:11	15:08	<0.5
97-	57607	8	91	RAD-31	14:12	15:08	<0.5
97-	57608	18	112	RAD-32	14:13	15:09	0.5

dpb r:\reports\clients.97\bear_creek\laaccs\rc50000.xls

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Large Area Activated Charcoal Cannister (LAACC) Radon Flux Report

Project:	**Bear Creek Uranium**	**Date Set:**	**09-30-97**
Location:	**North of Douglas, WY**	**Date Remove:**	**10-01-97**
Report Date:	**October 9, 1997**	**Date Counted:**	**10-02-97**
Weather:	**Clear, bright with min. temperature of 56°F.**		

Lab ID		LAACC #	Cannister #	Location	09-30-97 Time Set	10-01-97 Time Remove	Radon Flux pCi/m²s
97-	57609	10	98	RAD-33	14:15	15:09	<0.5
97-	57610	17	107	RAD-34	14:16	15:10	0.6
97-	57611	11	103	RAD-41	14:18	15:11	<0.5
Replicate	-	-	103	RAD-41	14:18	15:11	<0.5
97-	57612	16	105	RAD-40	14:21	15:11	<0.5
97-	57613	19	120	RAD-39	14:23	15:12	<0.5
97-	57614	9	97	RAD-38	14:25	15:13	0.6
97-	57615	36	85	RAD-38D	14:28	15:13	0.8
97-	57616	50	108	RAD-37	14:30	15:13	0.6
97-	57617	30	124	RAD-36	14:31	15:13	<0.5
97-	57618	48	106	RAD-35	14:32	15:14	0.5
97-	57619	27	109	BKG	14:37	15:16	1.8
Replicate	-	-	109	BKG	14:37	15:16	1.7

dpb r:\reports\clients.97\bear_creek\laaccs\rc50000.xls

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Large Area Activated Charcoal Cannister (LAACC) Radon Flux Quality Assurance Report

Project:	**Bear Creek Uranium**	**Date Set:**	**09-30-97**
Location:	**North of Douglas, WY**	**Date Remove:**	**10-01-97**
Report Date:	**October 9, 1997**	**Date Counted:**	**10-02-97**
Weather:	**Clear, bright with min. temperature of 56°F.**		

Background - Lab ID	Cannister #	Radon Flux - pCi/m^2s*
97- 57619	109	1.7
Replicate	109	1.8

Trip Blank - Lab ID		Trip Blank Cannister #	Radon Flux - pCi/m^2s*
TB1	50038	1	<0.5
TB2	50039	2	<0.5
TB3	50040	3	<0.5
TB4	50041	4	<0.5
TB5	50042	5	<0.5
TB6	50043	6	<0.5
TB7	50044	7	<0.5
TB8	50045	8	<0.5
TB9	50046	9	<0.5
TB10	50047	10	<0.5
TB11	50048	11	<0.5
TB12	50049	12	<0.5
TB13	50050	13	<0.5

Blank Charcoal cpm	Standard Number 1 cpm	Standard Number 2 cpm
20	360	698

Replicates - Lab ID		Date Counted	Radon Flux pCi/m^2s*	Recovery Decimal
97-	57591	10-02-97	0.6	0.843
97-	57601	10-02-97	<0.5	1.000
97-	57611	10-02-97	<0.5	1.000
97-	57619	10-02-97	1.7	0.920
Average of recoveries:				**0.941**

Minimum Radon Flux for Bear Creek: <0.5 pCi/m^2s
Maximum Radon Flux for Bear Creek: 1.82 pCi/m^2s
Average Radon Flux: 0.55 pCi/m^2s

* Note: ELI's Radon Flux Practical Quantitative Limit (PQL) is 0.5 pCi/m^2s.
Minimum temperature under 35 degrees Fahrenheit not acceptable.

Report Approved By: **Reviewed By:**

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Starting ID	57582	Data 1	Date Set	9/30/97		λ	2.10E-06
Starting LAACC	26		Date Removed	10/1/97		Area	0.051
Project:	Bear Creek Uranium		Date Counted	10/2/97		K	0.037
Location:	North of Douglas, WY					Eff.	0.008311
Report date:	October 9, 1997		Std Counts	1780			
Weather:	Clear, bright with min. temperature of 56°F.		Bkg Counts	100			
			DPM, pCi	18210	2.22	dis/pCi	
			Count Time, mi	5.00			

Lab ID	QA	LAACC	Can ID	Field ID	Gross Counts	Net Counts	Net CP	Time Set	Time Removed	t1, sec	Time Count Start	t2, sec	t3, sec	pCi 222R m-2 s-1	Run #
57582		26	101	RAD-1	140	40	8	13:30	14:14	89040	11:40	166200	166500	<0.5	1
57583		21	117	RAD-2	125	25	5	13:32	14:15	88980	11:45	166380	166680	<0.5	1
57584		31	99	RAD-3	161	61	12	13:33	14:15	88920	11:50	166620	166920	<0.5	1
57585		1	110	RAD-9	179	79	16	13:36	14:16	88800	11:55	166740	167040	<0.5	1
57586		24	84	RAD-8	155	55	11	13:39	14:17	88680	12:00	166860	167160	<0.5	1
57587		39	83	RAD-8	137	37	7	13:39	14:17	88680	12:05	167160	167460	<0.5	1
57588		32	93	RAD-7	154	54	11	13:40	14:17	88620	12:10	167400	167700	<0.5	1
57589		37	100	RAD-6	158	58	12	13:42	14:18	88560	12:15	167580	167880	<0.5	1
57590		35	88	RAD-12	154	54	11	13:45	14:19	88440	12:20	167700	168000	<0.5	1
57591	D1	7	102	RAD-13	317	217	43	13:46	14:19	88380	12:30	168240	168540	0.68	1
57591		7	102	RAD-13	279	179	36	13:46	14:19	88380	15:24	178680	178980	0.57	1
57592		13	92	RAD-14	152	52	10	13:47	14:20	88380	12:35	168480	168780	<0.5	1
57593		4	118	RAD-15	145	45	9	13:49	14:21	88320	12:40	168660	168960	<0.5	1
57594		28	89	RAD-16	154	54	11	13:51	14:21	88200	12:45	168840	169140	<0.5	1
57595		23	115	RAD-24	173	73	15	13:53	14:23	88200	12:50	169020	169320	<0.5	1
57596		15	90	RAD-23	123	23	5	13:55	14:23	88080	13:00	169500	169800	<0.5	1
57597		12	94	RAD-22	202	102	20	13:56	14:24	88080	13:05	169740	170040	<0.5	1
57598		22	104	RAD-21	351	251	50	13:59	14:24	87900	13:10	169860	170160	0.79	1
57599		33	87	RAD-21	413	313	63	13:59	14:24	87900	13:15	170160	170460	0.99	1
57600		20	95	RAD-20	322	222	44	14:01	14:25	87840	13:20	170340	170640	0.70	1
57601	D2	5	81	RAD-19	207	107	21	14:03	14:25	87720	13:25	170520	170820	<0.5	1
57601		5	81	RAD-19	202	102	20	14:03	14:25	87720	13:25	170520	170820	<0.5	1
57602		29	86	RAD-18	199	99	20	14:04	14:26	87720	13:30	170760	171060	<0.5	1
57603		3	111	RAD-27	291	191	38	14:06	15:06	90000	13:40	171240	171540	0.59	1
57604		25	116	RAD-28	263	163	33	14:08	15:07	89940	13:45	171420	171720	0.50	1
57605		14	96	RAD-29	214	114	23	14:09	15:07	89880	13:55	171960	172260	<0.5	1
57606		38	113	RAD-30	193	93	19	14:11	15:08	89820	14:00	172140	172440	<0.5	1
57607		8	91	RAD-31	254	154	31	14:12	15:08	89760	14:05	172380	172680	<0.5	1
57608		18	112	RAD-32	274	174	35	14:13	15:09	89760	14:10	172620	172920	0.54	1
57609		10	98	RAD-33	214	114	23	14:15	15:09	89640	14:15	172800	173100	<0.5	1
57610		17	107	RAD-34	309	209	42	14:16	15:10	89640	14:20	173040	173340	0.65	1
57611	D3	11	103	RAD-41	224	124	25	14:18	15:11	89580	14:30	173520	173820	<0.5	1
57611		11	103	RAD-41	239	139	28	14:18	15:11	89580	14:30	173520	173820	<0.5	1
57612		16	105	RAD-40	207	107	21	14:21	15:11	89400	14:35	173640	173940	<0.5	1
57613		19	120	RAD-39	226	126	25	14:23	15:12	89340	14:40	173820	174120	<0.5	1
57614		9	97	RAD-38	299	199	40	14:25	15:13	89280	14:45	174000	174300	0.62	1
57615		36	85	RAD-38D	353	253	51	14:28	15:13	89100	14:50	174120	174420	0.79	1
57616		50	108	RAD-37	305	205	41	14:30	15:13	88980	15:00	174600	174900	0.64	1
57617		30	124	RAD-36	255	155	31	14:31	15:13	88920	15:05	174840	175140	<0.5	1
57618		48	106	RAD-35	265	165	33	14:32	15:14	88920	15:10	175080	175380	0.52	1
57619	D4	27	109	BKG	677	577	115	14:37	15:16	88740	15:20	175380	175680	1.82	1
57619		27	109	BKG	631	531	106	14:37	15:16	88740	15:15	175080	175380	1.67	1
57620	TB1	1	1	1	110	10	2	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57621	TB2	2	2	2	110	10	2	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57622	TB3	3	3	3	115	15	3	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57623	TB4	4	4	4	96	(4)	(1)	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57624	TB5	5	5	5	103	3	1	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57625	TB6	6	6	6	103	3	1	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57626	TB7	7	7	7	116	16	3	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57627	TB8	8	8	8	88	(12)	(2)	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57628	TB9	9	9	9	97	(3)	(1)	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57629	TB10	10	10	10	112	12	2	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57630	TB11	11	11	11	115	15	3	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57631	TB12	12	12	12	101	1	0	12:00	15:06	97560	14:00	180000	180300	<0.5	1
57632	TB13	13	13	13	99	(1)	(0)	12:00	15:06	97560	14:00	180000	180300	<0.5	1

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

June 4, 1997

Mr. Mike Bedell, P.E.
BRS Inc.
P.O. Box 1104
Broomfield, CO 80038

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 5103700881

Dear Mr. Bedell:

Transmitted with this letter are the laboratory test results for the four bulk rock samples delivered to our office on May 14, 1997. The samples were identified as Proposed Riprap, Guernsey Pit; Guernsey Red; Valintine Glenrock Pit; and Valintine Gravel.

As requested, the samples were tested for determination of the Specific Gravity and Absorption (ASTM C127), Sodium Sulfate Soundness (ASTM C88), L.A. Abrasion (ASTM C535), and Schmidt Hammer Test (ASTM C815-93). The laboratory test results are presented below.

Table 1.
Summary of Laboratory Test Results

Test	Guernsey Pit	Guernsey Red	Valintine Gravel	Valintine Glenrock Pit
Specific Gravity (Bulk SSD)	2.74	2.53	2.68	2.63
Absorption (%)	0.1	1.7	0.2	0.3
Sodium Sulfate (% Loss)	0.14	19.1	0.21	0.12
L.A. Abrasion, 100 Revs (% Wear)	3.8	5.2	3.8	5.6
Schmidt Hammer	39	29	36	37

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

October 13, 1997

Mr. Ted Johnson
USNRC

RE: Rip Rap Testing - Bear Creek Project

Attachments:

1. Laboratory test results, rock quality testing Maxim Technologies Inc., reported June 4, 1997 and October 8, 1997.

2. Rock scoring results according to NRC scoring criteria.

The June, 1997 rock quality test results were previously submitted to the NRC at which time we proposed use of the Guernsey quarry. This decision was based on the ability of the potential rip rap sources to meet our required delivery schedule and gradation. All of the quarries tested could produce rock of sufficient quality based on NRC scoring quality. Currently, we are proceeding with production of rip rap at the Guernsey quarry and propose to utilize this single source for all of the required rock products specified in our tailings reclamation plan including aggregate filter material and rip rap.

The October, 1997 test results are very consistent with the previous test results for the Guernsey quarry. The tests reported include Specific Gravity, Absorption, Sodium Sulfate Soundness, and L. A. Abrasion. We have not yet requested the Schmidt Hammer test but have retained a sample for this testing, if required. We would request that the Schmidt Hammer test not be required for determination of rock quality and that the current rock source and testing criteria be approved for the project.

In accordance with the testing frequency specified in the tailings reclamation plan, two more samples of the rock will be collected for testing. One near the mid point of rip rap production and the other near the end of rip rap production.

If you have any questions or require any further information, please contact us immediately. The rip rap is being produced and is scheduled for delivery beginning the first of ~~September~~ UDY, 1997.

Sincerely,

Douglas Beahm, P.E., P.G.
Project Engineer

TECHNICAL EVALUATION REPORT

DATE: July 2, 1997

DOCKET NO.: 40-8452 LICENSE NO.: SUA-1310

LICENSEE: Bear Creek Uranium Company (BCUC)

FACILITY: Bear Creek Uranium

PROJECT MANAGER: Charlotte Abrams

TECHNICAL REVIEWERS: Daniel Rom, Ted Johnson, and Elaine Brummett

SUMMARY AND CONCLUSIONS:

By letter of April 8, 1997, the licensee provided information required by License Condition (LC) 44 of Source Material License SUA-1310 regarding material sizing and correlation of density testing methods. Specifically, Bear Creek Uranium Company (BCUC) is required by LC 44C to submit information on the maximum allowable material size for radon barrier material and the downstream dam face prior to placement of that material on the interim cover of the tailings cell. Also, prior to placement of material on the interim cover of the tailings cell, LC 44D requires that BCUC submit a procedure to correlate results from the sand cone apparatus and the nuclear gauge. BCUC submitted information relative to the requirements of LC 44C and D and the staff concludes the information submitted proposes acceptable material sizing and density testing methods.

BCUC also requested a modification to criteria for rip-rap durability testing to eliminate the tensile strength test. The NRC staff has reviewed the BCUC request and considers the elimination of the tensile strength test to be acceptable, because the other durability tests proposed by BCUC will be sufficient to evaluate the quality of the rock.

DESCRIPTION OF LICENSEE'S AMENDMENT REQUEST:

BCUC submitted information required by LC 44 regarding material sizing and correlation of density testing methods for material to be placed on the interim cover of the Bear Creek tailings cell. The licensee provided details of the radon barrier and dam face material and testing quality control and frequency. The licensee requested some modification to methods and frequency of tests. The approved site reclamation plan allows for the testing frequency to be reduced, with NRC approval, if soil tests do not vary by more than 2% of the average value for each category of soil.

The licensee also requested that the tensile strength test be eliminated from the testing and rock scoring criteria. Therefore, modification of LC 44 to

incorporate the licensee's submittal of April 8, 1997, in which it requested elimination of the tensile strength test, is also requested by the licensee.

TECHNICAL EVALUATION

On April 8, 1997, BCUC submitted proposed material testing requirements for placement of the radon barrier and downstream dam face material at the Bear Creek site. LC 44C requires that prior to placement of material on the interim cover of the tailings cell, the maximum allowable material size for radon barrier material and the downstream dam face material shall be submitted for NRC review and approval. LC 44D requires that a procedure to correlate radon barrier soil density test results from the sand cone apparatus and nuclear gauge shall be submitted for NRC review and approval. Bear Creek has designated material from the W-8 overburden stockpile for use in the radon barrier. The engineering characteristics of the W-8 soil were previously identified by testing 32 samples. The W-8 soil includes Clayey SAND (SC), Lean CLAY (CL), and Fat CLAY (CH). A compaction requirement of 95 percent of Standard Proctor (ASTM D-698) with maximum 6-inch lifts has been proposed by the licensee. The licensee further stated that the soil moisture content at placement will range from two percent below to three percent above optimum, per ASTM D-698. The material has been adequately characterized, and the proposed selection, placement, and compaction requirements are deemed satisfactory.

In order to calibrate and use a nuclear density gauge in accordance with ASTM D-2922, the licensee proposes to compare one sand cone density measurement (ASTM D-1556) with each series of ten nuclear density test results. If consistency of results can be demonstrated, the licensee proposes to modify its testing frequency. The test results will be provided to NRC for review. Sand cone density testing will be discontinued if it can be shown that nuclear density test results are compatible. The licensee's proposal with respect to comparison of test results is satisfactory.

Finally, the licensee has requested modifications to the soil testing frequencies. Specifically, if the soil test results can be shown to vary by less than two percent, then reductions in the test frequency, as tabulated in the licensee's submittal, will apply. Considering the expected uniformity of the W-8 soil, the conservatism of design, and the required documentation and review of test results, the licensee's proposed testing frequency modifications are satisfactory.

In its submittal of April 8, 1997, the licensee also requested that the rock durability testing program be modified to eliminate tensile strength testing. Based on its review of the licensee's request, the staff concludes that the modification to testing is acceptable, because 1) tensile strength testing may not be a reliable indicator of rock durability; 2) the tests do not carry much weight in the NRC scoring procedures; and 3) the licensee proposes to conduct five other durability tests that are considered to be acceptable to evaluate the quality of the rock.

In summary, the BCUC's proposed actions with respect to radon barrier material selection, placement, and compaction are satisfactory as discussed in its

submittal dated April 8, 1997. The staff also considers the licensee's proposed modification of rock testing to eliminate the tensile strength test to be acceptable.

RECOMMENDED LICENSE CHANGE:

Therefore, based on the staff's review of the information provided and pursuant to Title 10 of the Code of Federal Regulations, Part 40, Source Material License SUA-1310 is hereby amended by revising License Condition 44 as follows:

44. The licensee shall reclaim the tailings disposal area as stated in its November 26, 1991, submittal of specification and drawings, as modified by its March 20, 1992, and April 8, 1997, submittals.

A. DELETED by Amendment 34. Settlement is complete.

B. DELETED by Amendment 26.

C. DELETED by Amendment 36.

D. DELETED by Amendment 36.

[Applicable Amendments: 2, 3, 25, 26, 34, 36]

ENVIRONMENTAL IMPACT EVALUATION:

An Environmental Assessment for this action is not required since this action is categorically excluded under 10 CFR 51.22(c)(11), and an environmental report from the licensee is not required by 10 CFR 51.60(b)(2).

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 16, 1997

Gary Chase, Site Manager
Bear Creek Uranium Company
P.O. Box 366
Casper, Wyoming 82602

SUBJECT: REVIEW OF INFORMATION REQUIRED BY LICENSE CONDITION 44C-D

Dear Mr. Chase:

The U.S. Nuclear Regulatory Commission staff has completed its review of the information submitted by Bear Creek Uranium Company (BCUC) as required by License Condition (LC) 44C-D of Source Material License SUA-1310. Under the terms of LC 44, prior to placement of material on the interim cover of the tailings cell, BCUC must submit for NRC review and approval, information relative to the material size, and the density and moisture testing proposed for that material. The NRC staff has completed its review of the information provided by BCUC and considers the proposal submitted by BCUC to be acceptable.

BCUC also requested a modification to criteria for rip-rap durability testing to eliminate the tensile strength test. The NRC staff has reviewed the BCUC request and considers the elimination of the tensile strength test to be acceptable, because the other durability tests proposed by BCUC will be sufficient to evaluate the quality of the rock.

The staff has modified LC 44 as follows: LC 44C and D have been deleted to reflect that BCUC has complied with those conditions. LC 44 also has been modified to reference the submittal of April 8, 1997, in which BCUC acceptably provides the required information on radon barrier maximum material size and moisture/density testing correlation, and requests modification of the reclamation plan to decrease material testing frequencies and eliminate the tensile strength test. Therefore, pursuant to Title 10 of the Code of Federal Regulations (10 CFR) Part 40, LC 44 of Source Material License SUA-1310 is hereby amended. The staff's review is documented in the Technical Evaluation Report for the license amendment (Enclosure 1). The BCUC license is being reissued to incorporate the above modifications (Enclosure 2). All other conditions of the license shall remain the same.

If you have any questions concerning this letter or its enclosures, please contact the NRC Project Manager, Ms. Charlotte Abrams, at (301) 415-5808.

Sincerely,

for

Joseph J. Holonich, Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No.: 40-8452
License No.: SUA-1310
L51515/case closed
Amendment 36

Enclosures: As stated

cc: E. Scott, UPR
G. Cash, WYDEQ

December 1999

BEAR CREEK URANIUM
TAILINGS AREA RECLAMATION

APPENDIX C

NRC APPROVED

RECLAMATION PLAN

BEAR CREEK TAILINGS RECLAMATION PLAN

EXECUTIVE SUMMARY

Bear Creek Uranium Company (Bear Creek) designed its tailings reclamation plan to satisfy the requirements of 10 CFR 40, Appendix A, and current NRC guidelines for long-term tailings containment. Specifically, the plan assures compliance with Appendix A criteria, which mandate (1) that radioactive emissions meet Criterion 6 levels for radon and gamma radiation, and, (2) long-term stability and containment of tailings for 1,000 years without active maintenance.

The plan achieves these performance objectives through a radon barrier constructed of compacted earth, creating relatively flat cover slopes, establishing a diversion channel that hydraulically isolates the tailings, using durable rock to protect critical areas, and establishing self-renewing vegetation to protect the surface from wind and water erosion. The plan design features are described below and illustrated on Figure Exec-1 and Drawing 05-C-001.

The plan provides a minimum of three feet of compacted radon barrier over the upper surface (78 acres) and a minimum of four feet over the fines area which lies outside a ridge that effectively isolates the upper surface from the outslopes (23 acres). The radon barrier thus covers 101 acres of tailings. The compaction specification for the radon barrier is greater than 95 percent of the Standard Proctor Density. An additional foot of uncompacted random fill and topsoil effectively increases tailings cover thickness. Most random fill soils come from excavating the runoff diversion channel. Surface design features are shown in cross-section on Drawings 05-C-010 and 05-C-011.

The three-foot thick radon barrier alone is sufficient to limit release of radon-222 to less than 20 picocuries per square meter per second, and it will also be adequate to reduce gamma emanations to background levels. In terms of radon release, the proposed barrier is very conservative as demonstrated by modelling and actual site measurements of interim cover effectiveness. Bear Creek's radon emanation analysis does not consider the additional protection provided by the cover soil's natural moisture content, which is the higher than the design moisture content, and the attenuating properties of the random fill, topsoil, and in-place clay interim cover soils.

The random fill and topsoil placed over the compacted clay cover serves as a plant growth medium and as a buffer against potential losses from wind and water erosion. Maximum predicted erosion from wind and sheet runoff totals approximately 0.8 foot of soil in 1,000 years. This amount is less than the minimum one foot of random fill and topsoil placed over the radon barrier. The conservative nature of these analyses ensures compliance with Criterion 6 requirements.

The topsoil will provide a suitable plant growth medium to ensure soil stability. The proposed reclamation grass species were chosen based on their ability to thrive in the local environment. They establish rapidly, develop a shallow, dense, soil holding root structure and are self-sustaining under a wide range of climatic conditions. Current reclamation success on adjacent mine areas confirms species suitability and portends excellent potential for successful tailings area revegetation.

To ensure long-term performance, the reclaimed tailings basin was designed to endure extreme storm runoff

using U. S. Army Corps of Engineers' HEC-1 and HEC-2 procedures. Program input assumes AMC III soil moisture conditions and a rainfall of 13.84 inches in 6 hours to estimate maximum runoff velocities across the reclaimed upper surface, through a rock-lined chute, through the diversion channel, and discharge through a rock weir.

A compacted soil ridge that encompasses the 78-acre upper tailings surface isolates the upper surface from the rest of the basin. That is, only runoff from direct precipitation can impact the upper surface. Within the ridge area, the placement of random fill creates two stable, gently sloping drainage swales. The swales provide drainage and convey runoff from the upper surface to an erosion resistant chute that leads to a diversion channel. PMF runoff in the swales flows at suberosive velocities (<2 fps) into the rock-lined chute. The chute entrance is excavated in undisturbed terrain and is separated from the tailings edge by approximately 1,100 feet. The chute carries runoff through a drop of 11 feet in 330 feet (Drawing 05-C-012). Engineered layers of imported rock riprap provide erosion protection. Erosion protection is further enhanced by constructing the chute in sandstone bedrock.

The outslopes (slopes which lie between the ridge and diversion channel) have additional random fill placed over the radon barrier to establish a relatively flat surface that drains to the diversion channel (Drawing 05-C-010). Due to the relatively flat slopes and radon barrier design, outslope erosion is not an issue. Thus, the radon barrier design, gentle slopes, and additional fill materials assure outslope radon barrier integrity for the 1000 year design time frame.

Water draining from the tailings surface and the rest of the basin flows into the relatively flat, wide, upper portion

of the diversion channel. Runoff velocities in this area are generally less than 2.0 fps. Runoff accumulated in the upper channel flows into a narrower portion of the channel to the west and eventually discharges through a rock weir onto natural ground approximately 1,700 feet northwest of the tailings. Maximum channel bottom velocities in the lower channel are less than 6 feet/sec.

The channel is designed to withstand PMF flows without compromising the reclaimed tailings. Channel water velocities are controlled by flat bottom slopes and the rock wier at the channel outlet (Drawing 05-C-014). Riprap for the weir is sized to withstand predicted velocities from the local PMF. Natural sandstone rock provides additional channel stability in critical areas adjacent to the reclaimed tailings dam.

The reclaimed tailings surface near the dam is graded to prevent runoff from flowing down the dam's downstream face. The downstream face is stabilized with rock armor to ensure long-term stability. A filter layer increases rock stability and reduces sediment accumulation in the toe channel. The toe channel below the dam is also riprapped. Runoff from the dam face flows to the toe channels where it is intercepted and routed to interceptor channels. The interceptor channels are riprapped in the toe channel transition zone and have flat slopes to ensure non-erosive runoff velocities (Drawings 05-C-007 and 05-C-008).

Construction and material specifications are presented in the next section. Adherence to the specifications will ensure that the proposed design meets applicable design and performance requirements contained in Criteria 4 and 6 of Appendix A.

APPENDIX B

CONSTRUCTION SPECIFICATIONS

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November 1991

APPENDIX B1
TECHNICAL SPECIFICATION
FOR
GEOTECHNICAL ENGINEERING SERVICES
FOR
RECLAIMING THE BEAR CREEK URANIUM COMPANY
TAILINGS DISPOSAL AREA

Converse County, Wyoming

Prepared by
Union Pacific Resources - Minerals

November 1991

TECHNICAL SPECIFICATION
FOR
GEOTECHNICAL ENGINEERING SERVICES
FOR
RECLAIMING THE BEAR CREEK URANIUM COMPANY
TAILINGS DISPOSAL AREA

1.0 INTRODUCTION

1.1 This specification describes the responsibilities and activities expected of the Geotechnical Consultant selected to conduct quality assurance testing and provide reports covering the reclamation of Bear Creek's tailings disposal area. The tailings area is located adjacent to the Bear Creek Uranium Company's mill site in T38N, R23W, Section 16, Converse County, Wyoming approximately 45 miles northwest of Douglas.

1.2 Liaison contact and correspondence should be directed to the Project Engineer listed below. Reports shall be sent to the Project Engineer, UPM Environmental Services Department, and the Resident Manager at Bear Creek.

Project Engineer
Union Pacific Resources
801 Cherry Street
Fort Worth, TX 76102
817-877-6000

Environmental Services
Department
Union Pacific Resources
801 Cherry Street
Fort Worth, TX 76102
817-877-6000

Resident Manager
Environmental Superintendent
Bear Creek Uranium
P.O. Box 366
Casper, WY 82602

2.0 APPLICABLE CODES AND DEFINITIONS

2.1 Applicable Codes

Except as noted within this specification, all inspection and testing shall conform to the latest revision/edition of the regulations and specifications listed below.

American Society for Testing & Materials (ASTM)

C88	Soundness Test
C127	Specific Gravity/Absorption
C131	L. A. Abrasion
C136	Gradation Testing
C177	Gradation Testing
4318 D423	Liquid Limit of Soils
D424	Plasticity Index of Soils
D698	Moisture Density Relationships
D1140	Soils Gradation Testing
D1556	In-place Densities of Soils by Sand Cone
D2487	Classification of Soils for Engineering Purposes
D2922	Density of In-place Soils by Nuclear Methods

Bear Creek Source Materials License SUA-1310

Wyoming State Engineer's Office
Water Rights Laws and 1977 Dam Safety Act

Wyoming Department of Environmental Quality (DEQ)
Land Quality Division and Water Quality Division
Regulations

U.S. Department of Interior, Bureau of Reclamation, Earth Manual, Permeability and Settlement of Soils, Designation E-13

Where a specific material designation or code requirement is stipulated, it shall be understood that no substitution may be made unless approved by the Project Engineer.

2.2 Definitions

1. Drawings, when referred to, shall be understood to include all design drawings, specifications, or bills of materials.

2. Geotechnical Consultant when referred to shall be understood to mean a duly authorized site representative of the Geotechnical Engineer firm selected to do the construction control work defined under this specification. The Geotechnical Consultant shall be a registered Professional Engineer licensed to practice in the State of Wyoming. The Engineer shall insure conformity with approved plans and specification, either by himself or using a person qualified to perform the inspections and for whose work the Professional Engineer will stand personally responsible.

   The registered professional engineer responsible for the work shall be experienced in earthwork projects. The certificate of construction shall explicitly state that construction was performed in accordance with the plans.

3. The functions of the Geotechnical Consultant may be performed by a representative of the Project Engineer.

4. Soils, when referred to, shall be understood to refer to designations of the Unified Soils Classification System.

3.0 SCOPE OF WORK

The Geotechnical Consultant shall provide labor, materials, equipment, and supervision required to perform field and/or laboratory soils testing services to insure compliance with technical specifications and drawings. Principal tasks are listed below:

1. Test materials from borrow sources and approve those which are acceptable for reclamation.
2. Test soils removed from required excavations within the basin and determine the suitability of such soils for embankment construction.
3. Inspect and approve all foundation conditions prior to placement of fills.
4. Inspect, test, and approve all fills placed.
5. Inspect and test to determine whether the requirements of all drawings and specifications are being satisfied.
6. Oversee placement of tailings reclamation cover materials and test as required.
7. Test and inspect all riprap material and placement.
8. Provide reports to the Project Engineer, Environmental Services Department, and Bear Creek Resident Manager stated in Section 6.0. A weekly transmittal of the daily reports along with a summary of progress shall be maintained during the period of construction.

All work shall be in accordance with these specifications. The scope of work may be modified at any time by the Project Engineer or his representative, provided that such modifications adhere to applicable codes listed in Section 2.0 of these specifications. Such changes shall be by written notification (field directives).

4.0 WORK EXCLUDED

The items of work not included are as follows:

1. Design of the reclamation surface.
2. Survey work required for earthwork quantity determinations.

5.0 QUALITY ASSURANCE

1. The Geotechnical Consultant shall direct the Bear Creek contractor to maintain compliance with the Technical Specification for reclaiming the tailing disposal area. Special areas include the proper preparation of surfaces against which the tailings reclamation cover is to be placed, maintaining uniformity of the thickness of lifts, maintaining level surfaces to assure uniform compaction, assuring complete coverage by compaction equipment, conformance with moisture limitations, assurance that materials as specified are used for reclamation, and that accurate and complete records are kept.

   The radon barrier material shall be compacted to 95 percent of the maximum dry density as determined by the Standard Proctor test (ASTM D698) and placed in horizontal lifts not to exceed six inches loose thickness. Compaction shall be completed using a sheepsfoot or tamping foot compactor or similar compactor as approved by the Geotechnical Consultant. The contractor shall suspend radon barrier placement when, in the opinion of the Geotechnical Consultant, conditions for the placement of the radon barrier are unsatisfactory due to rain, snow, wind, cold temperatures, or any other reason.

2. Laboratory test results indicate that the W-8 borrow material consists of clayey sand (SC), low plasticity clay (CL), and some high plasticity clay (CH). The radon barrier design is based on physical property values derived from the clayey sand material because the clayey sand materials represent the most conservative soil characteristics in terms of radon barrier thickness requirements. The following material and compaction specifications will be used for the radon barrier:

Liquid Limit	$\geq$ 25
Plasticity Index	$\geq$ 10
Percent Passing #200	$\geq$ 35%
Compaction	$\geq$ 95% of Standard Proctor
Compaction Moisture	$\geq$ -2 to +3% of Optimum

3. Field density tests are required to assure densities specified are being met. To ensure that cover soils are placed at a density greater than 95 percent of standard density, the following testing program will be implemented.

Testing of the radon barrier material shall be completed at the following frequencies:

<u>Field Testing</u>

Nuclear Density Gage	- 1 per 1000 yd^3
Sand Cone	- 1 per 10 nuclear density gage tests

<u>Laboratory Testing</u>

Percent Passing #200 Sieve	- 1 per 2000 yd^3
Atterberg Limits	- 1 per day
One Point Proctor	- 1 per 5000 yd^3
Full Proctor	- 1 per 10,000 yd^3

The testing frequency may be reduced upon approval from the NRC if, as construction progresses, the soil tests do not vary by more than 2 percent of the average value for each category of soil. The 2 percent variation will be based on the average of all completed tests for each category of soil.

4. The downstream dam face material shall be compacted to at least 95 percent of standard proctor and placed at -2 to +3 of optimum moisture content. To ensure that the downstream dam face materials are placed at the specifications, the following testing program will be implemented.

Testing of the downstream dam face material shall be completed at the following frequencies:

<u>Field Testing</u>	
Nuclear Density Gage	- 1 per 2000 yd^3
Sand Cone	- 1 per 10 nuclear density gage tests
<u>Laboratory Testing</u>	
Percent Passing #200 Sieve	- 1 per 4000 yd^3
Atterberg Limits	- 1 per day
One Point Proctor	- 1 per 10,000 yd^3
Full Proctor	- 1 per 20,000 yd^3

5. There are five different types of riprap gradations that will be used for reclamation. The location and extent of each type are shown on the Drawings. Each riprap size shall meet the appropriate gradation requirements.

GRAVEL FILTER

U.S. Standard Sieve		Percent Passing
#40	.425 mm	0-10
#10	2.0 mm	10-15
1/4	6.3 mm	10-30
1/2	12.5 mm	30-50
3/4	19.0 mm	40-60
1"	25.4 mm	50-70
1-1/2"	37.5 mm	70-85
2"	50 mm	85-100

#100 - 0-5
#40 - 5-15
#10 - 10-25
1/4 - 20-35

DOWNSTREAM DAM FACE

WEIGHT LBS.			3" ROCK EQUIVALENT SPHERICAL DIAMETER	mm
3	<W100	<7	3.8" < D_{100} < 5.1"	96.5 — 129.5
2	<W85	<6	3.4" < D_{85} < 4.8"	86.4 — 121.9
1	<W50	<3	3.0" < D_{50} < 3.9"	76.2 — 99.1
.4	<W15	<1	1.5" < D_{15} < 2.5"	38.1 — 63.5
			4" ROCK EQUIVALENT SPHERICAL DIAMETER	
6	<W100	<16	5.0" < D_{100} < 6.8"	
5	<W85	<13	4.5" < D_{85} < 6.3"	
3	<W50	<7	4.0" < D_{50} < 5.2"	
.5	<W15	<2	2.0" < D_{15} < 3.3"	

SIZE #1 RIPRAP

	RIPRAP
74 <W100 <186	11.3" < D_{100} < 15.4"
56 <85 <149	10.3" < D_{85} < 14.3"
37 <50 <84	9.0" < D_{50} < 11.8"
5 <W15 <21	4.5" < D_{15} < 7.4"

SIZE #2 RIPRAP

	mm	RIPRAP	mm
345 <100 <861	480	18.9" < D_{100} < 25.6"	675
258 <W85 <689	437	17.2" < D_{85} < 23.8"	604
172 <W50 <388	381	15.0" < D_{50} < 19.7"	500
22 <W15 <97	190	7.5" < D_{15} < 12.4"	315

SIZE #3 RIPRAP

WEIGHT OF STONE	EQUIVALENT SPHERICAL DIAMETER
1411 <W100 <3529	30.2" < D_{100} < 41.0"
1059 <W85 <2823	27.5" < D_{85} < 38.1"
706 <W50 <1588	24.0" < D_{50} < 31.4"
88 <W15 <397	12.0" < D_{15} < 19.8"

In addition, less than 15 percent of the rock shall have length to diameter ratios greater than 3. Long, flat rocks shall be excluded to the extent practical.

6. Once a rock source is selected for use as riprap, durability testing will be performed on the rock. In addition to determining the rock mineralogy and degree of weathering by visual means, the following laboratory tests will be conducted:

- Specific gravity and absorption
- L. A. abrasion
- Sodium sulfate soundness
- Schmitt hammer
- Tensile stress

The rock will be rated on its suitability for use as riprap, as described in the Final NRC Staff Technical Position, "Design of Erosion Protection Covers For Stabilization of Uranium Mill Tailings", August 1990.

After the rock has been processed at the quarry and prior to delivery to the site, a sample of each source of riprap will be obtained and tested for durability pursuant to the list above to determine its suitability for use. Each source of riprap will be tested in the laboratory. In addition, durability testing will be done on each source prior to delivery and two more times during riprap delivery and placement to ensure the rock quality has not changed and remains suitable for use as riprap. The riprap shall meet the durability requirements as defined by the Final Staff Technical Position "Design of Erosion Protection Covers for Stabilization of Uranium Mill Tailings", August 1990.

7. Gradation for all riprap sizes will be sampled and physically measured to ensure the gradation specifications are met. The sample for riprap size distribution testing will be obtained from the placed material to determine if segregation is occurring. The size of each sample will be based on the maximum size of riprap. The tests will be performed once at the beginning of the project and at least two times during the riprap placement for each size of riprap.

6.0 DATA COLLECTION AND REPORTS

Due to the nature of the construction control, several types of reports are required.

1. Daily report - At the end of each day's operations a report shall be completed and copies shall be forwarded to the Project Engineer. This report shall summarize pertinent data for field tests and provide for comparison of results to laboratory tests. This report shall record work in progress including location and volume of fill placement, problems encountered, solutions proposed and implemented.

2. Weekly Summary - The Geotechnical Consultant shall provide a weekly summary report to the Project Engineer with, for the record, copies of the daily reports. The weekly summary will contain a brief summary of results, conclusions, and comments on any special conditions or problems noted in the course of the work.

3. Data Sheets - A complete set of data sheets for all tests undertaken in the laboratory or in the field shall be maintained. These data sheets shall be complete including information such as location of the test or sample and all data relevant to the test being performed. Any occurrences should be noted for field density testing, the tests shall be remembered in a manner so that retests for areas that have failed can easily be traced back to the original test that failed.

4. Final Construction Report - A bound final construction report shall be prepared upon completion of construction and copies provided to the persons specified in Section 1.2. This report shall summarize all information obtained from the daily and weekly reports. It shall

contain a certification statement on the construction performed.

7.0 JOBSITE PERSONNEL

The Project Engineer shall review and approve all personnel proposed by the Geotechnical Consultant prior to commencement of construction. Approval to substitute personnel shall be obtained from the Project Engineer prior to substitution by the Geotechnical Consultant. The Project Engineer desires to have as few changes as possible to maintain continuity.

November 1991

APPENDIX B2
TECHNICAL SPECIFICATION
FOR
RECLAIMING BEAR CREEK'S
TAILINGS DISPOSAL AREA

Converse County, Wyoming

Prepared by
Union Pacific Resources - Minerals

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TECHNICAL SPECIFICATION FOR RECLAIMING BEAR CREEK'S TAILINGS DISPOSAL AREA

1.0 INTRODUCTION

The reclamation of the tailings disposal area will be performed by contract personnel and equipment. The intent of the technical specifications is to define the construction requirements necessary to ensure long-term stability goals are met for reclaiming Bear Creek's tailings disposal area.

2.0 APPLICABLE CODES

All construction related activities shall conform to the latest revision/edition of the regulations listed below.

1. Bear Creek's NRC Source Materials License SUA-1310
2. Wyoming State Engineer's Office
   Water Rights Law and 1977 Dam Safety Act
3. Wyoming Department of Environmental Quality (DEQ)
   Land Quality Division and Water Quality Division

In addition, all governing federal, state, and local codes, laws, and ordinances shall be complied with during the reclamation construction activities. Where a specific material designation or code requirement is stipulated, it shall be understood that no substitution may be made without prior approval.

3.0 SCOPE OF WORK

The reclamation of the tailings disposal area will consist of:

(1) Reclamation of the downstream face of the main dam
(2) Placing compacted cover over the tailings disposal area
(3) Constructing diversion channels
(4) Constructing a rock chute
(5) Constructing the diversion channel rock weir.

4.0 RESPONSIBILITIES

4.1 Bear Creek's contractor shall be responsible for furnishing the supervision, labor, materials, and equipment for reclamation of the tailings disposal area. The contractor shall assist the Geotechnical Consultant wherever possible to obtain the required test data.

The contractor shall comply with the Geotechnical Consultant's directions. In case of conflicts, the Resident Manager/Project Engineer will meet with the parties to resolve the differences.

The contractor shall preserve and protect designated settlement and survey monuments throughout construction.

4.2 Union Pacific Minerals is responsible for design of the tailings disposal area. The contractor will be responsible for controlling the construction methods, providing the equipment and materials, and reclaiming the tailings area in accordance with approved plans and specifications.

4.3 The Geotechnical Consultant shall be responsible to assure compliance with the geotechnical aspects of this specification. The Geotechnical Consultant personnel will work directly with the contractor's personnel. The

Geotechnical Consultant's representative will work with the Union Pacific Mineral's representative on design modifications and selection of material.

5.0 LANDSCAPE PRESERVATION

The contractor shall exercise care to preserve the natural undisturbed landscape and shall conduct their construction operations so as to prevent any unnecessary disturbance.

6.0 DIVERSION CHANNEL CONSTRUCTION

6.1 Topsoil within the cut limits shall be stripped and stockpiled. The depth of the topsoil will be determined by Bear Creek's Representative, in accordance with established procedures.

6.2 Diversion channels shall be excavated to the grades and slopes shown on the drawings. Care shall be taken not to over-excavate. A motor grader or other approved equipment shall be used to establish the flowline elevation of the diversion channel.

6.3 Soils from the excavation of the diversion channel may be used to construct the diversion channel berm and as random fill.

7.0 RECLAIMING THE DOWNSTREAM FACE OF THE MAIN DAM

7.1 The material required for reclaiming the downstream face of the main dam shall be obtained from the W-8 over-burden stockpile. Interior portions of the fill may be obtained from diversion channel excavations. The project engineer reserves the right to change the specified

limits or the location of the borrow areas to obtain the most suitable material.

7.2 The borrow material shall be conditioned in the stockpile area before hauling and placement on the embankment. Conditioning shall consist of adding water, if required, and working with the dozer or motor grader to break up large pieces. When moisture is introduced into the soil at the borrow area, care shall be exercised to moisten the material uniformly to produce the required moisture during compaction.

7.3 The foundation area shall be cleared of topsoil and vegetation. Material classified as topsoil will be stockpiled in designated areas.

7.4 The existing embankment face shall be cleared of all vegetation before new fill is placed against it.

7.5 The lifts shall be of uniform thickness and placed in approximate horizontal layers with a maximum loose thickness of 8 inches.

7.6 Each lift shall be placed at -2 to +3 percent of optimum moisture content and compacted to 95 percent of the maximum density as determined by ASTM D698 Method D.

7.7 The tie-in of the fill to the existing embankment face shall be achieved by notching each lift into the existing fill. A 6-foot to 3-foot wide strip shall be cut into the existing fill. The material from the notch and the borrow material shall be mixed and placed in the notch area as part of the overall lift and compacted as an integral part of that lift.

7.8 The contractor shall suspend placement of the downstream dam face material when, in the opinion of the Geotechnical Consultant, conditions for placement are unsatisfactory due to rain, snow, wind, cold temperatures or any other reason.

7.9 Rock protection, as shown on Drawing 05-C-007, shall be placed in accordance with the gradations specified in Appendix B1.

8.0 RECLAMATION COVER PLACEMENT

8.1 The tailings surface shall be regraded prior to cover placement to the grades and elevations shown on the Drawings.

8.2 The material required for covering the tailings surface shall be obtained from the W-8 overburden stockpile. The project engineer reserves the right to change the specified limits or the location of the borrow areas to obtain the most suitable material. The material shall meet the specification defined in Appendix B1.

8.3 The borrow material shall be placed in the designated areas on the tailings area. The material shall be conditioned in the stockpile area before hauling and placement on the tailings beach. Conditioning shall consist of working with the dozer to break up large pieces and adding moisture if required.

8.4 Prior to covering the lower portion of the tailings area, the soil contacted by tailings solution and the thin layer of tailing, along the bottom of the reservoir area shall be relocated toward the center of the tailings area

as directed by the Project Engineer or his representative.

8.5 Random fill used to bring the tailings surface up to the grades shown on Drawing 05-C-001 shall be obtained from the diversion channel excavation or the W-8 stockpile.

9.0 RECLAMATION TOPSOIL PLACEMENT

9.1 The topsoil required for reclaiming the tailings disposal area shall be obtained from the appropriate stockpiles.

9.2 Upon completion of the reclamation fill on the downstream face of the main dam, that surface shall be covered with topsoil in accordance with the reclamation schedule.

9.3 Deleted

10.0 CHUTE CONSTRUCTION

10.1 Topsoil within the cut limits shall be stripped and stockpiled in designated areas. The depth of the topsoil will be determined by Bear Creek's representative in accordance with established procedures.

10.2 The chute shall be excavated to the slopes and grades shown on Drawing 05-C-012. Care shall be taken not to over excavate, or rip deeper than necessary. Any over excavation shall be replaced at the contractor's expense with filter layer rock or riprap as specified by Bear Creek's representative.

10.3 Upon completion of the excavation and inspection by Bear Creek's representative, a 6 ± 1 inch thick filter layer

meeting the gradation specifications outlined in Appendix B1 shall be placed to the limits shown on Drawing 05-C-12A.

10.4 Upon completion of filter layer placement and inspection, riprap shall be placed that meets the gradations requirements specified in Appendix B1.

10.5 The thickness of the riprap shall be not less than 1.5 times the upper limit of the D_{50} stone, or the spherical diameter of the D_{100} stone. If over sizing is required, the thickness of the layer will be increased to compensate for the increased rock size.

10.6 Correct placement of riprap at the chute control section is important. Hand placement will be required if machine placement does not produce the cross section required. Machine placement in other portions of the chute will be acceptable as long as the nominal minimum riprap and filter thickness is maintained.

11.0 ROCK CHECK DAM CONSTRUCTION

11.1 Specification Section 10.1 to 10.4 also apply to the Rock Weir.

11.2 Downstream portions of the Rock Weir will be constructed on natural soils. In the soil areas to be riprapped the gradation of the base soils shall be determined prior to construction. Using these data, the gradation of the bottom filter layer shall be determined according to Section 11.3. In the areas where riprap is to be placed is on rock, the filter size in Section 11.4 shall be used.

11.3 The filter layer shall conform to the following gradation requirements outlined in Appendix B1.

11.4 Three riprap sizes will be used to construct the Rock Weir. The size gradations are specified in Appendix B1. The location of riprap sizes is shown on Drawing 05-C-014.

11.5 Size #1 riprap may be placed by machine methods such as dumping from trucks and shaping with a bulldozer. The minimum nominal thickness shall be 1.5 times the D_{50} maximum size. Care shall be taken to maintain correct filter layer thickness when placing the size #1 riprap.

11.6 Size #2 riprap placement may require handling individual rocks to ensure proper installation.

11.7 Size #3 riprap placement will require special handling. The minimum thickness shall be 1.5 times the D_{50} maximum size. Additional layer thickness on the bottom may be required due to practical limitations on the ability to control the size of the rock. The elevation shown as the top of the #3 riprap on Drawing 05-C-013 is considered a nominal minimum.

11.8 The size #3 riprap gradation is based on hydraulic considerations. Oversizing to meet long term durability requirements will be used if required.

12.0 GRADE CONTROL AND SURVEYING

12.1 The radon barrier shall be placed to conform with the lines and grades of the reclamation configuration as shown on the Drawings. The barrier shall be constructed to meet the minimum thickness specified on the Drawings. In addition, the swale flow line elevations shall be constructed to ± 0.1 feet of the elevations shown.

12.2 The final lines and grades for the diversion channels shall be as shown on the Drawings. The channel flow line elevations shall be ± 0.20 feet of the elevations shown.

12.3 All riprap shall be placed to meet the grades as shown on the Drawings. The elevations shall be ± 0.25 feet of the elevations shown.

12.4 The final grade of the downstream dam face shall be as shown on Drawings 05-C-007 and 05-C-008. Prior to placement of riprap on the dam face, the fill material shall be within ± 0.25 feet of the elevations as shown on the Drawings, less the required riprap thickness.

13.0 QUALITY ASSURANCE BY GEOTECHNICAL CONSULTANT

The tailings disposal area reclamation construction will be under the supervision of the Project Engineer. The Project Engineer or his representative will be present as needed during the construction. The Geotechnical Consultant is obligated to certify conformance with these specifications and report the results on regular intervals. The full scope and details of tests and reports are as further outlined by the specification entitled "Technical Specification for Geotechnical Engineering Services for Reclaiming Bear Creek's Tailings Disposal Area," Appendix B1.

December 1999

BEAR CREEK URANIUM
TAILINGS AREA RECLAMATION

APPENDIX D

GEOTECHNICAL TESTING REPORTS

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 268-5143

October 8, 1997

Mr. Mike Bedell, P.E.
BRS Inc.
P.O. Box 1104
Broomfield, CO 80038

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 5103700881

Dear Mr. Bedell:

Transmitted with this letter are the laboratory test results for the bulk rock sample delivered to our office on September 23, 1997. The sample was identified as Riprap, Guernsey Quarry, Bear Creek Mine Reclamation Project, Converse County, Wyoming (Maxim Lab No. S-7-881-2).

As requested, the sample was tested for determination of the Specific Gravity and Absorption (ASTM C127), Sodium Sulfate Soundness (ASTM C88), L.A. Abrasion (ASTM C535). The laboratory test results are presented below.

Specific Gravity (Bulk SSD)	2.81
Absorption (%)	0.21
Sodium Sulfate Soundness (% Loss)	0.14
L.A. Abrasion, 100 Revs. (% Wear)	5.1

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

Bear Creek Uranium

P.O. Box 366
Casper, Wyoming 82602
(307) 358-2511

October 22, 1997
Docket No. 40-8452
License No. SUA-1310

Joseph J. Holonich, Branch Chief
U.S. Nuclear Regulatory Commission
Uranium Recovery Projects Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards, MS T7J-9
Washington, D.C. 20555

Attn: Charlotte Abrams, Licensing Project Manager; Ted Johnson

Dear Mr. Holonich::

I have enclosed the results of the rock testing conducted on the rip rap being produced at Guernsey Stone for the Bear Creek Uranium tailings reclamation project.

If you have any questions relating to this submittal, please contact me at (307) 358-2511.

Sincerely,

Gary Chase
RSO/EC

cc: E.Y. Scott- UPR Rock Spring, Wyo.
File

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

March 17, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap and bedding material delivered to our office on February 23, 1998. The samples were identified as Riprap and Bedding Material, Guernsey Quarry, Bear Creek Mine Reclamation Project, Converse County, Wyoming (Maxim Lab No. S-8-706-1 & 2).

As requested, the riprap sample was tested for determination of the Specific Gravity and Absorption (ASTM C127), Sodium Sulfate Soundness (ASTM C88), L.A. Abrasion (ASTM C535), Splitting Tensile Strength, and the Schmidt Hammer. The bedding material was tested for Gradation (ASTM C117 & C136), Specific Gravity (ASTM C127), and Bulk Density (dry rodded unit weight). The laboratory test results are presented below and on Fig. 1, attached.

	Riprap	Bedding Material
Specific Gravity (Bulk)	2.82	2.81
Absorption (%)	0.35	
Sodium Sulfate Soundness (% Loss)	0.3	
L.A. Abrasion, 100 Revs. (% Wear)	5.8	
Bulk Density (pcf)		123.0
Tensile Strength (psi)	1545	
Schmidt Hammer	62	

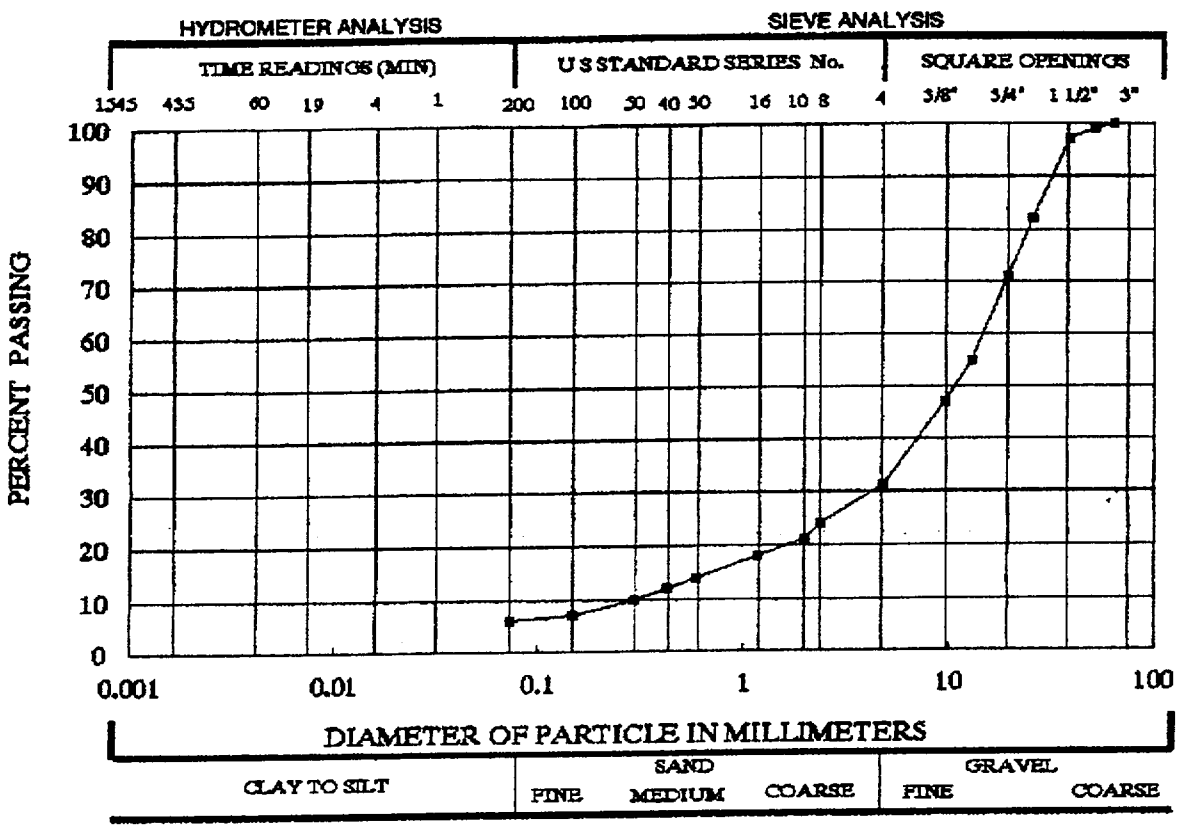
If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

Attachment



SEIVE SIZE	PERCENT PASSING
2 1/2"	100
2"	99
1 1/2"	97
1"	82
3/4"	71
1/2"	55
3/8"	47
#4	31
#8	24
#10	21
#16	18
#30	14
#40	12
#50	10
#100	7
#200	6

SAMPLE IDENTIFICATION:
Bedding Material, Guernsey Quarry
(Maxim Lab No. S-8-706-2)

BEAR CEEK URANIUM PROJECT
CONVERSE COUNTY, WYOMING

9851706	***MAXIM*** Technologies, Inc.	GRADATION ANALYSIS	Fig. 1

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

June 3, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap bedding material delivered to our office on May 27, 1998. The sample was identified as Riprap Bedding Material, Menter Sand & Gravel, Bear Creek Mine Reclamation Project, Converse County, Wyoming (Maxim Lab No. S-8-706-3).

As requested, the bedding material sample was tested for determination of the Specific Gravity and Absorption (ASTM C127), Sodium Sulfate Soundness (ASTM C88), and L.A. Abrasion (ASTM C535). The laboratory test results are presented below.

	Bedding Material
Specific Gravity (Bulk)	2.665
Absorption (%)	0.81
Sodium Sulfate Soundness (% Loss)	0.2
L.A. Abrasion, 100 Revs. (% Wear)	6.1

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

cc: Bob Coppin

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

June 30, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap bedding material delivered to our office on June 26, 1998. The sample was identified as Riprap Bedding Material, Menter Sand & Gravel, Bear Creek Mine Reclamation Project, Converse County, Wyoming (Maxim Lab No. S-8-706-4).

As requested, the bedding material sample was tested for determination of the Gradation (ASTM C117 & C136). The laboratory test results are presented on Table I, attached.

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

cc: Bob Coppin

Attachment

TABLE I

SUMMARY OF LABORATORY TEST RESULTS

Bear Creek Reclamation Project
Converse County, Wyoming

Job No. 9851706
June 30, 1998

Sieve Size	Riprap Bedding Material Menter Sand & Gravel (% Passing)
2"	100
1½"	92
1"	75
3/4"	51
1/2"	33
3/8"	25
No. 4	16
No. 8	12
No. 16	9
No. 30	6
No. 50	3
No. 100	1
No. 200	0.9

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

July 8, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap bedding material delivered to our office on June 12, 1998. The sample was identified as Riprap Bedding Material, Menter Sand & Gravel, Bear Creek Mine Reclamation Project, Converse County, Wyoming (Maxim Lab No. S-8-706-5).

As requested, the bedding material sample was tested for determination of the Splitting Tensile Strength and Schmidt Hammer Rebound. The laboratory test results are presented below.

Tensile Strength (psi)	2035
Schmidt Hammer	52

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

cc: Bob Coppin

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

July 8, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for two soil samples obtained at the project site at the request of Mr. Bob Coppin. The samples were identified as Dam Face Material A and B.

As requested, the soil samples were tested for sieve analysis including hydrometer (ASTM D422 and D1140) and Atterberg limits (ASTM D4318). The laboratory test results are presented on Figures 1 and 2, attached.

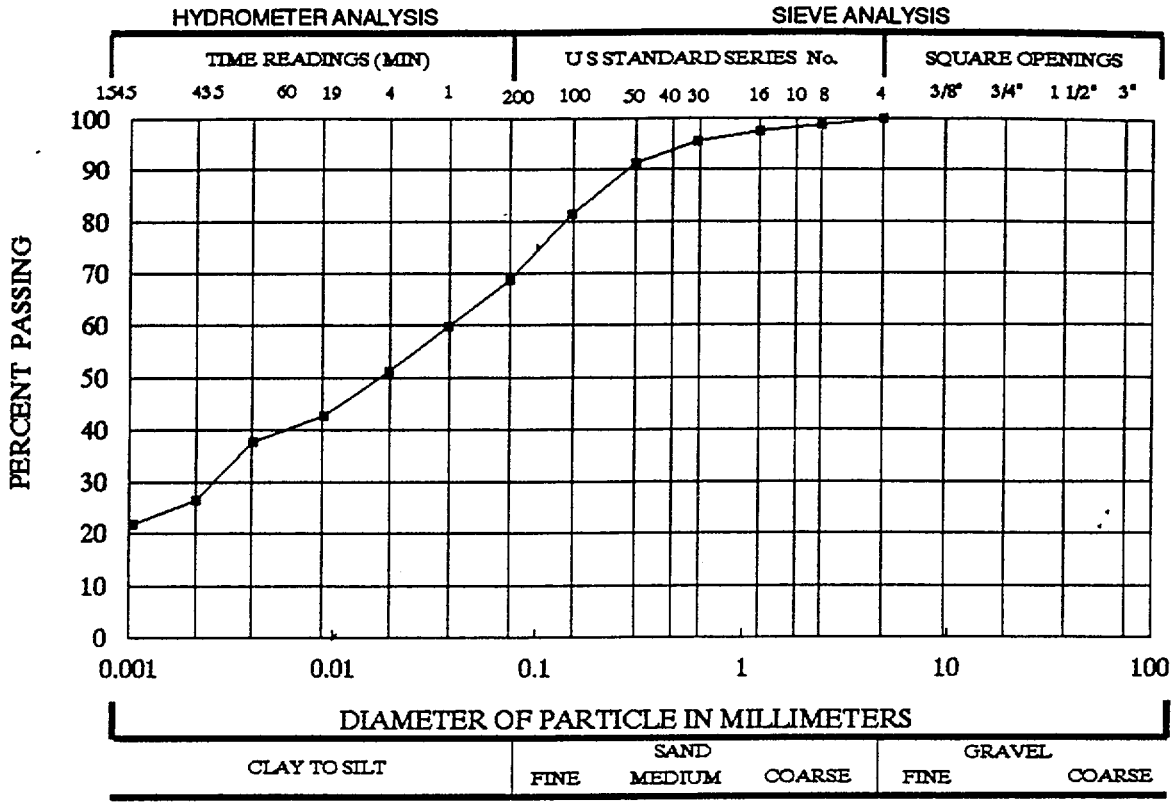
If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

cc: Bob Coppin



SIEVE SIZE	PERCENT PASSING
#4 ~4mm	100
#8 ~2.36	99
#16 ~1.00	97
#30 ~.6	96
#50 ~.3	91
#100	81
#200 ~.15	69
0.037 mm	60
0.019 mm	51
0.009 mm	43
0.005 mm	38
0.002 mm	27
0.001 mm	22

ATTERBERG LIMITS

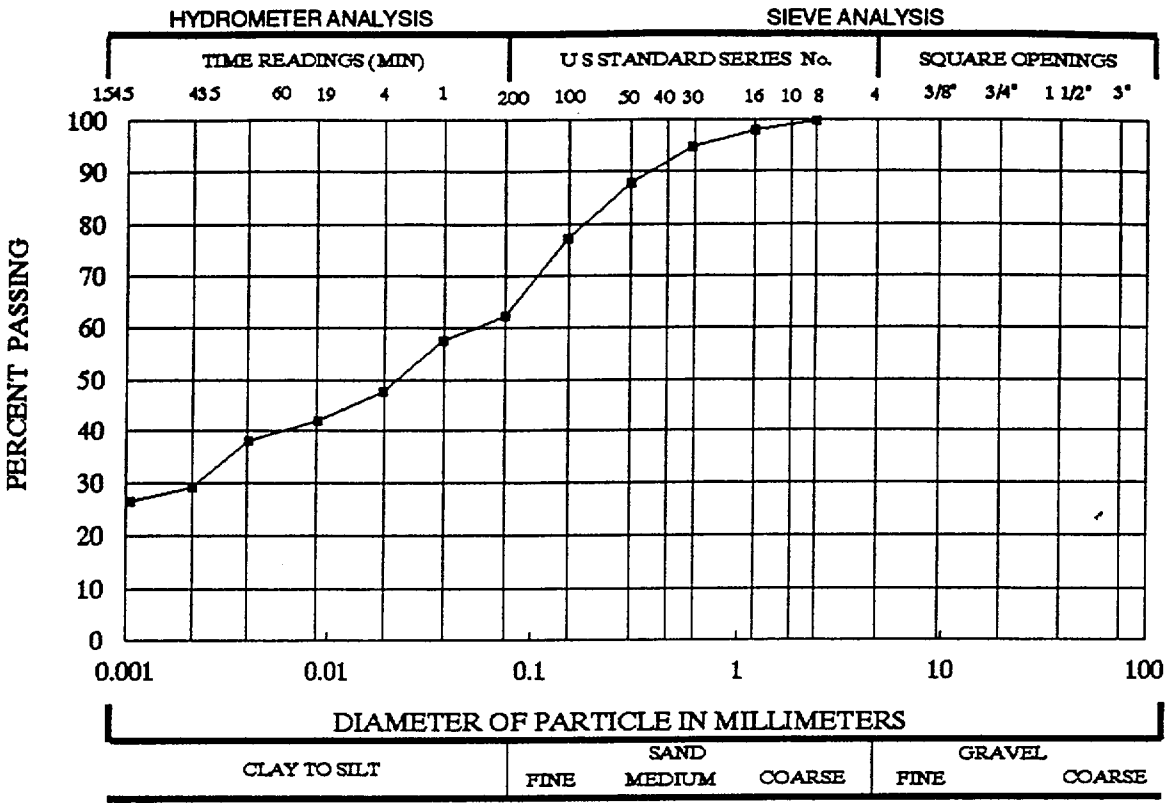
Liquid Limit	35 ✓
Plasticity Index	14

SAMPLE IDENTIFICATION:
Dam Face Material, Sample A

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

BEAR CREEK URANIUM MINE TAILINGS
CONVERSE COUNTY, WYOMING

9851711	*MAXIM* Technologies, Inc.	GRADATION ANALYSIS	Fig. 1



SIEVE SIZE	PERCENT PASSING
#8	100
#16	98
#30	95
#50	88
#100	77
#200	62
0.037 mm	58
0.019 mm	48
0.009 mm	42
0.005 mm	38
0.002 mm	29
0.001 mm	26

ATTERBERG LIMITS

Liquid Limit	34
Plasticity Index	15

SAMPLE IDENTIFICATION:
Dam Face Material, Sample B

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

BEAR CREEK URANIUM MINE TAILINGS
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	GRADATION ANALYSIS	Fig. 2

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

July 22, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for two soil samples obtained at the project site at the request of Mr. Bob Coppin. The samples were identified as Rock Weir, Sta. 0+80 and Sta. 1+75.

As requested, the soil samples were tested for sieve analysis including hydrometer (ASTM D422 and D1140) and Atterberg limits (ASTM D4318). The laboratory test results are presented on Figures 3 and 4, attached.

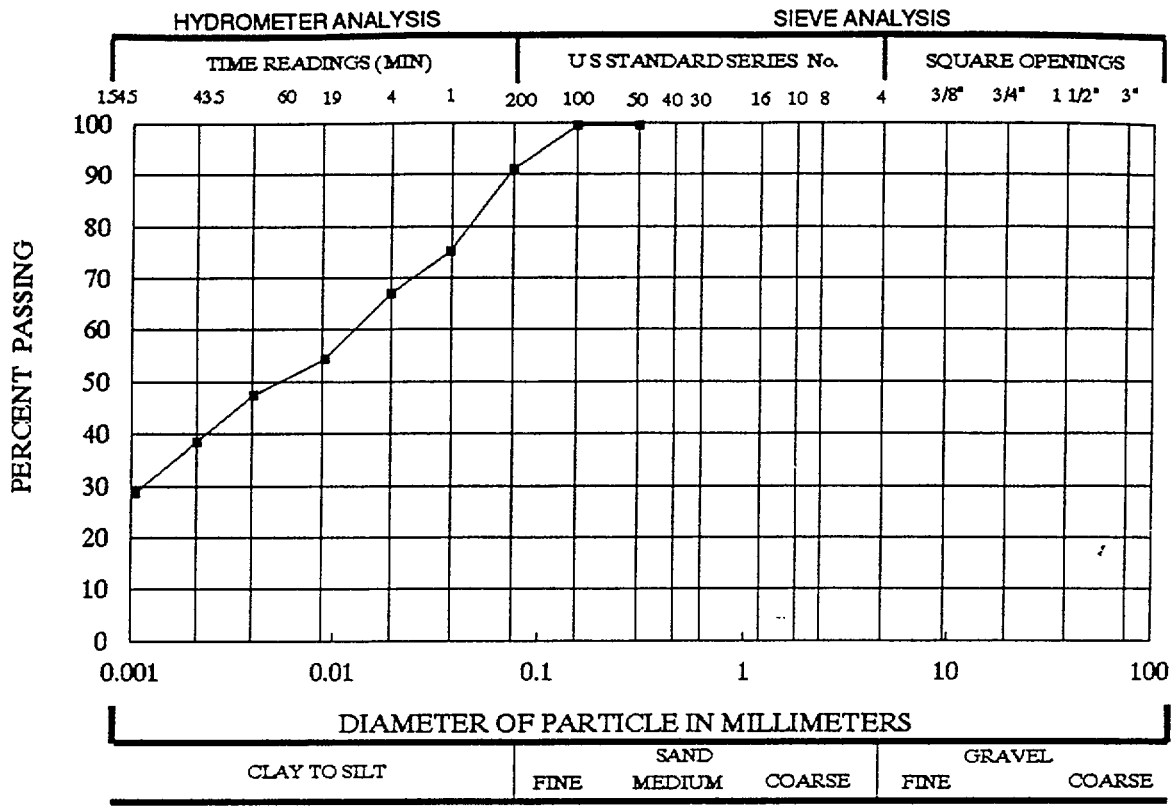
If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

cc: Bob Coppin



SIEVE SIZE	PERCENT PASSING
#50	100
#100	99
#200	91
0.037 mm	75
0.019 mm	67
0.009 mm	54
0.005 mm	47
0.002 mm	39
0.001 mm	29

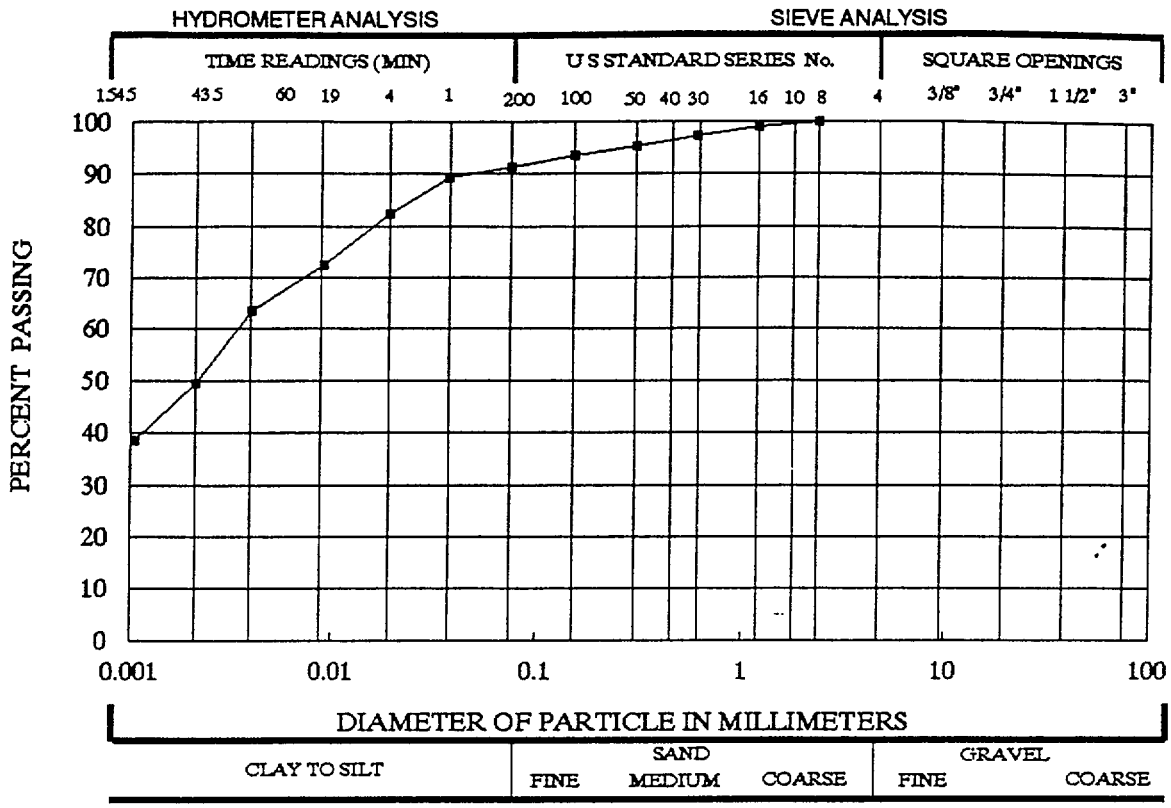
ATTERBERG LIMITS

Liquid Limit	41
Plasticity Index	24

SAMPLE IDENTIFICATION:
Rock Weir, Sta. 0+80

SOIL CLASSIFICATION:
Lean Clay (CL)

BEAR CREEK URANIUM MINE TAILINGS
CONVERSE COUNTY, WYOMING



SIEVE SIZE	PERCENT PASSING
#8	100
#16	99
#30	97
#50	95
#100	94
#200	91
0.037 mm	89
0.019 mm	82
0.009 mm	72
0.005 mm	63
0.002 mm	50
0.001 mm	39

ATTERBERG LIMITS

Liquid Limit	52
Plasticity Index	29

SAMPLE IDENTIFICATION:
Rock Weir, Sta. 1+75

SOIL CLASSIFICATION:
Fat Clay (CH)

BEAR CREEK URANIUM MINE TAILINGS
CONVERSE COUNTY, WYOMING

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

August 24, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap material delivered to our office on July 27, 1998. The sample was identified as Riprap Material, Guernsey Quarry, Bear Creek Mine Reclamation Project, Converse County, Wyoming.

As requested, the riprap sample was tested for determination of the Specific Gravity and Absorption (ASTM C127), Sodium Sulfate Soundness (ASTM C88), L.A. Abrasion (ASTM C535), and Splitting Tensile Strength. The laboratory test results are presented below.

Specific Gravity (Bulk):	2.54
Absorption (%):	0.28
Sodium Sulfate Soundness (% Loss):	<0.1
L.A. Abrasion, 100 Revs. (% Wear):	4.1
Tensile Strength (psi):	1225

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

August 24, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap bedding material delivered to our office on August 10, 1998. The sample was identified as Riprap Bedding Material, Menter Sand & Gravel, Bear Creek Mine Reclamation Project, Converse County, Wyoming.

As requested, the bedding material sample was tested for determination of the gradation (ASTM C117 & C136) only. The laboratory test results are presented on Figure 1, attached.

If you have any questions or if we can be of further service, please call.

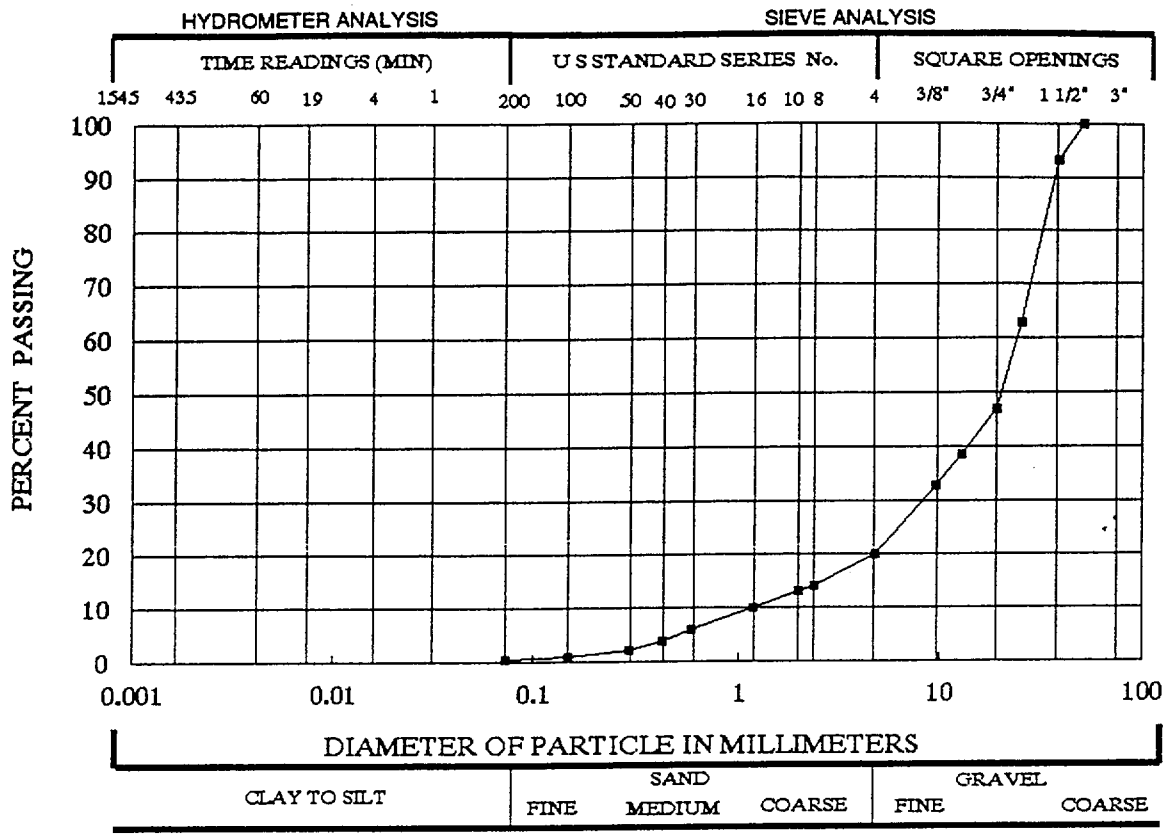
Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

Attachment

cc: Bob Coppin



SEIVE SIZE	PERCENT PASSING
2"	100
1 1/2"	93
1"	63
3/4"	47
1/2"	39
3/8"	33
#4	20
#8	14
#10	13
#16	10
#30	6
#40	4
#50	2
#100	1
#200	0.5

SAMPLE IDENTIFICATION:
Riprap Bedding Material
Menter Sand & Gravel

BEAR CEEK MINE RECLAMATION PROJECT
CONVERSE COUNTY, WYOMING

9851706	*MAXIM* Technologies, Inc.	GRADATION ANALYSIS	Fig. 1

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

September 18, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap material delivered to our office on September 8, 1998. The sample was identified as Riprap Material, Bear Creek Mine Reclamation Project, Converse County, Wyoming.

As requested, the riprap sample was tested for determination of Sodium Sulfate Soundness (ASTM C88). The laboratory test results are presented below.

Quartzite Sodium Sulfate Soundness (% Loss): 5.0

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Kenneth E. Temme, P.E.
Wyoming Division Manager

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

September 29, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap material delivered to our office on September 8, 1998. The sample was identified as Riprap Material, Bear Creek Mine Reclamation Project, Converse County, Wyoming.

As requested, the riprap sample was tested for determination of the Specific Gravity and Absorption (ASTM C127), as well as L.A. Abrasion (ASTM C535). The laboratory test results are presented below.

Quartzite	Specific Gravity (Bulk):	2.644
	Absorption (%):	1.512
	L.A. Abrasion, 100 Rev. (% Wear):	3.472

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Kenneth E. Temme, P.E.
Wyoming Division Manager

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

October 6, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap material delivered to our office on September 8, 1998. The sample was identified as Riprap Material, Bear Creek Mine Reclamation Project, Converse County, Wyoming.

As requested, the riprap sample was tested for determination of Splitting Tensile Strength. The laboratory test results are presented below.

Quartzite Tensile Strength (psi): 1940

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Kenneth E. Temme, P.E.
Wyoming Division Manager

cc: Mr. Bob Coppin

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

October 14, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of riprap material delivered to our office on September 28, 1998. The sample was identified as Size 2 Riprap from Guernsey.

As requested, the riprap sample was tested for determination of Schmidt Hammer Rebound. The laboratory test results are presented below.

Quartzite Schmidt Hammer Rebound Number = 48

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Susan Stratton for
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

October 27, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the samples of riprap material and river cobble delivered to our office on October 9, 1998. The samples were identified as Size 2 Quartzite Riprap, 3" Quartzite Riprap, 4" Dolomite Riprap and 3" River Cobble.

As requested, the samples were tested for analysis including determination of the Specific Gravity and Absorption (ASTM C127), Sodium Sulfate Soundness (ASTM C88) and L.A. Abrasion (ASTM C535). The laboratory test results are presented below.

Test	Size 2 Quartzite Riprap	3" Quartzite Riprap	4" Dolomite Riprap	3" River Cobble
Specific Gravity (Bulk)	2.426	2.670	2.855	2.587
Absorption (%)	1.439	1.727	0.021	0.535
Sodium Sulfate Soundness (% Loss)	1.4	1.4	<1.0	<1.0
L.A. Abrasion, 100 Revs. (% Wear)	3.0	4.5	5.0	8.0

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Kenneth E. Temme, P.E.
Wyoming Division Manager

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 North Warehouse Road
P. O. Box 2599 (82602)
Casper, WY 82601

Telephone: (307) 234-2126
Fax: (307) 266-5143

November 2, 1998

Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

Subject: **Transmittal of Laboratory Test Results**
Maxim Project No. 9851706

Dear Mr. Chase:

Transmitted with this letter are the laboratory test results for the sample of filter gravel material delivered to our office on October 27, 1998. The sample was identified as Filter Gravel from Guernsey Quarry obtained at Sta. 16+00, 40 ft from crest of downstream dam face, Bear Creek Mine Reclamation Project, Converse County, Wyoming.

As requested, the filter gravel material was tested for determination of gradation (ASTM C117 & C136) and bulk density (dry rodded unit weight) (ASTM 29). The sample was collected from a volume of 2 cubic feet (2' x 2' x 0.5'). The entire sample was then weighed to determine the in-place density. The laboratory test results are presented on Table I, attached.

If you have any questions or if we can be of further service, please call.

Sincerely,

MAXIM TECHNOLOGIES, INC.

Mark Peloquin
Construction Services Manager

cc: Bob Coppin

Attachment

Possible score	230	Reject		Possible score	230	Reject	

Labortatory Test	12-Apr-94 Test value for Gernsey Quartzite	Weighting Factor Ingeous	Score	Weighted Score	Weighting Factor Sandstone	Weighted Score
Specific Gravity	2.62	9	7.4 >2.6	66.6	6	44.4
Absorption, %	0.8	2	6.19 -.83	12.375	5	30.9375
Sodium Sulfate, %	0.24	11	10 <1.0	110	3	30
L/ A Abrasion, 100 Revs, % (% wear)	2.16	1	9.4 <3.0	9.4	8	75.2
		23		198.375	22	180.5375

Score	198.375	0.863	86.3 %	Score	181	0.820625	82.1 %
Possible score	230			Possible score	220		

Labortatory Test	27-Jul-98 Test value for Gernsey Quartzite	Weighting Factor Ingeous	Score	Weighted Score	Weighting Factor Sandstone	Weighted Score
Specific Gravity	2.54	9	6 >2.55	54	6	36
Absorption, %	0.28	2	9 <0.28	18	5	45
Sodium Sulfate, %	0.1	11	10 <1.0	110	3	30
L/ A Abrasion, 100 Revs, % (% wear)	4.1	1	8.5 <5.0	8.5	8	68
Tensile Strength, psi	1225	10	9 >1200	90	4	36
		33		280.5	26	215

Score	280.5	0.850	85.0 %	Score	215	0.8269231	82.7 %
Possible score	330			Possible score	260		

Labortatory Test	8-Sep-98 Test value for Gernsey Quartzite	Weighting Factor Ingeous	Score	Weighted Score	Weighting Factor Sandstone	Weighted Score
Specific Gravity	2.644	9	7.9 >2.55	70.92	6	47.28
Absorption, %	1.512	2	4 <0.28	8	5	20
Sodium Sulfate, %	5.0	11	8 <1.0	88	3	24
L/ A Abrasion, 100 Revs, % (% wear)	3.4	1	8.765 <5.0	8.765	8	70.12
Tensile Strength, psi	1800 ?	10	10 >1200	100	4	40
		33		275.685	26	201.4

Score	275.685	0.835	83.5 %	Score	201	0.7746154	77.5 %
Possible score	330			Possible score	260		

BEAR CREEK TAILINGS RECLAMATION PROJECT

SUMMARY OF SOILS QUALITY CONTROL TESTING FOR 1997

NUCLEAR DENSITY AND MOISTURE TESTING:

- Nuclear density and moisture testing was conducted during placement of approximately 400,000 CY of compacted radon barrier. During construction, areas which failed to meet the specified compaction or moisture content were identified by means of colored pin flags. These areas were then reworked by the contractor and retested until they met the requirements of the specifications. Enclosed is a record of the passing tests related to each area of completed radon barrier. The average percent compaction of materials was near 98%, the typical moisture content of compacted materials was at or slightly above optimum.

- Project specifications require a minimum testing frequency of 1 test per 1,000 CY of radon barrier placed. In order to achieve a consistent method of compaction, BRS implemented a testing frequency greater than the minimum required. The actual average frequency of passing compaction tests which were taken was 1 test per 450 CY of radon barrier placed.

- BRS recommendations related to nuclear density and moisture testing are as follows: during the 1998 construction season the required minimum testing frequency should remain the same (1 test per 1,000 CY), and the primary means of compaction testing utilizing a nuclear density gauge should remain the same.

STANDARD PROCTOR COMPACTION TESTS:

- Standard Proctor Tests were completed in the on-site laboratory during placement of the radon barrier. The results of these tests were utilized to determine percent compaction utilizing the nuclear density gauge. Lab tests resulted in an average maximum dry density for the W8 spoils materials of 108.2 pcf, and average optimum moisture content of 16.0%. The proctor test values obtained during testing of the W8 spoils were very consistent.

- Project specifications require a minimum testing frequency of 1 test per 10,000 CY of radon barrier placed. During construction, BRS achieved an actual average testing frequency of 1 test per 7,175 CY of material placed. However, there were days when only 1 proctor test was completed, and more than 10,000 CY of material was hauled by the contractor.

- BRS recommendations related to Standard Proctor Tests for the 1998 construction season are as follows: the testing frequency should be changed from 1 test per 10,000 CY to 1 test per day. This would be simpler since the volume of materials moved on any given day is not usually known until load counts have been obtained, sometimes 2-3 days after the fact. If the testing frequency were changed to 1 test per day, the actual number of total tests performed would change very little, since the average daily CY hauled is likely to be near 10,000 CY/day.

PERCENT OF MATERIAL PASSING #200 SIEVE TESTS:

- During the 1997 construction season, these tests were performed in the on-site laboratory. Material specifications for the radon barrier require 35% or more of the borrow materials to pass the #200 sieve. The overall average percent passing for the tests conducted on the W8 spoils was 55.2%. In sandy areas of the W8 spoils, 14 of 258, or approximately 5.4%, of the materials tested failed to meet the specifications. These areas were identified, and the contractor was directed to either haul this "sandy" material to a nearby waste pile, or mix the sandy materials with adjacent clay materials prior to hauling.

- The required testing frequency during radon barrier placement for this test is 1 test per 2,000 CY of material placed. BRS actual average testing frequency was 1 test per 1,585 CY.

- BRS recommendations for the 1998 construction season related to this test are as follows: the 35% passing requirement seems reasonable for the available borrow materials, and should not be changed. The 1 test per 2,000 CY testing frequency is adequate to ensure proper quality control, and should not be changed.

ATTERBERG LIMITS TESTS:

- During the 1997 construction season, these tests were performed in the on-site laboratory. The material specification requirements for radon barrier are to have the liquid limit (LL) equal to or greater than 25%, and the plasticity index (PI) equal to or greater than 10%. The actual average values obtained from testing of the W8 spoils were LL = 34.6% and PI = 15.6%. None of the liquid limit tests performed failed the specification requirements, and 3 of 52 (5.7%) of the plasticity index tests performed failed the specs. The 3 plasticity tests which failed could likely be attributed to lab test procedures early in the project, rather than the materials being tested.

- The required testing frequency for these tests is 1 test per day. BRS actual average testing frequency was .865 tests per day.

- BRS recommendation for these tests during the 1998 construction season are as follows: the required values for LL and PI seem to be reasonable for the borrow materials being tested, and should not be changed. The required testing frequency of 1 test per day should not be changed.

SAND CONE DENSITY TESTS:

- During the 1997 construction season these tests were performed in the on-site laboratory, and in the field in locations adjacent to nuclear density tests. The main purpose of the sand cone tests is to achieve a correlation with the results of the nuclear gauge testing, and to ensure that the results of the nuclear gauge testing are accurate. The sand cone density tests performed consistently showed higher values for dry density than the values obtained using the nuclear density gauge in the same location. The average dry density value obtained using the sand cone test was 110.5 pcf, and the average value from the nuclear gauge was 105.4 pcf.

- The required testing frequency for this test was 1 test per 10,000 CY of radon barrier placed. BRS actual average frequency for this test was 1 test per 10,333 CY.

- BRS recommendations for this test during the 1998 construction season are as follows: the specification requirement for 1 sand cone test for each 10,000 CY of radon barrier placed should be eliminated. During the 1997 testing, it was shown that the sand cone tests performed resulted in consistently higher dry density values than nuclear gauge tests performed in the same location. Therefore the nuclear gauge density results are conservative when compared to the sand cone results. The nuclear density gauge results have been verified through use of a site visit from Maxim Technoligies, during which they conducted nuclear density gauge tests, and reported basically the same numbers as those being obtained with the BRS gauge. The sand cone tests have no purpose towards achieving the soils quality control requirements of the project. If the sand cone tests were eliminated, accuracy of the nuclear gauge testing should be verified by periodic site visits from an independent testing firm.

BEAR CREEK TAILINGS RECLAMATION PROJECT

SUMMARY OF 1997 SOILS QUALITY CONTROL TESTING:

- RADON BARRIER COMPACTION TESTING SUMMARY - AREA #1
  (10 PAGES)
- RADON BARRIER COMPACTION TESTING SUMMARY - AREA #2
  (14 PAGES)
- RADON BARRIER COMPACTION TESTING SUMMARY - AREA #3
  (12 PAGES)
- RADON BARRIER COMPACTION TESTING SUMMARY - AREA #4
  (8 PAGES)
- RADON BARRIER COMPACTION TESTING SUMMARY - AREA #5
  (6 PAGES)
- SUMMARY OF STANDARD PROCTOR COMPACTION TESTS
  (5 PAGES)
- SUMMARY OF SAND CONE DENSITY TESTS
  (7 PAGES)
- SUMMARY OF PERCENT PASSING #200 SIEVE TESTS
  (13 PAGES)
- SUMMARY OF ATTERBERG LIMITS TESTS
  (5 PAGES)
- SOILS TEST LOG FOR DATES 7/1/97 THROUGH 11/6/97
  (8 PAGES)

BEAR CREEK TAILINGS RECLAMATION PROJECT

RADON BARRIER COMPACTION TESTING SUMMARY - AREA #1

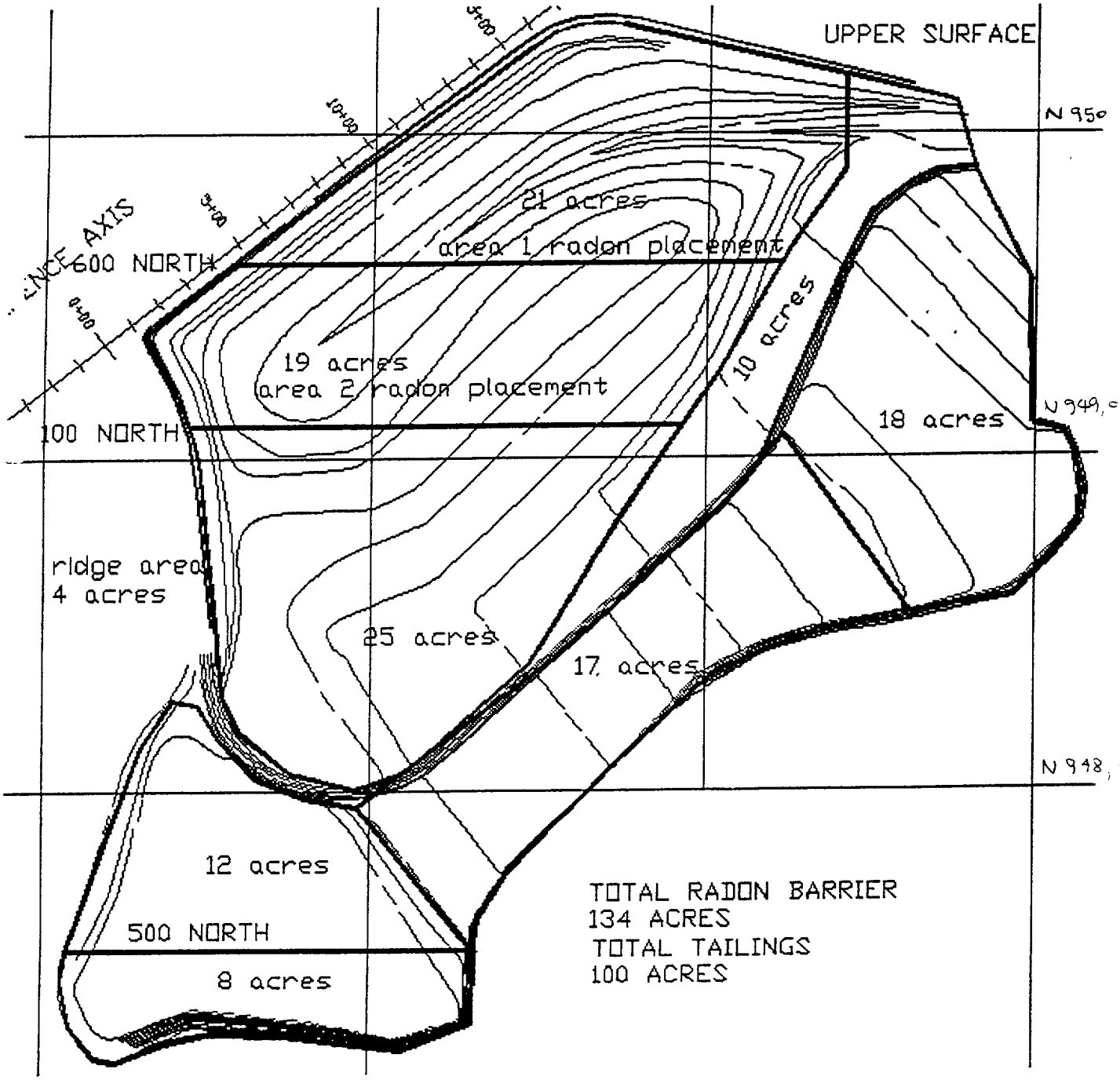
- AREA ACREAGE = 21 ACRES (SEE MAP)
- DATES OF CONSTRUCTION = 8/19/97 THROUGH 9/15/97

- ESTIMATED VOLUME OF RADON BARRIER = 101,640 CY

- SPECIFICATIONS REQUIRED TESTING FREQUENCY = 1 TEST PER 1,000 CY PLACED

- BRS PLANNED TESTING FREQUENCY = 1 TEST PER 370 CY PLACED

- ACTUAL FREQUENCY OF PASSING TESTS FOR AREA #1 = 1 TEST PER 546 CY PLACED


UPPER SURFACE
N 950
N 949,0
N 948,
AXIS
600 NORTH
100 NORTH
500 NORTH
0+00
5+00
10+00
21 acres
area 1 radon placement
19 acres
area 2 radon placement
10 acres
18 acres
ridge area
4 acres
25 acres
17 acres
12 acres
8 acres
TOTAL RADON BARRIER
134 ACRES
TOTAL TAILINGS
100 ACRES

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - SUMMARY OF PASSING NUCLEAR DENSITY AND MOISTURE TESTING
****AREA 1 RADON BARRIER PLACEMENT (SEE ATTACHED MAP)****

NOTE: TESTING FREQUENCY REQUIREMENTS ON RADON BARRIER ARE AS FOLLOWS:
1 TEST PER 1,000 CY PLACED, MINIMUM

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	RADON BARRIER EST. CUM. CY	AVG. TEST FREQUENCY
-	8/19/97	MDB	949900,376100	6"	5161.0	0	
-	8/19/97	MDB	949900,376300	6"	5161.0	0	
-	8/19/97	MDB	949900,376900	6"	5161.0	0	
-	8/20/97	BC	949700,375900	6"	5161.0	0	
-	8/21/97	BC	950100,376300	6"	5161.0	0	
-	8/21/97	BC	950100,376500	6"	5161.0	0	N/A
-	8/21/97	BC	950100,377000	6"	5161.0	0	SUBGRADE
-	8/21/97	BC	950200,376300	6"	5161.0	0	
-	8/21/97	BC	950200,377000	6"	5161.0	0	
-	8/21/97	BC	950300,376300	6"	5161.0	0	
-	8/22/97	BC	949600,375700	6"	5161.0	0	
-	8/22/97	BC	949600,376200	6"	5161.0	0	
1	8/25/97	MDB	950300,376500	6"	5161.5	4,235	
2	8/25/97	MDB	950300,376700	6"	5161.5	4,235	
3	8/25/97	MDB	950300,376900	6"	5161.5	4,235	
4	8/26/97	MDB	950200,376400	6"	5161.5	8,470	
5	8/26/97	MDB	950200,376600	4"	5161.5	8,470	
6	8/26/97	MDB	950200,376800	4"	5161.5	8,470	
7	8/26/97	MDB	950200,377000	4"	5161.5	8,470	
8	8/26/97	MDB	950100,376300	4"	5161.5	8,470	
9	8/26/97	MDB	950100,376500	4"	5161.5	8,470	
10	8/26/97	MDB	950100,376900	4"	5161.5	8,470	
11	8/26/97	MDB	950000,376200	4"	5161.5	8,470	
12	8/26/97	MDB	950000,376400	4"	5161.5	8,470	
13	8/26/97	MDB	950000,376600	4"	5161.5	8,470	LIFT #1:
14	8/26/97	MDB	950000,376800	4"	5161.5	8,470	1 TEST PER
15	8/26/97	MDB	950000,377000	4"	5161.5	8,470	584 CY
16	8/27/97	MDB	949900,376300	4"	5161.5	12,705	
17	8/27/97	MDB	949900,376500	4"	5161.5	12,705	
18	8/27/97	MDB	949900,376700	4"	5161.5	12,705	
19	8/27/97	MDB	949900,376900	4"	5161.5	12,705	
20	8/28/97	MDB	949800,376000	4"	5161.5	16,940	
21	8/28/97	MDB	949800,376200	4"	5161.5	16,940	
22	8/28/97	MDB	949800,376400	4"	5161.5	16,940	
23	8/28/97	MDB	949800,376600	4"	5161.5	16,940	
24	8/28/97	MDB	949800,376800	4"	5161.5	16,940	
25	8/28/97	MDB	949800,377000	4"	5161.5	16,940	
26	8/28/97	MDB	949900,376100	4"	5161.5	16,940	
27	8/28/97	MDB	949700,376900	4"	5161.5	16,940	
28	8/28/97	MDB	949700,376500	4"	5161.5	16,940	
29	8/28/97	MDB	949700,376100	4"	5161.5	16,940	
30	8/29/97	MDB	950300,376700	4"	5162.0	25,410	

31	8/29/97	MDB	950200,376600	4"	5162.0	25,410
32	8/29/97	MDB	950200,376800	4"	5162.0	25,410
33	8/29/97	MDB	950200,377000	4"	5162.0	25,410
34	8/29/97	MDB	950100,377100	4"	5162.0	25,410
35	8/29/97	MDB	950100,376900	4"	5162.0	25,410
36	8/29/97	MDB	950100,376700	4"	5162.0	25,410
37	8/29/97	MDB	950100,376500	4"	5162.0	25,410
38	8/29/97	MDB	950000,376200	4"	5162.0	25,410
39	8/29/97	MDB	950000,376400	4"	5162.0	25,410
40	8/29/97	MDB	950000,376600	4"	5162.0	25,410
41	8/29/97	MDB	950000,376800	4"	5162.0	25,410
42	8/29/97	MDB	950000,377000	4"	5162.0	25,410
43	9/2/97	MDB	949900,376500	4"	5162.0	33,880
44	9/2/97	MDB	949900,376900	4"	5162.0	33,880
45	9/2/97	MDB	949800,376800	4"	5162.0	33,880
46	9/2/97	MDB	949800,376400	4"	5162.0	33,880
47	9/2/97	MDB	949800,376000	4"	5162.0	33,880
48	9/2/97	MDB	949700,376300	4"	5162.0	33,880
49	9/2/97	MDB	949700,376700	4"	5162.0	33,880
50	9/3/97	MDB	950300,376500	4"	5162.5	39,527
51	9/3/97	MDB	950300,376700	4"	5162.5	39,527
52	9/3/97	MDB	950300,376900	4"	5162.5	39,527
53	9/3/97	MDB	950200,376600	4"	5162.5	39,527
54	9/3/97	MDB	950200,376800	4"	5162.5	39,527
55	9/3/97	MDB	950200,377000	4"	5162.5	39,527
56	9/3/97	MDB	950200,377200	4"	5162.5	39,527
57	9/3/97	MDB	950100,376300	4"	5162.5	39,527
58	9/3/97	MDB	950100,376500	4"	5162.5	39,527
59	9/3/97	MDB	950100,376700	4"	5162.5	39,527
60	9/3/97	MDB	950100,378900	4"	5162.5	39,527
61	9/3/97	MDB	950100,377100	4"	5162.5	39,527
62	9/4/97	MDB	950000,376200	4"	5162.5	45,174
63	9/4/97	MDB	950000,376400	4"	5162.5	45,174
64	9/4/97	MDB	950000,376600	4"	5162.5	45,174
65	9/4/97	MDB	950000,376800	4"	5162.5	45,174
66	9/4/97	MDB	950000,377000	4"	5162.5	45,174
67	9/4/97	MDB	950000,377200	4"	5162.5	45,174
68	9/4/97	MDB	949900,376100	4"	5162.5	45,174
69	9/4/97	MDB	949900,376300	4"	5162.5	45,174
70	9/4/97	MDB	949900,376500	4"	5162.5	45,174
71	9/4/97	MDB	949900,376700	4"	5162.5	45,174
72	9/4/97	MDB	949900,376900	4"	5162.5	45,174
73	9/4/97	MDB	949900,377100	4"	5162.5	45,174
74	9/5/97	MDB	949800,376000	4"	5162.5	50,820
75	9/5/97	MDB	949800,376400	4"	5162.5	50,820
76	9/5/97	MDB	949800,376800	4"	5162.5	50,820
77	9/5/97	MDB	949800,377200	4"	5162.5	50,820
78	9/5/97	MDB	949700,375900	4"	5162.5	50,820
79	9/5/97	MDB	949700,376300	4"	5162.5	50,820
80	9/5/97	MDB	949700,376700	4"	5162.5	50,820
81	9/5/97	MDB	949700,377100	4"	5162.5	50,820
82	9/5/97	MDB	950300,376500	4"	5163.0	56,467

LIFT #2: 1 TEST PER 892 CY

LIFT #3: 1 TEST PER 546 CY

83	9/5/97	MDB	950300,376700	4"	5163.0	56,467
84	9/5/97	MDB	950300,376900	4"	5163.0	56,467
85	9/5/97	MDB	950200,377200	4"	5163.0	56,467
86	9/5/97	MDB	950200,377000	4"	5163.0	56,467
87	9/5/97	MDB	950200,376800	4"	5163.0	56,467
88	9/5/97	MDB	950200,376600	4"	5163.0	56,467
89	9/5/97	MDB	950100,376300	4"	5163.0	56,467
90	9/5/97	MDB	950100,376500	4"	5163.0	56,467
91	9/5/97	MDB	950100,376700	4"	5163.0	56,467
92	9/5/97	MDB	950100,377100	4"	5163.0	56,467
93	9/8/97	DLB	950100,377100	4"	5163.0	62,114
94	9/8/97	DLB	950000,377200	4"	5163.0	62,114
95	9/8/97	DLB	950000,377000	4"	5163.0	62,114
96	9/8/97	DLB	950000,376600	4"	5163.0	62,114
97	9/8/97	DLB	950000,376200	4"	5163.0	62,114
98	9/8/97	DLB	949900,376100	4"	5163.0	62,114
99	9/8/97	DLB	949900,376300	4"	5163.0	62,114
100	9/8/97	DLB	949900,376500	4"	5163.0	62,114
101	9/8/97	DLB	949900,376700	4"	5163.0	62,114
102	9/8/97	DLB	949900,376900	4"	5163.0	62,114
103	9/8/97	DLB	949900,377100	4"	5163.0	62,114
104	9/8/97	DLB	949800,377200	4"	5163.0	62,114
105	9/8/97	DLB	949800,377000	4"	5163.0	62,114
106	9/8/97	DLB	949800,376800	4"	5163.0	62,114
107	9/8/97	DLB	949800,376600	4"	5163.0	62,114
108	9/8/97	DLB	949800,376400	4"	5163.0	62,114
109	9/8/97	DLB	949800,376200	4"	5163.0	62,114
110	9/9/97	MDB	949700,375900	4"	5163.0	67,760
111	9/9/97	MDB	949700,376100	4"	5163.0	67,760
112	9/9/97	MDB	949700,376300	4"	5163.0	67,760
113	9/9/97	MDB	949700,376500	4"	5163.0	67,760
114	9/9/97	MDB	949700,376700	4"	5163.0	67,760
115	9/9/97	MDB	949700,376900	4"	5163.0	67,760
116	9/9/97	MDB	950300,376500	4"	5163.5	76,230
117	9/9/97	MDB	950300,376700	4"	5163.5	76,230
118	9/9/97	MDB	950300,376900	4"	5163.5	76,230
119	9/9/97	MDB	950200,376600	4"	5163.5	76,230
120	9/9/97	MDB	950200,376800	4"	5163.5	76,230
121	9/9/97	MDB	950200,377000	4"	5163.5	76,230
122	9/9/97	MDB	950200,377200	4"	5163.5	76,230
123	9/9/97	DLB	950100,376500	4"	5163.5	76,230
124	9/9/97	DLB	950100,376700	4"	5163.5	76,230
125	9/9/97	DLB	950100,376900	4"	5163.5	76,230
126	9/9/97	DLB	950100,377100	4"	5163.5	76,230
127	9/9/97	DLB	950100,377300	4"	5163.5	76,230
128	9/9/97	DLB	950000,376200	4"	5163.5	76,230
129	9/9/97	DLB	950000,376400	4"	5163.5	76,230
130	9/9/97	DLB	950000,376600	4"	5163.5	76,230
131	9/9/97	DLB	950000,376800	4"	5163.5	76,230
132	9/9/97	DLB	950000,377000	4"	5163.5	76,230
133	9/9/97	DLB	950000,377200	4"	5163.5	76,230
134	9/9/97	DLB	949900,377900	4"	5163.5	76,230
135	9/9/97	DLB	949900,376100	4"	5163.5	76,230

LIFT #4: 1 TEST PER 513 CY

LIFT #5: 1 TEST PER 498 CY

136	9/9/97	DLB	949900,376300	4"	5163.5	76,230
137	9/9/97	DLB	949900,376500	4"	5163.5	76,230
138	9/9/97	DLB	949900,376700	4"	5163.5	76,230
139	9/9/97	DLB	949900,376900	4"	5163.5	76,230
140	9/11/97	MDB	949800,376000	4"	5163.5	84,700
141	9/11/97	MDB	949800,376200	4"	5163.5	84,700
142	9/11/97	MDB	949800,376400	4"	5163.5	84,700
143	9/11/97	MDB	949800,376600	4"	5163.5	84,700
144	9/11/97	MDB	949800,376800	4"	5163.5	84,700
145	9/11/97	MDB	949800,377000	4"	5163.5	84,700
146	9/11/97	MDB	949700,377100	4"	5163.5	84,700
147	9/11/97	MDB	949700,376900	4"	5163.5	84,700
148	9/11/97	MDB	949700,376700	4"	5163.5	84,700
149	9/11/97	MDB	949700,376500	4"	5163.5	84,700
150	9/11/97	MDB	949700,376300	4"	5163.5	84,700
151	9/11/97	MDB	950300,376500	4"	5164.0	90,347
152	9/11/97	MDB	950300,376700	4"	5164.0	90,347
153	9/11/97	MDB	950300,376900	4"	5164.0	90,347
154	9/11/97	MDB	950200,376400	4"	5164.0	90,347
155	9/11/97	MDB	950200,376600	4"	5164.0	90,347
156	9/11/97	MDB	950200,376800	4"	5164.0	90,347
157	9/11/97	MDB	950200,377000	4"	5164.0	90,347
158	9/11/97	MDB	950100,376300	4"	5164.0	90,347
159	9/11/97	MDB	950100,376500	4"	5164.0	90,347
160	9/11/97	MDB	950100,376700	4"	5164.0	90,347
161	9/11/97	MDB	950100,376900	4"	5164.0	90,347
162	9/11/97	MDB	950100,377100	4"	5164.0	90,347
163	9/12/97	MDB	950000,376200	4"	5164.0	95,994
164	9/12/97	MDB	950000,376400	4"	5164.0	95,994
165	9/12/97	MDB	950000,376600	4"	5164.0	95,994
166	9/12/97	MDB	950000,376800	4"	5164.0	95,994
167	9/12/97	MDB	950000,377000	4"	5164.0	95,994
168	9/12/97	MDB	949900,376100	4"	5164.0	95,994
169	9/12/97	MDB	949900,376300	4"	5164.0	95,994
170	9/12/97	MDB	949900,376500	4"	5164.0	95,994
171	9/12/97	MDB	949900,376700	4"	5164.0	95,994
172	9/12/97	MDB	949900,376900	4"	5164.0	95,994
173	9/12/97	MDB	949900,377100	4"	5164.0	95,994
174	9/15/97	MDB	949800,376000	4"	5164.0	101,640
175	9/15/97	MDB	949800,376200	4"	5164.0	101,640
176	9/15/97	MDB	949800,376400	4"	5164.0	101,640
177	9/15/97	MDB	949800,376600	4"	5164.0	101,640
178	9/15/97	MDB	949800,376800	4"	5164.0	101,640
179	9/15/97	MDB	949800,377000	4"	5164.0	101,640
180	9/15/97	MDB	949700,375900	4"	5164.0	101,640
181	9/15/97	MDB	949700,376100	4"	5164.0	101,640
182	9/15/97	MDB	949700,376300	4"	5164.0	101,640
183	9/15/97	MDB	949700,376500	4"	5164.0	101,640
184	9/15/97	MDB	949700,376700	4"	5164.0	101,640
185	9/15/97	MDB	949700,376900	4"	5164.0	101,640
186	9/15/97	MDB	949700,377100	4"	5164.0	101,640

LIFT #6: 1 TEST PER 484 CY

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - SUMMARY OF PASSING NUCLEAR DENSITY AND MOISTURE TESTING
****AREA 1 RADON BARRIER PLACEMENT (SEE ATTACHED MAP)****

NOTE: SPECIFICATION REQUIREMENTS ON RADON BARRIER ARE AS FOLLOWS:
COMPACTION = 95% OF STANDARD PROCTOR COMPACTION, MINIMUM
MOISTURE CONTENT WITHIN -2% TO +3% OF OPTIMUM

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	PERCENT COMPACTION	MOISTURE CONTENT
1	8/19/97	MDB	949900,376100	6"	5161.0	98.5	16.4
2	8/19/97	MDB	949900,376300	6"	5161.0	97.7	13.9
3	8/19/97	MDB	949900,376900	6"	5161.0	95.4	17.4
4	8/20/97	BC	949700,375900	6"	5161.0	97.7	13.7
5	8/21/97	BC	950100,376300	6"	5161.0	97.2	15.7
6	8/21/97	BC	950100,376500	6"	5161.0	96.5	14.0
7	8/21/97	BC	950100,377000	6"	5161.0	98.8	18.0
8	8/21/97	BC	950200,376300	6"	5161.0	100.0	10.8
9	8/21/97	BC	950200,377000	6"	5161.0	97.8	13.8
10	8/21/97	BC	950300,376300	6"	5161.0	95.0	10.9
11	8/22/97	BC	949600,375700	6"	5161.0	100.0	15.3
12	8/22/97	BC	949600,376200	6"	5161.0	96.9	13.5
13	8/25/97	MDB	950300,376500	6"	5161.5	95	17.8
14	8/25/97	MDB	950300,376700	6"	5161.5	95	17.8
15	8/25/97	MDB	950300,376900	6"	5161.5	95	16.7
16	8/26/97	MDB	950200,376400	6"	5161.5	95	16.6
17	8/26/97	MDB	950200,376600	4"	5161.5	97	16.1
18	8/26/97	MDB	950200,376800	4"	5161.5	96.1	14.9
19	8/26/97	MDB	950200,377000	4"	5161.5	97	13.7
20	8/26/97	MDB	950100,376300	4"	5161.5	95	17.5
21	8/26/97	MDB	950100,376500	4"	5161.5	98	13.8
22	8/26/97	MDB	950100,376900	4"	5161.5	99.6	13.5
23	8/26/97	MDB	950000,376200	4"	5161.5	96.1	17.2
24	8/26/97	MDB	950000,376400	4"	5161.5	97.3	15.4
25	8/26/97	MDB	950000,376600	4"	5161.5	98.1	14.0
26	8/26/97	MDB	950000,376800	4"	5161.5	96	17.0
27	8/26/97	MDB	950000,377000	4"	5161.5	97.8	14.3
28	8/27/97	MDB	949900,376300	4"	5161.5	97.3	14.0
29	8/27/97	MDB	949900,376500	4"	5161.5	95	16.2
30	8/27/97	MDB	949900,376700	4"	5161.5	101	12.6
31	8/27/97	MDB	949900,376900	4"	5161.5	95	16
32	8/28/97	MDB	949800,376000	4"	5161.5	104.2	15.7
33	8/28/97	MDB	949800,376200	4"	5161.5	97.9	16.1
34	8/28/97	MDB	949800,376400	4"	5161.5	95.4	15.1
35	8/28/97	MDB	949800,376600	4"	5161.5	97	18.0
36	8/28/97	MDB	949800,376800	4"	5161.5	98.1	16.1
37	8/28/97	MDB	949800,377000	4"	5161.5	98.1	19.6
38	8/28/97	MDB	949900,376100	4"	5161.5	97	15.8
39	8/28/97	MDB	949700,376900	4"	5161.5	95	14.6
40	8/28/97	MDB	949700,376500	4"	5161.5	98	15.2
41	8/28/97	MDB	949700,376100	4"	5161.5	96.5	18.4

42	8/29/97	MDB	950300,376700	4"	5162.0	99.9	17.6
43	8/29/97	MDB	950200,376600	4"	5162.0	99.0	15.6
44	8/29/97	MDB	950200,376800	4"	5162.0	98.4	16.3
45	8/29/97	MDB	950200,377000	4"	5162.0	104.1	16.5
46	8/29/97	MDB	950100,377100	4"	5162.0	99.7	15.7
47	8/29/97	MDB	950100,376900	4"	5162.0	98.3	16.7
48	8/29/97	MDB	950100,376700	4"	5162.0	98.4	16.4
49	8/29/97	MDB	950100,376500	4"	5162.0	100.1	16.7
50	8/29/97	MDB	950000,376200	4"	5162.0	102.2	18.0
51	8/29/97	MDB	950000,376400	4"	5162.0	98	16.8
52	8/29/97	MDB	950000,376600	4"	5162.0	97	14.6
53	8/29/97	MDB	950000,376800	4"	5162.0	99	15.5
54	8/29/97	MDB	950000,377000	4"	5162.0	101	15.0
55	9/2/97	MDB	949900,376500	4"	5162.0	101.8	15.7
56	9/2/97	MDB	949900,376900	4"	5162.0	99.4	13.5
57	9/2/97	MDB	949800,376800	4"	5162.0	98.6	15.1
58	9/2/97	MDB	949800,376400	4"	5162.0	95.0	13.5
59	9/2/97	MDB	949800,376000	4"	5162.0	98.5	15.0
60	9/2/97	MDB	949700,376300	4"	5162.0	97.1	13.9
61	9/2/97	MDB	949700,376700	4"	5162.0	99.2	13.7
62	9/3/97	MDB	950300,376500	4"	5162.5	95	15.8
63	9/3/97	MDB	950300,376700	4"	5162.5	96	16.7
64	9/3/97	MDB	950300,376900	4"	5162.5	95	14.4
65	9/3/97	MDB	950200,376600	4"	5162.5	96	12.2
66	9/3/97	MDB	950200,376800	4"	5162.5	95	14.3
67	9/3/97	MDB	950200,377000	4"	5162.5	98	17.6
68	9/3/97	MDB	950200,377200	4"	5162.5	97	15.9
69	9/3/97	MDB	950100,376300	4"	5162.5	96	17.9
70	9/3/97	MDB	950100,376500	4"	5162.5	96	16.5
71	9/3/97	MDB	950100,376700	4"	5162.5	98	15.9
72	9/3/97	MDB	950100,378900	4"	5162.5	101.2	16.7
73	9/3/97	MDB	950100,377100	4"	5162.5	97	19.1
74	9/4/97	MDB	950000,376200	4"	5162.5	96	16.2
75	9/4/97	MDB	950000,376400	4"	5162.5	103	15.1
76	9/4/97	MDB	950000,376600	4"	5162.5	103	13.5
77	9/4/97	MDB	950000,376800	4"	5162.5	101	15.1
78	9/4/97	MDB	950000,377000	4"	5162.5	97	15.1
79	9/4/97	MDB	950000,377200	4"	5162.5	102	17.5
80	9/4/97	MDB	949900,376100	4"	5162.5	100	18.2
81	9/4/97	MDB	949900,376300	4"	5162.5	96	17.4
82	9/4/97	MDB	949900,376500	4"	5162.5	97	15.2
83	9/4/97	MDB	949900,376700	4"	5162.5	97	17.5
84	9/4/97	MDB	949900,376900	4"	5162.5	100	17.3
85	9/4/97	MDB	949900,377100	4"	5162.5	99	15.4
86	9/5/97	MDB	949800,376000	4"	5162.5	95.2	16.8
87	9/5/97	MDB	949800,376400	4"	5162.5	100	16.0
88	9/5/97	MDB	949800,376800	4"	5162.5	95.2	16.8
89	9/5/97	MDB	949800,377200	4"	5162.5	97.1	17.2
90	9/5/97	MDB	949700,375900	4"	5162.5	101	14.7
91	9/5/97	MDB	949700,376300	4"	5162.5	100.4	15.3
92	9/5/97	MDB	949700,376700	4"	5162.5	100.2	16.4
93	9/5/97	MDB	949700,377100	4"	5162.5	99.4	16.7

94	9/5/97	MDB	950300,376500	4"	5163.0	98.8	15.3
95	9/5/97	MDB	950300,376700	4"	5163.0	95.3	16.8
96	9/5/97	MDB	950300,376900	4"	5163.0	97.3	16.1
97	9/5/97	MDB	950200,377200	4"	5163.0	96.5	18.1
98	9/5/97	MDB	950200,377000	4"	5163.0	99.9	15.3
99	9/5/97	MDB	950200,376800	4"	5163.0	99.8	15.8
100	9/5/97	MDB	950200,376600	4"	5163.0	100	13.3
101	9/5/97	MDB	950100,376300	4"	5163.0	96.3	14.4
102	9/5/97	MDB	950100,376500	4"	5163.0	98.5	16.5
103	9/5/97	MDB	950100,376700	4"	5163.0	97.4	16.0
104	9/5/97	MDB	950100,377100	4"	5163.0	96.0	14.5
105	9/8/97	DLB	950100,377100	4"	5163.0	95.3	16.7
106	9/8/97	DLB	950000,377200	4"	5163.0	99.6	16.3
107	9/8/97	DLB	950000,377000	4"	5163.0	95.2	13.7
108	9/8/97	DLB	950000,376600	4"	5163.0	98.0	16.7
109	9/8/97	DLB	950000,376200	4"	5163.0	96.8	16.7
110	9/8/97	DLB	949900,376100	4"	5163.0	96.8	18.1
111	9/8/97	DLB	949900,376300	4"	5163.0	98.7	17.5
112	9/8/97	DLB	949900,376500	4"	5163.0	99.4	15.5
113	9/8/97	DLB	949900,376700	4"	5163.0	100.0	17.4
114	9/8/97	DLB	949900,376900	4"	5163.0	95.2	18.5
115	9/8/97	DLB	949900,377100	4"	5163.0	97.6	15.0
116	9/8/97	DLB	949800,377200	4"	5163.0	96.0	16.3
117	9/8/97	DLB	949800,377000	4"	5163.0	98.0	15.7
118	9/8/97	DLB	949800,376800	4"	5163.0	103.2	16.2
119	9/8/97	DLB	949800,376600	4"	5163.0	97.5	15.6
120	9/8/97	DLB	949800,376400	4"	5163.0	102.5	17.5
121	9/8/97	DLB	949800,376200	4"	5163.0	97.6	16.6
122	9/9/97	MDB	949700,375900	4"	5163.0	98.5	14.3
123	9/9/97	MDB	949700,376100	4"	5163.0	102.3	14.3
124	9/9/97	MDB	949700,376300	4"	5163.0	99.7	13.7
125	9/9/97	MDB	949700,376500	4"	5163.0	98.1	17.8
126	9/9/97	MDB	949700,376700	4"	5163.0	101.1	14.5
127	9/9/97	MDB	949700,376900	4"	5163.0	102.2	15.5
128	9/9/97	MDB	950300,376500	4"	5163.5	98.5	14.2
129	9/9/97	MDB	950300,376700	4"	5163.5	95.0	14.4
130	9/9/97	MDB	950300,376900	4"	5163.5	99.5	16.9
131	9/9/97	MDB	950200,376600	4"	5163.5	96.6	14.0
132	9/9/97	MDB	950200,376800	4"	5163.5	97.2	14.9
133	9/9/97	MDB	950200,377000	4"	5163.5	100.3	15.1
134	9/9/97	MDB	950200,377200	4"	5163.5	95.4	14.3
135	9/9/97	DLB	950100,376500	4"	5163.5	95.9	14.8
136	9/9/97	DLB	950100,376700	4"	5163.5	97.8	15.0
137	9/9/97	DLB	950100,376900	4"	5163.5	96.6	15.9
138	9/9/97	DLB	950100,377100	4"	5163.5	101.2	19.4
139	9/9/97	DLB	950100,377300	4"	5163.5	98.6	16.6
140	9/9/97	DLB	950000,376200	4"	5163.5	99.7	12.9
141	9/9/97	DLB	950000,376400	4"	5163.5	99.8	12.8
142	9/9/97	DLB	950000,376600	4"	5163.5	99.1	14.8
143	9/9/97	DLB	950000,376800	4"	5163.5	97.8	16.6
144	9/9/97	DLB	950000,377000	4"	5163.5	99.1	14.2
145	9/9/97	DLB	950000,377200	4"	5163.5	96.7	15.5
146	9/9/97	DLB	949900,377900	4"	5163.5	98.8	15.7

147	9/9/97	DLB	949900,376100	4"	5163.5	100.2	15.0
148	9/9/97	DLB	949900,376300	4"	5163.5	100.8	16.7
149	9/9/97	DLB	949900,376500	4"	5163.5	100.1	14.7
150	9/9/97	DLB	949900,376700	4"	5163.5	97.8	16.8
151	9/9/97	DLB	949900,376900	4"	5163.5	99.5	14.4
152	9/11/97	MDB	949800,376000	4"	5163.5	95.3	17.3
153	9/11/97	MDB	949800,376200	4"	5163.5	100.8	13.9
154	9/11/97	MDB	949800,376400	4"	5163.5	97.1	16.8
155	9/11/97	MDB	949800,376600	4"	5163.5	100.7	17.0
156	9/11/97	MDB	949800,376800	4"	5163.5	98.4	18.4
157	9/11/97	MDB	949800,377000	4"	5163.5	98.4	18.2
158	9/11/97	MDB	949700,377100	4"	5163.5	98.4	18.3
159	9/11/97	MDB	949700,376900	4"	5163.5	97.1	16.8
160	9/11/97	MDB	949700,376700	4"	5163.5	95.2	17.3
161	9/11/97	MDB	949700,376500	4"	5163.5	98.3	16.4
162	9/11/97	MDB	949700,376300	4"	5163.5	98.0	16.7
163	9/11/97	MDB	950300,376500	4"	5164.0	96.7	15.3
164	9/11/97	MDB	950300,376700	4"	5164.0	97.9	18.3
165	9/11/97	MDB	950300,376900	4"	5164.0	96.5	15.4
166	9/11/97	MDB	950200,376400	4"	5164.0	95.4	17.6
167	9/11/97	MDB	950200,376600	4"	5164.0	96.1	17.5
168	9/11/97	MDB	950200,376800	4"	5164.0	97.4	16.1
169	9/11/97	MDB	950200,377000	4"	5164.0	96.6	15.2
170	9/11/97	MDB	950100,376300	4"	5164.0	98.7	17.9
171	9/11/97	MDB	950100,376500	4"	5164.0	98.8	15.7
172	9/11/97	MDB	950100,376700	4"	5164.0	97.0	19.4
173	9/11/97	MDB	950100,376900	4"	5164.0	101.3	17.8
174	9/11/97	MDB	950100,377100	4"	5164.0	96.0	17.9
175	9/12/97	MDB	950000,376200	4"	5164.0	98.5	17.8
176	9/12/97	MDB	950000,376400	4"	5164.0	96.8	19.4
177	9/12/97	MDB	950000,376600	4"	5164.0	99.3	16.4
178	9/12/97	MDB	950000,376800	4"	5164.0	102	15.2
179	9/12/97	MDB	950000,377000	4"	5164.0	101	16.5
180	9/12/97	MDB	949900,376100	4"	5164.0	97.8	15.3
181	9/12/97	MDB	949900,376300	4"	5164.0	99.1	14.5
182	9/12/97	MDB	949900,376500	4"	5164.0	97.0	19.7
183	9/12/97	MDB	949900,376700	4"	5164.0	101.9	15.8
184	9/12/97	MDB	949900,376900	4"	5164.0	101.1	18.8
185	9/12/97	MDB	949900,377100	4"	5164.0	97.1	19.0
186	9/15/97	MDB	949800,376000	4"	5164.0	95.9	17.7
187	9/15/97	MDB	949800,376200	4"	5164.0	95.7	14.2
188	9/15/97	MDB	949800,376400	4"	5164.0	95.0	15.5
189	9/15/97	MDB	949800,376600	4"	5164.0	96.5	14.6
190	9/15/97	MDB	949800,376800	4"	5164.0	95.6	15.2
191	9/15/97	MDB	949800,377000	4"	5164.0	97.9	13.9
192	9/15/97	MDB	949700,375900	4"	5164.0	96.2	15.9
193	9/15/97	MDB	949700,376100	4"	5164.0	95.2	16.5
194	9/15/97	MDB	949700,376300	4"	5164.0	97.7	15.9
195	9/15/97	MDB	949700,376500	4"	5164.0	96.9	14.8
196	9/15/97	MDB	949700,376700	4"	5164.0	98.5	15.1
197	9/15/97	MDB	949700,376900	4"	5164.0	100.6	14.7
198	9/15/97	MDB	949700,377100	4"	5164.0	95.3	16.4

BEAR CREEK TAILINGS RECLAMATION PROJECT

RADON BARRIER COMPACTION TESTING SUMMARY - AREA #2

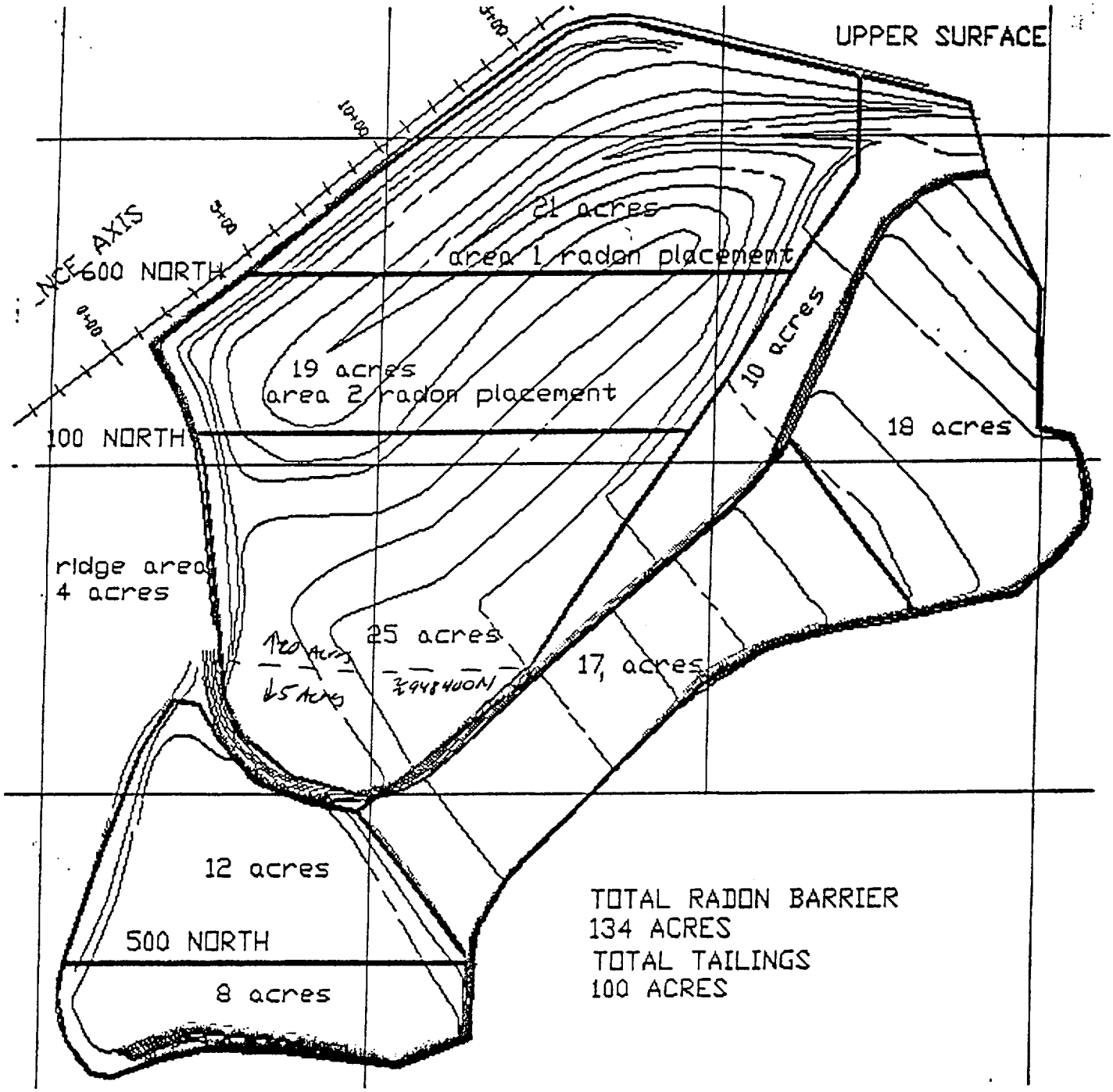
- AREA ACREAGE = 19 ACRES (SEE MAP)
- DATES OF CONSTRUCTION = 9/12/97 THROUGH 10/02/97

- ESTIMATED VOLUME OF RADON BARRIER = 91,960 CY

- SPECIFICATIONS REQUIRED TESTING FREQUENCY = 1 TEST PER 1,000 CY PLACED

- BRS PLANNED TESTING FREQUENCY = 1 TEST PER 370 CY PLACED

- ACTUAL FREQUENCY OF PASSING TESTS FOR AREA #2 = 1 TEST PER 326 CY PLACED


UPPER SURFACE
NCE AXIS
600 NORTH
100 NORTH
500 NORTH
21 acres
area 1 radon placement
19 acres
area 2 radon placement
10 acres
18 acres
ridge area
4 acres
25 acres
17 acres
12 acres
8 acres
TOTAL RADON BARRIER
134 ACRES
TOTAL TAILINGS
100 ACRES

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - SUMMARY OF PASSING NUCLEAR DENSITY AND MOISTURE TESTING
****AREA 2 RADON BARRIER PLACEMENT (SEE ATTACHED MAP)****

NOTE: TESTING FREQUENCY REQUIREMENTS ON RADON BARRIER ARE AS FOLLOWS:
1 TEST PER 1,000 CY PLACED, MINIMUM

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	RADON BARRIER EST. CUM. CY	AVG. TEST FREQUENCY
1	9/12/97	MDB	949600,375800	4"	5161.5	5,109	
2	9/12/97	MDB	949600,376000	4"	5161.5	5,109	
3	9/12/97	MDB	949600,376200	4"	5161.5	5,109	
4	9/12/97	MDB	949600,376400	4"	5161.5	5,109	
5	9/12/97	MDB	949600,376600	4"	5161.5	5,109	
6	9/12/97	MDB	949600,376800	4"	5161.5	5,109	
7	9/12/97	MDB	949600,377000	4"	5161.5	5,109	
8	9/12/97	MDB	949500,375700	4"	5161.5	5,109	
9	9/12/97	MDB	949500,375900	4"	5161.5	5,109	
10	9/12/97	MDB	949500,376100	4"	5161.5	5,109	
11	9/15/97	MDB	949500,376300	4"	5161.5	10,218	
12	9/15/97	MDB	949500,376500	4"	5161.5	10,218	
13	9/15/97	MDB	949500,376700	4"	5161.5	10,218	
14	9/15/97	MDB	949500,376900	4"	5161.5	10,218	
15	9/15/97	MDB	949500,377100	4"	5161.5	10,218	
16	9/15/97	MDB	949400,375600	4"	5161.5	10,218	
17	9/15/97	MDB	949400,375800	4"	5161.5	10,218	
18	9/15/97	MDB	949400,376200	4"	5161.5	10,218	
19	9/15/97	MDB	949400,376400	4"	5161.5	10,218	
20	9/15/97	MDB	949400,376600	4"	5161.5	10,218	
21	9/15/97	MDB	949400,376800	4"	5161.5	10,218	
22	9/15/97	MDB	949400,377000	4"	5161.5	10,218	**LIFT #1:**
23	9/15/97	MDB	949300,375500	4"	5161.5	10,218	**1 TEST PER**
24	9/15/97	MDB	949300,375700	4"	5161.5	10,218	**341 CY**
25	9/15/97	MDB	949300,375900	4"	5161.5	10,218	
26	9/15/97	MDB	949300,376100	4"	5161.5	10,218	
27	9/15/97	MDB	949300,376300	4"	5161.5	10,218	
28	9/15/97	MDB	949300,376500	4"	5161.5	10,218	
29	9/15/97	MDB	949300,376700	4"	5161.5	10,218	
30	9/15/97	MDB	949300,376900	4"	5161.5	10,218	
31	9/15/97	MDB	949200,375600	4"	5161.5	10,218	
32	9/15/97	MDB	949200,375800	4"	5161.5	10,218	
33	9/15/97	MDB	949200,376000	4"	5161.5	10,218	
34	9/15/97	MDB	949200,376200	4"	5161.5	10,218	
35	9/15/97	MDB	949200,376400	4"	5161.5	10,218	
36	9/15/97	MDB	949200,376600	4"	5161.5	10,218	
37	9/15/97	MDB	949200,376800	4"	5161.5	10,218	
38	9/15/97	MDB	949200,377000	4"	5161.5	10,218	
39	9/17/97	MDB	949100,375500	4"	5161.5	15,327	
40	9/17/97	MDB	949100,375700	4"	5161.5	15,327	
41	9/17/97	MDB	949100,375900	4"	5161.5	15,327	
42	9/17/97	MDB	949100,376100	4"	5161.5	15,327	
43	9/17/97	MDB	949100,376300	4"	5161.5	15,327	
44	9/17/97	MDB	949100,376500	4"	5161.5	15,327	

45	9/17/97	MDB	949100,376700	4"	5161.5	15,327
46	9/17/97	MDB	949600,377000	4"	5162.0	22,991
47	9/17/97	MDB	949600,376800	4"	5162.0	22,991
48	9/17/97	MDB	949600,376600	4"	5162.0	22,991
49	9/17/97	MDB	949600,376400	4"	5162.0	22,991
50	9/17/97	MDB	949600,376200	4"	5162.0	22,991
51	9/17/97	MDB	949600,376000	4"	5162.0	22,991
52	9/17/97	MDB	949600,375800	4"	5162.0	22,991
53	9/17/97	MDB	949500,377100	4"	5162.0	22,991
54	9/17/97	MDB	949500,376900	4"	5162.0	22,991
55	9/17/97	MDB	949500,376700	4"	5162.0	22,991
56	9/17/97	MDB	949500,376500	4"	5162.0	22,991
57	9/17/97	MDB	949500,376300	4"	5162.0	22,991
58	9/17/97	MDB	949500,376100	4"	5162.0	22,991
59	9/17/97	MDB	949500,375900	4"	5162.0	22,991
60	9/17/97	MDB	949500,375700	4"	5162.0	22,991
61	9/17/97	MDB	949400,377000	4"	5162.0	22,991
62	9/17/97	MDB	949400,376800	4"	5162.0	22,991
63	9/17/97	MDB	949400,376600	4"	5162.0	22,991
64	9/17/97	MDB	949400,376400	4"	5162.0	22,991
65	9/17/97	MDB	949400,376200	4"	5162.0	22,991
66	9/17/97	MDB	949400,376000	4"	5162.0	22,991
67	9/17/97	MDB	949400,375800	4"	5162.0	22,991
68	9/17/97	MDB	949400,375600	4"	5162.0	22,991
69	9/17/97	MDB	949300,377100	4"	5162.0	22,991
70	9/17/97	MDB	949300,376900	4"	5162.0	22,991
71	9/17/97	MDB	949300,376700	4"	5162.0	22,991
72	9/17/97	MDB	949300,376500	4"	5162.0	22,991
73	9/17/97	MDB	949300,376300	4"	5162.0	22,991
74	9/17/97	MDB	949300,376100	4"	5162.0	22,991
75	9/17/97	MDB	949300,375900	4"	5162.0	22,991
76	9/17/97	MDB	949300,375700	4"	5162.0	22,991
77	9/17/97	MDB	949300,375500	4"	5162.0	22,991
78	9/18/97	MDB	949200,375600	4"	5162.0	30,654
79	9/18/97	MDB	949200,375800	4"	5162.0	30,654
80	9/18/97	MDB	949200,376000	4"	5162.0	30,654
81	9/18/97	MDB	949200,376200	4"	5162.0	30,654
82	9/18/97	MDB	949200,376400	4"	5162.0	30,654
83	9/18/97	MDB	949200,376600	4"	5162.0	30,654
84	9/18/97	MDB	949200,376800	4"	5162.0	30,654
85	9/18/97	MDB	949200,377000	4"	5162.0	30,654
86	9/18/97	MDB	949100,376900	4"	5162.0	30,654
87	9/18/97	MDB	949100,376700	4"	5162.0	30,654
88	9/18/97	MDB	949100,376500	4"	5162.0	30,654
89	9/18/97	MDB	949100,376300	4"	5162.0	30,654
90	9/18/97	MDB	949100,376100	4"	5162.0	30,654
91	9/18/97	MDB	949100,375900	4"	5162.0	30,654
92	9/18/97	MDB	949100,375700	4"	5162.0	30,654
93	9/18/97	MDB	949600,377000	4"	5162.5	38,318
94	9/18/97	MDB	949600,376800	4"	5162.5	38,318
95	9/18/97	MDB	949600,376600	4"	5162.5	38,318
96	9/18/97	MDB	949600,376400	4"	5162.5	38,318

LIFT #2: 1 TEST PER 333 CY

97	9/18/97	MDB	949600,376200	4"	5162.5	38,318
98	9/18/97	MDB	949600,376000	4"	5162.5	38,318
99	9/18/97	MDB	949600,375800	4"	5162.5	38,318
100	9/18/97	MDB	949500,375500	4"	5162.5	38,318
101	9/18/97	MDB	949500,375700	4"	5162.5	38,318
102	9/18/97	MDB	949500,375900	4"	5162.5	38,318
103	9/18/97	MDB	949500,376100	4"	5162.5	38,318
104	9/18/97	MDB	949500,376300	4"	5162.5	38,318
105	9/18/97	DLB	949500,376500	4"	5162.5	38,318
106	9/18/97	DLB	949500,376700	4"	5162.5	38,318
107	9/18/97	DLB	949500,375900	4"	5162.5	38,318
108	9/18/97	DLB	949400,375600	4"	5162.5	38,318
109	9/18/97	DLB	949400,375800	4"	5162.5	38,318
110	9/18/97	DLB	949400,376000	4"	5162.5	38,318
111	9/18/97	DLB	949400,376200	4"	5162.5	38,318
112	9/18/97	DLB	949400,376400	4"	5162.5	38,318
113	9/18/97	DLB	949400,376600	4"	5162.5	38,318
114	9/18/97	DLB	949400,376800	4"	5162.5	38,318
115	9/18/97	DLB	949400,377000	4"	5162.5	38,318
116	9/22/97	DLB	949300,375500	4"	5162.5	45,982
117	9/22/97	DLB	949300,375700	4"	5162.5	45,982
118	9/22/97	DLB	949300,375900	4"	5162.5	45,982
119	9/22/97	DLB	949300,376100	4"	5162.5	45,982
120	9/22/97	DLB	949300,376300	4"	5162.5	45,982
121	9/22/97	DLB	949300,376500	4"	5162.5	45,982
122	9/22/97	MDB	949300,376700	4"	5162.5	45,982
123	9/22/97	MDB	949300,376900	4"	5162.5	45,982
124	9/22/97	MDB	949200,375600	4"	5162.5	45,982
125	9/22/97	MDB	949200,375800	4"	5162.5	45,982
126	9/22/97	MDB	949200,376000	4"	5162.5	45,982
127	9/22/97	MDB	949200,376200	4"	5162.5	45,982
128	9/22/97	MDB	949200,376400	4"	5162.5	45,982
129	9/22/97	MDB	949200,376600	4"	5162.5	45,982
130	9/22/97	MDB	949200,376800	4"	5162.5	45,982
131	9/22/97	MAXIM	949200,375600	4"	5162.5	45,982
132	9/22/97	MAXIM	949200,375800	4"	5162.5	45,982
133	9/22/97	MAXIM	949200,376000	4"	5162.5	45,982
134	9/22/97	MAXIM	949200,376200	4"	5162.5	45,982
135	9/22/97	MAXIM	949200,376400	4"	5162.5	45,982
136	9/22/97	MAXIM	949200,376600	4"	5162.5	45,982
137	9/22/97	MAXIM	949200,376800	4"	5162.5	45,982
138	9/22/97	MDB	949100,375500	4"	5162.5	45,982
139	9/22/97	MDB	949100,375700	4"	5162.5	45,982
140	9/22/97	MDB	949100,375900	4"	5162.5	45,982
141	9/22/97	MDB	949100,376100	4"	5162.5	45,982
142	9/22/97	MDB	949100,376300	4"	5162.5	45,982
143	9/22/97	MDB	949100,376500	4"	5162.5	45,982
144	9/22/97	MDB	949100,376700	4"	5162.5	45,982
145	9/22/97	MDB	949100,376900	4"	5162.5	45,982
146	9/22/97	MDB	949600,375800	4"	5163.0	51,091
147	9/22/97	MDB	949600,376000	4"	5163.0	51,091
148	9/22/97	MDB	949600,376200	4"	5163.0	51,091
149	9/22/97	MDB	949600,376400	4"	5163.0	51,091

LIFT #3: 1 TEST PER 298 CY

150	9/22/97	MDB	949600,376600	4"	5163.0	51,091
151	9/22/97	MDB	949600,376800	4"	5163.0	51,091
152	9/22/97	MDB	949600,377000	4"	5163.0	51,091
153	9/24/97	MDB	949500,375700	4"	5163.0	56,200
154	9/24/97	MDB	949500,375900	4"	5163.0	56,200
155	9/24/97	MDB	949500,376100	4"	5163.0	56,200
156	9/24/97	MDB	949500,376300	4"	5163.0	56,200
157	9/24/97	MDB	949500,376500	4"	5163.0	56,200
158	9/24/97	MDB	949500,376700	4"	5163.0	56,200
159	9/24/97	MDB	949500,376900	4"	5163.0	56,200
160	9/25/97	MDB	949400,375400	4"	5163.0	56,200
161	9/25/97	MDB	949400,375600	4"	5163.0	61,308
162	9/25/97	MDB	949400,375800	4"	5163.0	61,308
163	9/25/97	MDB	949400,376000	4"	5163.0	61,308
164	9/25/97	MDB	949400,376200	4"	5163.0	61,308
165	9/25/97	MDB	949400,376400	4"	5163.0	61,308
166	9/25/97	MDB	949400,376600	4"	5163.0	61,308
167	9/25/97	MDB	949400,376800	4"	5163.0	61,308
168	9/25/97	MDB	949400,377000	4"	5163.0	61,308
169	9/25/97	MDB	949300,375500	4"	5163.0	61,308
170	9/25/97	MDB	949300,375700	4"	5163.0	61,308
171	9/25/97	MDB	949300,375900	4"	5163.0	61,308
172	9/25/97	MDB	949300,376100	4"	5163.0	61,308
173	9/25/97	MDB	949300,376300	4"	5163.0	61,308
174	9/25/97	MDB	949300,376500	4"	5163.0	61,308
175	9/25/97	MDB	949300,376700	4"	5163.0	61,308
176	9/25/97	MDB	949300,376900	4"	5163.0	61,308
177	9/25/97	MDB	949200,375600	4"	5163.0	61,308
178	9/25/97	MDB	949200,375800	4"	5163.0	61,308
179	9/25/97	MDB	949200,376000	4"	5163.0	61,308
180	9/25/97	MDB	949200,376200	4"	5163.0	61,308
181	9/25/97	MDB	949200,376400	4"	5163.0	61,308
182	9/25/97	MDB	949200,376600	4"	5163.0	61,308
183	9/25/97	MDB	949200,376800	4"	5163.0	61,308
184	9/25/97	MDB	949100,375500	4"	5163.0	61,308
185	9/25/97	MDB	949100,375700	4"	5163.0	61,308
186	9/25/97	MDB	949100,375900	4"	5163.0	61,308
187	9/25/97	MDB	949100,376100	4"	5163.0	61,308
188	9/25/97	MDB	949100,376300	4"	5163.0	61,308
189	9/25/97	MDB	949100,376500	4"	5163.0	61,308
190	9/25/97	MDB	949100,376700	4"	5163.0	61,308
191	9/25/97	MDB	949100,376900	4"	5163.0	61,308
192	9/25/97	MDB	949600,375800	4"	5163.5	68,972
193	9/25/97	MDB	949600,376000	4"	5163.5	76,635
194	9/25/97	MDB	949600,376200	4"	5163.5	76,635
195	9/25/97	MDB	949600,376400	4"	5163.5	76,635
196	9/25/97	MDB	949600,376600	4"	5163.5	76,635
197	9/25/97	MDB	949600,376800	4"	5163.5	76,635
198	9/25/97	MDB	949600,377000	4"	5163.5	76,635
199	9/26/27	MDB	949500,375700	4"	5163.5	76,635
200	9/26/27	MDB	949500,375900	4"	5163.5	76,635
201	9/26/27	MDB	949500,376100	4"	5163.5	76,635
202	9/26/27	MDB	949500,376300	4"	5163.5	76,635

LIFT #4: 1 TEST PER 341 CY

203	9/26/27	MDB	949500,376500	4"	5163.5	76,635
204	9/26/27	MDB	949500,376700	4"	5163.5	76,635
205	9/26/27	MDB	949500,376900	4"	5163.5	76,635
206	9/26/27	MDB	949500,377100	4"	5163.5	76,635
207	9/26/27	MDB	949400,375500	4"	5163.5	76,635
208	9/26/27	MDB	949400,375700	4"	5163.5	76,635
209	9/26/27	MDB	949400,375900	4"	5163.5	76,635
210	9/26/27	MDB	949400,376100	4"	5163.5	76,635
211	9/26/27	MDB	949400,376300	4"	5163.5	76,635
212	9/26/27	MDB	949400,376500	4"	5163.5	76,635
213	9/26/27	MDB	949400,376700	4"	5163.5	76,635
214	9/26/27	MDB	949400,376900	4"	5163.5	76,635
215	9/26/27	MDB	949400,377100	4"	5163.5	76,635
216	9/26/27	MDB	949300,375500	4"	5163.5	76,635
217	9/26/27	MDB	949300,375700	4"	5163.5	76,635
218	9/26/27	MDB	949300,375900	4"	5163.5	76,635
219	9/26/27	MDB	949300,376100	4"	5163.5	76,635
220	9/26/27	MDB	949300,376300	4"	5163.5	76,635
221	9/26/27	MDB	949300,376500	4"	5163.5	76,635
222	9/26/27	MDB	949300,376700	4"	5163.5	76,635
223	9/26/27	MDB	949300,376900	4"	5163.5	76,635
224	9/26/27	MDB	949300,377100	4"	5163.5	76,635
225	9/26/27	DLB	949200,375600	4"	5163.5	76,635
226	9/26/27	DLB	949200,375800	4"	5163.5	76,635
227	9/26/27	DLB	949200,376000	4"	5163.5	76,635
228	9/26/27	DLB	949200,376200	4"	5163.5	76,635
229	9/26/27	DLB	949200,376400	4"	5163.5	76,635
230	9/26/27	DLB	949200,376600	4"	5163.5	76,635
231	9/26/27	DLB	949200,376800	4"	5163.5	76,635
232	9/26/27	DLB	949100,375700	4"	5163.5	76,635
233	9/26/27	DLB	949100,375900	4"	5163.5	76,635
234	9/26/27	DLB	949100,376100	4"	5163.5	76,635
235	9/26/27	DLB	949100,376300	4"	5163.5	76,635
236	9/26/27	DLB	949100,376500	4"	5163.5	76,635
237	9/26/27	DLB	949100,376700	4"	5163.5	76,635
238	9/29/27	DLB	949600,375800	4"	5163.5	76,635
239	9/29/27	MDB	949600,376000	4"	5164.0	81,744
240	9/29/27	MDB	949600,376200	4"	5164.0	81,744
241	9/29/27	MDB	949600,376400	4"	5164.0	81,744
242	9/29/27	MDB	949600,376600	4"	5164.0	81,744
243	9/29/27	MDB	949600,376800	4"	5164.0	81,744
244	9/29/27	MDB	949600,377000	4"	5164.0	81,744
245	9/29/27	MDB	949500,375700	4"	5164.0	81,744
246	9/29/27	MDB	949500,375900	4"	5164.0	81,744
247	9/29/27	MDB	949500,376100	4"	5164.0	81,744
248	9/29/27	MDB	949500,376300	4"	5164.0	81,744
249	9/29/27	MDB	949500,376500	4"	5164.0	81,744
250	9/29/27	MDB	949500,376700	4"	5164.0	81,744
251	9/29/27	MDB	949500,376900	4"	5164.0	81,744
252	9/29/27	MDB	949500,377100	4"	5164.0	81,744
253	9/30/27	MDB	949400,375400	4"	5164.0	86,853
254	9/30/27	MDB	949400,375600	4"	5164.0	86,853
255	9/30/27	MDB	949400,375800	4"	5164.0	86,853

LIFT #5: 1 TEST PER 333 CY

256	9/30/27	MDB	949400,376000	4"	5164.0	86,853
257	9/30/27	MDB	949400,376200	4"	5164.0	86,853
258	9/30/27	MDB	949400,376400	4"	5164.0	86,853
259	9/30/27	MDB	949400,376600	4"	5164.0	86,853
260	9/30/27	MDB	949400,376800	4"	5164.0	86,853
261	9/30/27	MDB	949400,377000	4"	5164.0	86,853
262	9/30/27	MDB	949300,375500	4"	5164.0	86,853
263	9/30/27	MDB	949300,375700	4"	5164.0	86,853
264	9/30/27	MDB	949300,375900	4"	5164.0	86,853
265	9/30/27	MDB	949300,376100	4"	5164.0	86,853
266	9/30/27	MDB	949300,376300	4"	5164.0	86,853
267	9/30/27	MDB	949300,376500	4"	5164.0	86,853
268	9/30/27	MDB	949300,376700	4"	5164.0	86,853
269	9/30/27	MDB	949300,376900	4"	5164.0	86,853
270	10/2/97	RK	949200,375600	4"	5164.0	91,962
271	10/2/97	RK	949200,375800	4"	5164.0	91,962
272	10/2/97	RK	949200,376000	4"	5164.0	91,962
273	10/2/97	RK	949200,376400	4"	5164.0	91,962
274	10/2/97	RK	949200,376600	4"	5164.0	91,962
275	10/2/97	RK	949200,376800	4"	5164.0	91,962
276	10/2/97	RK	949100,376800	4"	5164.0	91,962
277	10/2/97	MDB	949100,376600	4"	5164.0	91,962
278	10/2/97	MDB	949100,376400	4"	5164.0	91,962
279	10/2/97	MDB	949100,376200	4"	5164.0	91,962
280	10/2/97	MDB	949100,376000	4"	5164.0	91,962
281	10/2/97	MDB	949100,375800	4"	5164.0	91,962
282	10/2/97	MDB	949100,375800	4"	5164.0	91,962

LIFT #6: 1 TEST PER 356 CY

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - SUMMARY OF PASSING NUCLEAR DENSITY AND MOISTURE TESTING
****AREA 2 RADON BARRIER PLACEMENT (SEE ATTACHED MAP)****

NOTE: SPECIFICATION REQUIREMENTS ON RADON BARRIER ARE AS FOLLOWS:
COMPACTION = 95% OF STANDARD PROCTOR COMPACTION, MINIMUM
MOISTURE CONTENT WITHIN -2% TO +3% OF OPTIMUM

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	PERCENT COMPACTION	MOISTURE CONTENT
1	9/12/97	MDB	949600,375800	4"	5161.5	98.1	18.1
2	9/12/97	MDB	949600,376000	4"	5161.5	96.6	18.1
3	9/12/97	MDB	949600,376200	4"	5161.5	100.5	17.2
4	9/12/97	MDB	949600,376400	4"	5161.5	96.7	21.5
5	9/12/97	MDB	949600,376600	4"	5161.5	96.7	18.0
6	9/12/97	MDB	949600,376800	4"	5161.5	101.2	16.8
7	9/12/97	MDB	949600,377000	4"	5161.5	98.8	18.0
8	9/12/97	MDB	949500,375700	4"	5161.5	96.5	14.6
9	9/12/97	MDB	949500,375900	4"	5161.5	97.4	16.6
10	9/12/97	MDB	949500,376100	4"	5161.5	96.9	18.6
11	9/15/97	MDB	949500,376300	4"	5161.5	97.4	12.8
12	9/15/97	MDB	949500,376500	4"	5161.5	95.1	17.7
13	9/15/97	MDB	949500,376700	4"	5161.5	96.1	16.0
14	9/15/97	MDB	949500,376900	4"	5161.5	96.0	14.3
15	9/15/97	MDB	949500,377100	4"	5161.5	96.8	14.7
16	9/15/97	MDB	949400,375600	4"	5161.5	97.1	15.0
17	9/15/97	MDB	949400,375800	4"	5161.5	95.0	16.0
18	9/15/97	MDB	949400,376200	4"	5161.5	95.7	14.2
19	9/15/97	MDB	949400,376400	4"	5161.5	95.7	14.5
20	9/15/97	MDB	949400,376600	4"	5161.5	97.2	13.9
21	9/15/97	MDB	949400,376800	4"	5161.5	100.8	14.5
22	9/15/97	MDB	949400,377000	4"	5161.5	96.8	14.6
23	9/15/97	MDB	949300,375500	4"	5161.5	95.2	16.1
24	9/15/97	MDB	949300,375700	4"	5161.5	100.9	16.8
25	9/15/97	MDB	949300,375900	4"	5161.5	96.2	15.2
26	9/15/97	MDB	949300,376100	4"	5161.5	100.4	17.7
27	9/15/97	MDB	949300,376300	4"	5161.5	99.6	15.0
28	9/15/97	MDB	949300,376500	4"	5161.5	97.6	14.5
29	9/15/97	MDB	949300,376700	4"	5161.5	98.0	14.7
30	9/15/97	MDB	949300,376900	4"	5161.5	99.9	13.7
31	9/15/97	MDB	949200,375600	4"	5161.5	98.0	17.3
32	9/15/97	MDB	949200,375800	4"	5161.5	95.3	16.9
33	9/15/97	MDB	949200,376000	4"	5161.5	99.9	16.2
34	9/15/97	MDB	949200,376200	4"	5161.5	98.8	17.5
35	9/15/97	MDB	949200,376400	4"	5161.5	95.9	14.9
36	9/15/97	MDB	949200,376600	4"	5161.5	96.7	18.0
37	9/15/97	MDB	949200,376800	4"	5161.5	99.1	17.4
38	9/15/97	MDB	949200,377000	4"	5161.5	97.1	17.9
39	9/17/97	MDB	949100,375500	4"	5161.5	98.3	13.8
40	9/17/97	MDB	949100,375700	4"	5161.5	99.2	14.5
41	9/17/97	MDB	949100,375900	4"	5161.5	99.5	16.0
42	9/17/97	MDB	949100,376100	4"	5161.5	97.9	15.2
43	9/17/97	MDB	949100,376300	4"	5161.5	96.8	17.5

44	9/17/97	MDB	949100,376500	4"	5161.5	97.6	16.9
45	9/17/97	MDB	949100,376700	4"	5161.5	95.4	17.5
46	9/17/97	MDB	949600,377000	4"	5162.0	100.2	14.0
47	9/17/97	MDB	949600,376800	4"	5162.0	98.7	15.0
48	9/17/97	MDB	949600,376600	4"	5162.0	98.7	18.5
49	9/17/97	MDB	949600,376400	4"	5162.0	101.4	16.9
50	9/17/97	MDB	949600,376200	4"	5162.0	98.9	16.1
51	9/17/97	MDB	949600,376000	4"	5162.0	98.7	14.8
52	9/17/97	MDB	949600,375800	4"	5162.0	98.3	14.8
53	9/17/97	MDB	949500,377100	4"	5162.0	95.7	15.7
54	9/17/97	MDB	949500,376900	4"	5162.0	95.9	14.8
55	9/17/97	MDB	949500,376700	4"	5162.0	96.4	13.4
56	9/17/97	MDB	949500,376500	4"	5162.0	96.4	14.6
57	9/17/97	MDB	949500,376300	4"	5162.0	96.1	14.8
58	9/17/97	MDB	949500,376100	4"	5162.0	98.5	15.6
59	9/17/97	MDB	949500,375900	4"	5162.0	96.4	15.5
60	9/17/97	MDB	949500,375700	4"	5162.0	97.5	14.6
61	9/17/97	MDB	949400,377000	4"	5162.0	100.0	14.0
62	9/17/97	MDB	949400,376800	4"	5162.0	98.8	16.5
63	9/17/97	MDB	949400,376600	4"	5162.0	98.2	17.7
64	9/17/97	MDB	949400,376400	4"	5162.0	97.3	17.2
65	9/17/97	MDB	949400,376200	4"	5162.0	95.9	15.9
66	9/17/97	MDB	949400,376000	4"	5162.0	99.7	15.0
67	9/17/97	MDB	949400,375800	4"	5162.0	97.8	15.3
68	9/17/97	MDB	949400,375600	4"	5162.0	95.1	16.0
69	9/17/97	MDB	949300,377100	4"	5162.0	95.1	16.1
70	9/17/97	MDB	949300,376900	4"	5162.0	95.4	15.2
71	9/17/97	MDB	949300,376700	4"	5162.0	96.1	17.1
72	9/17/97	MDB	949300,376500	4"	5162.0	95.5	14.5
73	9/17/97	MDB	949300,376300	4"	5162.0	96.9	16.1
74	9/17/97	MDB	949300,376100	4"	5162.0	96.1	14.6
75	9/17/97	MDB	949300,375900	4"	5162.0	96.9	17.4
76	9/17/97	MDB	949300,375700	4"	5162.0	97.8	14.8
77	9/17/97	MDB	949300,375500	4"	5162.0	96.7	15.9
78	9/18/97	MDB	949200,375600	4"	5162.0	95.4	14.0
79	9/18/97	MDB	949200,375800	4"	5162.0	96.9	17.9
80	9/18/97	MDB	949200,376000	4"	5162.0	96.2	14.4
81	9/18/97	MDB	949200,376200	4"	5162.0	96.2	15.3
82	9/18/97	MDB	949200,376400	4"	5162.0	95.9	15.1
83	9/18/97	MDB	949200,376600	4"	5162.0	96.8	15.2
84	9/18/97	MDB	949200,376800	4"	5162.0	ON HAUL ROAD	-
85	9/18/97	MDB	949200,377000	4"	5162.0	96.0	15.1
86	9/18/97	MDB	949100,376900	4"	5162.0	95.1	15.5
87	9/18/97	MDB	949100,376700	4"	5162.0	96.1	15.4
88	9/18/97	MDB	949100,376500	4"	5162.0	100.5	14.6
89	9/18/97	MDB	949100,376300	4"	5162.0	98.2	15.1
90	9/18/97	MDB	949100,376100	4"	5162.0	99.2	14.8
91	9/18/97	MDB	949100,375900	4"	5162.0	96.2	15.5
92	9/18/97	MDB	949100,375700	4"	5162.0	95.3	14.1
93	9/18/97	MDB	949600,377000	4"	5162.5	96.3	15.8
94	9/18/97	MDB	949600,376800	4"	5162.5	95.8	13.2
95	9/18/97	MDB	949600,376600	4"	5162.5	99.8	14.7

96	9/18/97	MDB	949600,376400	4"	5162.5	95.1	15.5
97	9/18/97	MDB	949600,376200	4"	5162.5	98.6	15.8
98	9/18/97	MDB	949600,376000	4"	5162.5	96.5	14.6
99	9/18/97	MDB	949600,375800	4"	5162.5	96.1	14.1
100	9/18/97	MDB	949500,375500	4"	5162.5	99.5	15.4
101	9/18/97	MDB	949500,375700	4"	5162.5	96.6	16.8
102	9/18/97	MDB	949500,375900	4"	5162.5	98.5	16.0
103	9/18/97	MDB	949500,376100	4"	5162.5	97.1	16.0
104	9/18/97	MDB	949500,376300	4"	5162.5	95.8	13.4
105	9/18/97	DLB	949500,376500	4"	5162.5	98.6	13.4
106	9/18/97	DLB	949500,376700	4"	5162.5	96.6	13.2
107	9/18/97	DLB	949500,375900	4"	5162.5	95.9	15.0
108	9/18/97	DLB	949400,375600	4"	5162.5	98.3	17.6
109	9/18/97	DLB	949400,375800	4"	5162.5	96.2	17.1
110	9/18/97	DLB	949400,376000	4"	5162.5	96.3	20.0
111	9/18/97	DLB	949400,376200	4"	5162.5	95.1	16.6
112	9/18/97	DLB	949400,376400	4"	5162.5	95.5	18.6
113	9/18/97	DLB	949400,376600	4"	5162.5	96.4	17.3
114	9/18/97	DLB	949400,376800	4"	5162.5	95.0	19.0
115	9/18/97	DLB	949400,377000	4"	5162.5	95.2	16.6
116	9/22/97	DLB	949300,375500	4"	5162.5	95.2	14.6
117	9/22/97	DLB	949300,375700	4"	5162.5	97.7	18.3
118	9/22/97	DLB	949300,375900	4"	5162.5	97.6	18.0
119	9/22/97	DLB	949300,376100	4"	5162.5	95.1	17.0
120	9/22/97	DLB	949300,376300	4"	5162.5	96.9	18.8
121	9/22/97	DLB	949300,376500	4"	5162.5	95.2	17.0
122	9/22/97	MDB	949300,376700	4"	5162.5	98.2	19.1
123	9/22/97	MDB	949300,376900	4"	5162.5	99.1	17.7
124	9/22/97	MDB	949200,375600	4"	5162.5	96.6	18.9
125	9/22/97	MDB	949200,375800	4"	5162.5	100.2	18.4
126	9/22/97	MDB	949200,376000	4"	5162.5	98.9	18.0
127	9/22/97	MDB	949200,376200	4"	5162.5	99.0	17.4
128	9/22/97	MDB	949200,376400	4"	5162.5	98.1	18.4
129	9/22/97	MDB	949200,376600	4"	5162.5	99.7	16.7
130	9/22/97	MDB	949200,376800	4"	5162.5	95.7	18.9
131	9/22/97	MAXIM	949200,375600	4"	5162.5	100.9	18.4
132	9/22/97	MAXIM	949200,375800	4"	5162.5	99.2	19.1
133	9/22/97	MAXIM	949200,376000	4"	5162.5	100.8	18.3
134	9/22/97	MAXIM	949200,376200	4"	5162.5	98.3	20.2
135	9/22/97	MAXIM	949200,376400	4"	5162.5	98.7	19.3
136	9/22/97	MAXIM	949200,376600	4"	5162.5	100.1	18.7
137	9/22/97	MAXIM	949200,376800	4"	5162.5	95.2	20.3
138	9/22/97	MDB	949100,375500	4"	5162.5	99.0	17.9
139	9/22/97	MDB	949100,375700	4"	5162.5	95.2	17.0
140	9/22/97	MDB	949100,375900	4"	5162.5	96.2	18.2
141	9/22/97	MDB	949100,376100	4"	5162.5	97.3	16.8
142	9/22/97	MDB	949100,376300	4"	5162.5	96.9	19.0
143	9/22/97	MDB	949100,376500	4"	5162.5	95.8	18.4
144	9/22/97	MDB	949100,376700	4"	5162.5	97.9	18.4
145	9/22/97	MDB	949100,376900	4"	5162.5	98.3	17.9
146	9/22/97	MDB	949600,375800	4"	5163.0	98.8	18.0
147	9/22/97	MDB	949600,376000	4"	5163.0	99.6	17.9
148	9/22/97	MDB	949600,376200	4"	5163.0	99.2	17.0

149	9/22/97	MDB	949600,376400	4"	5163.0	98.0	18.2
150	9/22/97	MDB	949600,376600	4"	5163.0	98.8	17.7
151	9/22/97	MDB	949600,376800	4"	5163.0	98.9	18.2
152	9/22/97	MDB	949600,377000	4"	5163.0	98.9	19.0
153	9/24/97	MDB	949500,375700	4"	5163.0	99.9	18.7
154	9/24/97	MDB	949500,375900	4"	5163.0	98.1	20.0
155	9/24/97	MDB	949500,376100	4"	5163.0	96.7	20.8
156	9/24/97	MDB	949500,376300	4"	5163.0	95.8	19.0
157	9/24/97	MDB	949500,376500	4"	5163.0	97.9	20.2
158	9/24/97	MDB	949500,376700	4"	5163.0	97.7	20.3
159	9/24/97	MDB	949500,376900	4"	5163.0	95.1	20.4
160	9/25/97	MDB	949400,375400	4"	5163.0	97.0	17.4
161	9/25/97	MDB	949400,375600	4"	5163.0	98.2	18.0
162	9/25/97	MDB	949400,375800	4"	5163.0	95.5	19.0
163	9/25/97	MDB	949400,376000	4"	5163.0	96.5	18.0
164	9/25/97	MDB	949400,376200	4"	5163.0	98.6	18.2
165	9/25/97	MDB	949400,376400	4"	5163.0	97.4	17.8
166	9/25/97	MDB	949400,376600	4"	5163.0	97.8	16.5
167	9/25/97	MDB	949400,376800	4"	5163.0	95.2	17.1
168	9/25/97	MDB	949400,377000	4"	5163.0	96.9	17.3
169	9/25/97	MDB	949300,375500	4"	5163.0	98.1	18.4
170	9/25/97	MDB	949300,375700	4"	5163.0	97.7	18.5
171	9/25/97	MDB	949300,375900	4"	5163.0	95.7	19.7
172	9/25/97	MDB	949300,376100	4"	5163.0	98.2	18.7
173	9/25/97	MDB	949300,376300	4"	5163.0	100.0	18.8
174	9/25/97	MDB	949300,376500	4"	5163.0	95.5	20.7
175	9/25/97	MDB	949300,376700	4"	5163.0	96.0	20.2
176	9/25/97	MDB	949300,376900	4"	5163.0	97.3	20.5
177	9/25/97	MDB	949200,375600	4"	5163.0	98.8	17.0
178	9/25/97	MDB	949200,375800	4"	5163.0	95.7	19.2
179	9/25/97	MDB	949200,376000	4"	5163.0	100.2	17.3
180	9/25/97	MDB	949200,376200	4"	5163.0	97.4	19.3
181	9/25/97	MDB	949200,376400	4"	5163.0	99.4	17.2
182	9/25/97	MDB	949200,376600	4"	5163.0	96.0	18.0
183	9/25/97	MDB	949200,376800	4"	5163.0	101.2	17.4
184	9/25/97	MDB	949100,375500	4"	5163.0	95.8	16.2
185	9/25/97	MDB	949100,375700	4"	5163.0	100.5	16.1
186	9/25/97	MDB	949100,375900	4"	5163.0	95.0	15.8
187	9/25/97	MDB	949100,376100	4"	5163.0	95.7	19.1
188	9/25/97	MDB	949100,376300	4"	5163.0	98.5	14.1
189	9/25/97	MDB	949100,376500	4"	5163.0	95.1	16.8
190	9/25/97	MDB	949100,376700	4"	5163.0	95.4	15.6
191	9/25/97	MDB	949100,376900	4"	5163.0	99.0	15.2
192	9/25/97	MDB	949600,375800	4"	5163.5	98.2	18.7
193	9/25/97	MDB	949600,376000	4"	5163.5	97.1	17.0
194	9/25/97	MDB	949600,376200	4"	5163.5	95.1	20.0
195	9/25/97	MDB	949600,376400	4"	5163.5	95.6	13.9
196	9/25/97	MDB	949600,376600	4"	5163.5	96.0	14.7
197	9/25/97	MDB	949600,376800	4"	5163.5	97.1	17.0
198	9/25/97	MDB	949600,377000	4"	5163.5	100.6	16.3
199	9/26/27	MDB	949500,375700	4"	5163.5	95.1	16.4
200	9/26/27	MDB	949500,375900	4"	5163.5	99.0	15.1
201	9/26/27	MDB	949500,376100	4"	5163.5	97.7	16.5

202	9/26/27	MDB	949500,376300	4"	5163.5	95.5	17.7
203	9/26/27	MDB	949500,376500	4"	5163.5	100.1	16.5
204	9/26/27	MDB	949500,376700	4"	5163.5	99.6	16.5
205	9/26/27	MDB	949500,376900	4"	5163.5	98.4	15.6
206	9/26/27	MDB	949500,377100	4"	5163.5	100.8	16.1
207	9/26/27	MDB	949400,375500	4"	5163.5	97.6	19.5
208	9/26/27	MDB	949400,375700	4"	5163.5	95.8	18.2
209	9/26/27	MDB	949400,375900	4"	5163.5	97.0	18.9
210	9/26/27	MDB	949400,376100	4"	5163.5	97.5	17.0
211	9/26/27	MDB	949400,376300	4"	5163.5	98.1	17.9
212	9/26/27	MDB	949400,376500	4"	5163.5	97.8	17.3
213	9/26/27	MDB	949400,376700	4"	5163.5	95.3	17.5
214	9/26/27	MDB	949400,376900	4"	5163.5	99.3	17.7
215	9/26/27	MDB	949400,377100	4"	5163.5	96.4	16.6
216	9/26/27	MDB	949300,375500	4"	5163.5	97.6	17.7
217	9/26/27	MDB	949300,375700	4"	5163.5	96.4	19.2
218	9/26/27	MDB	949300,375900	4"	5163.5	95.4	17.2
219	9/26/27	MDB	949300,376100	4"	5163.5	99.4	19.8
220	9/26/27	MDB	949300,376300	4"	5163.5	98.8	18.2
221	9/26/27	MDB	949300,376500	4"	5163.5	98.9	18.6
222	9/26/27	MDB	949300,376700	4"	5163.5	100.1	16.1
223	9/26/27	MDB	949300,376900	4"	5163.5	95.2	17.4
224	9/26/27	MDB	949300,377100	4"	5163.5	97.4	17.8
225	9/26/27	DLB	949200,375600	4"	5163.5	96.8	18.3
226	9/26/27	DLB	949200,375800	4"	5163.5	100.0	18.9
227	9/26/27	DLB	949200,376000	4"	5163.5	101.2	16.6
228	9/26/27	DLB	949200,376200	4"	5163.5	97.1	20.9
229	9/26/27	DLB	949200,376400	4"	5163.5	95.7	21.4
230	9/26/27	DLB	949200,376600	4"	5163.5	98.1	13.8
231	9/26/27	DLB	949200,376800	4"	5163.5	98.5	13.3
232	9/26/27	DLB	949100,375700	4"	5163.5	98.0	18.4
233	9/26/27	DLB	949100,375900	4"	5163.5	98.9	15.8
234	9/26/27	DLB	949100,376100	4"	5163.5	100.1	19.1
235	9/26/27	DLB	949100,376300	4"	5163.5	95.3	17.1
236	9/26/27	DLB	949100,376500	4"	5163.5	96.7	17.6
237	9/26/27	DLB	949100,376700	4"	5163.5	98.9	16.2
238	9/29/27	DLB	949600,375800	4"	5163.5	96.6	19.0
239	9/29/27	MDB	949600,376000	4"	5164.0	99.2	16.2
240	9/29/27	MDB	949600,376200	4"	5164.0	102.5	15.7
241	9/29/27	MDB	949600,376400	4"	5164.0	101.4	16.0
242	9/29/27	MDB	949600,376600	4"	5164.0	96.9	18.4
243	9/29/27	MDB	949600,376800	4"	5164.0	95.3	16.7
244	9/29/27	MDB	949600,377000	4"	5164.0	95.9	17.2
245	9/29/27	MDB	949500,375700	4"	5164.0	99.0	16.6
246	9/29/27	MDB	949500,375900	4"	5164.0	97.4	15.6
247	9/29/27	MDB	949500,376100	4"	5164.0	96.7	18.2
248	9/29/27	MDB	949500,376300	4"	5164.0	99.3	16.5
249	9/29/27	MDB	949500,376500	4"	5164.0	95.7	17.3
250	9/29/27	MDB	949500,376700	4"	5164.0	96.0	18.2
251	9/29/27	MDB	949500,376900	4"	5164.0	98.8	16.6
252	9/29/27	MDB	949500,377100	4"	5164.0	100.7	16.6
253	9/30/27	MDB	949400,375400	4"	5164.0	95.0	19.5
254	9/30/27	MDB	949400,375600	4"	5164.0	101.4	14.1

255	9/30/27	MDB	949400,375800	4"	5164.0	96.0	15.4
256	9/30/27	MDB	949400,376000	4"	5164.0	99.4	16.3
257	9/30/27	MDB	949400,376200	4"	5164.0	96.6	16.1
258	9/30/27	MDB	949400,376400	4"	5164.0	102.4	16.0
259	9/30/27	MDB	949400,376600	4"	5164.0	97.7	16.3
260	9/30/27	MDB	949400,376800	4"	5164.0	100.7	15.9
261	9/30/27	MDB	949400,377000	4"	5164.0	100.7	17.1
262	9/30/27	MDB	949300,375500	4"	5164.0	98.9	15.1
263	9/30/27	MDB	949300,375700	4"	5164.0	102.4	13.3
264	9/30/27	MDB	949300,375900	4"	5164.0	95.0	17.3
265	9/30/27	MDB	949300,376100	4"	5164.0	100.3	15.6
266	9/30/27	MDB	949300,376300	4"	5164.0	95.0	17.3
267	9/30/27	MDB	949300,376500	4"	5164.0	97.3	16.3
268	9/30/27	MDB	949300,376700	4"	5164.0	96.6	18.0
269	9/30/27	MDB	949300,376900	4"	5164.0	96.4	17.8
270	10/2/97	RK	949200,375600	4"	5164.0	97.8	18.4
271	10/2/97	RK	949200,375800	4"	5164.0	97.6	14.9
272	10/2/97	RK	949200,376000	4"	5164.0	102.2	13.8
273	10/2/97	RK	949200,376400	4"	5164.0	96.8	15.2
274	10/2/97	RK	949200,376600	4"	5164.0	97.8	16.0
275	10/2/97	RK	949200,376800	4"	5164.0	96.4	14.3
276	10/2/97	RK	949100,376800	4"	5164.0	100.4	13.9
277	10/2/97	MDB	949100,376600	4"	5164.0	97.3	15.2
278	10/2/97	MDB	949100,376400	4"	5164.0	99.6	15.7
279	10/2/97	MDB	949100,376200	4"	5164.0	98.1	14.6
280	10/2/97	MDB	949100,376000	4"	5164.0	98.9	14.3
281	10/2/97	MDB	949100,375800	4"	5164.0	96.1	14.1
282	10/2/97	MDB	949100,375800	4"	5164.0	95.2	15.8

BEAR CREEK TAILINGS RECLAMATION PROJECT

RADON BARRIER COMPACTION TESTING SUMMARY - AREA #3

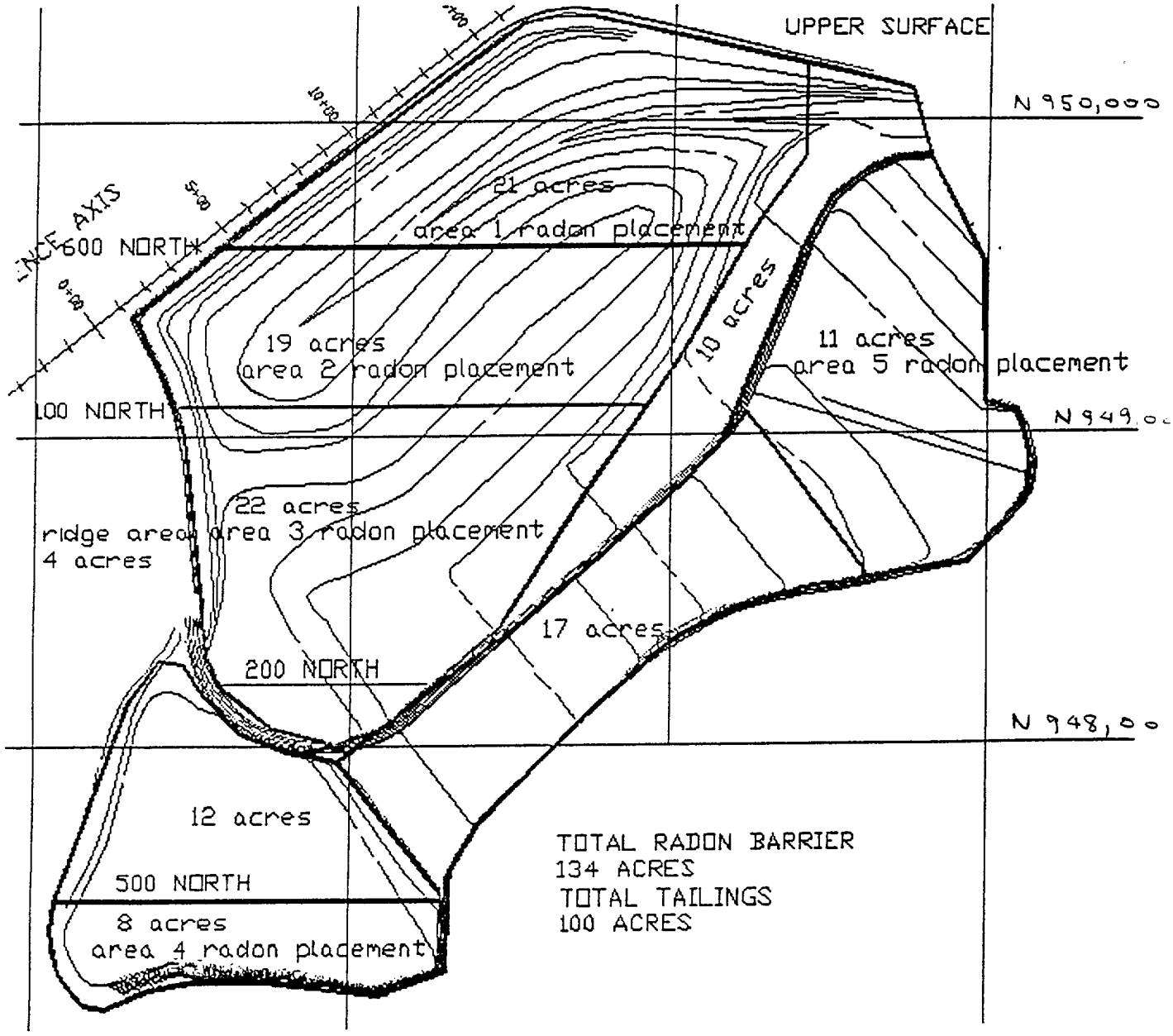
- AREA ACREAGE = 22 ACRES (SEE MAP)
- DATES OF CONSTRUCTION = 9/25/97 THROUGH 10/13/97

- ESTIMATED VOLUME OF RADON BARRIER = 106,480 CY

- SPECIFICATIONS REQUIRED TESTING FREQUENCY = 1 TEST PER 1,000 CY PLACED

- BRS PLANNED TESTING FREQUENCY = 1 TEST PER 370 CY PLACED

- ACTUAL FREQUENCY OF PASSING TESTS FOR AREA #3 = 1 TEST PER 455 CY PLACED


UPPER SURFACE
N 950,000
21 acres
area 1 radon placement
600 NORTH
19 acres
area 2 radon placement
10 acres
11 acres
area 5 radon placement
N 949,0
100 NORTH
22 acres
area 3 radon placement
ridge area
4 acres
17 acres
200 NORTH
N 948,00
12 acres
500 NORTH
8 acres
area 4 radon placement
TOTAL RADON BARRIER
134 ACRES
TOTAL TAILINGS
100 ACRES

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - SUMMARY OF PASSING NUCLEAR DENSITY AND MOISTURE TESTING
****AREA 3 RADON BARRIER PLACEMENT (SEE ATTACHED MAP)****

NOTE: TESTING FREQUENCY REQUIREMENTS ON RADON BARRIER ARE AS FOLLOWS:
1 TEST PER 1,000 CY PLACED, MINIMUM

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	RADON BARRIER EST. CUM. CY	AVG. TEST FREQUENCY
1	9/25/97	MDB	948900,375700	4"	5161.5	4,437	
2	9/25/97	MDB	948900,375900	4"	5161.5	4,437	
3	9/25/97	MDB	948900,376100	4"	5161.5	4,437	
4	9/25/97	MDB	948900,376300	4"	5161.5	4,437	
5	9/25/97	MDB	948900,376500	4"	5161.5	4,437	
6	9/25/97	MDB	948900,376700	4"	5161.5	4,437	
7	9/27/97	MDB	948800,375600	4"	5161.5	8,874	
8	9/27/97	MDB	948800,375800	4"	5161.5	8,874	
9	9/27/97	MDB	948800,376000	4"	5161.5	8,874	
10	9/27/97	MDB	948800,376200	4"	5161.5	8,874	
11	9/27/97	MDB	948800,376400	4"	5161.5	8,874	
12	9/27/97	MDB	948800,376600	4"	5161.5	8,874	
13	9/27/97	MDB	948700,375700	4"	5161.5	8,874	
14	9/27/97	MDB	948700,375900	4"	5161.5	8,874	
15	9/27/97	MDB	948700,376100	4"	5161.5	8,874	
16	9/27/97	MDB	948700,376300	4"	5161.5	8,874	
17	9/27/97	MDB	948700,376500	4"	5161.5	8,874	
18	9/29/97	MDB	948600,375800	4"	5161.5	13,311	
19	9/29/97	MDB	948600,376000	4"	5161.5	13,311	
20	9/29/97	MDB	948600,376200	4"	5161.5	13,311	
21	9/29/97	MDB	948600,376400	4"	5161.5	13,311	
22	9/29/97	MDB	948600,376600	4"	5161.5	13,311	
23	9/29/97	MDB	948600,376800	4"	5161.5	13,311	
24	9/29/97	MDB	948500,377000	4"	5161.5	13,311	**LIFT #1:**
25	9/29/97	MDB	948500,375700	4"	5161.5	13,311	**1 TEST PER**
26	9/29/97	MDB	948500,375900	4"	5161.5	13,311	**362 CY**
27	9/29/97	MDB	948500,376100	4"	5161.5	13,311	
28	9/29/97	MDB	948500,376300	4"	5161.5	13,311	
29	9/29/97	MDB	948500,376500	4"	5161.5	13,311	
30	9/29/97	MDB	948500,367000	4"	5161.5	13,311	
31	9/29/97	MDB	948500,369000	4"	5161.5	13,311	
32	9/29/97	MDB	948500,377100	4"	5161.5	13,311	
33	10/3/97	MDB	948600,375600	4"	5161.5	17,747	
34	10/3/97	MDB	948600,375800	4"	5161.5	17,747	
35	10/3/97	MDB	948600,376000	4"	5161.5	17,747	
36	10/3/97	MDB	948600,376200	4"	5161.5	17,747	
37	10/3/97	MDB	948600,376400	4"	5161.5	17,747	
38	10/3/97	MDB	948500,375700	4"	5161.5	17,747	
39	10/3/97	MDB	948500,375900	4"	5161.5	17,747	
40	10/3/97	MDB	948500,376100	4"	5161.5	17,747	
41	10/3/97	MDB	948500,376300	4"	5161.5	17,747	
42	10/3/97	MDB	948400,375800	4"	5161.5	17,747	
43	10/3/97	MDB	948400,376000	4"	5161.5	17,747	
44	10/3/97	MDB	948400,376200	4"	5161.5	17,747	

45	10/3/97	MDB	948300,375700	4"	5161.5	17,747
46	10/3/97	MDB	948300,375900	4"	5161.5	17,747
47	10/3/97	MDB	948300,376100	4"	5161.5	17,747
48	10/3/97	MDB	948200,375800	4"	5161.5	17,747
49	10/3/97	MDB	948200,376000	4"	5161.5	17,747
50	9/30/97	MDB	949000,375800	4"	5162.0	23,663
51	9/30/97	MDB	949000,376000	4"	5162.0	23,663
52	9/30/97	MDB	949000,376200	4"	5162.0	23,663
53	9/30/97	MDB	949000,376400	4"	5162.0	23,663
54	9/30/97	MDB	949000,376600	4"	5162.0	23,663
55	9/30/97	MDB	949000,376800	4"	5162.0	23,663
56	9/30/97	MDB	949000,377000	4"	5162.0	23,663
57	9/30/97	MDB	948900,375700	4"	5162.0	23,663
58	9/30/97	MDB	948900,375900	4"	5162.0	23,663
59	9/30/97	MDB	948900,376100	4"	5162.0	23,663
60	9/30/97	MDB	948900,376300	4"	5162.0	23,663
61	9/30/97	MDB	948900,376500	4"	5162.0	23,663
62	9/30/97	MDB	948900,376700	4"	5162.0	23,663
63	10/1/97	RK	948800,375600	4"	5162.0	29,579
64	10/1/97	RK	948800,375800	4"	5162.0	29,579
65	10/1/97	RK	948800,376000	4"	5162.0	29,579
66	10/1/97	RK	948800,376200	4"	5162.0	29,579
67	10/1/97	RK	948800,376400	4"	5162.0	29,579
68	10/1/97	RK	948800,376600	4"	5162.0	29,579
69	10/1/97	RK	948700,375700	4"	5162.0	29,579
70	10/1/97	RK	948700,375900	4"	5162.0	29,579
71	10/1/97	RK	948700,376100	4"	5162.0	29,579
72	10/1/97	RK	948700,376300	4"	5162.0	29,579
73	10/1/97	RK	948700,376500	4"	5162.0	29,579
74	10/6/97	RK	948500,375700	4"	5162.0	35,494
75	10/6/97	RK	948500,375900	4"	5162.0	35,494
76	10/6/97	RK	948500,376100	4"	5162.0	35,494
77	10/6/97	RK	948500,376300	4"	5162.0	35,494
78	10/6/97	RK	948400,375800	4"	5162.0	35,494
79	10/6/97	RK	948400,376000	4"	5162.0	35,494
80	10/6/97	RK	948400,376200	4"	5162.0	35,494
81	10/6/97	RK	948300,375700	4"	5162.0	35,494
82	10/6/97	RK	948300,375900	4"	5162.0	35,494
83	10/6/97	RK	948300,376100	4"	5162.0	35,494
84	10/6/97	RK	948200,375800	4"	5162.0	35,494
85	10/6/97	RK	948200,376000	4"	5162.0	35,494
86	10/6/97	RK	948600,375600	4"	5162.0	35,494
87	10/6/97	RK	948600,375800	4"	5162.0	35,494
88	10/6/97	RK	948600,376000	4"	5162.0	35,494
89	10/6/97	RK	948600,376200	4"	5162.0	35,494
90	10/7/97	RK	948500,375700	4"	5162.0	35,494
91	10/1/97	RK	949000,375800	4"	5162.5	44,368
92	10/1/97	RK	949000,376000	4"	5162.5	44,368
93	10/1/97	RK	949000,376200	4"	5162.5	44,368
94	10/1/97	RK	949000,376400	4"	5162.5	44,368
95	10/1/97	RK	949000,376600	4"	5162.5	44,368
96	10/1/97	RK	949000,376800	4"	5162.5	44,368

LIFT #2: 1 TEST PER 444 CY

97	10/1/97	MDB	948900,375700	4"	5162.5	44,368
98	10/1/97	MDB	948900,375900	4"	5162.5	44,368
99	10/1/97	MDB	948900,376100	4"	5162.5	44,368
100	10/1/97	MDB	948900,376300	4"	5162.5	44,368
101	10/1/97	MDB	948900,376500	4"	5162.5	44,368
102	10/1/97	MDB	948900,376700	4"	5162.5	44,368
103	10/1/97	MDB	948800,375600	4"	5162.5	44,368
104	10/1/97	MDB	948800,375800	4"	5162.5	44,368
105	10/1/97	MDB	948800,376000	4"	5162.5	44,368
106	10/1/97	MDB	948700,375700	4"	5162.5	44,368
107	10/1/97	MDB	948700,375900	4"	5162.5	44,368
108	10/1/97	MDB	948700,376100	4"	5162.5	44,368
109	10/1/97	MDB	948700,376300	4"	5162.5	44,368
110	10/1/97	MDB	948700,376500	4"	5162.5	44,368
111	10/7/97	MBD	948500,375900	4"	5162.5	53,241
112	10/7/97	MBD	948500,376100	4"	5162.5	53,241
113	10/7/97	MBD	948500,376300	4"	5162.5	53,241
114	10/7/97	MBD	948400,375800	4"	5162.5	53,241
115	10/7/97	MBD	948400,376000	4"	5162.5	53,241
116	10/7/97	MBD	948400,376200	4"	5162.5	53,241
117	10/7/97	MBD	948300,375700	4"	5162.5	53,241
118	10/7/97	MBD	948300,375900	4"	5162.5	53,241
119	10/7/97	MBD	948300,376100	4"	5162.5	53,241
120	10/7/97	MBD	948200,375800	4"	5162.5	53,241
121	10/7/97	MBD	948200,376000	4"	5162.5	53,241
122	10/2/97	DLB	949000,375600	4"	5163.0	59,157
123	10/2/97	DLB	949000,375800	4"	5163.0	59,157
124	10/2/97	DLB	949000,376000	4"	5163.0	59,157
125	10/2/97	DLB	949000,376200	4"	5163.0	59,157
126	10/2/97	DLB	949000,376400	4"	5163.0	59,157
127	10/2/97	DLB	949000,376600	4"	5163.0	59,157
128	10/2/97	DLB	948900,375700	4"	5163.0	59,157
129	10/2/97	DLB	948900,375900	4"	5163.0	59,157
130	10/2/97	DLB	948900,376100	4"	5163.0	59,157
131	10/2/97	DLB	948900,376300	4"	5163.0	59,157
132	10/2/97	DLB	948900,376500	4"	5163.0	59,157
133	10/2/97	MDB	948900,376700	4"	5163.0	59,157
134	10/2/97	MDB	948800,375600	4"	5163.0	59,157
135	10/2/97	MDB	948800,375800	4"	5163.0	59,157
136	10/2/97	MDB	948800,376000	4"	5163.0	59,157
137	10/2/97	MDB	948800,376200	4"	5163.0	59,157
138	10/2/97	MDB	948800,376400	4"	5163.0	59,157
139	10/2/97	MDB	948800,376600	4"	5163.0	59,157
140	10/3/97	MDB	948700,375700	4"	5163.0	65,073
141	10/3/97	MDB	948700,375900	4"	5163.0	65,073
142	10/3/97	MDB	948700,376100	4"	5163.0	65,073
143	10/3/97	MDB	948700,376300	4"	5163.0	65,073
144	10/3/97	MDB	948700,376500	4"	5163.0	65,073
145	10/7/97	RK	948600,376000	4"	5163.0	70,988
146	10/7/97	RK	948600,376200	4"	5163.0	70,988
147	10/7/97	RK	948600,376400	4"	5163.0	70,988
148	10/7/97	RK	948500,375700	4"	5163.0	70,988
149	10/7/97	RK	948500,375900	4"	5163.0	70,988

LIFT #3: 1 TEST PER 592 CY

LIFT #4: 1 TEST PER 480 CY

150	10/7/97	RK	948500,376100	4"	5163.0	70,988
151	10/7/97	RK	948500,376300	4"	5163.0	70,988
152	10/7/97	RK	948400,375800	4"	5163.0	70,988
153	10/7/97	RK	948400,376000	4"	5163.0	70,988
154	10/7/97	RK	948400,376200	4"	5163.0	70,988
155	10/7/97	RK	948300,375700	4"	5163.0	70,988
156	10/7/97	RK	948300,375900	4"	5163.0	70,988
157	10/7/97	RK	948300,376100	4"	5163.0	70,988
158	10/7/97	RK	948200,375800	4"	5163.0	70,988
159	10/7/97	RK	948200,376000	4"	5163.0	70,988
160	10/7/97	MBD	949000,375600	4"	5163.5	76,904
161	10/7/97	MBD	949000,375800	4"	5163.5	76,904
162	10/7/97	MBD	949000,376000	4"	5163.5	76,904
163	10/7/97	MBD	949000,376200	4"	5163.5	76,904
164	10/7/97	MBD	949000,376400	4"	5163.5	76,904
165	10/7/97	MBD	949000,376600	4"	5163.5	76,904
166	10/7/97	RK	948900,375700	4"	5163.5	76,904
167	10/7/97	RK	948900,375900	4"	5163.5	76,904
168	10/7/97	RK	948900,376100	4"	5163.5	76,904
169	10/7/97	RK	948900,376300	4"	5163.5	76,904
170	10/7/97	RK	948900,376500	4"	5163.5	76,904
171	10/7/97	RK	948900,376700	4"	5163.5	76,904
172	10/7/97	RK	948800,375800	4"	5163.5	76,904
173	10/7/97	RK	948800,376000	4"	5163.5	76,904
174	10/7/97	RK	948800,376200	4"	5163.5	76,904
175	10/7/97	RK	948800,376400	4"	5163.5	76,904
176	10/7/97	RK	948800,376600	4"	5163.5	76,904
177	10/7/97	RK	948700,375700	4"	5163.5	76,904
178	10/7/97	RK	948700,375900	4"	5163.5	76,904
179	10/7/97	RK	948700,376100	4"	5163.5	76,904
180	10/7/97	RK	948700,376300	4"	5163.5	76,904
181	10/7/97	RK	948700,376500	4"	5163.5	76,904
182	10/7/97	RK	948600,375800	4"	5163.5	76,904
183	10/9/97	RK	948600,375800	4"	5163.5	82,820
184	10/9/97	RK	948600,376000	4"	5163.5	82,820
185	10/9/97	RK	948600,376200	4"	5163.5	82,820
186	10/9/97	RK	948600,376400	4"	5163.5	82,820
187	10/10/97	MDB	948500,375700	4"	5163.5	88,735
188	10/10/97	MDB	948500,375900	4"	5163.5	88,735
189	10/10/97	MDB	948500,376100	4"	5163.5	88,735
190	10/10/97	MDB	948500,376300	4"	5163.5	88,735
191	10/10/97	MDB	948400,375800	4"	5163.5	88,735
192	10/10/97	MDB	948400,376000	4"	5163.5	88,735
193	10/10/97	MDB	948400,376200	4"	5163.5	88,735
194	10/10/97	MDB	948300,375700	4"	5163.5	88,735
195	10/10/97	MDB	948300,375900	4"	5163.5	88,735
196	10/10/97	MDB	948300,376100	4"	5163.5	88,735
197	10/10/97	MDB	948200,375800	4"	5163.5	88,735
198	10/10/97	MDB	948200,376000	4"	5163.5	88,735
199	10/10/97	MDB	949000,375800	4"	5164.0	97,609
200	10/10/97	MDB	949000,376000	4"	5164.0	97,609
201	10/10/97	MDB	949000,376200	4"	5164.0	97,609

LIFT #5: 1 TEST PER 467 CY

202	10/10/97	MDB	949000,376400	4"	5164.0	97,609
203	10/10/97	MDB	949000,376600	4"	5164.0	97,609
204	10/10/97	MDB	949000,376800	4"	5164.0	97,609
205	10/10/97	MDB	948900,375700	4"	5164.0	97,609
206	10/10/97	MDB	948900,375900	4"	5164.0	97,609
207	10/10/97	MDB	948900,376100	4"	5164.0	97,609
208	10/10/97	MDB	948900,376300	4"	5164.0	97,609
209	10/10/97	MDB	948900,376500	4"	5164.0	97,609
210	10/10/97	MDB	948900,376700	4"	5164.0	97,609
211	10/10/97	MDB	948800,375800	4"	5164.0	97,609
212	10/10/97	MDB	948800,376000	4"	5164.0	97,609
213	10/10/97	MDB	948800,376200	4"	5164.0	97,609
214	10/10/97	MDB	948800,376400	4"	5164.0	97,609
215	10/10/97	MDB	948800,376600	4"	5164.0	97,609
216	10/10/97	MDB	948700,375700	4"	5164.0	97,609
217	10/10/97	MDB	948700,375900	4"	5164.0	97,609
218	10/10/97	MDB	948700,376100	4"	5164.0	97,609
219	10/10/97	MDB	948700,376300	4"	5164.0	97,609
220	10/10/97	MDB	948700,376500	4"	5164.0	97,609
221	10/10/97	MDB	948600,375600	4"	5164.0	97,609
222	10/10/97	MDB	948600,375800	4"	5164.0	97,609
223	10/10/97	MDB	948600,376000	4"	5164.0	97,609
224	10/10/97	MDB	948600,376200	4"	5164.0	97,609
225	10/10/97	MDB	948600,376400	4"	5164.0	97,609
225	10/13/97	RK	948500,375700	4"	5164.0	106,480
226	10/13/97	RK	948500,375900	4"	5164.0	106,480
227	10/13/97	RK	948500,376100	4"	5164.0	106,480
228	10/13/97	RK	948500,376300	4"	5164.0	106,480
229	10/13/97	RK	948400,375800	4"	5164.0	106,480
230	10/13/97	RK	948400,376000	4"	5164.0	106,480
231	10/13/97	RK	948400,376200	4"	5164.0	106,480
232	10/13/97	RK	948300,375900	4"	5164.0	106,480
233	10/13/97	RK	948200,375800	4"	5164.0	106,480
234	10/13/97	RK	948200,376000	4"	5164.0	106,480

LIFT #6: 1 TEST PER 507 CY.

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - SUMMARY OF PASSING NUCLEAR DENSITY AND MOISTURE TESTING
****AREA 3 RADON BARRIER PLACEMENT (SEE ATTACHED MAP)****

NOTE: SPECIFICATION REQUIREMENTS ON RADON BARRIER ARE AS FOLLOWS:
COMPACTION = 95% OF STANDARD PROCTOR COMPACTION, MINIMUM
MOISTURE CONTENT WITHIN -2% TO +3% OF OPTIMUM

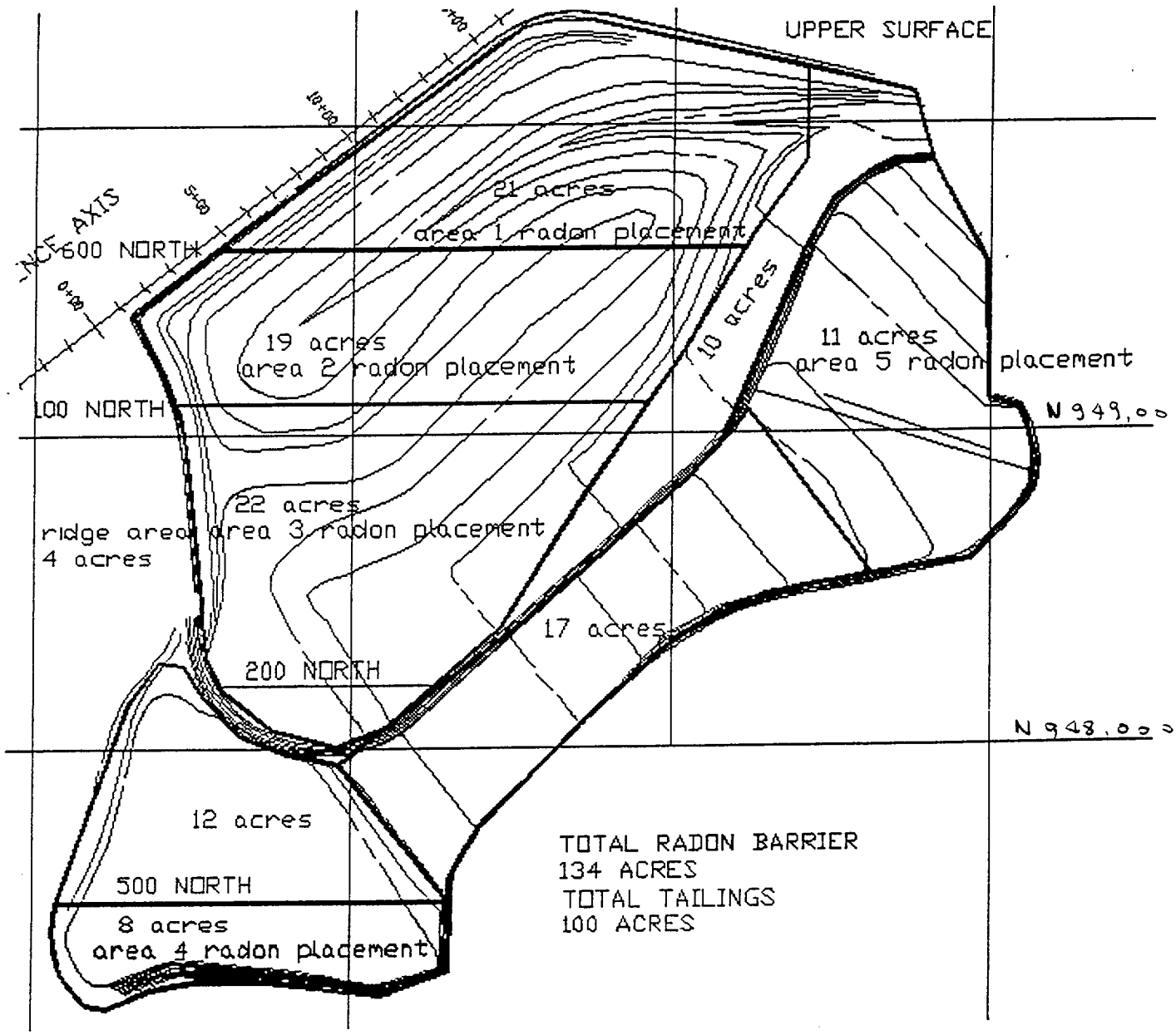
TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	PERCENT COMPACTION	MOISTURE CONTENT
1	9/25/97	MDB	948900,375700	4"	5161.5	98.7	18.1
2	9/25/97	MDB	948900,375900	4"	5161.5	95.1	17.8
3	9/25/97	MDB	948900,376100	4"	5161.5	98.2	17.3
4	9/25/97	MDB	948900,376300	4"	5161.5	95.0	19.2
5	9/25/97	MDB	948900,376500	4"	5161.5	99.9	14.3
6	9/25/97	MDB	948900,376700	4"	5161.5	98.9	17.0
7	9/27/97	MDB	948800,375600	4"	5161.5	101.1	15.1
8	9/27/97	MDB	948800,375800	4"	5161.5	96.1	15.6
9	9/27/97	MDB	948800,376000	4"	5161.5	97.2	16.2
10	9/27/97	MDB	948800,376200	4"	5161.5	95.2	16.0
11	9/27/97	MDB	948800,376400	4"	5161.5	98.1	15.6
12	9/27/97	MDB	948800,376600	4"	5161.5	96.1	15.5
13	9/27/97	MDB	948700,375700	4"	5161.5	102.8	17.5
14	9/27/97	MDB	948700,375900	4"	5161.5	99.5	17.1
15	9/27/97	MDB	948700,376100	4"	5161.5	100.7	16.7
16	9/27/97	MDB	948700,376300	4"	5161.5	96.3	17.4
17	9/27/97	MDB	948700,376500	4"	5161.5	97.4	15.6
18	9/29/97	MDB	948600,375800	4"	5161.5	96.6	19.0
19	9/29/97	MDB	948600,376000	4"	5161.5	99.2	16.2
20	9/29/97	MDB	948600,376200	4"	5161.5	102.5	15.7
21	9/29/97	MDB	948600,376400	4"	5161.5	101.4	16.0
22	9/29/97	MDB	948600,376600	4"	5161.5	96.9	18.4
23	9/29/97	MDB	948600,376800	4"	5161.5	95.3	16.7
24	9/29/97	MDB	948500,377000	4"	5161.5	95.9	17.2
25	9/29/97	MDB	948500,375700	4"	5161.5	99.0	16.6
26	9/29/97	MDB	948500,375900	4"	5161.5	97.4	15.6
27	9/29/97	MDB	948500,376100	4"	5161.5	96.7	18.2
28	9/29/97	MDB	948500,376300	4"	5161.5	99.3	16.5
29	9/29/97	MDB	948500,376500	4"	5161.5	95.7	17.3
30	9/29/97	MDB	948500,367000	4"	5161.5	96.0	18.2
31	9/29/97	MDB	948500,369000	4"	5161.5	98.8	16.6
32	9/29/97	MDB	948500,377100	4"	5161.5	100.7	16.7
33	10/3/97	MDB	948600,375600	4"	5161.5	95.2	16.5
34	10/3/97	MDB	948600,375800	4"	5161.5	96.5	16.1
35	10/3/97	MDB	948600,376000	4"	5161.5	98.7	15.2
36	10/3/97	MDB	948600,376200	4"	5161.5	96.7	15.3
37	10/3/97	MDB	948600,376400	4"	5161.5	97.0	16.2
38	10/3/97	MDB	948500,375700	4"	5161.5	98.0	17.5
39	10/3/97	MDB	948500,375900	4"	5161.5	97.3	17.1
40	10/3/97	MDB	948500,376100	4"	5161.5	98.9	15.3
41	10/3/97	MDB	948500,376300	4"	5161.5	100.4	16.3
42	10/3/97	MDB	948400,375800	4"	5161.5	95.5	16.0
43	10/3/97	MDB	948400,376000	4"	5161.5	98.4	16.0

44	10/3/97	MDB	948400,376200	4"	5161.5	97.1	15.9
45	10/3/97	MDB	948300,375700	4"	5161.5	97.3	15.8
46	10/3/97	MDB	948300,375900	4"	5161.5	98.9	17.1
47	10/3/97	MDB	948300,376100	4"	5161.5	97.9	17.2
48	10/3/97	MDB	948200,375800	4"	5161.5	97.2	15.7
49	10/3/97	MDB	948200,376000	4"	5161.5	95.2	16.6
50	9/30/97	MDB	949000,375800	4"	5162.0	98.9	18.3
51	9/30/97	MDB	949000,376000	4"	5162.0	99.0	16.1
52	9/30/97	MDB	949000,376200	4"	5162.0	102.5	15.5
53	9/30/97	MDB	949000,376400	4"	5162.0	101.9	14.8
54	9/30/97	MDB	949000,376600	4"	5162.0	101.2	16.0
55	9/30/97	MDB	949000,376800	4"	5162.0	99.0	16.1
56	9/30/97	MDB	949000,377000	4"	5162.0	95.5	14.8
57	9/30/97	MDB	948900,375700	4"	5162.0	97.5	17.6
58	9/30/97	MDB	948900,375900	4"	5162.0	98.3	17.9
59	9/30/97	MDB	948900,376100	4"	5162.0	97.8	17.4
60	9/30/97	MDB	948900,376300	4"	5162.0	96.9	18.4
61	9/30/97	MDB	948900,376500	4"	5162.0	96.6	18.3
62	9/30/97	MDB	948900,376700	4"	5162.0	97.9	17.4
63	10/1/97	RK	948800,375600	4"	5162.0	95.3	18.0
64	10/1/97	RK	948800,375800	4"	5162.0	95.4	17.9
65	10/1/97	RK	948800,376000	4"	5162.0	95.3	20.3
66	10/1/97	RK	948800,376200	4"	5162.0	95.0	18.7
67	10/1/97	RK	948800,376400	4"	5162.0	96.5	19.5
68	10/1/97	RK	948800,376600	4"	5162.0	95.5	17.8
69	10/1/97	RK	948700,375700	4"	5162.0	95.0	16.0
70	10/1/97	RK	948700,375900	4"	5162.0	95.0	20.3
71	10/1/97	RK	948700,376100	4"	5162.0	95.3	17.9
72	10/1/97	RK	948700,376300	4"	5162.0	95.2	19.3
73	10/1/97	RK	948700,376500	4"	5162.0	96.5	16.8
74	10/6/97	RK	948500,375700	4"	5162.0	101.1	16.9
75	10/6/97	RK	948500,375900	4"	5162.0	97.8	15.7
76	10/6/97	RK	948500,376100	4"	5162.0	97.1	14.7
77	10/6/97	RK	948500,376300	4"	5162.0	101.9	13.9
78	10/6/97	RK	948400,375800	4"	5162.0	97.9	14.5
79	10/6/97	RK	948400,376000	4"	5162.0	96.2	13.9
80	10/6/97	RK	948400,376200	4"	5162.0	98.0	18.0
81	10/6/97	RK	948300,375700	4"	5162.0	95.4	17.9
82	10/6/97	RK	948300,375900	4"	5162.0	95.5	14.9
83	10/6/97	RK	948300,376100	4"	5162.0	98.7	16.0
84	10/6/97	RK	948200,375800	4"	5162.0	97.0	17.6
85	10/6/97	RK	948200,376000	4"	5162.0	95.1	15.7
86	10/6/97	RK	948600,375600	4"	5162.0	96.4	17.8
87	10/6/97	RK	948600,375800	4"	5162.0	95.7	15.7
88	10/6/97	RK	948600,376000	4"	5162.0	95.1	15.3
89	10/6/97	RK	948600,376200	4"	5162.0	97.0	13.2
90	10/7/97	RK	948500,375700	4"	5162.0	96.6	16.5
91	10/1/97	RK	949000,375800	4"	5162.5	95.0	19.6
92	10/1/97	RK	949000,376000	4"	5162.5	95.0	17.3
93	10/1/97	RK	949000,376200	4"	5162.5	97.1	17.1
94	10/1/97	RK	949000,376400	4"	5162.5	97.5	18.6
95	10/1/97	RK	949000,376600	4"	5162.5	98.0	15.2

96	10/1/97	RK	949000,376800	4"	5162.5	97.2	16.3
97	10/1/97	MDB	948900,375700	4"	5162.5	96.0	21.2
98	10/1/97	MDB	948900,375900	4"	5162.5	95.0	17.4
99	10/1/97	MDB	948900,376100	4"	5162.5	95.3	20.3
100	10/1/97	MDB	948900,376300	4"	5162.5	95.0	19.2
101	10/1/97	MDB	948900,376500	4"	5162.5	96.7	19.7
102	10/1/97	MDB	948900,376700	4"	5162.5	95.0	18.4
103	10/1/97	MDB	948800,375600	4"	5162.5	95.0	20.0
104	10/1/97	MDB	948800,375800	4"	5162.5	95.4	17.8
105	10/1/97	MDB	948800,376000	4"	5162.5	96.6	16.1
106	10/1/97	MDB	948700,375700	4"	5162.5	97.0	18.3
107	10/1/97	MDB	948700,375900	4"	5162.5	97.7	19.7
108	10/1/97	MDB	948700,376100	4"	5162.5	97.2	18.8
109	10/1/97	MDB	948700,376300	4"	5162.5	96.8	17.4
110	10/1/97	MDB	948700,376500	4"	5162.5	95.9	17.8
111	10/7/97	MBD	948500,375900	4"	5162.5	97.1	17.7
112	10/7/97	MBD	948500,376100	4"	5162.5	95.3	17.7
113	10/7/97	MBD	948500,376300	4"	5162.5	96.0	17.7
114	10/7/97	MBD	948400,375800	4"	5162.5	99.9	14.6
115	10/7/97	MBD	948400,376000	4"	5162.5	99.1	17.0
116	10/7/97	MBD	948400,376200	4"	5162.5	95.6	14.7
117	10/7/97	MBD	948300,375700	4"	5162.5	95.4	15.7
118	10/7/97	MBD	948300,375900	4"	5162.5	96.8	15.1
119	10/7/97	MBD	948300,376100	4"	5162.5	95.2	15.5
120	10/7/97	MBD	948200,375800	4"	5162.5	96.1	14.1
121	10/7/97	MBD	948200,376000	4"	5162.5	99.6	15.6
122	10/2/97	DLB	949000,375600	4"	5163.0	96.1	16.4
123	10/2/97	DLB	949000,375800	4"	5163.0	98.2	15.1
124	10/2/97	DLB	949000,376000	4"	5163.0	97.7	14.9
125	10/2/97	DLB	949000,376200	4"	5163.0	95.5	15.1
126	10/2/97	DLB	949000,376400	4"	5163.0	95.2	19.1
127	10/2/97	DLB	949000,376600	4"	5163.0	96.5	15.9
128	10/2/97	DLB	948900,375700	4"	5163.0	98.1	15.7
129	10/2/97	DLB	948900,375900	4"	5163.0	98.5	15.1
130	10/2/97	DLB	948900,376100	4"	5163.0	97.5	17.7
131	10/2/97	DLB	948900,376300	4"	5163.0	96.9	17.4
132	10/2/97	DLB	948900,376500	4"	5163.0	95.0	16.7
133	10/2/97	MDB	948900,376700	4"	5163.0	97.7	16.8
134	10/2/97	MDB	948800,375600	4"	5163.0	96.4	18.0
135	10/2/97	MDB	948800,375800	4"	5163.0	95.2	15.7
136	10/2/97	MDB	948800,376000	4"	5163.0	96.9	17.3
137	10/2/97	MDB	948800,376200	4"	5163.0	96.5	17.9
138	10/2/97	MDB	948800,376400	4"	5163.0	99.2	16.5
139	10/2/97	MDB	948800,376600	4"	5163.0	97.0	16.0
140	10/3/97	MDB	948700,375700	4"	5163.0	99.9	14.8
141	10/3/97	MDB	948700,375900	4"	5163.0	98.2	16.4
142	10/3/97	MDB	948700,376100	4"	5163.0	95.5	16.1
143	10/3/97	MDB	948700,376300	4"	5163.0	95.8	16.5
144	10/3/97	MDB	948700,376500	4"	5163.0	99.1	15.1
145	10/7/97	RK	948600,376000	4"	5163.0	95.6	15.6
146	10/7/97	RK	948600,376200	4"	5163.0	97.7	16.6
147	10/7/97	RK	948600,376400	4"	5163.0	100.6	15.4
148	10/7/97	RK	948500,375700	4"	5163.0	97.7	15.6

149	10/7/97	RK	948500,375900	4"	5163.0	95.6	14.4
150	10/7/97	RK	948500,376100	4"	5163.0	95.1	16.2
151	10/7/97	RK	948500,376300	4"	5163.0	97.4	14.3
152	10/7/97	RK	948400,375800	4"	5163.0	96.1	20.4
153	10/7/97	RK	948400,376000	4"	5163.0	95.0	18.3
154	10/7/97	RK	948400,376200	4"	5163.0	95.0	20.0
155	10/7/97	RK	948300,375700	4"	5163.0	96.1	20.8
156	10/7/97	RK	948300,375900	4"	5163.0	95.9	19.5
157	10/7/97	RK	948300,376100	4"	5163.0	97.6	19.1
158	10/7/97	RK	948200,375800	4"	5163.0	95.0	18.8
159	10/7/97	RK	948200,376000	4"	5163.0	96.1	17.9
160	10/7/97	MBD	949000,375600	4"	5163.5	95.7	14.5
161	10/7/97	MBD	949000,375800	4"	5163.5	95.4	13.0
162	10/7/97	MBD	949000,376000	4"	5163.5	95.4	13.7
163	10/7/97	MBD	949000,376200	4"	5163.5	95.2	14.7
164	10/7/97	MBD	949000,376400	4"	5163.5	95.7	14.4
165	10/7/97	MBD	949000,376600	4"	5163.5	99.0	14.7
166	10/7/97	RK	948900,375700	4"	5163.5	97.7	17.7
167	10/7/97	RK	948900,375900	4"	5163.5	97.1	16,9
168	10/7/97	RK	948900,376100	4"	5163.5	96.6	13.4
169	10/7/97	RK	948900,376300	4"	5163.5	97.9	15.6
170	10/7/97	RK	948900,376500	4"	5163.5	100.9	16.3
171	10/7/97	RK	948900,376700	4"	5163.5	97.8	16.8
172	10/7/97	RK	948800,375800	4"	5163.5	96.0	20.8
173	10/7/97	RK	948800,376000	4"	5163.5	97.9	20.1
174	10/7/97	RK	948800,376200	4"	5163.5	97.0	18.9
175	10/7/97	RK	948800,376400	4"	5163.5	95.0	20.3
176	10/7/97	RK	948800,376600	4"	5163.5	96.0	21.4
177	10/7/97	RK	948700,375700	4"	5163.5	95.7	17.6
178	10/7/97	RK	948700,375900	4"	5163.5	95.4	18.8
179	10/7/97	RK	948700,376100	4"	5163.5	97.4	17.7
180	10/7/97	RK	948700,376300	4"	5163.5	95.8	16.6
181	10/7/97	RK	948700,376500	4"	5163.5	95.1	17.3
182	10/7/97	RK	948600,375800	4"	5163.5	95.7	15.2
183	10/9/97	RK	948600,375800	4"	5163.5	95.4	16.5
184	10/9/97	RK	948600,376000	4"	5163.5	97.9	17.5
185	10/9/97	RK	948600,376200	4"	5163.5	97.6	17.3
186	10/9/97	RK	948600,376400	4"	5163.5	95.4	17.5
187	10/10/97	MDB	948500,375700	4"	5163.5	95.5	14.8
188	10/10/97	MDB	948500,375900	4"	5163.5	99.3	16.2
189	10/10/97	MDB	948500,376100	4"	5163.5	97.8	17.0
190	10/10/97	MDB	948500,376300	4"	5163.5	97.3	17.6
191	10/10/97	MDB	948400,375800	4"	5163.5	95.0	16.1
192	10/10/97	MDB	948400,376000	4"	5163.5	98.2	18.2
193	10/10/97	MDB	948400,376200	4"	5163.5	95.6	15.7
194	10/10/97	MDB	948300,375700	4"	5163.5	97.7	15.8
195	10/10/97	MDB	948300,375900	4"	5163.5	96.9	16.6
196	10/10/97	MDB	948300,376100	4"	5163.5	95.7	14.5
197	10/10/97	MDB	948200,375800	4"	5163.5	99.7	16.6
198	10/10/97	MDB	948200,376000	4"	5163.5	97.3	14.4
199	10/10/97	MDB	949000,375800	4"	5164.0	95.3	18.5
200	10/10/97	MDB	949000,376000	4"	5164.0	95.6	15.9

201	10/10/97	MDB	949000,376200	4"	5164.0	95.2	16.0
202	10/10/97	MDB	949000,376400	4"	5164.0	96.4	18.5
203	10/10/97	MDB	949000,376600	4"	5164.0	96.9	16.7
204	10/10/97	MDB	949000,376800	4"	5164.0	96.4	17.0
205	10/10/97	MDB	948900,375700	4"	5164.0	96.5	18.8
206	10/10/97	MDB	948900,375900	4"	5164.0	95.5	18.1
207	10/10/97	MDB	948900,376100	4"	5164.0	98.2	16.7
208	10/10/97	MDB	948900,376300	4"	5164.0	98.1	16.9
209	10/10/97	MDB	948900,376500	4"	5164.0	95.0	16.6
210	10/10/97	MDB	948900,376700	4"	5164.0	95.6	15.4
211	10/10/97	MDB	948800,375800	4"	5164.0	95.8	17.0
212	10/10/97	MDB	948800,376000	4"	5164.0	99.5	16.8
213	10/10/97	MDB	948800,376200	4"	5164.0	97.5	14.4
214	10/10/97	MDB	948800,376400	4"	5164.0	99.5	16.8
215	10/10/97	MDB	948800,376600	4"	5164.0	99.3	15.3
216	10/10/97	MDB	948700,375700	4"	5164.0	96.6	14.6
217	10/10/97	MDB	948700,375900	4"	5164.0	96.1	14.6
218	10/10/97	MDB	948700,376100	4"	5164.0	95.8	17.1
219	10/10/97	MDB	948700,376300	4"	5164.0	98.6	14.7
220	10/10/97	MDB	948700,376500	4"	5164.0	99.8	15.2
221	10/10/97	MDB	948600,375600	4"	5164.0	98.7	15.3
222	10/10/97	MDB	948600,375800	4"	5164.0	98.2	14.9
223	10/10/97	MDB	948600,376000	4"	5164.0	97.1	16.3
224	10/10/97	MDB	948600,376200	4"	5164.0	97.0	14.8
225	10/10/97	MDB	948600,376400	4"	5164.0	98.8	14.9
225	10/13/97	RK	948500,375700	4"	5164.0	97.1	16.3
226	10/13/97	RK	948500,375900	4"	5164.0	99.6	16.3
227	10/13/97	RK	948500,376100	4"	5164.0	97.4	17.0
228	10/13/97	RK	948500,376300	4"	5164.0	98.3	15.5
229	10/13/97	RK	948400,375800	4"	5164.0	97.8	15.8
230	10/13/97	RK	948400,376000	4"	5164.0	95.0	17.9
231	10/13/97	RK	948400,376200	4"	5164.0	95.1	16.5
232	10/13/97	RK	948300,375900	4"	5164.0	95.1	19.8
233	10/13/97	RK	948200,375800	4"	5164.0	95.3	15.5
234	10/13/97	RK	948200,376000	4"	5164.0	95.4	20.4


UPPER SURFACE
21 acres
area 1 radon placement
600 NORTH
19 acres
area 2 radon placement
10 acres
11 acres
area 5 radon placement
N 949,000
100 NORTH
22 acres
area 3 radon placement
ridge area
4 acres
17 acres
200 NORTH
N 948,000
12 acres
500 NORTH
8 acres
area 4 radon placement
TOTAL RADON BARRIER
134 ACRES
TOTAL TAILINGS
100 ACRES

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - SUMMARY OF PASSING NUCLEAR DENSITY AND MOISTURE TESTING
****AREA 4 RADON BARRIER PLACEMENT (SEE ATTACHED MAP)****

NOTE: TESTING FREQUENCY REQUIREMENTS ON RADON BARRIER ARE AS FOLLOWS:
1 TEST PER 1,000 CY PLACED, MINIMUM

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	RADON BARRIER EST. CUM. CY	AVG. TEST FREQUENCY
1	9/3/97	MDB	947300,376100	4"	5144.5	3,227	
2	9/3/97	MDB	947300,375500	4"	5144.5	3,227	
3	9/3/97	MDB	947300,375300	4"	5144.5	3,227	
4	9/3/97	MDB	947300,375900	4"	5144.5	3,227	
5	9/3/97	MDB	947300,375500	4"	5144.5	3,227	
6	9/3/97	MDB	947400,375800	4"	5144.5	3,227	LIFT #1:
7	9/3/97	MDB	947400,376200	4"	5144.5	3,227	1 TEST PER
8	9/4/97	MDB	947400,375400	4"	5144.5	6,453	461 CY
9	9/4/97	MDB	947400,375600	4"	5144.5	6,453	
10	9/4/97	MDB	947500,375300	4"	5144.5	6,453	
11	9/4/97	MDB	947500,375500	4"	5144.5	6,453	
12	9/4/97	MDB	947500,375700	4"	5144.5	6,453	
13	9/4/97	MDB	947500,375900	4"	5144.5	6,453	
14	9/4/97	MDB	947500,376100	4"	5144.5	6,453	
15	9/4/97	MDB	947300,375300	4"	5145.0	9,680	
16	9/4/97	MDB	947300,375500	4"	5145.0	9,680	
17	9/4/97	MDB	947300,375700	4"	5145.0	9,680	
18	9/4/97	MDB	947300,375900	4"	5145.0	9,680	
19	9/5/97	MDB	947400,375200	4"	5145.0	12,906	
20	9/5/97	MDB	947400,375400	4"	5145.0	12,906	
21	9/5/97	MDB	947400,375600	4"	5145.0	12,906	LIFT #2:
22	9/5/97	MDB	947400,375800	4"	5145.0	12,906	1 TEST PER
23	9/5/97	MDB	947400,376000	4"	5145.0	12,906	461 CY
24	9/5/97	MDB	947400,376200	4"	5145.0	12,906	
25	9/5/97	MDB	947500,375300	4"	5145.0	12,906	
26	9/5/97	MDB	947500,375500	4"	5145.0	12,906	
27	9/5/97	MDB	947500,375700	4"	5145.0	12,906	
28	9/5/97	MDB	947500,375900	4"	5145.0	12,906	
29	9/5/97	MDB	947500,376100	4"	5145.0	12,906	
30	9/8/97	DLB	947300,376200	4"	5145.5	19,359	
31	9/8/97	DLB	947300,376000	4"	5145.5	19,359	
32	9/8/97	DLB	947300,375800	4"	5145.5	19,359	
33	9/8/97	DLB	947300,375600	4"	5145.5	19,359	
34	9/8/97	DLB	947300,375400	4"	5145.5	19,359	
35	9/8/97	DLB	947300,375200	4"	5145.5	19,359	
36	9/8/97	DLB	947400,375300	4"	5145.5	19,359	
37	9/8/97	DLB	947400,375700	4"	5145.5	19,359	LIFT #3:
38	9/8/97	DLB	947400,376100	4"	5145.5	19,359	1 TEST PER
39	9/8/97	DLB	947400,376300	4"	5145.5	19,359	403 CY
40	9/8/97	DLB	947400,376500	4"	5145.5	19,359	
41	9/8/97	DLB	947400,375300	4"	5145.5	19,359	
42	9/8/97	MDB	947500,375300	4"	5145.5	19,359	

43	9/8/97	MDB	947500,375500	4"	5145.5	19,359	
44	9/8/97	MDB	947500,375700	4"	5145.5	19,359	
45	9/8/97	MDB	947500,375900	4"	5145.5	19,359	
46	9/8/97	MDB	947500,376100	4"	5145.5	19,359	
47	9/9/97	MDB	947300,375300	4"	5146.0	22,586	
48	9/9/97	MDB	947300,375500	4"	5146.0	22,586	
49	9/9/97	MDB	947300,375700	4"	5146.0	22,586	
50	9/9/97	MDB	947300,375900	4"	5146.0	22,586	
51	9/9/97	MDB	947300,376100	4"	5146.0	22,586	
52	9/9/97	MDB	947400,375200	4"	5146.0	22,586	
53	9/9/97	MDB	947400,375400	4"	5146.0	22,586	
54	9/9/97	MDB	947400,375600	4"	5146.0	22,586	**LIFT #4:**
55	9/9/97	MDB	947400,375800	4"	5146.0	22,586	**1 TEST PER**
56	9/9/97	MDB	947400,376000	4"	5146.0	22,586	**430 CY**
57	9/9/97	MDB	947400,376200	4"	5146.0	22,586	
58	9/10/97	MDB	947500,375300	4"	5146.0	25,812	
59	9/10/97	MDB	947500,375500	4"	5146.0	25,812	
60	9/10/97	MDB	947500,375700	4"	5146.0	25,812	
61	9/10/97	MDB	947500,375900	4"	5146.0	25,812	
62	9/10/97	MDB	947500,376100	4"	5146.0	25,812	
63	10/2/97	MDB	947300,375300	4"	5146.5	32,265	
64	10/2/97	MDB	947300,375500	4"	5146.5	32,265	
65	10/2/97	MDB	947300,375700	4"	5146.5	32,265	
66	10/2/97	MDB	947300,375900	4"	5146.5	32,265	
67	10/2/97	MDB	947300,376100	4"	5146.5	32,265	
68	10/2/97	MDB	947400,375200	4"	5146.5	32,265	
69	10/2/97	MDB	947400,375400	4"	5146.5	32,265	
70	10/2/97	MDB	947400,375600	4"	5146.5	32,265	**LIFT #5:**
71	10/2/97	MDB	947400,375800	4"	5146.5	32,265	**1 TEST PER**
72	10/2/97	MDB	947400,376000	4"	5146.5	32,265	**430 CY**
73	10/2/97	MDB	947400,376200	4"	5146.5	32,265	
74	10/2/97	MDB	947500,375300	4"	5146.5	32,265	
75	10/2/97	MDB	947500,375500	4"	5146.5	32,265	
76	10/2/97	MDB	947500,375700	4"	5146.5	32,265	
77	10/2/97	MDB	947500,375900	4"	5146.5	32,265	
78	10/2/97	MDB	947500,376100	4"	5146.5	32,265	
79	10/2/97	MDB	947300,375300	4"	5147.0	38,718	
80	10/2/97	MDB	947300,375500	4"	5147.0	38,718	
81	10/2/97	MDB	947300,375700	4"	5147.0	38,718	
82	10/2/97	MDB	947300,375900	4"	5147.0	38,718	
83	10/2/97	MDB	947300,376100	4"	5147.0	38,718	
84	10/2/97	MDB	947400,375200	4"	5147.0	38,718	
85	10/2/97	MDB	947400,375400	4"	5147.0	38,718	
86	10/2/97	MDB	947400,375600	4"	5147.0	38,718	**LIFT #6:**
87	10/2/97	MDB	947400,375800	4"	5147.0	38,718	**1 TEST PER**
88	10/2/97	MDB	947400,376000	4"	5147.0	38,718	**430 CY**
89	10/2/97	MDB	947400,376200	4"	5147.0	38,718	
90	10/2/97	MDB	947500,375300	4"	5147.0	38,718	
91	10/2/97	MDB	947500,375500	4"	5147.0	38,718	
92	10/2/97	MDB	947500,375700	4"	5147.0	38,718	
93	10/2/97	MDB	947500,375900	4"	5147.0	38,718	

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - SUMMARY OF PASSING NUCLEAR DENSITY AND MOISTURE TESTING
****AREA 4 RADON BARRIER PLACEMENT (SEE ATTACHED MAP)****

NOTE: SPECIFICATION REQUIREMENTS ON RADON BARRIER ARE AS FOLLOWS:
COMPACTION = 95% OF STANDARD PROCTOR COMPACTION, MINIMUM
MOISTURE CONTENT WITHIN -2% TO +3% OF OPTIMUM

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	PERCENT COMPACTION	MOISTURE CONTENT
1	9/3/97	MDB	947300,376100	4"	5144.5	95.4	15.8
2	9/3/97	MDB	947300,375500	4"	5144.5	97.8	15.0
3	9/3/97	MDB	947300,375300	4"	5144.5	96.1	13.2
4	9/3/97	MDB	947300,375900	4"	5144.5	95.0	18.5
5	9/3/97	MDB	947300,375500	4"	5144.5	95.4	16.5
6	9/3/97	MDB	947400,375800	4"	5144.5	96.5	18.9
7	9/3/97	MDB	947400,376200	4"	5144.5	95.4	16.0
8	9/4/97	MDB	947400,375400	4"	5144.5	97.5	14.2
9	9/4/97	MDB	947400,375600	4"	5144.5	95.8	15.2
10	9/4/97	MDB	947500,375300	4"	5144.5	100.3	17.9
11	9/4/97	MDB	947500,375500	4"	5144.5	97.5	17.6
12	9/4/97	MDB	947500,375700	4"	5144.5	98.6	16.5
13	9/4/97	MDB	947500,375900	4"	5144.5	100.6	15.0
14	9/4/97	MDB	947500,376100	4"	5144.5	96.7	16.1
15	9/4/97	MDB	947300,375300	4"	5145.0	95.8	13.5
16	9/4/97	MDB	947300,375500	4"	5145.0	96.0	14.0
17	9/4/97	MDB	947300,375700	4"	5145.0	97.3	13.5
18	9/4/97	MDB	947300,375900	4"	5145.0	97.7	14.6
19	9/5/97	MDB	947400,375200	4"	5145.0	99.9	13.7
20	9/5/97	MDB	947400,375400	4"	5145.0	98.2	18.4
21	9/5/97	MDB	947400,375600	4"	5145.0	97.0	13.6
22	9/5/97	MDB	947400,375800	4"	5145.0	94.4	14.5
23	9/5/97	MDB	947400,376000	4"	5145.0	100	16.0
24	9/5/97	MDB	947400,376200	4"	5145.0	97.0	13.8
25	9/5/97	MDB	947500,375300	4"	5145.0	100.3	17.9
26	9/5/97	MDB	947500,375500	4"	5145.0	97.2	17.6
27	9/5/97	MDB	947500,375700	4"	5145.0	98.6	16.5
28	9/5/97	MDB	947500,375900	4"	5145.0	100.6	15.0
29	9/5/97	MDB	947500,376100	4"	5145.0	96.7	16.1
30	9/8/97	DLB	947300,376200	4"	5145.5	102.2	14.5
31	9/8/97	DLB	947300,376000	4"	5145.5	99.9	17.5
32	9/8/97	DLB	947300,375800	4"	5145.5	97.5	16.8
33	9/8/97	DLB	947300,375600	4"	5145.5	95.9	17.3
34	9/8/97	DLB	947300,375400	4"	5145.5	97.2	14.4
35	9/8/97	DLB	947300,375200	4"	5145.5	97.3	17.2
36	9/8/97	DLB	947400,375300	4"	5145.5	98.9	16.1
37	9/8/97	DLB	947400,375700	4"	5145.5	95.8	17.7
38	9/8/97	DLB	947400,376100	4"	5145.5	98.8	14.5
39	9/8/97	DLB	947400,376300	4"	5145.5	96.7	15.1
40	9/8/97	DLB	947400,376500	4"	5145.5	98.0	15.0
41	9/8/97	DLB	947400,375300	4"	5145.5	97.3	18.3

42	9/8/97	MDB	947500,375300	4"	5145.5	104.5	16.3
43	9/8/97	MDB	947500,375500	4"	5145.5	95.5	17.8
44	9/8/97	MDB	947500,375700	4"	5145.5	97.7	17.5
45	9/8/97	MDB	947500,375900	4"	5145.5	97.7	17.7
46	9/8/97	MDB	947500,376100	4"	5145.5	101.6	14.5
47	9/9/97	MDB	947300,375300	4"	5146.0	100.2	16.1
48	9/9/97	MDB	947300,375500	4"	5146.0	99.4	15.6
49	9/9/97	MDB	947300,375700	4"	5146.0	97.5	14.6
50	9/9/97	MDB	947300,375900	4"	5146.0	96.7	16.2
51	9/9/97	MDB	947300,376100	4"	5146.0	96.2	12.7
52	9/9/97	MDB	947400,375200	4"	5146.0	98.8	14.9
53	9/9/97	MDB	947400,375400	4"	5146.0	95.6	15.7
54	9/9/97	MDB	947400,375600	4"	5146.0	97.5	13.9
55	9/9/97	MDB	947400,375800	4"	5146.0	98.2	15.9
56	9/9/97	MDB	947400,376000	4"	5146.0	97.8	15.5
57	9/9/97	MDB	947400,376200	4"	5146.0	98.6	15.1
58	9/10/97	MDB	947500,375300	4"	5146.0	100.6	16.6
59	9/10/97	MDB	947500,375500	4"	5146.0	97.7	15.4
60	9/10/97	MDB	947500,375700	4"	5146.0	99.7	15.6
61	9/10/97	MDB	947500,375900	4"	5146.0	98.9	16.5
62	9/10/97	MDB	947500,376100	4"	5146.0	100.1	15.4
63	10/2/97	MDB	947300,375300	4"	5146.5	96.7	15.5
64	10/2/97	MDB	947300,375500	4"	5146.5	99.3	15.4
65	10/2/97	MDB	947300,375700	4"	5146.5	97.0	16.1
66	10/2/97	MDB	947300,375900	4"	5146.5	98.2	15.8
67	10/2/97	MDB	947300,376100	4"	5146.5	98.7	16.0
68	10/2/97	MDB	947400,375200	4"	5146.5	97.4	16.9
69	10/2/97	MDB	947400,375400	4"	5146.5	100.6	16.0
70	10/2/97	MDB	947400,375600	4"	5146.5	101.3	15.3
71	10/2/97	MDB	947400,375800	4"	5146.5	98.2	15.2
72	10/2/97	MDB	947400,376000	4"	5146.5	99.4	16.1
73	10/2/97	MDB	947400,376200	4"	5146.5	101.3	15.0
74	10/2/97	MDB	947500,375300	4"	5146.5	96.7	14.9
75	10/2/97	MDB	947500,375500	4"	5146.5	98.9	15.5
76	10/2/97	MDB	947500,375700	4"	5146.5	97.5	18.2
77	10/2/97	MDB	947500,375900	4"	5146.5	97.3	16.2
78	10/2/97	MDB	947500,376100	4"	5146.5	96.5	16.8
79	10/2/97	MDB	947300,375300	4"	5147.0	95.7	14.6
80	10/2/97	MDB	947300,375500	4"	5147.0	95.5	16.0
81	10/2/97	MDB	947300,375700	4"	5147.0	99.5	16.1
82	10/2/97	MDB	947300,375900	4"	5147.0	98.6	15.0
83	10/2/97	MDB	947300,376100	4"	5147.0	95.1	14.2
84	10/2/97	MDB	947400,375200	4"	5147.0	95.0	18.2
85	10/2/97	MDB	947400,375400	4"	5147.0	98.5	14.9
86	10/2/97	MDB	947400,375600	4"	5147.0	102.2	17.5
87	10/2/97	MDB	947400,375800	4"	5147.0	98.6	18.3
88	10/2/97	MDB	947400,376000	4"	5147.0	96.4	15.7
89	10/2/97	MDB	947400,376200	4"	5147.0	97.1	16.9
90	10/2/97	MDB	947500,375300	4"	5147.0	97.2	14.8
91	10/2/97	MDB	947500,375500	4"	5147.0	97.4	16.5
92	10/2/97	MDB	947500,375700	4"	5147.0	97.0	15.6

93	10/2/97	MDB	947500,375900	4"	5147.0	96.3	14.5
94	10/2/97	MDB	947500,376100	4"	5147.0	99.2	15.9
95	10/6/97	RK	947300,375300	4"	5147.5	96.4	13.7
96	10/6/97	RK	947300,375500	4"	5147.5	96.0	15.6
97	10/6/97	RK	947300,375700	4"	5147.5	97.1	15.3
98	10/6/97	RK	947300,375900	4"	5147.5	98.9	15.6
99	10/6/97	RK	947300,376100	4"	5147.5	95.9	14.9
100	10/7/97	MDB	947400,375200	4"	5147.5	96.1	14.7
101	10/7/97	MDB	947400,375400	4"	5147.5	98.4	16.8
102	10/7/97	MDB	947400,375600	4"	5147.5	100.1	16.6
103	10/7/97	MDB	947400,375800	4"	5147.5	96.9	16.0
104	10/7/97	MDB	947400,376000	4"	5147.5	98.3	15.8
105	10/7/97	MDB	947400,376200	4"	5147.5	99.0	15.8
106	10/7/97	MDB	947500,375300	4"	5147.5	97.9	14.4
107	10/7/97	MDB	947500,375500	4"	5147.5	98.8	17.0
108	10/7/97	MDB	947500,375700	4"	5147.5	98.3	15.1
109	10/7/97	MDB	947500,375900	4"	5147.5	96.2	14.2
110	10/7/97	MDB	947500,376100	4"	5147.5	99.5	14.6

BEAR CREEK TAILINGS RECLAMATION PROJECT

RADON BARRIER COMPACTION TESTING SUMMARY - AREA #5

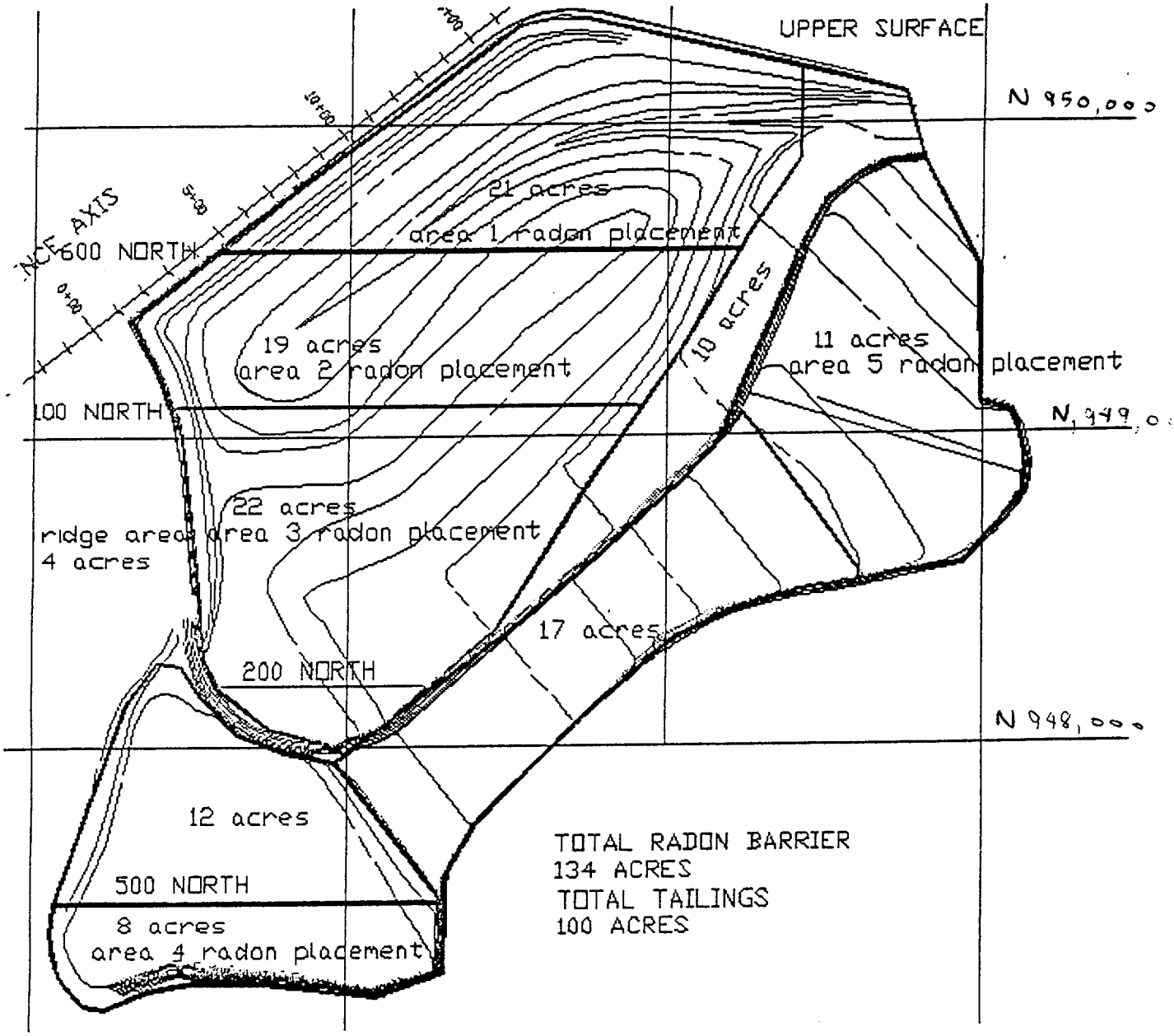
- AREA ACREAGE = 11 ACRES (SEE MAP)
- DATES OF CONSTRUCTION = 10/14/97 THROUGH 10/20/97

- ESTIMATED VOLUME OF RADON BARRIER = 53,240 CY

- SPECIFICATIONS REQUIRED TESTING FREQUENCY = 1 TEST PER 1,000 CY PLACED

- BRS PLANNED TESTING FREQUENCY = 1 TEST PER 740 CY PLACED

- ACTUAL FREQUENCY OF PASSING TESTS FOR AREA #5 = 1 TEST PER 782 CY PLACED


UPPER SURFACE
N 950,000
21 acres
area 1 radon placement
600 NORTH
19 acres
area 2 radon placement
10 acres
11 acres
area 5 radon placement
N 949,0
22 acres
area 3 radon placement
ridge area
4 acres
17 acres
200 NORTH
N 948,000
12 acres
500 NORTH
8 acres
area 4 radon placement
TOTAL RADON BARRIER
134 ACRES
TOTAL TAILINGS
100 ACRES

42	10/16/97	JM	C 5153.0 O 50'	4"	4	35,492	
43	10/16/97	RK	C 5152.5 O 600'	4"	4	35,492	
44	10/16/97	RK	C 5152.5 O 400'	4"	4	35,492	**LIFT #4:**
45	10/16/97	RK	C 5152.5 O 200'	4"	4	35,492	**1 TEST PER**
46	10/16/97	RK	C 5152.5 O 100'	4"	4	35,492	**807 CY**
47	10/16/97	RK	C 5152.0 O 600'	4"	4	35,492	
48	10/16/97	RK	C 5153.5 O 400'	4"	5	44,365	
49	10/16/97	RK	C 5153.5 O 200'	4"	5	44,365	
50	10/16/97	RK	C 5153.5 O 50'	4"	5	44,365	
51	10/16/97	RK	C 5153.0 O 400'	4"	5	44,365	
52	10/16/97	RK	C 5153.0 O 200'	4"	5	44,365	**LIFT #5:**
53	10/16/97	RK	C 5153.0 O 50'	4"	5	44,365	**1 TEST PER**
54	10/16/97	RK	C 5152.5 O 600'	4"	5	44,365	**807 CY**
55	10/16/97	RK	C 5152.5 O 400'	4"	5	44,365	
56	10/16/97	RK	C 5152.5 O 200'	4"	5	44,365	
57	10/16/97	RK	C 5152.5 O 100'	4"	5	44,365	
58	10/16/97	RK	C 5152.0 O 600'	4"	5	44,365	
59	10/20/97	RK	C 5153.5 O 400'	4"	6	53,240	
60	10/20/97	RK	C 5153.5 O 200'	4"	6	53,240	
61	10/20/97	RK	C 5153.5 O 50'	4"	6	53,240	
62	10/20/97	RK	C 5153.0 O 400'	4"	6	53,240	**LIFT #6:**
63	10/20/97	RK	C 5153.0 O 200'	4"	6	53,240	**1 TEST PER**
64	10/20/97	RK	C 5153.0 O 50'	4"	6	53,240	**887 CY**
65	10/20/97	RK	C 5152.5 O 600'	4"	6	53,240	
66	10/20/97	RK	C 5152.5 O 400'	4"	6	53,240	
67	10/20/97	RK	C 5152.5 O 200'	4"	6	53,240	
68	10/20/97	RK	C 5152.5 O 100'	4"	6	53,240	

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - SUMMARY OF PASSING NUCLEAR DENSITY AND MOISTURE TESTING
****AREA 5 RADON BARRIER PLACEMENT (SEE ATTACHED MAP)****

NOTE: SPECIFICATION REQUIREMENTS ON RADON BARRIER ARE AS FOLLOWS:
COMPACTION = 95% OF STANDARD PROCTOR COMPACTION, MINIMUM
MOISTURE CONTENT WITHIN -2% TO +3% OF OPTIMUM

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	LIFT NUMBER	PERCENT COMPACTION	MOISTURE CONTENT
1	10/14/97	RK	C 5154 O 400'	4"	1	95.0	16.2
2	10/14/97	RK	C 5154 O 200'	4"	1	95.7	18.7
3	10/14/97	RK	C 5154 O 50'	4"	1	96.2	16.3
4	10/14/97	RK	C 5153.5 O 400'	4"	1	95.2	15.7
5	10/14/97	RK	C 5153.5 O 200'	4"	1	97.7	14.9
6	10/14/97	RK	C 5153.5 O 50'	4"	1	97.9	16.7
7	10/14/97	RK	C 5153.0 O 400'	4"	1	99.9	18.3
8	10/14/97	RK	C 5153.0 O 200'	4"	1	95.0	14.2
9	10/14/97	RK	C 5153.0 O 50'	4"	1	95.7	17.7
10	10/14/97	RK	C 5152.5 O 600'	4"	1	95.5	17.0
11	10/14/97	RK	C 5152.5 O 400'	4"	1	95.6	15.5
12	10/14/97	RK	C 5152.5 O 200'	4"	1	96.6	16.3
13	10/14/97	RK	C 5152.5 O 100'	4"	1	95.6	17.5
14	10/14/97	RK	C 5152.0 O 600'	4"	1	95.7	15.6
15	10/15/97	JM	C 5153.5 O 400'	4"	2	96.4	17.0
16	10/15/97	JM	C 5153.5 O 200'	4"	2	96.9	16.5
17	10/15/97	JM	C 5153.5 O 50'	4"	2	96.1	14.7
18	10/15/97	JM	C 5153.0 O 400'	4"	2	96.6	13.6
19	10/15/97	JM	C 5153.0 O 200'	4"	2	95.8	18.0
20	10/15/97	JM	C 5153.0 O 50'	4"	2	96.5	14.7
21	10/15/97	JM	C 5152.5 O 600'	4"	2	98.3	14.2
22	10/15/97	JM	C 5152.5 O 400'	4"	2	97.3	15.1
23	10/15/97	JM	C 5152.5 O 200'	4"	2	96.0	14.2
24	10/15/97	JM	C 5152.5 O 100'	4"	2	97.4	16.3
25	10/15/97	JM	C 5152.0 O 600'	4"	2	96.2	16.9
26	10/16/97	JM	C 5153.5 O 400'	4"	3	101.1	15.5
27	10/16/97	JM	C 5153.5 O 200'	4"	3	100.5	15.8
28	10/16/97	JM	C 5153.5 O 50'	4"	3	102.9	15.5
29	10/16/97	JM	C 5153.0 O 400'	4"	3	95.2	15.3
30	10/16/97	JM	C 5153.0 O 200'	4"	3	95.6	15.9
31	10/16/97	JM	C 5153.0 O 50'	4"	3	96.7	18.1
32	10/16/97	JM	C 5152.5 O 600'	4"	3	98.5	15.1
33	10/16/97	JM	C 5152.5 O 400'	4"	3	101.8	16.0
34	10/16/97	JM	C 5152.5 O 200'	4"	3	96.4	18.4
35	10/16/97	JM	C 5152.5 O 100'	4"	3	97.6	17.1
36	10/16/97	JM	C 5152.0 O 600'	4"	3	97.3	15.0
37	10/16/97	JM	C 5153.5 O 400'	4"	4	96.4	15.3
38	10/16/97	JM	C 5153.5 O 200'	4"	4	97.8	16.4
39	10/16/97	JM	C 5153.5 O 50'	4"	4	99.7	18.1
40	10/16/97	JM	C 5153.0 O 400'	4"	4	95.5	16.4

41	10/16/97	JM	C 5153.0 O 200'	4"	4	95.6	16.4
42	10/16/97	JM	C 5153.0 O 50'	4"	4	99.5	16.7
43	10/16/97	RK	C 5152.5 O 600'	4"	4	95	13.7
44	10/16/97	RK	C 5152.5 O 400'	4"	4	97.4	14.8
45	10/16/97	RK	C 5152.5 O 200'	4"	4	96.8	12.3
46	10/16/97	RK	C 5152.5 O 100'	4"	4	99.0	15.5
47	10/16/97	RK	C 5152.0 O 600'	4"	4	98.9	13.9
48	10/16/97	RK	C 5153.5 O 400'	4"	5	95.1	14.5
49	10/16/97	RK	C 5153.5 O 200'	4"	5	99.0	16.3
50	10/16/97	RK	C 5153.5 O 50'	4"	5	98.3	16.4
51	10/16/97	RK	C 5153.0 O 400'	4"	5	100.2	15.2
52	10/16/97	RK	C 5153.0 O 200'	4"	5	96.9	16.1
53	10/16/97	RK	C 5153.0 O 50'	4"	5	100.2	16.3
54	10/16/97	RK	C 5152.5 O 600'	4"	5	97.1	15.3
55	10/16/97	RK	C 5152.5 O 400'	4"	5	97.8	15.0
56	10/16/97	RK	C 5152.5 O 200'	4"	5	97.0	16.2
57	10/16/97	RK	C 5152.5 O 100'	4"	5	95.0	17.8
58	10/16/97	RK	C 5152.0 O 600'	4"	5	95.6	14.6
59	10/20/97	RK	C 5153.5 O 400'	4"	6	100.1	15.6
60	10/20/97	RK	C 5153.5 O 200'	4"	6	98.2	16.4
61	10/20/97	RK	C 5153.5 O 50'	4"	6	98.0	14.9
62	10/20/97	RK	C 5153.0 O 400'	4"	6	95.2	18.2
63	10/20/97	RK	C 5153.0 O 200'	4"	6	101.4	16.3
64	10/20/97	RK	C 5153.0 O 50'	4"	6	97.5	14.4
65	10/20/97	RK	C 5152.5 O 600'	4"	6	96.9	16.2
66	10/20/97	RK	C 5152.5 O 400'	4"	6	97.7	15.1
67	10/20/97	RK	C 5152.5 O 200'	4"	6	96.6	17.7
68	10/20/97	RK	C 5152.5 O 100'	4"	6	95.0	15.5

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS LAB TESTING - SUMMARY OF STANDARD PROCTOR TESTS

NOTE: SPECIFICATION REQUIREMENTS ON RADON BARRIER (W8 SPOILS) ARE AS FOLLOWS: 1 TEST PER 10,000 CY OF FILL PLACED.

TEST NO.	DATE TESTED	PERFORMED BY	SAMPLE LOCATION	MAXIMUM DRY DENSITY	OPTIMUM % MOISTURE
1	6/25/97	MDB	W8 SPOILS	107.8	16.5
2	7/7/97	MAXIM	W8 SPOILS	106.6	18.1
3	7/10/97	MDB,BC	W8 SPOILS	106	16.0
4	7/11/97	MDB	W8 SPOILS	109	16.4
5	7/15/97	MDB	W8 SPOILS	109.8	16.1
6	7/21/97	MDB	CHANNEL CUT	115	13.5
7	7/24/97	RK,BC	CHANNEL CUT	102.8	20.0
8	7/28/97	RK	W8 SPOILS	100.52	16.6
9	8/12/97	RK	W8 SPOILS	107.6	17.9
10	8/12/97	RK	W8 SPOILS	106.64	16.3
11	8/14/97	RK	W8 SPOILS	106.9	17.3
12	8/14/97	RK	W8 SPOILS	108.6	15.2
13	8/18/97	RK	W8 SPOILS	111.0	13.0
14	8/19/97	RK	W8 SPOILS	107.3	15
15	8/20/97	RK	W8 SPOILS	107.4	17.6
16	8/22/97	RK	W8 SPOILS	105.8	19.5
17	8/25/97	RK	W8 SPOILS	107.3	17.6
18	8/27/97	RK	W8 SPOILS	108.3	14.6
19	8/28/97	RK	W8 SPOILS	106.3	15.5
20	8/29/97	RK	W8 SPOILS	111.7	15.1
21	9/2/97	RK	W8 SPOILS	108.4	16.9
22	9/3/97	RK	W8 SPOILS	109.0	17.0
23	9/4/97	RK	W8 SPOILS	103.7	17.6
24	9/5/97	RK	W8 SPOILS	108.1	17.3
25	9/8/97	RK	W8 SPOILS	105.8	13.3
26	9/9/97	RK	W8 SPOILS	110.4	15.5
27	9/10/97	RK	W8 SPOILS	109.1	14.7
28	9/11/97	RK	W8 SPOILS	108.1	15.9
29	9/12/97	RK	W8 SPOILS	108.5	16.4
30	9/15/97	RK,JM	W8 SPOILS	109.8	17.4
31	9/15/97	RK,JM	W8 SPOILS	107.4	15.0
32	9/16/97	RK,JM	W8 SPOILS	110.7	14.8
33	9/16/97	RK,JM	W8 SPOILS	107.7	14.9
34	9/17/97	RK,JM	W8 SPOILS	108.5	17.2
35	9/18/97	RK,JM	W8 SPOILS	109.9	13.2
36	9/22/97	RK,JM	W8 SPOILS	107.95	17.12
37	9/22/97	MAXIM	W8 SPOILS	108.0	17.9
38	9/24/97	JM	W8 SPOILS	112.0	16.6
39	9/25/97	JM	W8 SPOILS	110.78	16.56
40	9/25/97	RK	W8 SPOILS	106.7	17.78
41	9/26/97	RK	W8 SPOILS	109.4	16.0
42	9/27/97	RK	W8 SPOILS	107.2	14.3
43	9/30/97	RK	W8 SPOILS	110.8	13,7
44	10/01/97	JM	W8 SPOILS	109.0	14.5

45	10/02/97	RK,JM	W8 SPOILS	108.0	16.0
46	10/02/97	RK,JM	W8 SPOILS	109.4	14.2
47	10/03/97	RK,JM	W8 SPOILS	109.0	16.6
48	10/06/97	RK,JM	W8 SPOILS	107.4	16.5
49	10/07/97	RK,JM	W8 SPOILS	110.6	11.2
50	10/08/97	RK,JM	W8 SPOILS	109.0	15.0
51	10/09/97	JM	W8 SPOILS	108.1	17.5
52	10/10/97	RK,JM	CHANNEL CUT	109.4	14.4
53	10/10/97	RK,JM	CHANNEL CUT	112.7	15.1
54	10/10/97	RK	CHANNEL CUT	105.1	17.0
55	10/13/97	RK	W8 SPOILS	106.9	17.8
56	10/14/97	JM	W8 SPOILS	112.5	15.5
57	10/15/97	RK	W8 SPOILS	106.8	16.0
58	10/15/97	RK	CHANNEL CUT	100.0	21.2
59	10/16/97	RK,JM	W8 SPOILS	104.7	18.0
60	10/20/97	RK	W8 SPOILS	110.1	15.3
61	10/21/97	RK	CHANNEL CUT	107.6	17.2
62	10/22/97	RK	W8 SPOILS	107.6	16.5
63	10/31/97	RK	W8 SPOILS	108.4	14.6
64	10/31/97	RK	CHANNEL CUT	115.7	13.3
65	11/3/97	RK	CHANNEL CUT	115.0	12.7
66	11/4/97	RK	CHANNEL CUT	104.9	19.3
67	11/5/97	RK	CHANNEL CUT	103.1	19.6
68	11/6/97	RK	CHANNEL CUT	103.6	18.7
69	11/6/97	RK	W8 SPOILS	109.9	15.0

PROCTOR MEAN VALUES:

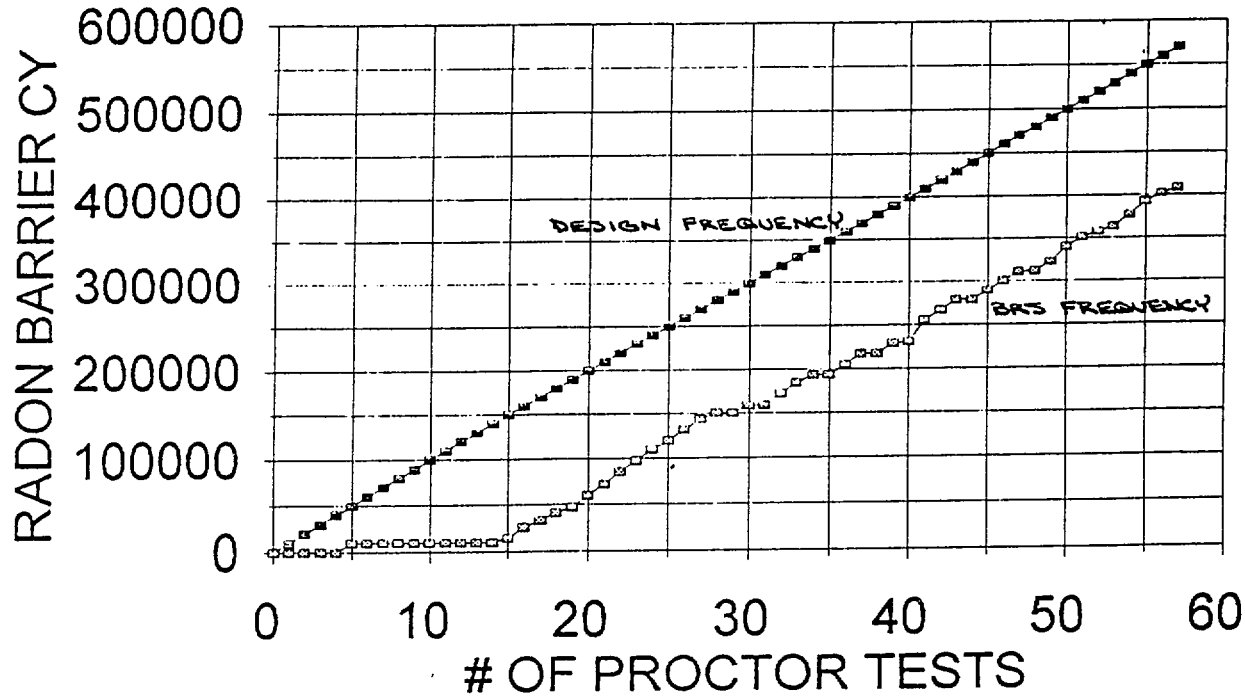
W8 SPOILS

DD_{MAX} = 108.2 PCF @ 16.0% MOISTURE

CHANNEL CUT

DD_{MAX} = 107.9 PCF @ 16.8% MOISTURE

LAB TEST FREQUENCY



NOTE :

- DESIGN MINIMUM TEST FREQUENCY = 1 PER 10,000 CY.
- BRS ACTUAL AVERAGE FREQUENCY = 1 PER 7,175 CY.

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS LAB TESTING - SUMMARY OF STANDARD PROCTOR TESTS

NOTE: TESTING FREQUENCY REQUIREMENTS ON RADON BARRIER (W8 SPOILS) ARE AS FOLLOWS: 1 TEST PER 10,000 CY OF FILL PLACED.

TEST NO.	DATE TESTED	PERFORMED BY	SAMPLE LOCATION	W8 SPOILS CUM. CY	RADON BARRIER CUM. CY
1	6/25/97	MDB	W8 SPOILS	0	0
2	7/7/97	MAXIM	W8 SPOILS	0	0
3	7/10/97	MDB,BC	W8 SPOILS	6,296	0
4	7/11/97	MDB	W8 SPOILS	12,254	0
5	7/15/97	MDB	W8 SPOILS	30,030	9,760
-	7/21/97	MDB	CHANNEL CUT	30,030	9,760
-	7/24/97	RK,BC	CHANNEL CUT	30,030	9,760
6	7/28/97	RK	W8 SPOILS	30,030	9,760
7	8/12/97	RK	W8 SPOILS	36,480	9,760
8	8/12/97	RK	W8 SPOILS	36,480	9,760
9	8/14/97	RK	W8 SPOILS	48,444	9,760
10	8/14/97	RK	W8 SPOILS	48,444	9,760
11	8/18/97	RK	W8 SPOILS	65,254	9,760
12	8/19/97	RK	W8 SPOILS	72,682	9,760
13	8/20/97	RK	W8 SPOILS	79,622	9,760
14	8/22/97	RK	W8 SPOILS	101,672	9,760
15	8/25/97	RK	W8 SPOILS	110,928	14,388
16	8/27/97	RK	W8 SPOILS	131,896	26,270
17	8/28/97	RK	W8 SPOILS	142,814	32,792
18	8/29/97	RK	W8 SPOILS	154,560	40,772
19	9/2/97	RK	W8 SPOILS	166,116	46,924
20	9/3/97	RK	W8 SPOILS	178,928	59,736
21	9/4/97	RK	W8 SPOILS	191,594	72,402
22	9/5/97	RK	W8 SPOILS	204,796	85,604
23	9/8/97	RK	W8 SPOILS	217,064	97,872
24	9/9/97	RK	W8 SPOILS	229,142	109,950
25	9/10/97	RK	W8 SPOILS	238,978	119,606
26	9/11/97	RK	W8 SPOILS	250,996	131,804
27	9/12/97	RK	W8 SPOILS	262,876	143,684
28	9/15/97	RK,JM	W8 SPOILS	275,164	151,142
29	9/15/97	RK,JM	W8 SPOILS	275,164	151,142
30	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
31	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
32	9/17/97	RK,JM	W8 SPOILS	300,590	172,522
33	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
34	9/22/97	RK,JM	W8 SPOILS	324,372	194,092
35	9/22/97	MAXIM	W8 SPOILS	324,372	194,092
36	9/24/97	JM	W8 SPOILS	335,220	204,940
37	9/25/97	JM	W8 SPOILS	347,030	216,750
38	9/25/97	RK	W8 SPOILS	347,030	216,750
39	9/26/97	RK	W8 SPOILS	358,960	228,680
40	9/27/97	RK	W8 SPOILS	361,446	231,166
41	9/30/97	RK	W8 SPOILS	386,032	255,752
42	10/01/97	JM	W8 SPOILS	397,546	267,266

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS LAB TESTING - SUMMARY OF PERCENT PASSING #200 SIEVE TESTS

NOTE: SPECIFICATION REQUIREMENTS ON RADON BARRIER (W8 SPOILS) ARE AS FOLLOWS: > 34% PASSING

TEST NO.	DATE TESTED	PERFORMED BY	SAMPLE LOCATION	PERCENT PASSING
1	7/1/97	MDB	W8 SPOILS	34
2	7/7/97	MAXIM	W8 SPOILS	64
3	7/10/97	BC	W8 SPOILS	58
4	7/11/97	MDB	W8 SPOILS	39
5	7/11/97	MDB	W8 SPOILS	40
6	7/11/97	MDB	W8 SPOILS	39
7	7/11/97	MDB	W8 SPOILS	37
8	7/15/97	BC,MDB	W8 SPOILS	46
9	7/15/97	BC,MDB	W8 SPOILS	44
10	7/15/97	BC,MDB	W8 SPOILS	44
11	7/15/97	BC,MDB	W8 SPOILS	45
12	7/21/97	BC,MDB	CH. CUT	29
13	7/21/97	BC,MDB	CH. CUT	29
14	7/24/97	RK,BC	CH. CUT	98
15	7/24/97	RK,BC	CH. CUT	98
16	7/25/97	RK,BC	W8 SPOILS	72
17	7/25/97	RK,BC	W8 SPOILS	74
18	7/25/97	RK,BC	W8 SPOILS	75
19	8/12/97	RK	W8 SPOILS	58
20	8/12/97	RK	W8 SPOILS	62
21	8/12/97	RK	W8 SPOILS	67
22	8/12/97	RK	W8 SPOILS	66
23	8/12/97	RK	W8 SPOILS	66
24	8/14/97	RK	W8 SPOILS	85
25	8/14/97	RK	W8 SPOILS	50
26	8/14/97	RK	W8 SPOILS	56
27	8/14/97	RK	W8 SPOILS	39
28	8/14/97	RK	W8 SPOILS	54
29	8/14/97	RK	W8 SPOILS	67
30	8/18/97	RK	W8 SPOILS	41
31	8/18/97	RK	W8 SPOILS	38
32	8/18/97	RK	W8 SPOILS	47
33	8/18/97	RK	W8 SPOILS	78
34	8/18/97	RK	W8 SPOILS	73
35	8/19/97	RK	W8 SPOILS	72
36	8/20/97	RK	W8 SPOILS	30(F)
37	8/20/97	RK	W8 SPOILS	59
38	8/20/97	RK	W8 SPOILS	42
39	8/20/97	RK	W8 SPOILS	63
40	8/20/97	RK	W8 SPOILS	69
41	8/20/97	RK	W8 SPOILS	73
42	8/22/97	RK	W8 SPOILS	44
43	8/22/97	RK	W8 SPOILS	54
44	8/22/97	RK	W8 SPOILS	78

153	9/24/97	JM	W8 SPOILS	41
154	9/24/97	JM	W8 SPOILS	59
155	9/24/97	JM	W8 SPOILS	36
156	9/25/97	JM,RK	W8 SPOILS	44
157	9/25/97	JM,RK	W8 SPOILS	46
158	9/25/97	JM,RK	W8 SPOILS	55
159	9/25/97	JM,RK	W8 SPOILS	60
160	9/25/97	JM,RK	W8 SPOILS	66
161	9/25/97	JM,RK	W8 SPOILS	75
162	9/25/97	JM,RK	W8 SPOILS	82
163	9/25/97	JM,RK	W8 SPOILS	57
164	9/26/97	RK	W8 SPOILS	47
165	9/26/97	RK	W8 SPOILS	48
166	9/26/97	RK	W8 SPOILS	48
167	9/26/97	RK	W8 SPOILS	49
168	9/26/97	RK	W8 SPOILS	64
169	9/26/97	RK	W8 SPOILS	64
170	9/26/97	RK	W8 SPOILS	72
171	9/26/97	RK	W8 SPOILS	75
172	9/27/97	RK	W8 SPOILS	62
173	9/27/97	RK	W8 SPOILS	37
174	9/27/97	RK	W8 SPOILS	56
175	9/27/97	RK	W8 SPOILS	36
176	9/27/97	RK	W8 SPOILS	58
177	9/27/97	RK	W8 SPOILS	45
178	9/30/97	RK	W8 SPOILS	46
179	9/30/97	RK	W8 SPOILS	19(F)
180	9/30/97	RK	W8 SPOILS	14(F)
181	9/30/97	RK	W8 SPOILS	66
182	9/30/97	RK	W8 SPOILS	24(F)
183	9/30/97	RK	W8 SPOILS	46
184	9/30/97	RK	W8 SPOILS	76
185	9/30/97	RK	W8 SPOILS	69
186	10/01/97	JM	W8 SPOILS	66
187	10/01/97	JM	W8 SPOILS	73
188	10/01/97	JM	W8 SPOILS	52
189	10/01/97	JM	W8 SPOILS	25(F)
190	10/01/97	JM	W8 SPOILS	64
191	10/01/97	JM	W8 SPOILS	59
192	10/02/97	RK,JM	W8 SPOILS	50
193	10/02/97	RK,JM	W8 SPOILS	59
194	10/02/97	RK,JM	W8 SPOILS	72
195	10/02/97	RK,JM	W8 SPOILS	78
196	10/02/97	RK,JM	W8 SPOILS	63
197	10/02/97	RK,JM	W8 SPOILS	74
198	10/03/97	RK,JM	W8 SPOILS	45
199	10/03/97	RK,JM	W8 SPOILS	55
200	10/03/97	RK,JM	W8 SPOILS	58
201	10/03/97	RK,JM	W8 SPOILS	54
202	10/03/97	RK,JM	W8 SPOILS	60
203	10/03/97	RK,JM	W8 SPOILS	61
204	10/06/97	RK,JM	W8 SPOILS	37
205	10/06/97	RK,JM	W8 SPOILS	44
206	10/06/97	RK,JM	W8 SPOILS	52

207	10/06/97	RK,JM	W8 SPOILS	54
208	10/06/97	RK,JM	W8 SPOILS	56
209	10/06/97	RK,JM	W8 SPOILS	59
210	10/07/97	RK,JM	W8 SPOILS	45
211	10/07/97	RK,JM	W8 SPOILS	46
212	10/07/97	RK,JM	W8 SPOILS	41
213	10/07/97	RK,JM	W8 SPOILS	52
214	10/07/97	RK,JM	W8 SPOILS	28(F)
215	10/07/97	RK,JM	W8 SPOILS	44
216	10/08/97	RK,JM	W8 SPOILS	48
217	10/08/97	RK,JM	W8 SPOILS	40
218	10/08/97	RK,JM	W8 SPOILS	47
219	10/08/97	RK,JM	W8 SPOILS	51
220	10/08/97	RK,JM	W8 SPOILS	42
221	10/08/97	RK,JM	W8 SPOILS	50
222	10/09/97	JM	W8 SPOILS	70
223	10/09/97	JM	W8 SPOILS	77
224	10/09/97	JM	W8 SPOILS	46
225	10/09/97	JM	W8 SPOILS	85
226	10/09/97	JM	W8 SPOILS	56
227	10/09/97	JM	W8 SPOILS	53
228	10/10/97	RK	CH. CUT	32
229	10/10/97	RK	CH. CUT	10
230	10/10/97	RK	CH. CUT	69
231	10/14/97	JM	W8 SPOILS	80
232	10/14/97	JM	W8 SPOILS	56
233	10/14/97	JM	W8 SPOILS	48
234	10/14/97	JM	W8 SPOILS	44
235	10/14/97	JM	W8 SPOILS	23(F)
236	10/15/97	RK	W8 SPOILS	50
237	10/15/97	RK	W8 SPOILS	43
238	10/15/97	RK	W8 SPOILS	50
239	10/15/97	RK	W8 SPOILS	46
240	10/15/97	RK	W8 SPOILS	64
241	10/16/97	RK,JM	W8 SPOILS	65
242	10/16/97	RK,JM	W8 SPOILS	51
243	10/16/97	RK,JM	W8 SPOILS	58
244	10/16/97	RK,JM	W8 SPOILS	47
245	10/16/97	RK,JM	W8 SPOILS	44
246	10/20/97	RK	W8 SPOILS	30(F)
247	10/20/97	RK	W8 SPOILS	39
248	10/20/97	RK	W8 SPOILS	81
249	10/20/97	RK	W8 SPOILS	47
250	10/20/97	RK	W8 SPOILS	60
251	10/21/97	RK	CH. CUT	39
252	10/21/97	RK	CH. CUT	52
253	10/22/97	RK	W8 SPOILS	29(F)
254	10/22/97	RK	W8 SPOILS	48
255	10/22/97	RK	W8 SPOILS	57
256	10/22/97	RK	W8 SPOILS	50
257	10/22/97	RK	W8 SPOILS	56
258	10/31/97	RK	W8 SPOILS	50
259	10/31/97	RK	W8 SPOILS	51
260	10/31/97	RK	W8 SPOILS	71

261	10/31/97	RK	W8 SPOILS	86
262	10/31/97	RK	W8 SPOILS	86
263	10/31/97	RK	CH. CUT	38
264	11/3/97	RK	CH. CUT	42
266	11/3/97	RK	CH. CUT	45
267	11/4/97	RK	CH. CUT	95
268	11/4/97	RK	CH. CUT	93
269	11/5/97	RK	CH. CUT	88
270	11/6/97	RK	CH. CUT	79
271	11/6/97	RK	W8 SPOILS	53
272	11/6/97	RK	W8 SPOILS	56
273	11/6/97	RK	W8 SPOILS	77
274	11/6/97	RK	W8 SPOILS	86
275	11/6/97	RK	W8 SPOILS	93

200 WASH MEAN VALUES:

W8 SPOILS = 55.2% PASSING

CHANNEL CUT = 58.5% PASSING

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS LAB TESTING - SUMMARY OF PERCENT PASSING #200 SIEVE TESTS

NOTE: TESTING FREQUNCY REQUIREMENTS ON RADON BARRIER (W8 SPOILS) ARE AS FOLLOWS: > 1 TEST PER 2,000 CY.

TEST NO.	DATE TESTED	PERFORMED BY	SAMPLE LOCATION	W8 SPOILS CUM. CY	RADON BARRIER CUM. CY
1	7/1/97	MDB	W8 SPOILS	0	0
2	7/7/97	MAXIM	W8 SPOILS	0	0
3	7/10/97	BC	W8 SPOILS	6,296	0
4	7/11/97	MDB	W8 SPOILS	12,254	0
5	7/11/97	MDB	W8 SPOILS	12,254	0
6	7/11/97	MDB	W8 SPOILS	12,254	0
7	7/11/97	MDB	W8 SPOILS	12,254	0
8	7/15/97	BC,MDB	W8 SPOILS	30,030	9,760
9	7/15/97	BC,MDB	W8 SPOILS	30,030	9,760
10	7/15/97	BC,MDB	W8 SPOILS	30,030	9,760
11	7/15/97	BC,MDB	W8 SPOILS	30,030	9,760
-	7/21/97	BC,MDB	CH. CUT	30,030	9,760
-	7/21/97	BC,MDB	CH. CUT	30,030	9,760
-	7/24/97	RK,BC	CH. CUT	30,030	9,760
-	7/24/97	RK,BC	CH. CUT	30,030	9,760
12	7/25/97	RK,BC	W8 SPOILS	30,030	9,760
13	7/25/97	RK,BC	W8 SPOILS	30,030	9,760
14	7/25/97	RK,BC	W8 SPOILS	30,030	9,760
15	8/12/97	RK	W8 SPOILS	36,480	9,760
16	8/12/97	RK	W8 SPOILS	36,480	9,760
17	8/12/97	RK	W8 SPOILS	36,480	9,760
18	8/12/97	RK	W8 SPOILS	36,480	9,760
19	8/12/97	RK	W8 SPOILS	36,480	9,760
20	8/14/97	RK	W8 SPOILS	48,444	9,760
21	8/14/97	RK	W8 SPOILS	48,444	9,760
22	8/14/97	RK	W8 SPOILS	48,444	9,760
23	8/14/97	RK	W8 SPOILS	48,444	9,760
24	8/14/97	RK	W8 SPOILS	48,444	9,760
25	8/14/97	RK	W8 SPOILS	48,444	9,760
26	8/18/97	RK	W8 SPOILS	65,254	9,760
27	8/18/97	RK	W8 SPOILS	65,254	9,760
28	8/18/97	RK	W8 SPOILS	65,254	9,760
29	8/18/97	RK	W8 SPOILS	65,254	9,760
30	8/18/97	RK	W8 SPOILS	65,254	9,760
31	8/19/97	RK	W8 SPOILS	72,682	9,760
32	8/20/97	RK	W8 SPOILS	79,622	9,760
33	8/20/97	RK	W8 SPOILS	79,622	9,760
34	8/20/97	RK	W8 SPOILS	79,622	9,760
35	8/20/97	RK	W8 SPOILS	79,622	9,760
36	8/20/97	RK	W8 SPOILS	79,622	9,760
37	8/20/97	RK	W8 SPOILS	79,622	9,760
38	8/22/97	RK	W8 SPOILS	101,672	9,760
39	8/22/97	RK	W8 SPOILS	101,672	9,760
40	8/22/97	RK	W8 SPOILS	101,672	9,760

41	8/22/97	RK	W8 SPOILS	101,672	9,760
42	8/25/97	RK	W8 SPOILS	110,928	14,388
43	8/25/97	RK	W8 SPOILS	110,928	14,388
44	8/25/97	RK	W8 SPOILS	110,928	14,388
45	8/25/97	RK	W8 SPOILS	110,928	14,388
46	8/25/97	RK	W8 SPOILS	110,928	14,388
47	8/27/97	RK	W8 SPOILS	131,896	26,270
48	8/27/97	RK	W8 SPOILS	131,896	26,270
49	8/27/97	RK	W8 SPOILS	131,896	26,270
50	8/27/97	RK	W8 SPOILS	131,896	26,270
51	8/27/97	RK	W8 SPOILS	131,896	26,270
52	8/28/97	RK	W8 SPOILS	142,814	32,792
53	8/28/97	RK	W8 SPOILS	142,814	32,792
54	8/28/97	RK	W8 SPOILS	142,814	32,792
55	8/28/97	RK	W8 SPOILS	142,814	32,792
56	8/28/97	RK	W8 SPOILS	142,814	32,792
57	8/28/97	RK	W8 SPOILS	142,814	32,792
58	8/28/97	RK	W8 SPOILS	142,814	32,792
59	8/29/97	RK	W8 SPOILS	154,560	40,772
60	8/29/97	RK	W8 SPOILS	154,560	40,772
61	8/29/97	RK	W8 SPOILS	154,560	40,772
62	8/29/97	RK	W8 SPOILS	154,560	40,772
63	9/2/97	RK	W8 SPOILS	166,116	46,924
64	9/2/97	RK	W8 SPOILS	166,116	46,924
65	9/2/97	RK	W8 SPOILS	166,116	46,924
66	9/2/97	RK	W8 SPOILS	166,116	46,924
67	9/2/97	RK	W8 SPOILS	166,116	46,924
68	9/3/97	RK	W8 SPOILS	178,928	59,736
69	9/3/97	RK	W8 SPOILS	178,928	59,736
70	9/3/97	RK	W8 SPOILS	178,928	59,736
71	9/3/97	RK	W8 SPOILS	178,928	59,736
72	9/3/97	RK	W8 SPOILS	178,928	59,736
73	9/4/97	RK	W8 SPOILS	191,594	72,402
74	9/4/97	RK	W8 SPOILS	191,594	72,402
75	9/4/97	RK	W8 SPOILS	191,594	72,402
76	9/4/97	RK	W8 SPOILS	191,594	72,402
77	9/4/97	RK	W8 SPOILS	191,594	72,402
78	9/5/97	RK	W8 SPOILS	204,796	85,604
79	9/5/97	RK	W8 SPOILS	204,796	85,604
80	9/5/97	RK	W8 SPOILS	204,796	85,604
81	9/5/97	RK	W8 SPOILS	204,796	85,604
82	9/5/97	RK	W8 SPOILS	204,796	85,604
83	9/8/97	RK	W8 SPOILS	217,064	97,872
84	9/8/97	RK	W8 SPOILS	217,064	97,872
85	9/8/97	RK	W8 SPOILS	217,064	97,872
86	9/8/97	RK	W8 SPOILS	217,064	97,872
87	9/8/97	RK	W8 SPOILS	217,064	97,872
88	9/9/97	RK	W8 SPOILS	229,142	109,950
89	9/9/97	RK	W8 SPOILS	229,142	109,950
90	9/9/97	RK	W8 SPOILS	229,142	109,950
91	9/9/97	RK	W8 SPOILS	229,142	109,950
92	9/9/97	RK	W8 SPOILS	229,142	109,950
93	9/10/97	RK	W8 SPOILS	238,978	119,606
94	9/10/97	RK	W8 SPOILS	238,978	119,606

95	9/10/97	RK	W8 SPOILS	238,978	119,606
96	9/10/97	RK	W8 SPOILS	238,978	119,606
97	9/10/97	RK	W8 SPOILS	238,978	119,606
98	9/11/97	RK	W8 SPOILS	250,996	131,804
99	9/11/97	RK	W8 SPOILS	250,996	131,804
100	9/11/97	RK	W8 SPOILS	250,996	131,804
101	9/11/97	RK	W8 SPOILS	250,996	131,804
102	9/12/97	RK	W8 SPOILS	262,876	143,684
103	9/12/97	RK	W8 SPOILS	262,876	143,684
104	9/12/97	RK	W8 SPOILS	262,876	143,684
105	9/12/97	RK	W8 SPOILS	262,876	143,684
106	9/12/97	RK	W8 SPOILS	262,876	143,684
107	9/15/97	RK,JM	W8 SPOILS	275,164	151,142
108	9/15/97	RK,JM	W8 SPOILS	275,164	151,142
109	9/15/97	RK,JM	W8 SPOILS	275,164	151,142
110	9/15/97	RK,JM	W8 SPOILS	275,164	151,142
111	9/15/97	RK,JM	W8 SPOILS	275,164	151,142
112	9/15/97	RK,JM	W8 SPOILS	275,164	151,142
113	9/15.97	RK,JM	W8 SPOILS	275,164	151,142
114	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
115	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
116	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
117	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
118	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
119	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
120	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
121	9/17/97	RK,JM	W8 SPOILS	287,826	159,758
122	9/17/97	RK,JM	W8 SPOILS	287,826	159,758
123	9/17/97	RK,JM	W8 SPOILS	287,826	159,758
124	9/17/97	RK,JM	W8 SPOILS	287,826	159,758
125	9/17/97	RK,JM	W8 SPOILS	287,826	159,758
126	9/17/97	RK,JM	W8 SPOILS	287,826	159,758
127	9/17/97	RK,JM	W8 SPOILS	287,826	159,758
128	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
129	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
130	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
131	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
132	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
133	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
134	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
135	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
136	9/22/97	JM,RK	W8 SPOILS	324,372	194,092
137	9/22/97	JM,RK	W8 SPOILS	324,372	194,092
138	9/22/97	JM,RK	W8 SPOILS	324,372	194,092
139	9/22/97	JM,RK	W8 SPOILS	324,372	194,092
140	9/22/97	JM,RK	W8 SPOILS	324,372	194,092
141	9/22/97	JM,RK	W8 SPOILS	324,372	194,092
142	9/22/97	JM,RK	W8 SPOILS	324,372	194,092
143	9/22/97	JM,RK	W8 SPOILS	324,372	194,092
144	9/22/97	MAXIM	W8 SPOILS	324,372	194,092
145	9/24/97	JM	W8 SPOILS	335,220	204,940
146	9/24/97	JM	W8 SPOILS	335,220	204,940
147	9/24/97	JM	W8 SPOILS	335,220	204,940
148	9/24/97	JM	W8 SPOILS	335,220	204,940

149	9/24/97	JM	W8 SPOILS	335,220	204,940
150	9/24/97	JM	W8 SPOILS	335,220	204,940
151	9/24/97	JM	W8 SPOILS	335,220	204,940
152	9/25/97	JM,RK	W8 SPOILS	347,030	216,750
153	9/25/97	JM,RK	W8 SPOILS	347,030	216,750
154	9/25/97	JM,RK	W8 SPOILS	347,030	216,750
155	9/25/97	JM,RK	W8 SPOILS	347,030	216,750
156	9/25/97	JM,RK	W8 SPOILS	347,030	216,750
157	9/25/97	JM,RK	W8 SPOILS	347,030	216,750
158	9/25/97	JM,RK	W8 SPOILS	347,030	216,750
159	9/25/97	JM,RK	W8 SPOILS	347,030	216,750
160	9/26/97	RK	W8 SPOILS	358,960	228,680
161	9/26/97	RK	W8 SPOILS	358,960	228,680
162	9/26/97	RK	W8 SPOILS	358,960	228,680
163	9/26/97	RK	W8 SPOILS	358,960	228,680
164	9/26/97	RK	W8 SPOILS	358,960	228,680
165	9/26/97	RK	W8 SPOILS	358,960	228,680
166	9/26/97	RK	W8 SPOILS	358,960	228,680
167	9/26/97	RK	W8 SPOILS	358,960	228,680
168	9/27/97	RK	W8 SPOILS	358,960	228,680
169	9/27/97	RK	W8 SPOILS	358,960	228,680
170	9/27/97	RK	W8 SPOILS	358,960	228,680
171	9/27/97	RK	W8 SPOILS	358,960	228,680
172	9/27/97	RK	W8 SPOILS	358,960	228,680
173	9/27/97	RK	W8 SPOILS	358,960	228,680
174	9/30/97	RK	W8 SPOILS	386,032	255,752
175	9/30/97	RK	W8 SPOILS	386,032	255,752
176	9/30/97	RK	W8 SPOILS	386,032	255,752
177	9/30/97	RK	W8 SPOILS	386,032	255,752
178	9/30/97	RK	W8 SPOILS	386,032	255,752
179	9/30/97	RK	W8 SPOILS	386,032	255,752
180	9/30/97	RK	W8 SPOILS	386,032	255,752
181	9/30/97	RK	W8 SPOILS	386,032	255,752
182	10/01/97	JM	W8 SPOILS	397,546	267,266
183	10/01/97	JM	W8 SPOILS	397,546	267,266
184	10/01/97	JM	W8 SPOILS	397,546	267,266
185	10/01/97	JM	W8 SPOILS	397,546	267,266
186	10/01/97	JM	W8 SPOILS	397,546	267,266
187	10/01/97	JM	W8 SPOILS	397,546	267,266
188	10/02/97	RK,JM	W8 SPOILS	409,448	279,168
189	10/02/97	RK,JM	W8 SPOILS	409,448	279,168
190	10/02/97	RK,JM	W8 SPOILS	409,448	279,168
191	10/02/97	RK,JM	W8 SPOILS	409,448	279,168
192	10/02/97	RK,JM	W8 SPOILS	409,448	279,168
193	10/02/97	RK,JM	W8 SPOILS	409,448	279,168
194	10/03/97	RK,JM	W8 SPOILS	409,448	279,168
195	10/03/97	RK,JM	W8 SPOILS	409,448	279,168
196	10/03/97	RK,JM	W8 SPOILS	409,448	279,168
197	10/03/97	RK,JM	W8 SPOILS	409,448	279,168
198	10/03/97	RK,JM	W8 SPOILS	409,448	279,168
199	10/03/97	RK,JM	W8 SPOILS	409,448	279,168
200	10/06/97	RK,JM	W8 SPOILS	420,558	300,760
201	10/06/97	RK,JM	W8 SPOILS	420,558	300,760
202	10/06/97	RK,JM	W8 SPOILS	420,558	300,760

203	10/06/97	RK,JM	W8 SPOILS	420,558	300,760
204	10/06/97	RK,JM	W8 SPOILS	420,558	300,760
205	10/06/97	RK,JM	W8 SPOILS	420,558	300,760
206	10/07/97	RK,JM	W8 SPOILS	431,174	311,376
207	10/07/97	RK,JM	W8 SPOILS	431,174	311,376
208	10/07/97	RK,JM	W8 SPOILS	431,174	311,376
209	10/07/97	RK,JM	W8 SPOILS	431,174	311,376
210	10/07/97	RK,JM	W8 SPOILS	431,174	311,376
211	10/07/97	RK,JM	W8 SPOILS	431,174	311,376
212	10/08/97	RK,JM	W8 SPOILS	431,764	311,966
213	10/08/97	RK,JM	W8 SPOILS	431,764	311,966
214	10/08/97	RK,JM	W8 SPOILS	431,764	311,966
215	10/08/97	RK,JM	W8 SPOILS	431,764	311,966
216	10/08/97	RK,JM	W8 SPOILS	431,764	311,966
217	10/08/97	RK,JM	W8 SPOILS	431,764	311,966
218	10/09/97	JM	W8 SPOILS	442,322	322,524
219	10/09/97	JM	W8 SPOILS	442,322	322,524
220	10/09/97	JM	W8 SPOILS	442,322	322,524
221	10/09/97	JM	W8 SPOILS	442,322	322,524
222	10/09/97	JM	W8 SPOILS	442,322	322,524
223	10/09/97	JM	W8 SPOILS	442,322	322,524
-	10/10/97	RK	CH. CUT	451,156	331,626
-	10/10/97	RK	CH. CUT	451,156	331,626
-	10/10/97	RK	CH. CUT	451,156	331,626
224	10/14/97	JM	W8 SPOILS	471,424	351,626
225	10/14/97	JM	W8 SPOILS	471,424	351,626
226	10/14/97	JM	W8 SPOILS	471,424	351,626
227	10/14/97	JM	W8 SPOILS	471,424	351,626
228	10/14/97	JM	W8 SPOILS	471,424	351,626
229	10/15/97	RK	W8 SPOILS	484,572	358,200
230	10/15/97	RK	W8 SPOILS	484,572	358,200
231	10/15/97	RK	W8 SPOILS	484,572	358,200
232	10/15/97	RK	W8 SPOILS	484,572	358,200
233	10/15/97	RK	W8 SPOILS	484,572	358,200
234	10/16/97	RK,JM	W8 SPOILS	490,466	364,040
235	10/16/97	RK,JM	W8 SPOILS	490,466	364,040
236	10/16/97	RK,JM	W8 SPOILS	490,466	364,040
237	10/16/97	RK,JM	W8 SPOILS	490,466	364,040
238	10/16/97	RK,JM	W8 SPOILS	490,466	364,040
239	10/20/97	RK	W8 SPOILS	503,498	377,126
240	10/20/97	RK	W8 SPOILS	503,498	377,126
241	10/20/97	RK	W8 SPOILS	503,498	377,126
242	10/20/97	RK	W8 SPOILS	503,498	377,126
243	10/20/97	RK	W8 SPOILS	503,498	377,126
-	10/21/97	RK	CH. CUT	511,568	385,196
-	10/21/97	RK	CH. CUT	511,568	385,196
244	10/22/97	RK	W8 SPOILS	519,496	393,070
245	10/22/97	RK	W8 SPOILS	519,496	393,070
246	10/22/97	RK	W8 SPOILS	519,496	393,070
247	10/22/97	RK	W8 SPOILS	519,496	393,070
248	10/22/97	RK	W8 SPOILS	519,496	393,070
249	10/31/97	RK	W8 SPOILS	529,162	402,973
250	10/31/97	RK	W8 SPOILS	529,162	402,973
251	10/31/97	RK	W8 SPOILS	529,162	402,973

46	10/14/97	JM	W8 SPOILS	31.9	15.2
47	10/15/97	RK	W8 SPOILS	38	16.4
48	10/16/97	RK,JM	W8 SPOILS	42.0	19.7
49	10/20/97	RK,JM	W8 SPOILS	29.6	11.6
50	10/22/97	RK	W8 SPOILS	38.2	17.6
51	10/31/97	RK	W8 SPOILS	30.7	15.1
52	11/6/97	RK	W8 SPOILS	54	36

ATTERBERG MEAN VALUES:

LL = 34.6

PI = 15.6

BEAR CREEK TAILINGS RECLAMATION PROJECT

SUMMARY NOTES ON ATTERBERGS LIMITS TESTS:

- TOTAL NUMBER OF TESTS COMPLETED ON RADON BARRIER MATERIALS = 52

- TOTAL NUMBER OF DAYS OF RADON BARRIER CONSTRUCTION = 45

- REQUIRED TESTING FREQUENCY = 1.0 TESTS PER DAY
- BRS ACTUAL AVERAGE FREQUENCY = .865 TESTS PER DAY

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS LAB TESTING - SUMMARY OF ATTERBERG LIMITS TESTS

NOTE: TESTING FREQUENCY REQUIREMENTS ON RADON BARRIER (W8 SPOILS) ARE AS FOLLOWS: 1 TEST PER DAY

TEST NO.	DATE TESTED	PERFORMED BY	SAMPLE LOCATION	W8 SPOILS CUM. CY	RADON BARRIER CUM. CY
1	6/25/97	MDB	W8 SPOILS	0	0
2	7/7/97	MAXIM	W8 SPOILS	0	0
3	7/10/97	MDB,BC	W8 SPOILS	6,296	0
4	7/11/97	MDB	W8 SPOILS	12,254	0
5	7/15/97	MDB	W8 SPOILS	30,030	9,760
6	7/28/97	RK	W8 SPOILS	30,030	9,760
7	8/12/97	RK	W8 SPOILS	36,480	9,760
8	8/14/97	RK	W8 SPOILS	48,444	9,760
9	8/18/97	RK	W8 SPOILS	65,254	9,760
10	8/19/97	RK	W8 SPOILS	72,682	9,760
11	8/20/97	RK	W8 SPOILS	79,622	9,760
12	8/22/97	RK	W8 SPOILS	101,672	9,760
13	8/25/97	RK	W8 SPOILS	110,928	14,388
14	8/27/97	RK	W8 SPOILS	131,896	26,270
15	8/28/97	RK	W8 SPOILS	142,814	32,792
16	8/29/97	RK	W8 SPOILS	154,560	40,772
17	9/2/97	RK	W8 SPOILS	166,116	46,924
18	9/3/97	RK	W8 SPOILS	178,928	59,736
19	9/4/97	RK	W8 SPOILS	191,594	72,402
20	9/5/97	RK	W8 SPOILS	204,796	85,604
21	9/8/97	RK	W8 SPOILS	217,064	97,872
22	9/9/97	RK	W8 SPOILS	229,142	109,950
23	9/10/97	RK	W8 SPOILS	238,978	119,606
24	9/11/97	RK	W8 SPOILS	250,996	131,804
25	9/12/97	RK	W8 SPOILS	262,876	143,684
26	9/15/97	RK,JM	W8 SPOILS	275,164	151,142
27	9/16/97	RK,JM	W8 SPOILS	287,826	159,758
28	9/17/97	RK,JM	W8 SPOILS	300,590	172,522
29	9/17/97	RK,JM	W8 SPOILS	300,590	172,522
30	9/18/97	RK,JM	W8 SPOILS	313,100	185,032
31	9/22/97	RK,JM	W8 SPOILS	324,372	194,092
32	9/22/97	MAXIM	W8 SPOILS	324,372	194,092
33	9/23/97	JM	W8 SPOILS	335,220	204,940
34	9/25/97	RK,JM	W8 SPOILS	347,030	216,750
35	9/26/97	RK	W8 SPOILS	358,960	228,680
36	9/27/97	RK	W8 SPOILS	361,446	231,166
37	9/30/97	RK	W8 SPOILS	386,032	255,752
38	10/01/97	RK	W8 SPOILS	397,546	267,266
39	10/02/97	RK,JM	W8 SPOILS	409,448	279,168
40	10/03/97	RK,JM	W8 SPOILS	409,448	289,650
41	10/06/97	RK,JM	W8 SPOILS	420,558	300,760
42	10/07/97	RK,JM	W8 SPOILS	431,174	311,376
43	10/08/97	RK,JM	W8 SPOILS	431,764	311,966
44	10/09/97	JM	W8 SPOILS	442,322	322,524
45	10/13/97	RK	W8 SPOILS	460,734	340,936

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - COMPARISON/SUMMARY OF SAND CONE DENSITY TESTING VERSUS NUCLEAR DENSITY AND MOISTURE GAUGE TESTING.

NOTE: SAND CONE DENSITY TESTING IS PERFORMED MAINLY TO PROVIDE A CORRELATION AND VALIDATION OF THE NUCLEAR GAUGE TESTING. SPECIFICATIONS REQUIRE A SAND CONE TEST TO BE PERFORMED FOR EACH 10,000 CY. OF RADON BARRIER.

**** = NUCLEAR DENSITY GAUGE RESULTS AT SAME LOCATION (IF APPLICABLE).**

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	DRY DENSITY	MOISTURE CONTENT
1	7/11/97	MDB,BC	949800,377900	0"-4"	SUBGRADE	118.2	12.2
1**	7/11/97	MDB	949800,377900	6"	SUBGRADE	103.9	19.7
2	7/15/97	MDB	949600,378100	3"-6"	SUBGRADE	114.2	17.8
2**	7/15/97	MDB	949600,378100	6"	SUBGRADE	104.3	17.9
3	8/19/97	MDB,RK	949900,376300	3"-6"	SUBGRADE	103.6	17.5
3**	8/19/97	MDB	949900,376300	6"	SUBGRADE	104.2	13.9
4	8/22/97	RK	949300,375700	3"-6"	SUBGRADE	106.9	12.7
4**	8/22/97	MDB	949300,375700	6"	SUBGRADE	103.0	15.1
5	8/26/97	RK	950200,377200	3"-6"	5161.5	102.9	15.2
5**	8/26/97	MDB	950200,377200	4"	5161.5	101.2	16.7
6	8/27/97	MDB,RK	949900,376500	3"-6"	5161.5	118.1	12.3
6**	8/27/97	MDB	949900,376500	4"	5161.5	101.5	16.2
7	9/2/97	MDB,RK	949800,376400	3"-6"	5162.0	108.7	11.7
7**	9/2/97	MDB	949800,376400	4"	5162.0	102.9	13.5
8	9/3/97	RK	950100,376900	3"-6"	5162.5	112.1	13.9
8**	9/3/97	MDB	950100,376900	4"	5162.5	107.6	16.7
9	9/4/97	MDB,RK	950000,376400	3"-6"	5162.5	112.3	13.5
9**	9/4/97	MDB	950000,376400	4"	5162.5	109.8	15.1
10	9/5/97	RK	950100,376500	3"-6"	5163.0	109.6	14.9
10**	9/5/97	MDB	950100,376500	4"	5163.0	104.7	16.5
11	9/8/97	RK	949900,376300	3"-6"	5163.0	108.2	5.7
11**	9/8/97	DLB	949900,376300	4"	5163.0	99.7	15.5
12	9/9/97	RK	947300,375700	3"-6"	5146.0	110.0	13.0
12**	9/9/97	MDB	947300,375700	4"	5146.0	103.6	14.6
13	9/10/97	RK	950100,376700	3"-6"	5163.5	110.3	12.7
13**	9/10/97	MDB	950100,376700	4"	5163.5	103.9	15.0
14	9/11/97	RK	950300,376700	3"-6"	5164.0	116.6	16.1
14**	9/11/97	MDB	950300,376700	4"	5164.0	104.1	18.3

15	9/12/97	RK	950000,376600	3"-6"	5164.0	106.0	10.5
15**	9/12/97	MDB	950000,376600	4"	5164.0	105.6	16.4
16	9/15/97	RK	949500,376500	3"-6"	5161.5	106.5	18.0
16**	9/15/97	MDB	949500,376500	4"	5161.5	101.1	17.7
17	9/16/97	RK,JM	949300,376300	3"-6"	5161.5	111.8	13.1
17**	9/16/97	MDB	949300,376300	4"	5161.5	107.0	15.0
18	9/17/97	RK	949600,376800	3"-6"	5162.0	104.9	14.2
18**	9/17/97	MDB	949600,376800	4"	5162.0	106.0	15.0
19	9/18/97	RK	949600,376600	3"-6"	5162.5	118.8	9.8
19**	9/18/97	MDB	949600,376600	4"	5162.5	107.5	14.7
20	9/22/97	RK,JM	949200,375800	3"-6"	5162.5	113.5	14.5
20**	9/22/97	MDB	949200,375800	4"	5162.5	108.1	18.4
21	9/25/97	RK	949400,375600	3"-6"	5163.0	115.0	18.3
21**	9/25/97	MDB	949400,375600	4"	5163.0	106.0	18.0
22	9/26/97	RK	949200,376000	3"-6"	5163.0	120.6	15.2
22**	9/26/97	MDB	949200,376000	4"	5163.0	108.1	17.3
23	9/26/97	RK	949300,376700	3"-6"	5163.5	109.4	12.4
23**	9/26/97	MDB	949300,376700	4"	5163.5	108.1	16.1
24	9/26/97	RK	949600,375800	3"-6"	5163.5	110.4	14.7
24**	9/26/97	MDB	949600,375800	4"	5163.5	106.1	18.7
25	9/29/97	RK	949600,376400	3"-6"	5164.0	116.3	14.2
25**	9/29/97	MDB	949600,376400	4"	5164.0	109.5	16.0
26	9/29/97	RK	949300,376100	3"-6"	5164.0	108.6	14.6
26**	9/29/97	MDB	949300,376100	4"	5164.0	108.3	15.6
27	10/1/97	RK,JM	948800,376300	3"-6"	5162.5	107.7	14.8
27**	10/1/97	RK,JM	948800,376300	4"	5162.5	103.6	17.8
28	10/2/97	RK	947500,375700	3"-6"	5147.0	109.5	13.6
28**	10/2/97	MDB	947500,375700	4"	5147.0	103.4	15.6
29	10/3/97	RK	948400,376000	3"-6"	5161.5	111.9	13.9
29**	10/3/97	MDB	948400,376000	4"	5161.5	106.3	16.0
30	10/6/97	RK	948500,376300	3"-6"	5162.0	105.1	14.3
30**	10/6/97	RK	948500,376300	4"	5162.0	110.1	13.9
31	10/7/97	RK	947300,375700	3"-6"	5147.5	107.9	11.6
31**	10/7/97	RK	947300,375700	4"	5147.5	104.9	15.3
32	10/9/97	RK	948800,376200	3"-6"	5163.5	111.05	14.0
32**	10/9/97	RK	948800,376200	4"	5163.5	104.7	18.9

33	10/13/97	RK	948700,376300	3"-6"	5164.0	108.7	11.5
33**	10/13/97	MDB	948700,376300	4"	5164.0	106.5	14.7
34	10/14/97	RK,JM	5153.0, 100',OF.	3"-6"	5153.0	110.6	13.6
34**	10/14/97	RK	5153.0, 100',OF.	4"	5153.0	103.4	17.7
35	10/15/97	RK,JM	5153.0, 100' OF.	3"-6"	5154.0	111.0	14.6
35**	10/15/97	RK	5153.0, 100' OF.	4"	5154.0	104.5	18.1
36	10/15/97	RK,JM	5153.5, 50' OF.	3"-6"	5155.5	110.9	14.9
36**	10/15/97	RK	5153.5, 50' OF.	4"	5155.6	111.1	15.5
37	10/20/97	RK,JM	5153.5 50' OF.	3"-6"	5156.0	107.2	14.5
37**	10/20/97	RK	5153.5 50' OF.	4"	5156.0	106.2	16.4
38	10/22/97	RK	5153.5 50' OF.	3"-6"	5156.5	106.9	13.1
38**	10/22/97	RK	5153.5 50' OF.	4"	5156.5	105.8	14.9
39	10/23/97	RK	5151.0 150' 0F.	3"-6"	5151.0	108.6	14.6
39**	10/23/97	RK	5151.0 150' 0F.	4"	5151.0	104.2	15.6

MEAN VALUES COMPARISON:

SAND CONE

DRY DENSITY MEAN = 110.5 PCF

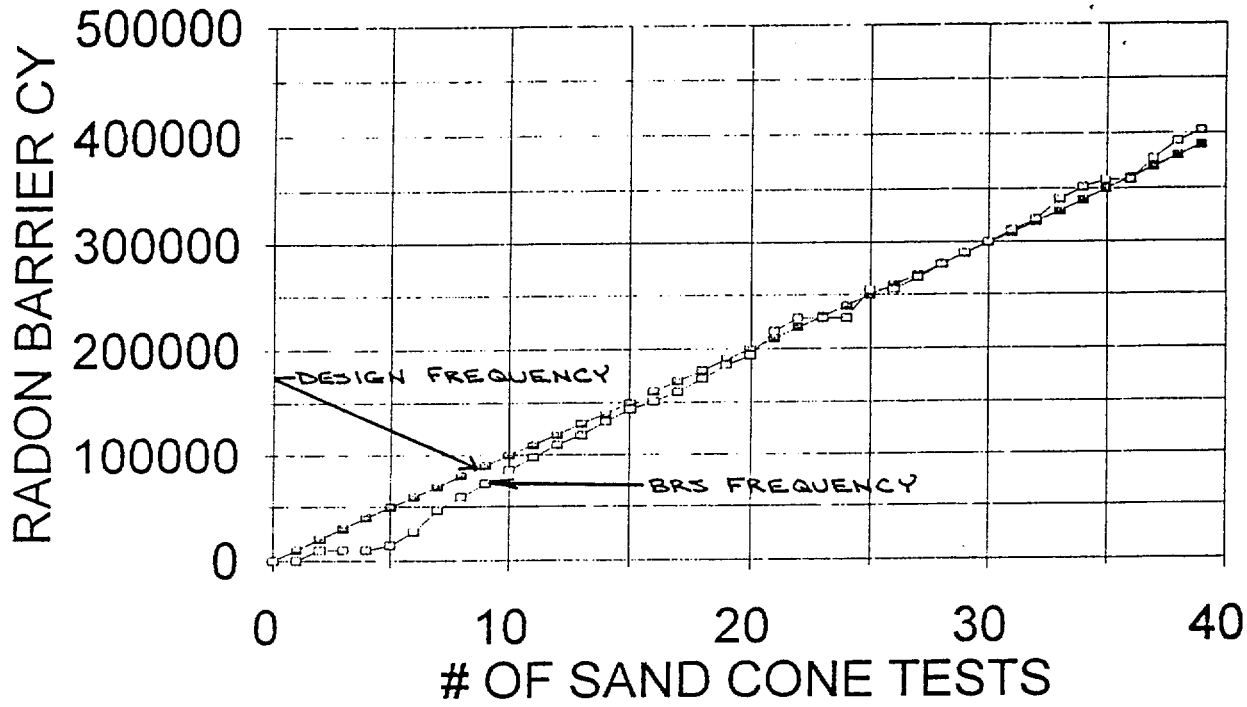
MOISTURE CONTENT MEAN = 13.8 %

NUCLEAR GAUGE

DRY DENSITY MEAN = 105.4 PCF

MOISTURE CONTENT MEAN = 16.2 %

LAB TEST FREQUENCY



NOTE :

- DESIGN MINIMUM TEST FREQUENCY = 1 PER 10,000 CY.
- BRS ACTUAL AVERAGE FREQUENCY = 1 PER 10,333 CY.

BEAR CREEK TAILINGS RECLAMATION PROJECT

SOILS TESTING - COMPARISON/SUMMARY OF SAND CONE DENSITY TESTING VERSUS NUCLEAR DENSITY AND MOISTURE GAUGE TESTING.

NOTE: SAND CONE DENSITY TESTING IS PERFORMED MAINLY TO PROVIDE A CORRELATION AND VALIDATION OF THE NUCLEAR GAUGE TESTING. SPECIFICATIONS REQUIRE A SAND CONE TEST TO BE PERFORMED FOR EACH 10,000 CY. OF RADON BARRIER.

**** = NUCLEAR DENSITY GAUGE RESULTS AT SAME LOCATION (IF APPLICABLE).**

TEST NO.	DATE TESTED	TESTED BY	TEST LOCATION	TEST DEPTH	SURFACE ELEVATION	W8 SPOILS CUM CY	RADON BARRIER CUM. CY
1	7/11/97	MDB,BC	949800,377900	0"-4"	SUBGRADE	12,254	0
1**	7/11/97	MDB	949800,377900	6"	SUBGRADE	12,254	0
2	7/15/97	MDB	949600,378100	3"-6"	SUBGRADE	30,030	9,760
2**	7/15/97	MDB	949600,378100	6"	SUBGRADE	30,030	9,760
3	8/19/97	MDB,RK	949900,376300	3"-6"	SUBGRADE	72,682	9,760
3**	8/19/97	MDB	949900,376300	6"	SUBGRADE	72,682	9,760
4	8/22/97	RK	949300,375700	3"-6"	SUBGRADE	101,672	9,760
4**	8/22/97	MDB	949300,375700	6"	SUBGRADE	101,672	9,760
5	8/26/97	RK	950200,377200	3"-6"	5161.5	110,928	14,388
5**	8/26/97	MDB	950200,377200	4"	5161.5	110,928	14,388
6	8/27/97	MDB,RK	949900,376500	3"-6"	5161.5	131,896	26,270
6**	8/27/97	MDB	949900,376500	4"	5161.5	131,896	26,270
7	9/2/97	MDB,RK	949800,376400	3"-6"	5162.0	166,116	46,924
7**	9/2/97	MDB	949800,376400	4"	5162.0	166,116	46,924
8	9/3/97	RK	950100,376900	3"-6"	5162.5	178,928	59,736
8**	9/3/97	MDB	950100,376900	4"	5162.5	178,928	59,736
9	9/4/97	MDB,RK	950000,376400	3"-6"	5162.5	191,594	72,402
9**	9/4/97	MDB	950000,376400	4"	5162.5	191,594	72,402
10	9/5/97	RK	950100,376500	3"-6"	5163.0	204,796	85,604
10**	9/5/97	MDB	950100,376500	4"	5163.0	204,796	85,604
11	9/8/97	RK	949900,376300	3"-6"	5163.0	217,064	97,872
11**	9/8/97	DLB	949900,376300	4"	5163.0	217,064	97,872
12	9/9/97	RK	947300,375700	3"-6"	5146.0	229,142	109,950
12**	9/9/97	MDB	947300,375700	4"	5146.0	229,142	109,950
13	9/10/97	RK	950100,376700	3"-6"	5163.5	238,978	119,606
13**	9/10/97	MDB	950100,376700	4"	5163.5	238,978	119,606
14	9/11/97	RK	950300,376700	3"-6"	5164.0	250,996	131,804
14**	9/11/97	MDB	950300,376700	4"	5164.0	250,996	131,804

15	9/12/97	RK	950000,376600	3"-6"	5164.0	262,876	143,684
15**	9/12/97	MDB	950000,376600	4"	5164.0	262,876	143,684
16	9/15/97	RK	949500,376500	3"-6"	5161.5	275,164	151,142
16**	9/15/97	MDB	949500,376500	4"	5161.5	275,164	151,142
17	9/16/97	RK,JM	949300,376300	3"-6"	5161.5	287,826	159,758
17**	9/16/97	MDB	949300,376300	4"	5161.5	287,826	159,758
18	9/17/97	RK	949600,376800	3"-6"	5162.0	300,590	172,522
18**	9/17/97	MDB	949600,376800	4"	5162.0	300,590	172,522
19	9/18/97	RK	949600,376600	3"-6"	5162.5	313,100	185,032
19**	9/18/97	MDB	949600,376600	4"	5162.5	313,100	185,032
20	9/22/97	RK,JM	949200,375800	3"-6"	5162.5	324,372	194,092
20**	9/22/97	MDB	949200,375800	4"	5162.5	324,372	194,092
21	9/25/97	RK	949400,375600	3"-6"	5163.0	347,030	216,750
21**	9/25/97	MDB	949400,375600	4"	5163.0	347,030	216,750
22	9/26/97	RK	949200,376000	3"-6"	5163.0	358,960	228,680
22**	9/26/97	MDB	949200,376000	4"	5163.0	358,960	228,680
23	9/26/97	RK	949300,376700	3"-6"	5163.5	358,960	228,680
23**	9/26/97	MDB	949300,376700	4"	5163.5	358,960	228,680
24	9/26/97	RK	949600,375800	3"-6"	5163.5	358,960	228,680
24**	9/26/97	MDB	949600,375800	4"	5163.5	358,960	228,680
25	9/29/97	RK	949600,376400	3"-6"	5164.0	386,032	255,752
25**	9/29/97	MDB	949600,376400	4"	5164.0	386,032	255,752
26	9/29/97	RK	949300,376100	3"-6"	5164.0	386,032	255,752
26**	9/29/97	MDB	949300,376100	4"	5164.0	386,032	255,752
27	10/1/97	RK,JM	948800,376300	3"-6"	5162.5	397,546	267,266
27**	10/1/97	RK,JM	948800,376300	4"	5162.5	397,546	267,266
28	10/2/97	RK	947500,375700	3"-6"	5147.0	409,448	279,168
28**	10/2/97	MDB	947500,375700	4"	5147.0	409,448	279,168
29	10/3/97	RK	948400,376000	3"-6"	5161.5	419,998	289,650
29**	10/3/97	MDB	948400,376000	4"	5161.5	419,998	289,650
30	10/6/97	RK	948500,376300	3"-6"	5162.0	420,558	300,760
30**	10/6/97	RK	948500,376300	4"	5162.0	420,558	300,760
31	10/7/97	RK	947300,375700	3"-6"	5147.5	431,764	311,966
31**	10/7/97	RK	947300,375700	4"	5147.5	431,764	311,966
32	10/9/97	RK	948800,376200	3"-6"	5163.5	442,322	322,524
32**	10/9/97	RK	948800,376200	4"	5163.5	442,322	322,524

33	10/13/97	RK	948700,376300	3"-6"	5164.0	460,734	340,936
33**	10/13/97	MDB	948700,376300	4"	5164.0	460,734	340,936
34	10/14/97	RK,JM	5153.0, 100',OF.	3"-6"	5153.0	471,424	351,626
34**	10/14/97	RK	5153.0, 100',OF.	4"	5153.0	471,424	351,626
35	10/15/97	RK,JM	5153.0, 100' OF.	3"-6"	5154.0	484,572	358,200
35**	10/15/97	RK	5153.0, 100' OF.	4"	5154.0	484,572	358,200
36	10/15/97	RK,JM	5153.5, 50' OF.	3"-6"	5155.5	484,572	358,200
36**	10/15/97	RK	5153.5, 50' OF.	4"	5155.6	484,572	358,200
37	10/20/97	RK,JM	5153.5 50' OF.	3"-6"	5156.0	503,498	377,126
37**	10/20/97	RK	5153.5 50' OF.	4"	5156.0	503,498	377,126
38	10/22/97	RK	5153.5 50' OF.	3"-6"	5156.5	519,496	393,070
38**	10/22/97	RK	5153.5 50' OF.	4"	5156.5	519,496	393,070
39	10/23/97	RK	5151.0 150' 0F.	3"-6"	5151.0	529,162	402,973
39**	10/23/97	RK	5151.0 150' 0F.	4"	5151.0	529,162	402,973

SOILS TEST LOG FOR BEAR CREEK

DATE	TEST PERFORMED	PERFORMED BY	RESULTS	LOCATION
9-10-97	Sand Cone	RK	DD=110 MC=12.7	Pond 1 Radon Bar
9-10-97	Standard Proctor	RK	Max DD=109.1 OM=14.27	W8 Pile
9-10-97	Aterberg limits	RK	LL=35 PI=15	W8 Pile
9-10-97	200 WASH X5	RK	38, 43, 48, 59, 60 % Passing	W8 Pile
9-11-97	Sand Cone	RK	DD 116.6 MC=16.6 %	Pond 1 Radon Bar
9-11-97	Standard Proctor	RK	DD=108.1 OM 15.9	W8 Pile
9-11-97	Aterberg limits	RK	LL=34.9 PI=17.6	W8 Pile
9-11-97	200 WASH X5	RK	35, 37, 55, 92 % passing	W8 Pile
9-12-97	Sand Cone	RK	DD=106 MC=10.5	Pond 1 Radon Bar
9-12-97	Standard Proctor	RK	Max DD 108.5 OM 16.38	W8 Pile
9-12-97	Aterberg limits	RK	LL=32.6 PI=10.8	W8 Pile
9-12-97	200 WASH X5	RK	43, 48, 52, 62 65 % Passing	W8 Pile
9-15-97	200 WASH X7	RK, JM	37, 73, 48, 56 73, 76 % Passing	W8 Pile
9-15-97	Sand Cone	RK, JM	DD=106.5 MC=17.95	Pond 1 Radon Bar Sec 2
9-15-97	Standard Proctor	RK, JM	MDD=109.83 MC=17.43	W8 Pile
9-15-97	Standard Proctor	RK, JM	MDD=107.4 % OM=15 %	W8 Pile
9-15-97	Aterbergs	RK, JM	LL=32 PI=15.6	W8 Pile
9-16-97	Sand Cone	RK, JM	DD=111.77 MC=13.1	Pond 1 Radon Bar Sec 2
9-16-97	200 WASH X7	RK, JM	30, 51, 62, 64, 64 67, 75 % Passing	W8 Pile
9-16-97	Standard Proctor	RK, JM	Max DD=110.68 OM 14.77	W8 Pile
9-16-97	Aterbergs	RK, JM	LL=33.65 PI=10.3	W8 Pile
9-16-97	Standard Proctor	RK, JM	Max DD=107.69 OM=14.89	W8 Pile
9-17-97	Aterbergs	RK, JM	LL=38.2 PI 15.7	W8 Pile
9-17-97	Aterbergs	RK, JM	LL=37.5 PI=15.34	W8 Pile
9-17-97	Standard Proctor	RK, JM	Max DD 108.52 OM 17.19	W8 Pile
9-17-97	Sand Cone	RK, JM	DD=104.9 @ 14.2 %	Radon Bar Pond 1 Sec 2
9-17-97	200 wash x7	RK, JM	40, 42, 54, 52, 71, 75 % Passing	W8 Pile
9-18-97	Standard Proctor	RK, JM	Max DD=109.0 OM=13.7 %	W8 Pile
9-18-97	Aterbergs	RK, JM	LL=30.3 PI=17.3	W8 Pile
9-18-97	200 WASH X8	RK, JM	56, 57, 70, 75, 69 76, 35, 49 % Passing	W8 Pile
9-18-97	Sand Cone	RK, JM	~~Max~~ DD=118.7 MC=10 %	Radon Bar Pond 1 Sec 2

SOILS TEST LOG FOR BEAR CREEK

DATE	TEST PERFORMED	PERFORMED BY	RESULTS	LOCATION	
10-1-97	Sand Cone	Rk, JM	DD = 107.7 WD = 123.7	Radon Bar Sec 3 See sheet	
10-2-97	Standard Proctor	Rk, JM	Max DD = 108.0 O.M. = 16.0	W8 Pile	X
10-2-97	Standard Proctor	Rk, JM	MAX DD = 109.4 OM 14.3	W8 Pile	X
10-2-97	Atterbergs	Rk, JM	LL = 31.8 PI = 16.1	W8 Pile	X
10-2-97	200 WASH X6	Rk, JM	60, 59, 72, 78 62, 74 % passing	W8 Pile	X
10-2-97	Sand Cone	RK, JM	DD = 109.5 MC = 13.6 %	Radon Barrier Pond 3	
10-3-97	Standard Proctor	[illegible]	Max DD = 109.0 OM = 16.35	W8 pile	X
10-3-97	Atterbergs	[illegible]	PI = 16.9 LL = 35.5	W8 Pile	X
10-3-97	200 Wash x 6	[illegible]	45, 53, 58, 54, 60, 63 % passing	W8 Pile	X
10-3-97	Sand Cone	[illegible]	DD = 108.4 MC = 13.7	Pond 3 Radon Barr.	
10-3-97	Sand Cone	[illegible]	DD = 111.9 MC = 13.9	Sec 3 Radon Bar.	
10-6-97	Standard Proctor	R.K. JM.	Max DD = 107.4 OM = 16.2	W-8 Pile	X
10-6-97	Atterbergs	R.K. JM.	LL = 28 PI = 14	W-8 Pile	X
10-6-97	200 Wash x 6	R.K. JM.	37, 44, 52, 54 56, 59 % passing	W-8 Pile	X
10-6-97	Sand Cone	R.K. JM.	DD = 105 MC = 14.3	Radon Barrier	Sec. 3
10-7-97	Standard Proctor	R.K. JM.	Max DD = 110.6 O.M. = 11.2	W-8 Pile	X Sample from sand-o found
10-7-97	Atterbergs	R.K. JM.	PI = 13.4 LL = 27.9	W-8 Pile	X
10-7-97	200 WASH X6	R.K. JM.	45, 46, 41, 52 38, 44 % passing	W-8 Pile	X
10-7-97	Sand Cone	R.K. JM.	DD = 107.9 MC = 11.6	Radon Barrier Sec. 3	
10-8-97	Standard Proctor	R.K. JM.	Max DD = 109.0 O.M. = 15.2	W-8 Pile	X
10-8-97	Atterbergs	R.K. JM.	P.I. = 12.9 LL = 32.1	W-8 Pile	X
10-8-97	200 Wash x 6	R.K. JM.	48, 40, 47, 51, 43 [illegible]	W-8 Pile	X
10-9-97	Sand Cone	R.K. JM.	DD = 111.0 MC = 14.0	Radon Barrier Sec. 3	
10-9-97	Standard Proctor	JM.	Max DD 108.8 MC 17.5	W-8 Pile	X
10-9-97	Atterbergs	JM.	LL = 37 PI = 19.3	W-8 Pile	X
10-9-97	200 Wash x 6	JM.	70, 77, 46, 85 56, 53 % Pass	[illegible]	X
10-10-97	200 Wash X 3	Rk	32, 10, [illegible] % passing	Channel cut East	W X
10-10-97	Standard Proctor	Rk/JM	Max DD 109.4 OM 14.4	Channel cut West	Sandy X
10-10-97	Standard Proctor	RK/JM	Max DD 112.7 OM 15.3	Channel cut east	X
10-10-97	Standard Proctor	RK	Max DD 105.1 OM 17.0	Channel cut west	clay X
10-13-97	Standard Proctor	RK	Max DD = 106.9 OM = 17.75	W8-Pile	X
10-13-97	Atterbergs	RK	L.L. = 35.4 PI = 17.5	W8-Pile	X
10-13-97	Sand Cone	RK	DD = 108.7 M.C. = 11.5	Radon Barrier	

SOILS TEST LOG FOR BEAR CREEK

DATE	TEST PERFORMED	PERFORMED BY	RESULTS	LOCATION
11/4/97	Standard Proctor	RK	Max DD = 104.9 OMC = 19.3	Channel cut East
11/4/97	200 WASH X2	RK	95.93 % Passing	channel cut East
11/5/97	Standard Proctor	RK	Max DD = 103.1 OMC = 19.6	Channel cut East
11/5/97	200 WASH	RK	88% Passing	Channel cut East
11/6/97	Standard Proctor	RK	MAX DD = 108.6 OMC = 18.74	Channel cut East
11/6/97	200 WASH	RK	79.3% Passing	Channel cut East
11/6/97	ATTERBERGS	RK	LL = 54 PI = 36	WB SPOILS
11/6/97	200 WASH x 5	RK	77.5 92.6, 55.8, 85.4, 53.3	WB SPOILS
11/6/97	Standard Proctor	RK	MAX DD = 109.1 OMC = 17.0	WB SPOILS

AXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: May 12, 1998
JOB NO.: 9851711
SHEET 1 OF 4

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

PROJECT REPORT

DAILY REPORT NO. 1 - Billy Ray, Field Engineer - 11.0 Hours
May 6, 1998

6:00 am to 5:30 pm - Toured the project site with Mr. Jim Smith, Bear Creek Uranium (BCU) consultant. The work areas were defined and an overview of the project was given. Was introduced to Mr. John Smith (Carr's foreman). Fill was placed on top of last years radon barrier. Soil was borrowed from cuts in the diversion channel and the "rock weir" area. Fill was placed with four Cat 627 scrapers. A water truck and a water wagon were used to add moisture to the soil. The conditioned fill was compacted with a Cat 815 sheepsfoot roller. Carr was instructed by Bear Creek personnel to use only clayey material on top of the radon barrier. I was instructed by Mr. Smith (BCU) to treat the new fill placed on top of the existing radon barrier as random fill, testing it occasionally to keep the contractor "honest." There are no specifications for testing of random fill. Based on visual observation, material placed today was a sandy clay. The scrapers removed topsoil from an area at the base of the downstream dam face and placed it in a stockpile for use at a later date.

Obtained a sample of the random fill material being placed this shift. The sample was tested for determination of the standard moisture-density relationship, -200 content and Atterberg limits. The laboratory test results are presented on Figures 1 and 1A, attached. Also performed in-place density test Nos. RF-1 and RF-2 on the random fill (nuclear method). The test locations and elevations are presented on the attached summary sheet.

Collected two samples (BC#1 and BC#2, borrow check) for -200 analysis on future borrow areas in the diversion channel. Material appeared low on -200 content to Mr. Smith. Mr. Smith (BCU) requested we obtain the test samples ahead of the scrapers. Test BC#1 was taken approximately 50 ft east of the current cut and test No. BC#2 was taken approximately 500 ft east of test No. BC#1. During this shift no material was placed from this area and may be placed as random fill or as dam face fill.

DAILY REPORT NO. 2 - Billy Ray, Field Engineer - 11.0 Hours
May 7, 1998

6:00 am to 5:30 pm - The contractor continued placement of the random fill on top of the existing radon barrier. Four Cat 627 scrapers were used to haul the clayey materials. A water truck added water and a Cat 815 roller compacted the material. The water wagon broke down and it was hard for the water truck to keep up with the scrapers. Any material that appeared to be too sandy, was rejected by Carr personnel. This material was placed on fills near the rock weir. Discussed the paperwork and reporting procedures with Mr. Jim Smith (BCU consultant) and Mr. Gary Chase (BCU representative). They explained stationing and locations as well. Four nuclear in-place density test Nos. RF-3 through RF-6 were performed on the random fill placed this shift. Test No. RF-4 did not meet project requirements for density. Mr. John Smith with Carr and Mr. Jim Smith with BCU were notified, and corrective action will be taken. Three samples were

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obtained from the fill placement this shift for determination of the Atterberg limits and -200 content. The laboratory test results for RF-ATT-2 and RF-200-2 through RF-200-4 are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

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Bear Creek Uranium
Job No. 9851711
Sheet 4 of 4

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
5-06-98	RF-1	15.6	107.0	17.0	112.3	95	#1 - Sandy Lean Clay
Location:	Sta. 5+00 on 5166.5 subgrade contour line; El = 5165.5						
5-06-98	RF-2	15.8	109.7	17.0	112.3	98	#1 - Sandy Lean Clay
Location:	Sta. 11+50 on 5167.0 subgrade contour line; El = 5166.5						
5-07-98	RF-3	15.1	108.8	17.0	112.3	97	#1 - Sandy Lean Clay
Location:	Sta. 14+50 on 5165.5 subgrade contour line; El = 5165.5						
5-07-98	RF-4	15.9	103.7	17.0	112.3	(92)	#1 - Sandy Lean Clay
Location:	Sta. 9+5 on 5166 subgrade contour line; El = 5166.0						
5-07-98	RF-5	15.1	106.9	17.0	112.3	95	#1 - Sandy Lean Clay
Location:	Sta. 4+50 on 5165.5 subgrade contour line; El = 5165.5						
5-07-98	RF-6	17.3	108.7	17.0	112.3	97	#1 - Sandy Lean Clay
Location:	Sta.2+50 on 5165.0 subgrade contour line; El = 5165.0						

( ) Failed to meet project requirement.

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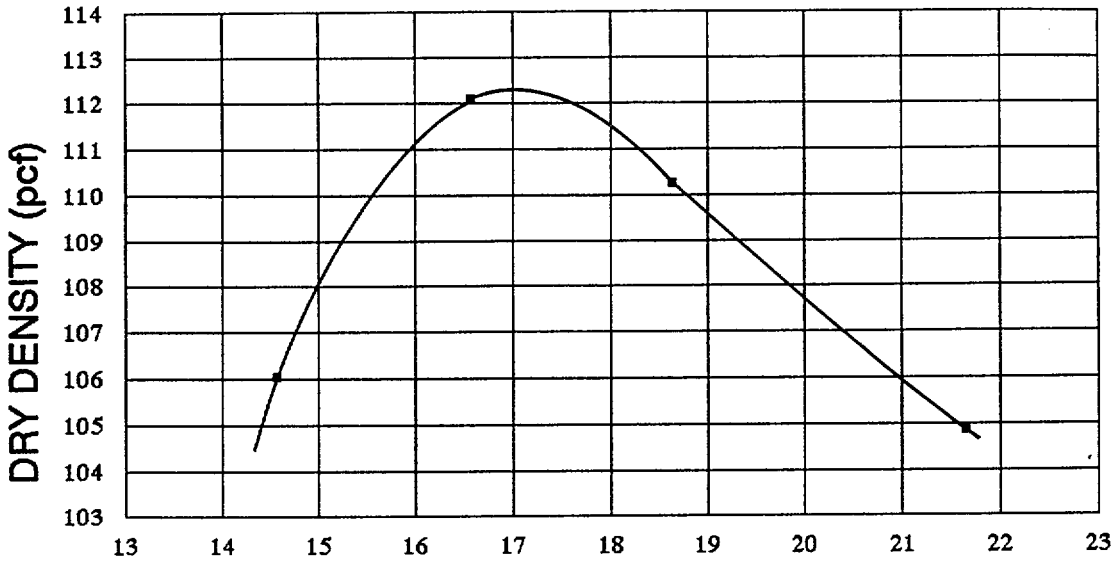
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor #1, RF-ATT-1 and RF-200-1	17.0	112.3	39	27	0	29.6	70.4			Sandy Lean Clay
BC#1							26.8			Silty, Clayey Sand
BC#2						11.4				Sand with Clay
RF-ATT-2			35	22						
RF-200-2					0	15.0	85.0			
RF-200-3					0	18.4	81.6			
RF-200-4					0	13.4	86.6			

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 112.3 pcf OPTIMUM WATER CONTENT: 17.0%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	30
FINES (SILT AND CLAY)	70

ATTERBERG LIMITS

LIQUID LIMIT	39
PLASTICITY INDEX	27

SAMPLE IDENTIFICATION:
No. 1, Fill Atop Radon Barrier Layer

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 1

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: May 21, 1998
JOB NO.: 9851711
SHEET 1 **OF** 4

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

PROJECT REPORT

DAILY REPORT NO. 3 - Billy Ray, Field Engineer - 11.0 Hours
May 8, 1998

6:00 am to 5:30 pm - Carr Construction began placement of the dam face fill. Based on visual inspection, initial proof-rolling of the existing subgrade was adequate. Four Cat 627 scrapers were used to move soil from an area near the rock weir to the downstream dam face. Visual inspection verified that the clayey material was placed outside of the dam face while the sandier material was placed on the inside. A water wagon and a water truck added moisture to the soil as it was placed in the fill area, and a Cat 815 sheepsfoot roller was used for compaction. Mr. John Smith with Carr Construction was asked to have the scrapers stagger their tracks to provide additional compactive effort. Three nuclear method in-place density tests, Nos. DF-1 through DF-3, were performed on the downstream dam face fill. Locations and test results are presented on the attached summary sheet. Test No. DF-1 was taken on the slope face, which was not very well compacted. I asked Mr. John Smith about this, he informed me that they would compact the slope once they had it built to the point that they could crawl up and down the slope as opposed to across it. Mr. Jim Smith with Bear Creek Uranium (BCU) said that this method would be acceptable and we will test after it has been properly compacted. Two samples were obtained from the cut area to represent the materials which will be placed in the face of the dam. Standard moisture-density relationships and index properties were performed for these samples, the individual tests were identified as: Proctor 2, Proctor 3, DF-ATT-1, DF-ATT-2, DF-200-1 and DF-200-2. Test results are presented on Table I, attached. The work areas in the cut and fill were graded at the end of the shift to allow for positive drainage as the forecast called for rain.

DAILY REPORT NO. 4 - Billy Ray, Field Engineer - 4.5 Hours
May 11, 1998

6:00 am to 10:30 am - No construction was performed this shift due to the heavy rains over the weekend. I spent some time on site doing reports and preparing samples for lab work. Mr. Jim Smith (BCU) will call at approximately 6:30 to 7:00 am on 5/12/98 to let me know whether or not to return to the site tomorrow.

DAILY REPORT NO. 5 - Billy Ray, Field Engineer - 10.0 Hours
May 13, 1998

7:00 am to 5:30 pm - The work areas had dried enough to allow Carr Construction to resume construction. The downstream dam face area was bladed and re-rolled before any fill was placed this shift. Carr continued the placement of fill on the dam face. Four Cat 627 scrapers placed fill in the dam face area with the outside edge getting the clayey material and the inside half the sandier soils. A water truck added water to the soil and a Cat 815 sheepsfoot roller compacted. I talked with operators of the roller and the water truck about keeping up with the scrapers and recommended additional moisture based on a visual inspection. Two moisture/density tests, Nos. DF-4 and DF-5, were performed with the nuclear gauge. The locations and test results are presented on attached summary sheet. A sample was obtained from the fill area (inside

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the dam face) for -200 analysis and Atterberg limits (Test Nos. DF-ATT-3 and DF-200-3). Results of these tests are presented on Table I, attached. The volume of material placed during today's shift was reduced due to a late start and a water truck and pump problem at the end of the shift. Additional moisturizing of the fill area will be required before any more fill is placed in the dam face area.

DAILY REPORT NO. 6 - Billy Ray, Field Engineer - 11.0 Hours
May 14, 1998

6:00 am to 5:30 pm - Due to the problem with the water pump and the water tank yesterday, these was a delay this shift. The dam face area was watered and bladed and rolled extensively before any fill was placed. The four 627 scrapers hauled random fill on top of existing radon barrier. After a visual inspection determined that soil was adequately watered, the scrapers started placing fill on the dam face. Carr Construction built up the outside dam face with clay. It was observed that they were placing fill on top of fill before the Cat 815 roller had a chance to compact it. This was called to Mr. John Smith's (Carr) attention and he redirected scrapers. The cut was moved to the east of the rock weir (sandier soils) and the fill was placed inside the dam face. Two scrapers dumped a load of sandy material on the outside edge, Mr. Gary Chase noticed it, and I had the blade move that material to the inner half of the wórk area. One water truck added water to both the cut and fill. Three in-place moisture/density tests, Nos. DF-6 through DF-9, were performed at the locations and elevations indicated on the attached summary sheet. Samples were collected for testing for Atterberg limits (DF-ATT-4) and -200 analysis (DF-200-4 and DF-200-5). Test results are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 4 of 4

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
5-08-98	DF-1	10.9	90.9	17.0	112.3	(81)	#1-Sandy Lean Clay
Location:	Sta. 9+50, ≈ 40' from toe of dam face; El = 5117.0'						
5-08-98	DF-2	16.3	110.4	17.0	112.3	95	#1-Sandy Lean Clay
Location:	Sta. 8+00, ≈ 75' from toe of dam face; EL = 5120.0'						
5-08-98	DF-3	15.6	110.8	17.0	112.3	99	#1-Sandy Lean Clay
Location:	Sta. 14+50, ≈ 45' from toe of dam face; El = 5120.0'						
5-13-98	DF-4	16.5	110.8	17.0	112.3	99	#1-Sandy Lean Clay
Location:	Sta. 7+00, ≈ 60' from 5119 contour line; El = 5124.0'						
5-13-98	DF-5	18.2	109.8	17.0	112.3	98	#1-Sandy Lean Clay
Location:	Sta. 11+50, ≈ 30' from 5119 contour line; El = 5123.0'						
5-14-98	DF-6	15.7	106.3	17.0	112.3	100	#1-Sandy Lean Clay
Location:	Sta. 9+75, ≈ 20' from 5127 contour line; El = 5126.0'						
5-14-98	DF-7	16.6	109.0	17.0	112.3	97	#1-Sandy Lean Clay
Location:	Sta. 5+50, ≈ 50' from 5127 contour line; El = 5126.0'						
5-14-98	DF-8	16.9	108.1	17.0	112.3	96	#1-Sandy Lean Clay
Location:	Sta. 13+00, ≈ 25' from 5127 contour line; El = 5128.0'						

( ) Failed to meet project requirements.

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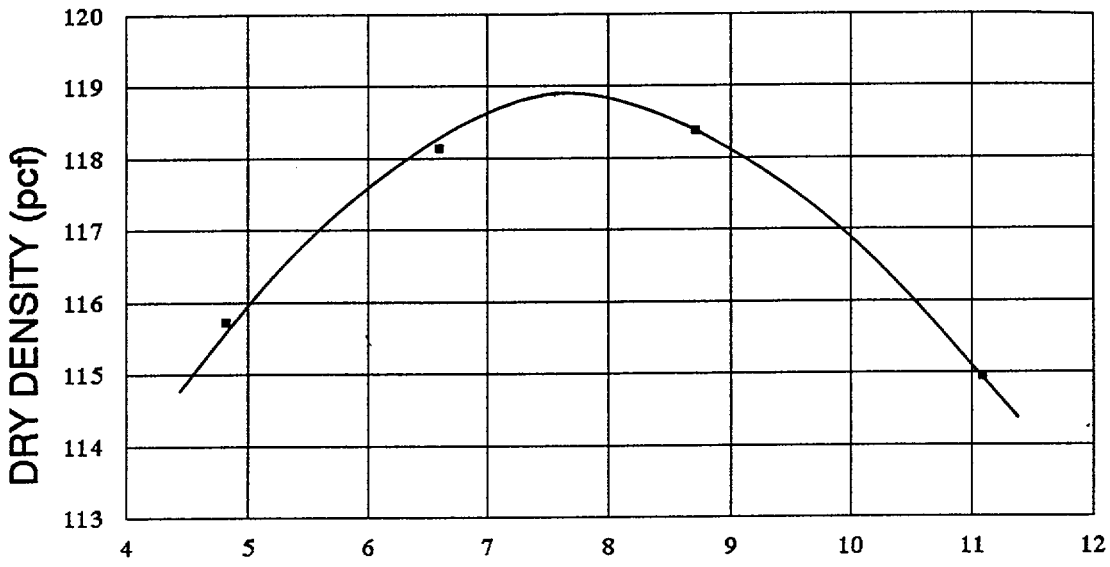
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor 2, DF-ATT-1, DF-200-1	7.7	118.9	20	11 (21?)	0	51	49			Clayey Sand
Proctor 3, DF-ATT-2, DF-200-2	13.2	119.6	19	11	4	65	31			Clayey Sand
DF-ATT-3 and DF-200-3			29	8	0	49	51			Sandy Lean Clay
DF-ATT-4 and DF-200-4			34	14	0	52	48			Clayey Sand
DF-200-5					0	68	32			Clayey Sand

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 118.9 pcf OPTIMUM WATER CONTENT: 7.7%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	51
FINES (SILT AND CLAY)	49

ATTERBERG LIMITS

LIQUID LIMIT	20
PLASTICITY INDEX	12

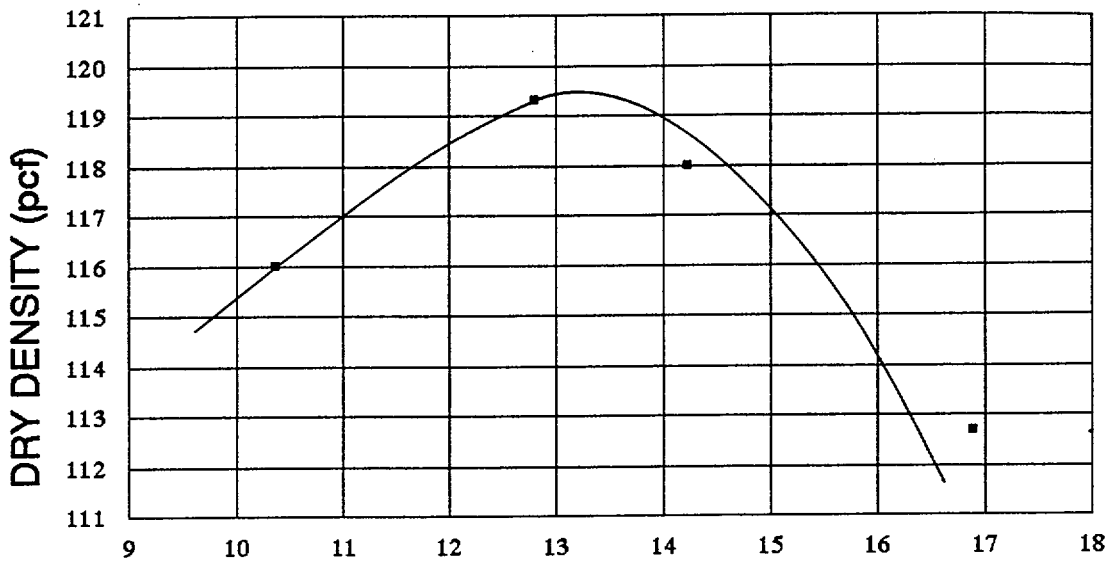
SAMPLE IDENTIFICATION:
No. 2, Dam Face Fill (Inside)

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 2

MOISTURE – DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 119.6 pcf OPTIMUM WATER CONTENT: 13.2%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	4
SAND	65
FINES (SILT AND CLAY)	31

ATTERBERG LIMITS

LIQUID LIMIT	19
PLASTICITY INDEX	11

SAMPLE IDENTIFICATION:
No. 3, Dam Face Fill (Inside)

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 3

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: May 28, 1998
JOB NO.: 9851711
SHEET 1 OF 6

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 6

PROJECT REPORT

DAILY REPORT NO. 7 - Billy Ray, Field Engineer - 11.0 Hours
May 15, 1998

Fel End week 5

6:00 am to 5:30 pm - Carr Construction continued dam face placement. Mr. John Smith (Carr Construction) was not on-site this shift and was replaced by Mr. Monty Carr (am) and Mr. Dan Carr (pm). I was notified by Mr. Jim Smith (BCU) that Carr Construction is using three Cat 627 scrapers and one Cat 621 scraper as opposed to four Cat 627 scrapers. Both types of scrapers can haul the same amount of material. The material to the south of the diversion channel outlet, which was being used for fill, contained too much rock based on a visual inspection for placement in the dam face. The fill was diverted to a waste area fill near the rock weir at the suggestion of Mr. Jim Smith. By afternoon the cut area was relatively free of rock and the fill in the dam face was resumed. Mr. Bob Coppin was on-site and inspected the work area as well as Maxim's laboratory set-up.

Three nuclear method moisture-density tests, Nos. DF-9 through DF-11, were performed on the fill of the dam face and one sand cone method moisture-density test, No. DF-10-SC was also performed. The results and test locations are presented on the attached summary sheet. A material change was noted on density test Nos. DF-9 and DF-11. A sample was obtained and a check point Proctor was performed. Based on the results, which are presented on attached Table I, it was determined that the material being placed on the inside portion of the dam face was to be tested against standard Proctor #3. All of the moisture-density tests performed this shift met the project specifications. Two samples were obtained for -200 analysis and one sample was obtained for Atterberg limits. The results of these tests are presented on Table I, attached.

Mon Begin week 6

DAILY REPORT NO. 8 - Billy Ray, Field Engineer - 11.0 Hours
May 18, 1998

6:00 am to 5:30 pm - The scraper spread was delayed at the beginning of the shift as the fill area in the dam face had dried considerably over the weekend. The water wagon and blade added moisture and processed the soil. Once a visual inspection determined that there was adequate moisture, the three Cast 627 and one Cat 621 scrapers began hauling material from the cut in the diversion channel near the rock weir to the dam face. Moisture was added to the soil and the fill was compacted with a Cat 815 roller.

More topsoil was stripped at the end of the rock weir to make room for a future stockpile of rock which will be used as the armor for the face of the dam. Four nuclear method moisture-density tests were performed on the compacted fill. Test Nos. DF-13 through DF-14 met project specifications and test No. DF-12 failed due to low compaction. The failing test area was re-rolled and retested and test No. DF-12A met project specifications. The test results and locations are presented on the attached summary sheet. Two samples were obtained for -200 analysis (DF-200-8 and D-200-9) and one sample obtained for determination of Atterberg limits (DF-ATT-6). The results are presented on Table I, attached.

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DAILY REPORT NO. 9 - Billy Ray, Field Engineer - 11.0 Hours
May 19, 1998

6:00 am to 5:30 pm - Carr Construction continued the placement of fill in the dam face. Material was cut from the diversion channel and rock weir area using two Cat 627 scrapes and one Cat 621 scraper. The dam face fill area was becoming increasingly narrow as the fill was brought up on a 4:1 slope. Due to the narrowness, the water wagon, blade and Cat-815 compactor were having trouble keeping up with the scraper spread. The scrapers had to be shut down to allow the processing to catch up. Mr. Jim Smith (BCU) directed two of the scrapers to a trench cut for a drain pipe to the northeast of the dam. The third scraper removed topsoil from the far north and east portion of the site. Once a visual inspection and nuclear method moisture-density tests indicated the fill was adequately moisturized and compacted, the dam face fill was allowed to resume.

A total of three density tests were performed with the nuclear gauge, test Nos. DF-15, DF-16 and DF-16A. Test No. DF-16A was necessary as test No. DF-16 did not meet project specifications for compaction. Test results and locations are presented on the attached summary sheet. A sample was collected for -200 analysis and Atterberg limits (DF-200-10 and DF-ATT-7). Results are presented on Table I, attached.

DAILY REPORT NO. 10 - Billy Ray, Field Engineer - 11.0 Hours
May 20, 1998

6:00 am to 5:30 pm - Carr Construction continued placement of the fill in the dam face. Once again there were problems as the three Cat 627 scrapers and one Cat 621 scraper hauled material from the cut in the diversion channel and the rock weir. The fill area kept narrowing and the roller (Cat 815) and the blade were unable to adequately process the material. The scraper spread was diverted to placing random fill on top of the existing radon barrier. This allowed the roller and blade to catch up on the processing. A water wagon was used to add moisture to the fill and it also aided in compaction.

A nuclear method moisture-density test was taken, Test No. DF-17, on the dam face. Test No. DF-17 failed due to high moisture content and low dry density. The failed area was reworked and retest DF-17A was performed. Retest No. DF-17A also failed due to high moisture and low density. After a discussion with Mr. Jim Smith (BCU) and Mr. John Smith (Carr) the scraper spread in the inside of the dam face was suspended until a passing test could be achieved. Due to time constraints, the area will be retested on 5-21-98. Test results and locations are presented on the attached summary sheet. A sample was obtained from the cut for determination of moisture-density relationship and standard index properties (Proctor #4, DF-ATT-8 and DF-200-11); test results are presented on Fig. 4, attached. Another sample of fill, DF-200-12, was obtained for -200 analysis. Results are presented on Table I, attached

DAILY REPORT NO. 11 - Billy Ray, Field Engineer - 11.0 Hours
May 21, 1998

6:00 am to 5:30 pm - Carr Construction was able to organize their equipment and placement technique better this shift. A loaded rock truck (50 ton) was added to the fill to assist in compacting dam face fill. The four scrapers alternated fill between the dam face and a reject fill in the "groin" of the dam. This lessened the amount of fill placed in the dam face, so they did not have to halt the scraper spread as a water wagon, blade, compactor (Cat 815) and the rock truck were able to adequately process and compact the fill which was cut from the diversion channel and rock weir areas.

The area represented by failing test No. DR-17A from 5-20-98 was reworked and retested. Retest No. DF-17B did not meet project specifications as it was too wet and the density was low. The area was again reworked, retested and passed as test No. DF-17C. Three other nuclear method moisture-density tests were performed, Test Nos. DF-18 through DF-20. A material change was noted at the location of test No. DF-20, so a one-point Proctor sample was obtained. The one-point Proctor showed the material had an acceptable match that of standard Proctor #4. Test Nos. DF-18 through DF-20 met project specifications; test results are presented on the attached summary sheet.

I toured the W-8 borrow area to get an idea of what material we will be using. Carr Construction hopes to wait until all of the clayey material is removed from the diversion channel before moving the borrow to the

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W-8 area. Mr. John Smith (Carr) was made aware of the fact that I would like to know about plans to borrow from W-8 a couple of days ahead of the actual time to allow for preliminary laboratory testing. A Proctor sample was obtained from the cut in the diversion channel Results of Proctor #5, DF-ATT-9 and DF-200-13 are presented on Fig. 5, attached. A sample for -200 analysis, DF-200-14) was also obtained and the results are presented on Table I, attached.

DAILY REPORT NO. 12 - Billy Ray, Field Engineer - 11.0 Hours
May 22, 1998

6:00 am to 5:30 pm - Carr Construction continued the placement of fill in the dam face. The fill material was cut from the diversion channel and rock weir area. As the four scrapers completed a lift, two of the scrapers were diverted to the "groin" of the dam to place reject fill. Some random fill was placed in low spots on top of the existing radon barrier. A blade, water truck and compactor "finished" the random fill and sealed it before the rain. Mr. Jim Smith (BCU) asked everyone to stay off finished areas as Carr brought the areas to grade; all it needs now is the topsoil cover. The failed area represented by test RF-4, on top of the existing radon barrier, was reworked. Retest No. RF-4A was performed by the nuclear moisture-density method. The test passed and the results and location are presented on the attached summary sheet. A sample was collected for RF-ATT-3 and RF-200-5. These results are presented on Table I, attached.

Only one nuclear method moisture-density test, No. DF-21, was performed on the dam face fill. The results and location are presented on the attached summary sheet. The work this shift was shortened by a steady drizzle which made it to difficult for the equipment to get around. A sample was collected for DF-ATT-10 and DF-200-15. The results are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 5 of 6

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
5-15-98	DR-9	14.9	118.9	13.2	119.6	99	#3, Sandy Lean Clay
Location:	Sta. 19+50, ≈ 60' from 5135 contour line; El = 5135'						
5-15-98	DR-10	19.9	114.2	17.0	112.3	100+	#1, Sandy Lean Clay
Location:	Sta. 8+25, ≈ 10' from 5127 contour line; El = 5128'						
5-15-98	DR-11	11.3	115.4	13.2	119.6	97	#3, Sandy Lean Clay
Location:	Sta. 11+50, ≈ 40' from 5127 contour line; El = 5127.5'						
5-18-98	DF-12	12.4	109.1	13.2	119.6	(91)	#3, Sandy Lean Clay
Location:	Sta. 13+00, ≈ 60' from 5127 contour line; El = 5130'						
5-18-98	DF-13	15.9	115.3	13.2	119.6	96	#3, Sandy Lean Clay
Location:	Sta. 9+20, ≈ 25' from 5127 contour line; El = 5128.5'						
5-18-98	DF-14	15.0	118.7	13.2	119.6	99	#3, Sandy Lean Clay
Location:	Sta. 7+00, ≈ 70' rom 5127 contour line; El = 5129.5'						
5-18-98	DF-12A	12.3	115.6	13.2	119.6	97	#3, Sandy Lean Clay
Location:	Sta. 13+00, ≈ 60' from 5127 contour line; El = 5130' **RETEST OF TEST NO. DF-12**						
5-19-98	DF-15	16.3	108.5	17.0	112.3	97	#1, Sandy Lean Clay
Location:	Sta. 13+50, ≈ 65' from 5132 contour line; El = 5136'						
5-19-98	DF-16	18.7	103.9	17.0	112.3	(92)	#1, Sandy Lean Clay
Location:	Sta. 7+10, ≈ 20' from 5132 contour line; El = 5132'						
5-19-98	DF-16A	17.5	107.1	17.0	112.3	95	#1, Sandy Lean Clay
Location:	Sta. 7+10, ≈ 20' from 5132 contour line; El = 5132' **RETEST OF TEST NO. DF-16**						

( ) Failed to meet project requirements.

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
5-20-98	6 DF-17	(22.8)	101.2	17.0	112.3	(90)	#1, Sandy Lean Clay
Location:	Sta. 14+00, ≈ 35' from 5132 contour line; El = 5134'						
5-20-98	3 DF-17A	(22.2)	103.1	17.0	112.3	(92)	#1, Sandy Lean Clay
Location:	Sta. 14+00, ≈ 35' from 5132 contour line; El = 5134' **RETEST OF TEST NO. DF-17**						
5-21-98	4 DF-17B	(21.9)	103.1	17.0	112.3	(92)	#1, Sandy Lean Clay
Location:	Sta. 14+00, ≈ 35' from 5132 contour line; El = 5134' **RETEST OF TEST NO. DF-17A**						
5-21-98	5 DF-17C	18.1	107.0	17.0	112.3	95	#1, Sandy Lean Clay
Location:	Sta. 14+00, ≈ 35' from 5132 contour line; El = 5134' **RETEST OF TEST NO. DF-17B**						
5-21-98	7 DF-18	15.2	108.2	17.0	112.3	96	#1, Sandy Lean Clay
Location:	Sta. 12+50, ≈ 60' from 5132 contour line; El = 5136'						
5-21-98	8 DF-19	15.2	112.0	17.0	112.3	100	#1, Sandy Lean Clay
Location:	Sta. 8+20, ≈ 20' from 5132 contour line; El = 5136'						
5-21-98	9 DF-20	12.7	109.4	14.8	115.1	95	#4, Sandy, Silty Clay
Location:	Sta. 5+50, ≈ 35' from 5136 contour line; El = 5136'						
5-22-98	10 DF-21	14.1	109.8	14.8	115.1	95	#4, Sandy, Silty Clay
Location:	Sta. 11+50, ≈ 20' from 5137 contour line; El = 5137'						
5-22-98	6 RF-4A	16.2	107.4	17.0	112.3	96	#1, Sandy Lean Clay
Location:	Sta. 14+50 on 5165.5 subgrade contour line; El = 5165.5'						

( ) Failed to meet project requirements.

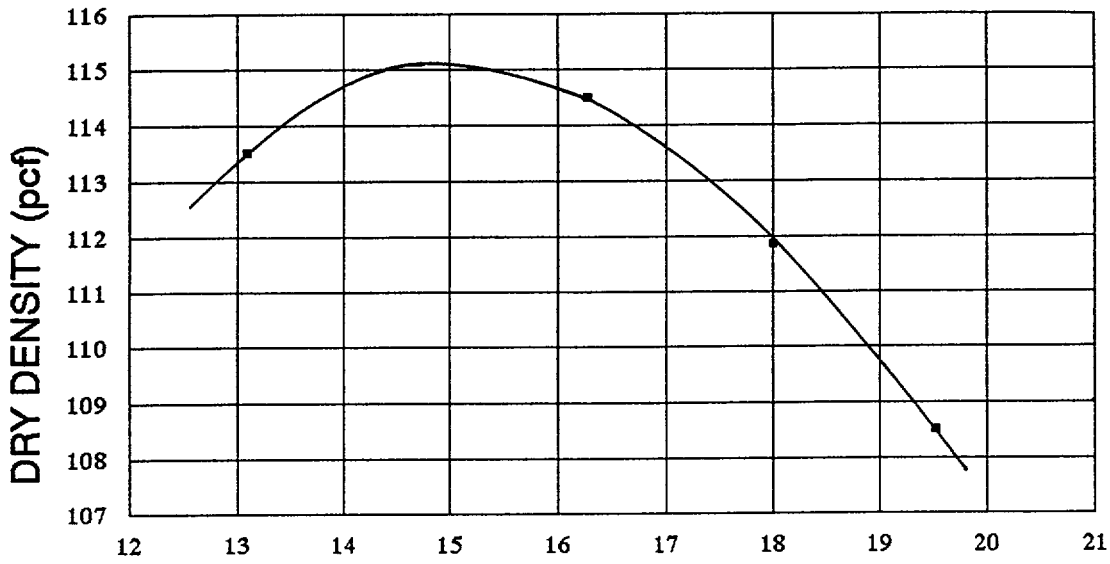
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
DF-ATT-5, DF-200-6			46	21	0	15	85			Lean Clay
DF-200-7					0	62	38			Clayey Sand
Density Tests DF-9, DF-11								12.3	119.1	Sandy Lean Clay
DF-ATT-6, DF-200-8			25	3	0	81	19			Silty Sand
DF-200-9					0	79	21			Silty Sand
DF-ATT-7, DF-200-10			25	4	0	67	33			Silty, Clayey Sand
Proctor #4, DF-ATT-8, DF-200-11	14.8	115.1	29	4	0	68	32			Silty, Clayey Sand
DF-200-12					0	74	26			Silty, Clayey Sand
Proctor #5, DF-ATT-9, DF-200-13	17.2	110.6	37	19	0	11	89			Lean Clay
DF-200-14					0	81	19			Silty Sand
Density Test DF-20								9.1	110.4	Silty, Clayey Sand
DF-ATT-10, DF-200-15			36	17	0	12	88			Lean Clay
RF-ATT-3, RF-200-5			31	13	0	39	61			Sandy Lean Clay

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 115.1 pcf OPTIMUM WATER CONTENT: 14.8%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	68
FINES (SILT AND CLAY)	32

ATTERBERG LIMITS

LIQUID LIMIT	29
PLASTICITY INDEX	4

SAMPLE IDENTIFICATION:
No. 4, Diversion Channel Cut

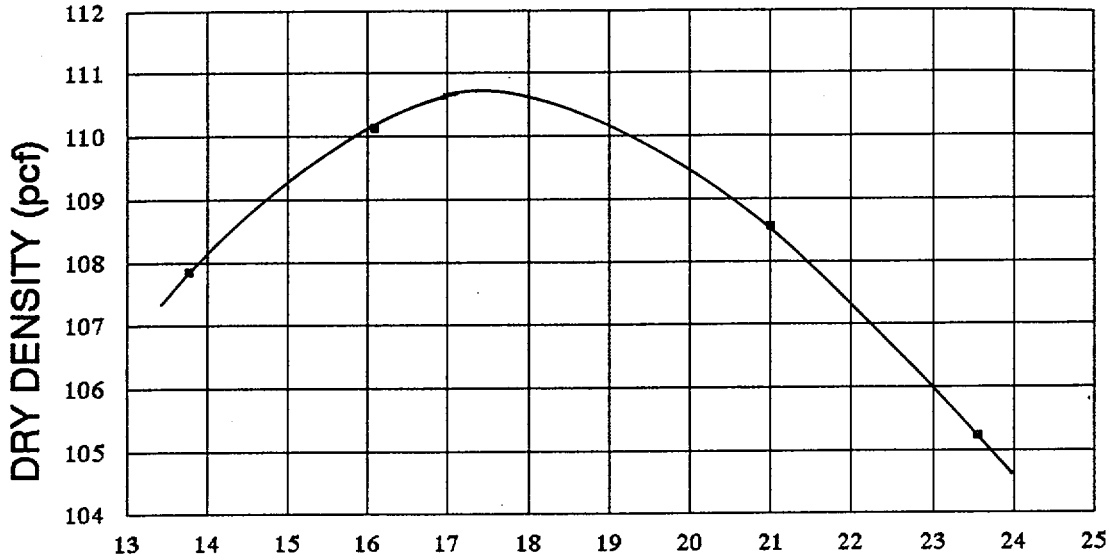
SOIL CLASSIFICATION:
Silty, Clayey Sand

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

20 May 98

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 4

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 110.6 pcf OPTIMUM WATER CONTENT: 17.2%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	11
FINES (SILT AND CLAY)	89

ATTERBERG LIMITS

LIQUID LIMIT	37
PLASTICITY INDEX	19

SAMPLE IDENTIFICATION:
No. 5, Diversion Channel Cut

SOIL CLASSIFICATION:
Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 5

MAXIM TECHNOLOGIES INC

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Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: June 8, 1998
JOB NO.: 9851711
SHEET 1 OF 5

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 7

PROJECT REPORT

DAILY REPORT NO. 13 - Billy Ray, Field Engineer - 12.0 Hours
May 26, 1998

6:00 am to 6:30 pm - The dam face fill had dried considerably over the three-day weekend. Before any fill was allowed to be placed this shift, the area was watered, mixed and compacted. Once the visual inspection determined that the surface of the fill was properly conditioned, the four scrapers began placing fill in the dam face. The material was cut from the rock weir and diversion channel areas. Some construction water was pumped from a small pond in the groin of the dam. Its usage was limited to the fill of the dam face as the water may have been contaminated and Mr. Gary Chase did not want the water on any vegetated area.

At one point during the shift, a visual inspection determined that the fill was not being properly mixed and conditioned. Mr. John Smith (Carr) was made aware of the concerns. A greater effort was made to mix the soil with a blade and water wagon before it was compacted. Two moisture-density tests were performed using the nuclear method and one test using the sandcone method. All of these tests (DF-22, DF-22-SC, DF-23) met the project specifications. The results and locations are presented on the attached summary sheet. Proctor #6 was obtained from the sandy area of the diversion channel and property tests DF-ATT-11 and DF-200-16 were performed. Another sample was collected from the fill for tests DF-ATT-12 and DF-200-17. Laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 14 - Billy Ray, Field Engineer - 12.0 Hours
May 27, 1998

6:00 am to 6:30 pm - Carr Construction continued placement of fill in the dam face. In the first half of the shift all four scrapers cut material from the diversion channel and rock weir and placed it on the dam face. The work area is becoming increasingly narrow as the slope (4:1) is getting taller. The blade is cutting deeper into the 2:1 slope to widen the fill and to create a clean face to key each lift into the existing slope. In the second half of this shift, more attention was paid to the random fill in areas outside the diversion channel and rock weir. Two scrapers continued placing fill in the dam face as the other two placed fill for the diversion channel embankment. Areas were watered with the water truck and compacted with the Cat-815 sheepsfoot roller. The larger rock that was placed in the diversion channel embankment was picked up with a loader and trammed to a designated area on the fill to the southwest of the diversion channel.

Two nuclear method moisture-density tests were performed (DF-24 and DF-25) on the dam face fill. A one-point Proctor determined that the fill was to be tested against Proctor #4. Both tests met the project specifications. Two samples were collected for laboratory analysis. Results for DF-ATT-13, DF-ATT-14, DF-200-18 and DF-200-19 are presented on Table I, attached. Results and locations of field density tests are presented on the attached summary sheet.

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DAILY REPORT NO. 15 - Billy Ray, Field Engineer - 12.0 Hours
May 28, 1998

6:00 am to 6:30 pm - Carr Construction split their crew into two areas for the majority of this shift. One half of the crew continued placement of fill in the dam face. The other half of the crew placed random fill outside of the rock weir. The sheepsfoot roller and the small water truck were dedicated to the diversion channel embankment as the water wagon and 50-ton rock truck watered and rolled the fill that was placed in the dam face. The material placed in the dam face was cut from the rock weir and as a result of the large haul, production was slow. A nuclear method moisture-density test, DF-26, was performed. The percent compaction was less than the required 95% of the maximum density. Mr. John Smith (Carr) was made aware of the failure and the area in question was reworked and retested, DF-26A, which met project specifications. The test results and locations are presented on the attached summary sheet.

A sample was obtained from the cut and Proctor #7 was performed along with DF-ATT-15 and DF-200-20. Another sample was collected from the fill for laboratory tests DF-ATT-16 and DF-200-21. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 16 - Billy Ray, Field Engineer - 12.0 Hours
May 29, 1998

6:00 am to 6:30 pm - Carr Construction continued placing fill in the dam face. Although the fill area is narrowing, it is becoming longer. Because of this, they are not rising the elevation as fast as they had been. The scraper spread was split in half with two scrapers hauling from the cut in the diversion channel and rock weir to the dam face and two scrapers stripping topsoil on the southwest portion of the site. The Cast-815 roller broke down in the afternoon and Mr. Monty Carr (Carr Construction) said he would work on getting another one.

Mr. Bob Coppin (BCU) was on-site. Mr. Coppin requested that we test all placed fill. In the past we had not been requested to test the fill along the embankment of the diversion channel. We were able to get some clarification on the naming of the fill that we had called "random fill". The fill atop the existing radon barrier will be called "radon barrier extension" and will be tested to radon barrier project specifications (which we have done). the random fill around the diversion channel will be called "diversion channel embankment". This fill will be tested to the dam face specifications and frequencies. Mr. Coppin also asked that we perform a full gradation at the frequency of one test per 10,000 cubic yards.

At the request of Mr. Coppin, the diversion channel embankment was tested with the nuclear gauge. Prior to testing, a one-point Proctor sample was collected and tested. It was determined that standard Proctor #6 represented the material that was placed. Two nuclear method moisture-density tests, DCE-1 and DCE-2, were performed on the fill that was placed on 5-28-98. Both tests met the project specifications. The results and test locations are presented on the attached summary sheet. Two nuclear method moisture-density tests, DF-27 and DF-28, were performed on the dam face fill that was placed this shift. Both tests met project specifications. The results and locations are presented on the attached summary sheet. One sample was collected from the radon barrier extension fill, one sample was collected from the diversion channel embankment fill, and one sample was collected from the dam face fill. All samples were tested for -200 analysis and Atterberg limits. The results of these tests are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 4 of 5

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
DAM FACE FILL							
5-26-98	DF-22	14.4	109.2	14.8	115.1	95	#4, Silty, Clayey Sand
Location:	Sta. 10+50, 245' from 5137 contour line; El = 5141.0'						
5-26-98	DF-22-SC	13.8	110.2	14.8	115.1	96	#4, Silty, Clayey Sand
Location:	Sta. 10+50, 245' from 5137 contour line; El = 5141.0'						
5-26-98	DF-23	14.2	111.3	14.8	115.1	97	#4, Silty, Clayey Sand
Location:	Sta. 6+45, 20' from 5137 contour line; El = 5139.0'						
5-27-98	DF-24	14.1	109.3	14.8	115.1	95	#4, Silty, Clayey Sand
Location:	Sta. 15+50, 25' from 5142 contour line; El = 5143.0'						
5-27-98	DF-25	15.3	111.1	14.8	115.1	96	#4, Silty, Clayey Sand
Location:	Sta. 8+25, 15' from 5142 contour line; El = 5142.0'						
5-28-98	DF-26	13.2	108.6	14.8	115.1	(94)	#4, Silty, Clayey Sand
Location:	Sta. 14+50, ≈ 60' from 5142 contour line; El = 5144.0'						
5-28-98	DF-26A	13.7	109.5	14.8	115.1	95	#4, Silty, Clayey Sand
Location:	Sta. 14+50, ≈ 60' from 5142 contour line; El = 5144.0' RETEST OF TEST NO. 26						
5-29-98	DF-27	19.7	106.3	17.2	110.6	96	#5, Lean Clay
Location:	Sta. 8+00, ≈ 35' from 5147 contour line; El = 5147.0'						
5-29-97	DF-28	18.0	106.3	17.2	110.6	96	#5, Lean Clay
Location:	Sta. 14+50, ≈ 40' from 5147 contour line; El = 5147.0'						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 5 of 5

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
DIVERSION CHANNEL EMBANKMENT							
5-29-98	DCE-1	9.9	112.8	11.8	118.9	95	#6, Sand with Silt
Location:	Sta. 2+25, ≈ 40' from outside edge toe; at final grade						
5-29-98	DCE-2	10.5	115.3	11.8	118.9	98	#6, Sand with Silt
Location:	Sta. 0+75, ≈ 26' from outside edge toe; at final grade						

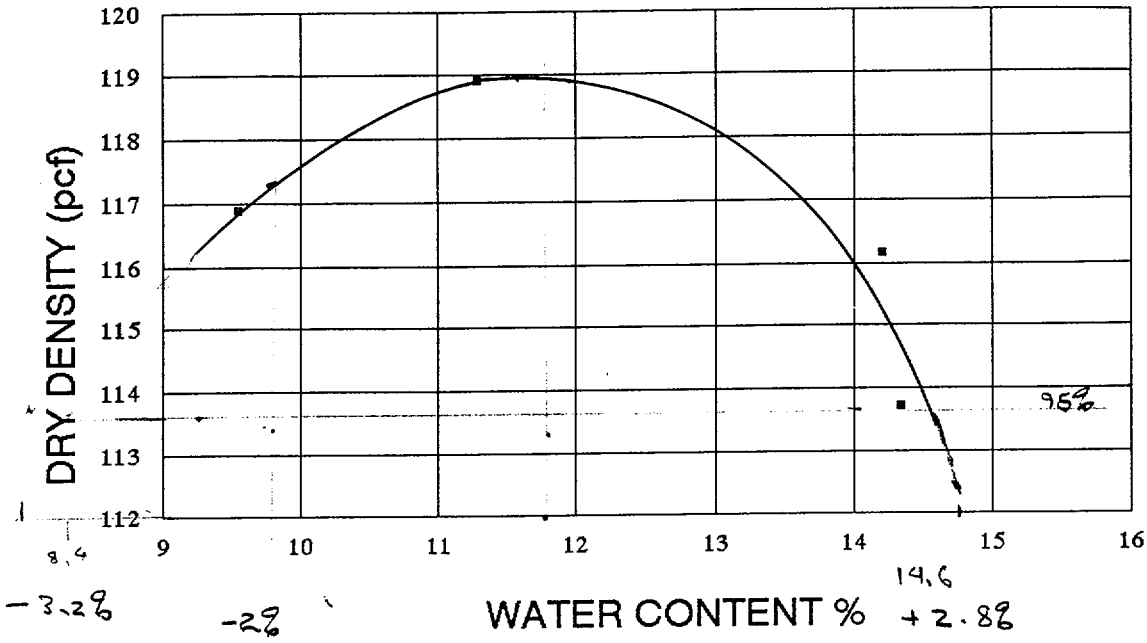
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor #6, DF-ATT-11, DF-200-16	11.8	118.9	NV	NP	0	92	8			Sand with Silt
DF-ATT-12, DF-200-17			35	19	0	44	56			Sandy Lean Clay
DF-ATT-13, DF-200-18			33	16	0	40	60			Sandy Lean Clay
DF-ATT-14, DF-200-19			NV	NP	0	78	22			Silty Sand
DF-24, One-Point								16.1	114.0	Silty, Clayey Sand
Proctor #7, DF-ATT-15, DF-200-20	17.2	110.8	47	27	0	7	93			Lean Clay
DF-ATT-16, DF-200-21			36	18	0	41	59			Sandy Lean Clay
DCE-1, One-Point								8.9	113.0	Sand with Silt
DCE-ATT-1, DCE-200-1			NV	NP	0	86	14			Silty Sand
DF-ATT-17, DF-200-22			43	24	0	18	82			Lean Clay with Sand
RBE-ATT-4, RBE-200-6			50	28	0	13	87			Fat Clay

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 118.9 pcf OPTIMUM WATER CONTENT: 11.8%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	92
FINES (SILT AND CLAY)	8

ATTERBERG LIMITS

LIQUID LIMIT	NV
PLASTICITY INDEX	NP

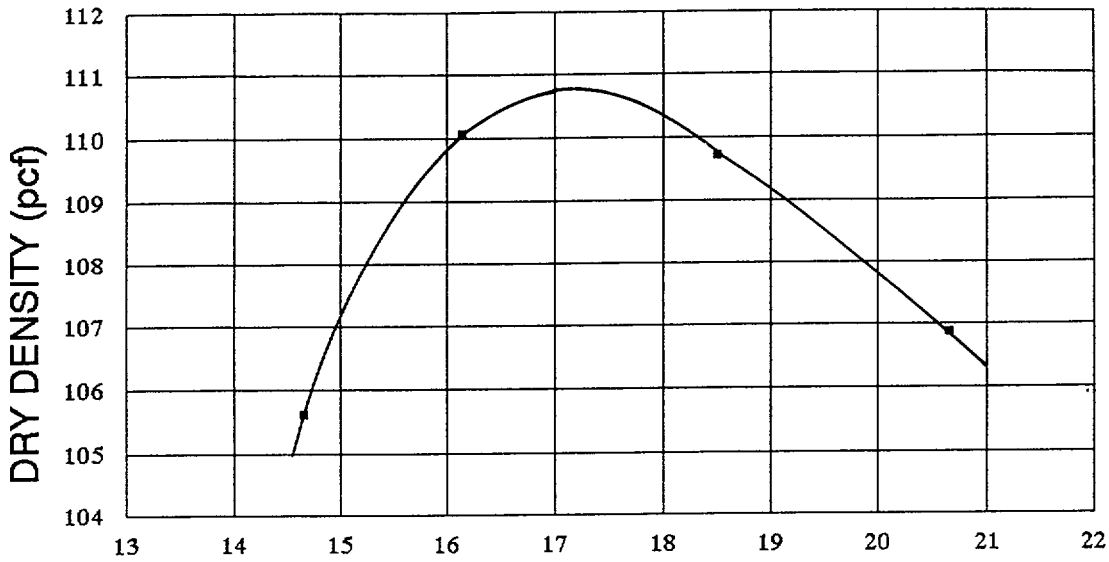
SAMPLE IDENTIFICATION:
No. 6, Diversion Channel

SOIL CLASSIFICATION:
Sand with Silt

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 6

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 110.8 pcf OPTIMUM WATER CONTENT: 17.2%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	7
FINES (SILT AND CLAY)	93

ATTERBERG LIMITS

LIQUID LIMIT	47
PLASTICITY INDEX	27

SAMPLE IDENTIFICATION:
No. 7, Cut Area

SOIL CLASSIFICATION:
Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 7

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: June 10, 1998
JOB NO.: 9851711
SHEET 1 **OF** 5

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 8

PROJECT REPORT

DAILY REPORT NO. 17 - Billy Ray, Field Engineer - 11.0 Hours
Mon June 1, 1998

6:00 am to 5:30 pm - Carr Construction continued placement of fill in both the dam face and diversion channel embankment. The material for the fills were cut from the diversion channel with the clayey material (based on visual observation) going to the dam face, and the sandy material (based on visual observation) going to the diversion channel embankment. Some vegetated growth was removed from the southwestern portion of the site and placed on the topsoil pile. Several large rocks were trammed from the cut in the diversion channel to a designated waste area south of the diversion channel. The electricity was not working on-site until approximately 10:30 am. There was some concern over the amount of construction water as the pump that feeds the water storage tank was electric. Water was not used for dust control and was reserved exclusively for the fill processing. All lab work was delayed until the power was restored.

One nuclear method moisture-density test, Test No. DF-29, was performed on the fill that was placed on the dam face. The test met the project specifications, both the moisture content and the percent compaction were on the edge of acceptable limits. Mr. John Smith (Carr) was notified. One sample was collected from the dam face and one sample from the diversion channel embankment for -200 analysis and Atterberg (Samples DF-ATT-18, DF-200-23, DCE-ATT-2 and DCE-200-2). Results from the moisture-density test and the lab test results are presented on the attached summary sheet and Table I, respectively.

DAILY REPORT NO. 18 - Billy Ray, Field Engineer - 11.0 Hours
Tue June 2, 1998

6:00 am to 5:30 pm - Carr Construction placed fill in the dam face and the diversion channel embankment this shift. All four scrapers worked in a loop as the clayey material was cut from the rock weir and the end of the diversion channel and placed in the dam face, and the sandy material was cut from the diversion channel near the dam and placed on the diversion channel embankment. No fill was allowed to be placed at the beginning of the shift as both work areas were too dry. Areas were watered and bladed, a visual inspection determined that the placement of the fill could commence shortly after the lunch break. The cut at the end of the diversion channel was thought to have been completed. The fill to the dam face was halted as all four scrapers placed fill on the diversion channel embankment. A further inspection by Mr. Jim Smith (BCU) determined that the cut could continue in the end of the diversion channel and rock weir. While the placement of dam face fill was suspended, the blade placement trimmed clay off of the existing 2:1 slope of the dam face in an effort to widen the work area. This clay was spread over the fill as it was watered and compacted.

In anticipation of Carr Construction relocating their cut to the W-8 borrow area, samples were collected for -200 analysis and Atterberg limits to determine suitability. These samples are presently numbered W8-1 through W8-4. Once the areas represented by these samples are cut from the W-8 area and are placed as fill, they will be renamed and applied to the appropriate testing frequencies. Another sample was collected

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from W-8 for a standard Proctor. The results of all the W-8 laboratory tests are presented on Table I, attached.

One nuclear method moisture-density test was performed on the dam face fill and one test was performed on the diversion channel embankment fill that was placed this shift. All tests met the project specifications. The test results and locations are presented on the attached summary sheet. Mr. Jim Smith (BCU) asked me to perform a moisture content on a sample of low grade mill tailings that was collected from Pond #2. The results are presented on Table I. A sample was also collected for -200 analysis from the diversion channel, southeast of the dam, (Borrow Check #3) to determine suitability for placement in the dam face fill. Results are presented on Table I.

DAILY REPORT NO. 19 - Billy Ray, Field Engineer - 11.0 Hours
June 3, 1998

6:00 am to 5:30 pm - Carr Construction continued the placement of fill on the diversion channel embankment. A small amount of clay was placed in the dam face fill as the area of the cut was primarily sand and was better suited for the diversion channel embankment. Fill was watered with the water wagon and compacted with the Cat 653 roller which arrived Monday, 6-1-98 to replace the Cat 815 roller which is in need of repair. The fill placement was concentrated in the low spot between the dam face and the diversion channel. The threat of moisture forced the contractor to ensure positive drainage. Several large boulders that were present in the cut of the channel were trammed to a designated waste area south of the channel. The 50-ton rock truck began proof-rolling the Pond #2 area as it was not able to stay on the dam face. The blade worked to widen the dam face fill area.

One nuclear method moisture-density test was performed on the fill placed on the diversion channel embankment. Test No. DCE-4 met the project specifications. Results and locations are presented on the attached summary sheet. One sample was obtained from the diversion channel embankment fill and from the dam face fill for -200 analysis and Atterberg limits (Samples DF-ATT-20, DF-200-25, DCE-ATT-3 and DCE-200-3). Laboratory results are presented on Table I, attached.

DAILY REPORT NO. 20 - Billy Ray, Field Engineer - 11.0 Hours
June 4, 1998

6:00 am to 5:30 pm - Carr Construction was able to work a full shift despite the rain and snow. All work was done with and on sandy material. All cuts were taken from the diversion channel and all fills were taken to the diversion channel embankment. No work was done on the dam face. The proof-rolling of Pond #2, which began yesterday, was postponed due to moisture. Mr. John Smith (Carr) was asked to remove some boulders which had been placed in the fill area. The boulders were trammed to the designated rock waste area south of the diversion channel. The short haul lent itself to one of the most productive days for the contractor. Moisture was added by the water wagon and fill was rolled with the Cat 653 roller and with local construction traffic.

Two nuclear method moisture-density tests were performed on the fill placed this shift on the diversion channel embankment. Test Nos. DEC-5 and DCE-6 met the project specifications; the results and locations are presented on the attached summary sheet. One sample was collected from the diversion channel embankment for -200 analysis and Atterberg limits (Sample DCE-ATT-4 and DCE-200-4). Laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 21 - Billy Ray, Field Engineer - 11.0 Hours
June 5, 1998

6:00 am to 5:30 pm - Carr Construction worked primarily on the diversion channel embankment as the cut material was predominately sand. A small area of clay was discovered in the channel and after a visual inspection, it was placed on the dam face. A blade worked on the dam face throughout the day to help in the drying of the soil. Once again the Pond #2 area was too wet to be proof-rolled. All work areas were regraded in anticipation of a storm.

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Two nuclear method moisture-density tests were performed on the fill placed in the diversion channel embankment this shift. Test Nos. DCE-7 and DCE-8 met project specifications; test results and locations are presented on the attached summary sheet. One sample was collected from both the diversion channel embankment fill and the dam face fill for -200 analysis and Atterberg limits (Samples DF-ATT-21, DF-200-26, DCE-ATT-5 and DCE-200-5). Laboratory test results are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 5 of 5

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
DAM FACE FILL							
6-01-98	DF-29	15.2	104.8	17.2	110.6	95	#5, Lean Clay
Location:	Sta. 6+20, ≈ 15' from 5147 contour line; El = 5149'						
6-02-98	DF-30	15.3	106.3	17.2	110.6	97	#5, Lean Clay
Location:	Sta. 9+50, 25' from 5147 contour line; El = 5149'						
DIVERSION CHANNEL EMBANKMENT							
6-02-98	DCE-3	10.2	114.3	11.8	118.9	96	#6, Sand with Silt
Location:	Sta. 2+50, ≈ 20' from 5155 contour line; El = 5155.0'						
6-03-98	DCE-4	14.0	114.3	11.8	118.9	96	#6, Sand with Silt
Location:	Sta. 7+00, ≈ 55' from downstream right side toe; 16' above toe of channel						
6-04-98	DCE-5	13.4	118.3	11.8	118.0	99	#6, Sand with Silt
Location:	Sta. 4+75, 100' from toe at downstream right side; 17' above ditch bottom						
6-04-98	DCE-6	11.8	113.3	11.8	118.9	96	#6, Sand with Silt
Location:	Sta. 9+00, 70' from toe of downstream right side; 13' above ditch bottom						
6-05-98	DCE-7	13.1	113.4	11.8	118.9	95	#6, Sand with Silt
Location:	Sta. 10+00, 50' from downstream right toe; El = 12.5' above ditch bottom						
6-05-98	DCE-8	9.9	112.4	11.8	118.9	95	#6, Sand with Silt
Location:	Sta. 13+00, 80' from downstream right toe; 17' above ditch bottom						

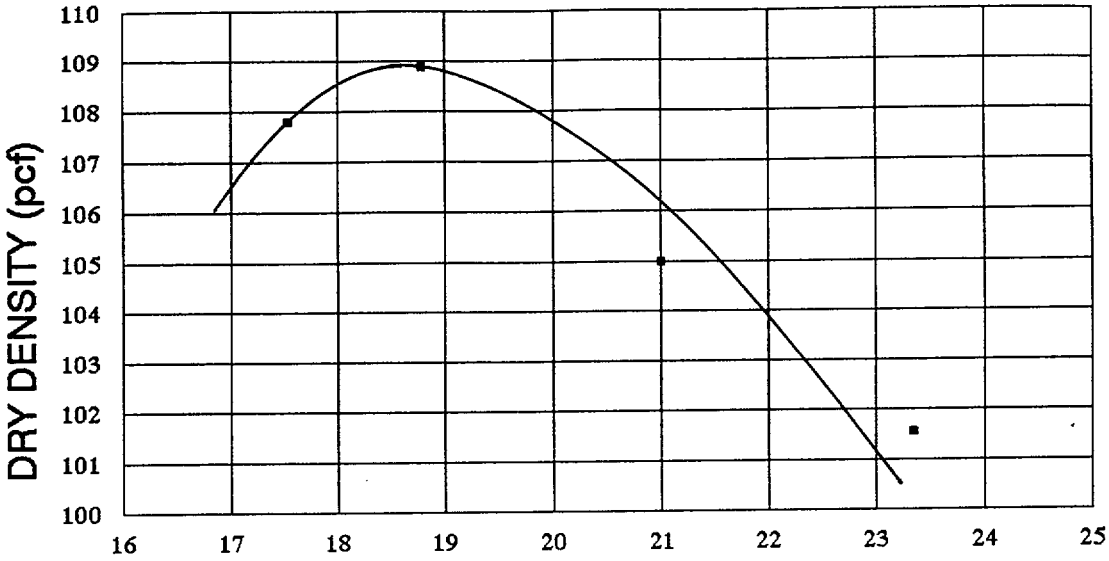
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1 June DF-ATT-18, DF-200-23			39	22	0	20	80			Lean Clay with Sand
DCE-ATT-2, DCE-200-2			NV	NP	0	84	16			Silty Sand
Proctor #8, W8-5	18.5	108.9	45	25	0	16	84			Lean Clay with Sand
2 June W8-1			27	7	0	51	49			Sand with Clay
W8-2			32	17	0	50	50			Sandy Lean Clay
W8-3			40	21	0	22	78			Lean Clay with Sand
W8-4			NV	NP	0	60	40			Silty Sand
Borrow Check #3					0	62	38			Silty Sand
Tailings Moisture Content								12.2		Tailings Sand
DF-ATT-19, DF-200-24			43	25	0	13	87			Lean Clay
3 June DF-ATT-20, DF-200-25			40	19	0	7	93			Lean Clay
DCE-ATT-3, DCE-200-3			NV	NP	0	85	15			Silty Sand
4 June DCE-ATT-4, DCE-200-4			32	9	0	75	25			Clayey Sand
5 June DF-ATT-21, DF-200-26			46	26	0	10	90			Lean Clay
DCE-ATT-5, DCE-200-5			27	6	0	81	19			Sand with Clay

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 108.9 pcf OPTIMUM WATER CONTENT: 18.5%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	16
FINES (SILT AND CLAY)	84

ATTERBERG LIMITS	
LIQUID LIMIT	45
PLASTICITY INDEX	25

SAMPLE IDENTIFICATION:
No. 8, W–8 Borrow Area

SOIL CLASSIFICATION:
Lean Clay with Sand (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 8

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: June 18, 1998
JOB NO.: 9851711
SHEET 1 OF 4

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 9

PROJECT REPORT

Mon **DAILY REPORT NO. 22 - Billy Ray, Field Engineer - 5.5 Hours**
June 8, 1998

6:00 am to 11:30 am - Heavy rains over the weekend prevented Carr Construction from performing any work today. We were able to catch up on some paperwork and some housekeeping in the laboratory. Mr. Jim Smith (BCU) will call me between 6:30 and 7:00 am on 6-9-98 to let me know whether or not to dive to the work site.

Tue **DAILY REPORT NO. 23 - Billy Ray, Field Engineer - 11.0 Hours**
June 9, 1998

7:00 am to 6:30 pm - The impact from the rain on 6-8-98 was minimal and the contractor was able to work a full shift today. We were notified that Carr Construction would be working ten hour shifts until further notice. Fill was placed on the diversion channel embankment as all four scrapers cut material from the diversion channel. The rocks that made it to the fill area were windrowed as a loader picked them up and hauled them to the designated rock waste area south of the diversion channel. The dam face was bladed and rolled but no fill was placed on the dam face. Some clay that was uncovered was placed on the diversion channel embankment. Because of the material change, a one-point Proctor sample was obtained to determine which Proctor the fill should be tested against. The results of the one-point are presented on Table I, attached.

A new road was built between the diversion channel and the dam face as the cut in the diversion channel was widened. Two nuclear method moisture-density tests (DCE-9 and DCE-10) were performed on the fill placed on the diversion channel embankment this shift. Both tests met project specifications. The results and locations are presented on the summary sheet, attached. Two samples were collected for -200 analysis (DCE-200-6 and DCE-200-7) and one sample for Atterberg limits (DCE-ATT-6). Laboratory test results are presented on Table I, attached.

Wed **DAILY REPORT NO. 24 - Billy Ray, Field Engineer - 12.0 Hours**
June 10, 1998

6:00 am to 6:30 pm - The dam face dried sufficiently to allow Carr Construction to place fill there as clay was encountered in the diversion channel cut. The diversion channel embankment fill placement continued. The diversion channel embankment was becoming narrow as the fill was brought up. With a 5:1 slope on the outside and a 3:1 slope on the inside, the fill narrows by 8 ft for every 1-ft as it comes up. A Proctor sample (Sample #9) was collected from the Pond #2 area. That area was proof-rolled last week, but after the rains it will need to be rolled again. It will be tested according to the radon barrier frequency and specifications. Large rocks from the cut and fill were hauled to the designated waste area south of the diversion channel. Some waste soil and rock were also hauled to another waste area north and east of the dam face.

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Two nuclear moisture-density tests (DCE-11 and DCE-12) were performed on the diversion channel embankment and one test (DF-31) was performed on the dam face. The nuclear method and the sand cone method were used on the dam face. A one-point Proctor was performed on the material placed on the dam face. One sample was collected from the diversion channel embankment and the dam face for -200 analysis and Atterberg limits (DCE-ATT-7, DCE-200-8, DF-ATT-22 and DF-200-27).

THU 2

DAILY REPORT NO. 25 - Billy Ray, Field Engineer - 12.0 Hours
June 11, 1998

6:00 am to 6:30 pm - A persistent light rain limited the work that Carr Construction was able to perform. Most of the fill placed this shift was placed on the diversion channel embankment with an occasional scraper load being placed on the dam face fill. All material that was placed today was cut from the diversion channel. Several loads of rock were wasted into the waste dump near the old mill building and the designated rock sump south of the diversion channel. The proof-rolling of Pond #2 resumed until a steady rain around 2:00 pm stopped that operation. A blade cut the slopes on the diversion channel as well as the embankment. All fill was watered with the water wagon and rolled with the 50-ton rock truck and sheepsfoot roller.

Less than one lift was placed on the dam face so a moisture-density test was not performed. Two nuclear method moisture-density tests (DEC-13 and DCE-14) were performed in the diversion channel embankment fill. Once again, a material change was apparent so a one-point Proctor was performed. Both tests were compared to Proctor #6 and both met the project specifications. The results and locations are presented on the attached summary sheet. A sample was collected from the dam face fill (DF-ATT-23 and DF-ATT-28) and the diversion channel fill (DCE-ATT-8 and DCE-200-9) for -200 analysis and Atterberg limits. The results are presented on Table I, attached.

200

DAILY REPORT NO. 26 - Billy Ray, Field Engineer - 12.0 Hours
June 12, 1998

6:00 am to 6:30 pm - Once again rain overnight slowed the start of this shift. Carr Construction placed fill on the diversion channel embankment as that fill was sandy and the equipment was able to work effectively. Once the dam face had dried, it was bladed and rolled. A survey performed by Powers Elevation revealed that the 5:1 slope of the dam face was too flat in some places. In the afternoon, several scraper loads were placed in the low spots to bring it to grade.

Mr. Bob Coppin was on-site. We discussed changes to our program as well as additional testing. Mr. Coppin requested that we perform oven-dried moisture contents on each nuclear method moisture-density test. He also asked for gradations to be performed on samples from two points on the rock weir; he would like a facsimile of the results when they are available. Mr. Coppin also asked that we average our results from the dam face laboratory testing to determine one average percent -200 content and Atterberg limits, then find a sample from the fill that resembles the average and perform a direct shear test. Also as requested, a sample of the rock was taken to the Casper office for tensile strength testing.

Two nuclear method density tests (DCE-15 and DCE-16) were performed on the diversion channel embankment fill that was placed this shift. Oven-dried moisture content tests were also performed. The results and locations of these two tests are presented on the attached summary sheet. Two samples were collected for -200 analysis and one sample for Atterberg limits from the diversion channel embankment (DCE-200-10, DCE-200-11 and DCE-ATT-9). The laboratory test results are presented on Table I, attached.

Reviewed By: Mark Peloquin
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 4 of 4

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
DIVERSION CHANNEL EMBANKMENT							
6-09-98	DCE-9	11.0	113.3	11.8	118.9	95	#6, Sand with Silt
Location:	Sta. 6+50, ≈ 105' from downstream right toe; 17' above ditch bottom						
6-09-98	DCE-10	13.3	116.6	13.2	119.6	98	#3, Clayey Sand
Location:	Sta. 16+50						
6-10-98	DCE-11	11.1	117.5	13.2	119.6	98	#3, Clayey Sand
Location:	Sta. 15+00, 55' from downstream right toe; 16' above channel bottom						
6-10-98	DCE-12	13.2	119.4	13.2	119.6	100	#3, Clayey Sand
Location:	Sta. 8+50, 48' from downstream right toe; 14' above channel bottom						
6-11-98	DCE-13	14.0	115.9	11.8	118.9	97	#6, Sand with Silt
Location:	Sta. 4+50, 65' from downstream right toe; 19.5' above channel bottom						
6-11-98	DCE-14	11.0	114.2	11.8	118.9	96	#6, Sand with Silt
Location:	Sta. 13+50, 70' from right toe; 17' above channel bottom						
6-12-98	DCE-15	11.8	118.5	11.8	118.9	100	#6, Sand with Silt
Location:	Sta. 4+50, 85' from right toe; final grade						
6-12-98	DCE-16	11.4	117.8	11.8	118.9	99	#6, Sand with Silt
Location:	Sta. 10+50, 65' from right toe; 22' above channel bottom						
DAM FACE FILL							
6-10-98	DF-31	18.9	107.8	17.2	110.6	96	#5, Lean Clay
Location:	Sta. 7+50, 50' from 5152 contour line; El = 5156.0'						
6-10-98	DF-31-SC	18.9	108.1	17.2	110.6	98	#5, Lean Clay
Location:	Sta. 7+50, 50' from 5152 contour line; El = 5156.0'						

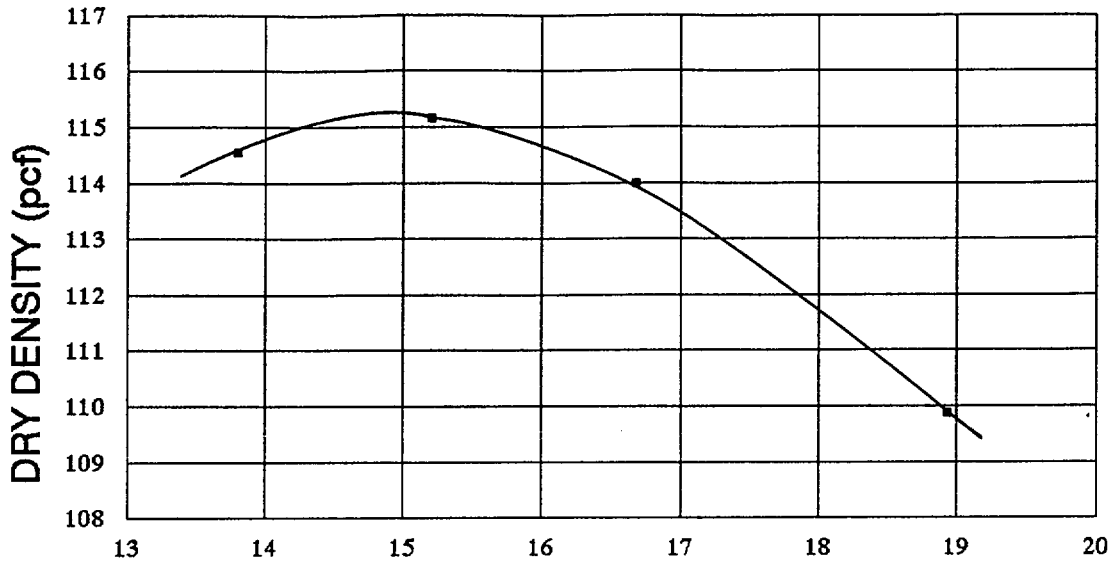
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
DCE-ATT-6, DCE-200-6			29	6	0	82	18			Silty Sand
DEC-200-7					0	76	24			Silty Sand
DEC-10 - 1 pt.								12.2	119.2	Clayey Sand (Proctor #3)
DF-ATT-22, DF-200-27			44	23	0	19	81			Lean Clay with Sand
Proctor #9	14.9	115.3	36	19	0	51	49			Clayey Sand
DCE-ATT-7, DCE-200-8			36	19	0	45	55			Sandy Lean Clay
DF-31 - 1 pt. (1)								16.8	110.3	Lean Clay (Proctor #5)
DF-ATT-23, DF-200-28			42	21	0	12	88			Lean Clay
DCE-Att-8, DCE-200-9			27	4	0	83	17			Silty Sand
DCE-13 - 1 pt. (2)								12.6	117.2	Sand with Silt (Proctor #6)
DCE-ATT-9, DCE-200-10			34	13	-	74	26			Lean Clay with Sand
DCE-200-11					0	88	12			Silty Sand
Rock Weir, Sta. 0+80					0	8	92			Lean Clay
Rock Weir, Sta. 1+75					0	31	69			Sandy Lean Clay

MOISTURE – DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 115.3 pcf OPTIMUM WATER CONTENT: 14.9%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	51
FINES (SILT AND CLAY)	49

ATTERBERG LIMITS	
LIQUID LIMIT	36
PLASTICITY INDEX	19

SAMPLE IDENTIFICATION:
No. 9, Pond #2

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 9

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: June 23, 1998
JOB NO.: 9851711
SHEET 1 OF 4

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 10

PROJECT REPORT

DAILY REPORT NO. 27 - Billy Ray, Field Engineer - 5.0 Hours
June 15, 1998

6:00 am to 11:00 am - Traveled to the project site, however, due to rains over the weekend, Carr Construction canceled all work scheduled for this shift. Completed laboratory testing in progress and updated paperwork.

DAILY REPORT NO. 28 - Billy Ray, Field Engineer - 11.0 Hours
June 16, 1998

7:00

7:00 am to 6:30 pm - Because of the moisture and the fact that Carr Construction did not work on 6-15-98, we waited at the Casper office for a phone call before heading to the job site. Mr. Gary Chase informed me that Carr would be working today so we then traveled to the project site. Fill was placed on the dam face at the beginning of this shift. Because of the length of the fill (approximately 1900 ft) and the narrowness (approximately 15 ft) two ramps were constructed to divide the fill in half allowing the blade, water truck and compactor to process one half as the four scrapers placed fill on the other half. This system worked well and the fill was brought up to approximately elevation 5167 or one foot below grade. As the blade cut the slopes to grade, fill was placed on the diversion channel embankment. That area is very near grade and not much fill was placed there this shift.

The smaller blade and the 50-ton rock truck worked in Pond #2 grading and proof-rolling in anticipation of radon barrier placement. Mr. Jim Smith (BCU) asked met to perform several nuclear method moisture-density tests in the area to ensure proper compaction and moisture content before any more radon barrier was placed. Six tests were performed (RB-1 through RB-6). The resuits and corresponding oven-dried moisture contents are on the attached summary sheet. These are no locations for these tests at this time as the area has yet to be staked for construction. The test locations are marked with pin flags and once the area is staked, the locations will be identified. In addition to the nuclear method testing, three samples (RB-ATT-1 through RB-ATT-3 and RB-200-1 through RB-200-3) were collected from this area for -200 analysis and Atterberg limits to ensure that the material placed meets the radon barrier criteria. The results of these tests are presented on Table I, attached.

One nuclear method moisture-density test was performed on the fill placed on the dam face. The results, location and oven-dried moisture content for test No. DF-32 are presented on the attached summary sheet. Two samples were collected from the dam face for -200 analysis nd Atterberg limits in hopes of obtaining a sample which is close to the average values for percent -200 content, liquid limit and plasticity index for Mr. Bob Coppin's direct shear sampling request. These tests will also serve as DF-ATT-A, DF-ATT-B, D-200-A and DF-200-B. Test results are presented on Table I, attached.

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DAILY REPORT NO. 29 - Billy Ray, Field Engineer - 1.0 Hour
June 17, 1998

6:00 am to 7:00 am - On our way to the job site we were stopped by Mr. Jim Smith (BCU). He told us that due to the rain there would be no construction today. We returned to the Casper office.

DAILY REPORT NO. 30 - Billy Ray, Field Engineer - 8.5 Hours
June 18, 1998

7:00 am to 3:30 pm - Talked to Mr. Jim Smith (BCU) on the telephone and discussed the site conditions. Mr. Smith stated due to the heavy rains there would be no construction activity until further notice. Mr. Mark Peloquin (Maxim) suggested that I travel to the job site to complete all laboratory work and reports for the week.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

June 19, No work no daily report

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Bear Creek Uranium
Job No. 9851711
Sheet 4 of 4

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
1997 RADON BARRIER							
6-16-98	RB-1	19.7	105.1	14.9	115.3	(91)	#9 Clayey Sand
Location:							
6-16-98	RB-2	18.8	107.0	14.9	115.3	(93)	#9 Clayey Sand
Location:							
6-16-98	RB-3	17.4	113.1	14.9	115.3	98	#9 Clayey Sand
Location:							
6-16-98	RB-4	17.5	108.7	14.9	115.3	(94)	#9 Clayey Sand
Location:							
6-16-98	RB-5	21.7	102.5	14.9	115.3	(89)	#9 Clayey Sand
Location:							
6-16-98	RB-6	20.1	103.2	14.9	115.3	(90)	#9 Clayey Sand
DAM FACE FILL							
6-16-98	DF-~~31~~ 32 ?	18.4	111.9	18.9	110.6	100+	#5 Lean Clay
Location:	Sta. 10+00, 15' from 5162 contour line; El = 5163.0'						

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
DF-200-A, DF-ATT-A			35	14	0	30	70			Sandy Lean Clay
DF-200-B, DF-ATT-B			34	15	0	37	63			Sandy Lean Clay
RB-ATT-1, RB-200-1 Pond 2			35	15	0	46	54			Sandy Lean Clay
RB-ATT-2, RB-200-2 AREA			37	19	0	35	65			Sandy Lean Clay
RB-ATT-3, RB-200-3			47	26	0	30	70			Sandy Lean Clay

Tue June 16

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: July 1, 1998
JOB NO.: 9851711
SHEET 1 **OF** 7

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

PROJECT REPORT

DAILY REPORT NO. 31 - Billy Ray, Field Engineer - 10.0 Hours
June 22, 1998

8:00 am to 6:30 pm - Mr. Gary Chase (BCU) called the Casper office at 8:00 am to inform me that Carr Construction would be working on-site today. Mr. Jim Smith (BCU) was not present and he could not be expected until Friday, 6/26/98 at the earliest. Upon my arrival, density tests were performed before any fill was placed on the diversion channel embankment and the dam face. The nuclear method moisture-density test No. DCE-17 did not meet the project specifications as it was too wet and the percent compaction was too low. The failed area was allowed to dry all morning and was bladed, scarified and rolled in the afternoon. It was then retested and passed as test No. DCE-17A. No fill was placed on the diversion channel embankment this shift.

The initial test of the dam face (DF-33) met the project specifications. Carr Construction was allowed to place fill on the dam face. The material used on the dam face this shift was cut from the northeast corner of the W-8 borrow area. The preliminary laboratory testing of W-8 material represented the material that was used this shift. Sample initially numbered W8-ATT-1 and W8-200-1 from 6/2/98 will be renumbered as DF-ATT-24 and DF-200-28. These results are presented on Table I, attached. Another density test (DF-34) was performed and met project specifications. All density test results from this shift are presented on the attached summary sheet.

The existing radon barrier that needs some extension fill was scarified, bladed and rolled. This area will be tested tomorrow and if it passes, the radon barrier extension fill will be placed. Some sandy soils were placed in a fill in the "groin" of the dam for drainage purposes and no testing was required. At the end of the shift all areas were rolled, sealed and graded in case of further precipitation.

DAILY REPORT NO. 32 - Billy Ray, Field Engineer - 12.0 Hours
June 23, 1998

6:00 am to 6:30 pm - Carr Construction placed fill on the diversion channel embankment as the dam face fill is completed pending a survey by Powers Elevation. All material that was placed on the diversion channel embankment was cut from the diversion channel. One nuclear method moisture-density test (DCE-18) was performed on the fill placed this shift. This test met the project specifications, the results and location are presented on the attached summary sheet.

Some sandy material was placed in a small fill in the "groin" of the dam. A couple of scraper loads of rock were hauled to the waste pile near the old mill building. A water pump was set up in Pond #3 to dry out the area. The water was pumped to a catch channel outside of the diversion channel.

Carr Construction is trying to dry some of the existing radon barrier in order to keep the scrapers working. A blade scarified the wet areas and it was allowed to dry. Mr. John Smith (Carr) asked me to perform some

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moisture-density tests to determine which areas are acceptable. A one-point Proctor was performed, the one-point fell near the curve for Proctor #8. The first two tests proved to be too wet so the area was scarified again and allowed to air dry. Because of time constraints, the area will be retested on 6/24/98. Carr Construction shut the scraper spread down about 4:30 pm while the blades and rollers worked until 6:30 pm trying to dry the soil ahead of placement of the fill. Two more nuclear method moisture-density tests (RB-9 and RB-10) were performed on the existing radon barrier after it had been scarified, bladed and rolled. Both tests met the project specifications. The test results and locations are presented on the attached summary sheet. One sample was collected from the diversion channel embankment for laboratory testing. The results of DCE-ATT-9 and DCE-200-12 are presented on Table I, attached.

DAILY REPORT NO. 33 - Billy Ray, Field Engineer - 11.5 Hours
WED June 24, 1998

6:00 am to 6:00 am - Carr Construction placed fill on the diversion channel embankment for the first half of this shift. Sandy material was cut from the diversion channel and placed in the fills along the rock weir. A blade and a roller performed finish work on the embankment. Topsoil was removed from a berm along the diversion channel to allow the cut of the sand. The topsoil was placed on the designated topsoil pile southwest of the diversion channel.

The existing radon barrier was bladed, scarified, allowed to dry and rolled ahead of the placement of radon barrier extension. The failed areas from 6/24/98 were retested with the nuclear moisture-density gauge. Retest No. RB-8A passed whereas retest No. RB-7A failed. The oven dried moisture content showed the material to be too dry. It will be reworked and retested. Nuclear method moisture-density tests (RB-11 through RB-14) were performed on the existing radon barrier that was dried and rolled. Test Nos. RB-13 and RB-14 met project specifications whereas test Nos. RB-11 and RB-12 failed because they were too wet. The areas represented by the failed tests were reworked and retest Nos. RB-11A and RB-12A met project specifications.

Two nuclear method moisture-density tests (DCE-19 and DCE-20) were performed on the fill that was placed on the diversion channel embankment. Originally it appeared that test No. DCE-19 had failed, but the oven dried moisture content revealed that it did meet the project specifications. Test No. DCE-20 also met project specifications.

A material change was noted in the existing radon barrier as the blade scarified the wet soil. A sample was collected and Proctor #10 was performed. Two additional samples were collected from the radon barrier for -200 analysis and Atterberg limits (RB-ATT-4, RB-ATT-5, RB-200-4 and RB-200-5). One sample was collected from the fill in the diversion channel embankment for laboratory testing (DCE-ATT-10 and DCE-200-13). The results of all laboratory testing are presented on Table I, attached. All density test results and locations are presented on the attached summary sheet. Carr Construction shut the scraper spread down at 4:30 pm while the blades and rollers worked until 6:30 pm.

THUR **DAILY REPORT NO. 34 - Billy Ray, Field Engineer - 12.0 Hours**
June 25, 1998

6:00 am to 6:30 pm - Mr. Jim Smith (BCU) returned to the job site today as did Power's Elevation. The grade was set for Carr Construction on the existing radon barrier for radon barrier extension placement. Radon barrier extension was placed on 6 in. lifts atop of existing radon barrier which had been tested and passed. The fill was cut from the W-8 borrow area. Carr continued blading and rolling of the existing radon barrier ahead of the extension placement. A second water truck was added as one truck could not keep up as it was hot and windy today and the fill dried rapidly. Two nuclear method moisture-density tests were performed on the radon barrier extension (RBE-7 and RBE-8). A one-point Proctor was performed on the material from test No. RBE-8 as a material change was noted. Two nuclear method tests were also performed on the existing radon barrier (RB-15 and RB-16), both tests met the project specifications. Density test results and locations are presented on the attached summary sheet. Samples RB-ATT-7, RB-200-7, RBE-ATT-5 and RBE-200-7 were collected for -200 analysis and Atterberg limits testing. All test results are presented on Table I, attached.

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DAILY REPORT NO. ~~26~~ 35 - Billy Ray, Field Engineer - 12.0 Hours
June 26, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier extension fill. Material was cut from the W-8 borrow area. Mr. John Smith (Carr) stated they will move the cut to the east so a Proctor was collected ahead of the scrapers (Proctor #11). Some areas of the existing radon barrier which had not dried on their own were bladed, scarified and allowed to air dry. Those areas were bladed and sealed with the 50-ton rock truck before the weekend. Two water trucks were used to water the fill and the haul roads as it was hot, dry and windy once again. In addition to the Proctor #11 sample, samples RB-ATT-8, RB-200-8, RBE-ATT-6 and RBE-200-8 were collected for laboratory analysis. Laboratory test results are presented on Table I, attached.

Three nuclear method moisture-density tests were performed on the radon barrier extension fill that was placed this shift. Test No. RBE-10 and RBE-11 met the project specifications. Test No. RBE-9 failed due to excessive moisture after a moisture content sample was oven dried. One nuclear method moisture-density test was performed on the existing radon barrier that was allowed to air dry. Test No. RB-17 met the project specifications. All test results and locations are presented on the attached summary sheet.

Mr. Bob Coppin was on-site today. We talked about reporting both the oven dried moisture content and the moisture content reading from the nuclear gauge. I showed him the results of samples DF-ATT-"A", DF-ATT-"B", DF-200-"A" and DF-200-"B" for his direct shear analysis. He felt that we could add some sandy soil to try to get the percent -200 closer to the average value for the material in the dam face fill. He gave me a sample of rock for a gradation, that sample was returned to the Casper office. Carr Construction plans to run a blade over the weekend to grade the right slope of the diversion channel.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 5 of 7

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
DAM FACE FILL							
6-22-98	DF-33	19.2	108.6	18.9	110.6	98	#5, Lean Clay
Location:	Sta. 5+20 on 5168 contour line; El = 5166.5'						
6-22-98	DF-34	17.7	106.8	18.9	110.6	97	#5, Lean Clay
Location:	Sta. 10+00, 10' from 5168 contour line; El = 5167.5'						
DIVERSION CHANNEL EMBANKMENT							
6-22-98	DCE-17	15.2	110.7	11.8	118.9	(93)	#6, Silty Sand
Location:	Sta. 10+00, 15' from top right slope; 1' below grade						
6-22-98	DCE-17A	10.3	114.8	11.8	118.9	97	#6, Silty Sand
Location:	Sta. 10+00, 15' from top right slope; 1' below grade						
6-23-98	DCE-18	13.4	115.1	11.8	118.9	97	#6, Silty Sand
Location:	Sta. 9+40, 10' from top right slope; at grade						
6-24-98	DCE-19	12.1	112.5	11.8	118.9	95	#6, Silty Sand
Location:	Sta. 2+25, 20' from top right slope; at grade						
6-24-98	DCE-20	10.0	114.9	11.8	118.9	97	#6, Silty Sand
Location:	Sta. 6+50, 10' from top right slope; at grade						
RADON BARRIER							
6-23-98	RB-7	21.2	102.2	18.5	128.7	(94)	#8, Lean Clay w/Sand
Location:	Sta. 12+00, 20' from 5164.5 contour line; El = 5164.0'						
6-23-98	RB-8	21.3	100.8	18.5	108.9	(93)	#8, Lean Clay w/Sand
Location:	Sta. 7+00, 30' from 5164.5' contour line; El = 5164.0'						
6-23-98	RB-9	17.4	107.5	18.5	108.9	99	#8, Lean Clay w/Sand
Location:	Sta. 15+50, 50' from 5164.5' contour line; El = 5164.0'						

( ) Failed to meet project requirements.

TEST RESULTS:

Test Date	Test Number	----------FIELD---------- Moisture Content (%)	Dry Density (p.c.f.)	------LABORATORY------ Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
6-23-98	4 RB-10	18.5	105.8	18.5	108.9	97	#8, Lean Clay w/Sand
Location:	Sta. 17+00, 55' from 5164.5 contour line; El = 5164.0'						
6-24-98	RB-7A	14.6	110.1	18.5	108.9	100+	#8, Lean Clay w/Sand
Location:	Sta. 12+00, 20' from 5164.5 contour line; El = 5164.0' **RETEST OF TEST NO. RB-7**						
6-24-98	RB-8A	17.2	108.7	18.5	108.9	100	#8, Lean Clay w/Sand
Location:	Sta. 7+00, 30' from 5164.5' contour line; El = 5164.0' **RETEST OF TEST NO. RB-8**						
6-24-98	5 RB-11	22.8	100.8	18.5	108.9	(93)	#8, Lean Clay w/Sand
Location:	Sta. 11+00, 40' from 5165 contour line; El = 5164.0'						
6-24-98	6 RB-12	20.2	105.4	18.5	108.9	97	#8, Lean Clay w/Sand
Location:	Sta. 9+50, 25' from 5165 contour line; El = 5164.0'						
6-24-98	7 RB-13	18.5	105.5	18.5	108.9	97	#8, Lean Clay w/Sand
Location:	Sta. 14+00, 30' from 5165 contour line; El = 5164.0'						
6-24-98	8 RB-14	17.0	110.1	18.5	108.9	100+	#8, Lean Clay w/Sand
Location:	Sta. 16+00, 40' from 5164 contour line; El = 5164.0'						
6-24-98	RB-11A	17.3	108.8	18.5	108.9	100	#8, Lean Clay w/Sand
Location:	Sta. 11+00, 40' from 5165 contour line; El = 5164.0' **RETEST OF TEST NO. RB-11**						
6-24-98	RB-12A	20.1	104.3	18.5	108.9	96	#8, Lean Clay w/Sand
Location:	Sta. 9+50, 25' from 5165 contour line; El = 5164.0' **RETEST OF TEST NO. RB-12**						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 7

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
6-25-98	9/RB-15	18.3	106.4	18.5	108.9	98	#8, Lean Clay w/Sand
Location:	Sta. 8+00, 35' from 5165 contour line; El = 5163.5'						
6-25-98	10/RB-16	15.8	110.4	18.5	108.9	100+	#8, Lean Clay w/Sand
Location:	Sta. 13+50, 60' from 5165 contour line; El = 5163.5'						
6-26-98	11/RB-17	20.9	107.8	18.5	108.9	99	#8, Lean Clay w/Sand
Location:	Sta. 18+00, 110' from 5164 contour line; El = 5163.0'						
RADON EXTENSION BARRIER							
6-25-98	RBE-7	13.9	106.3	17.0	112.3	95	#1, Sandy Lean Clay
Location:	Sta. 7+00, 100' from 5164.5 contour line; El = 5164.5'						
6-25-98	RBE-8	15.6	112.0	14.9	115.3	97	#9, Clayey Sand
Location:	Sta. 12+50, 20' from 5164.5 contour line; El = 5164.5'						
6-26-98	RBE-9	18.7	111.3	14.9	115.3	97	#9, Clayey Sand
Location:	Sta. 20+00, 30' right of 5165.5 contour line; El = 5164.5'						
6-26-98	RBE-10	15.6	109.6	14.9	115.3	95	#9, Clayey Sand
Location:	Sta. 25+40, 50' left to 5165.5 contour line; El = 5164.5'						
6-26-98	RBE-11	16.6	111.7	14.9	115.3	97	#9, Clayey Sand
Location:	Sta. 23+00, 10' right of 5165.0 contour line; El = 5164.5'						

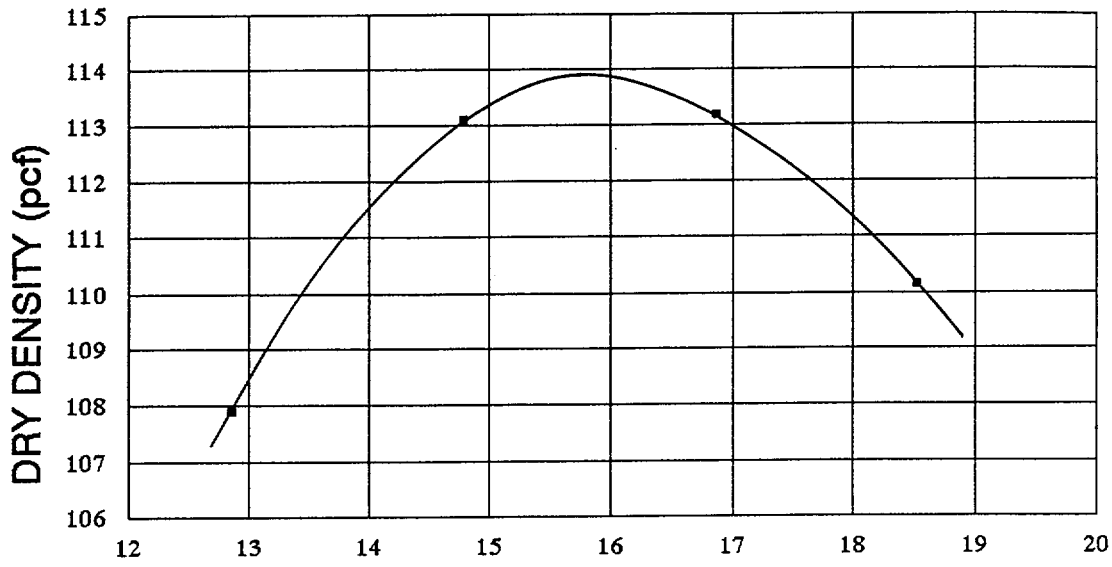
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
DF-ATT-24, DF-200-28 (formerly W8-ATT-1, W8-200-1)			27	7	0	51	49			Silty Sand
One-Point, RB-7								18.4	105.6	Proctor #8, Lean Clay with Sand
DCE-ATT-9, DCE-200-12			26	9	0	68	32			Clayey Sand
Proctor #10, RB-ATT-6, RB-200-6	15.9	113.8	33	16	0	30	70			Sandy Lean Clay
RB-ATT-4, RB-200-4			41	22	0	30	70			Sandy Lean Clay
RB-ATT-5, RB-200-5			31	13	0	45	55			Sandy Lean Clay
DCE-ATT-10, DCE-200-13			NV	NP	0	70	30			Silty Sand
One-Point, RBE-8								14.0	114.6	Proctor #9, Clayey Sand
RB-ATT-7, RB-200-7			41	20	0	16	84			Sandy Lean Clay
RBE-ATT-5, RBE-200-7			35	19	0	28	72			Sandy Lean Clay
Proctor #11	15.6	115.2	32	14	0	53	47			Clayey Sand
RB-ATT-8, RB-200-8			37	17	0	35	65			Sandy Lean Clay
RBE-ATT-6, RBE-200-8			36	17	0	33	67			Sandy Lean Clay

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 113.8 pcf OPTIMUM WATER CONTENT: 15.9%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	30
FINES (SILT AND CLAY)	70

ATTERBERG LIMITS

LIQUID LIMIT	33
PLASTICITY INDEX	16

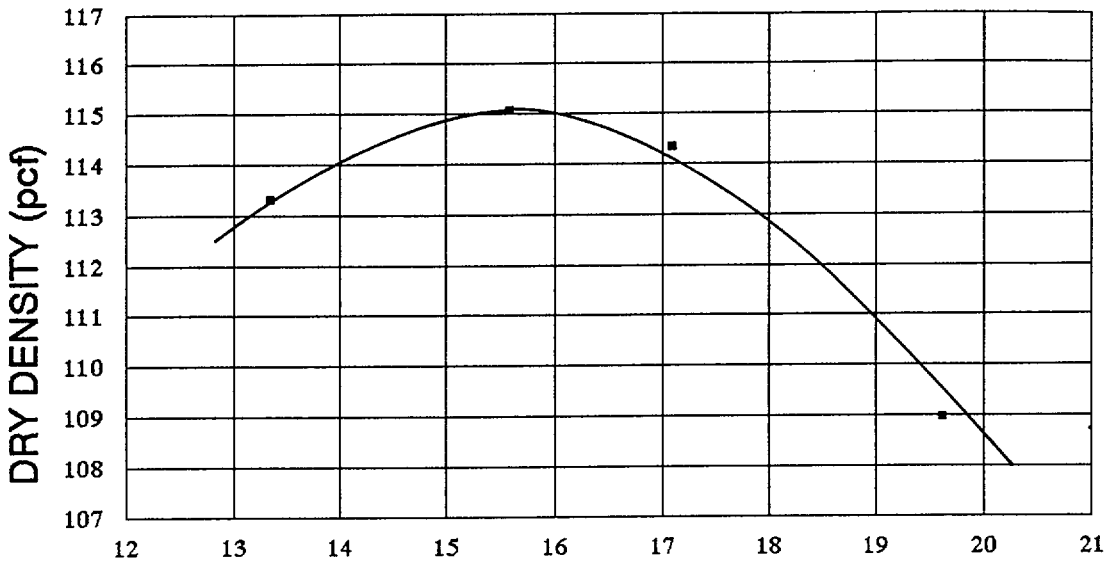
SAMPLE IDENTIFICATION:
No. 10, Radon Barrier

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 10

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 115.2 pcf OPTIMUM WATER CONTENT: 15.6%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	53
FINES (SILT AND CLAY)	47

ATTERBERG LIMITS	
LIQUID LIMIT	32
PLASTICITY INDEX	14

SAMPLE IDENTIFICATION:
No. 11, W–8 Borrow Area

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 11

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
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Casper, Wyoming 82602
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TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: July 7, 1998
JOB NO.: 9851711
SHEET 1 **OF** 5

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 12

PROJECT REPORT

Mon **DAILY REPORT NO. 36 - Billy Ray, Field Engineer - 12.0 Hours**
June 29, 1998

6:00 am to 6:30 pm - Carr Construction placed fill on top of the existing radon barrier. All fill was cut from the W-8 borrow area. Mr. Jim Smith (BCU) and Maxim observed that some of the material may be too sandy, less than 35% minus 200 content. A sample, RBE-200-9, was collected to verify materials acceptability. The results showed that the material has 47% passing the #200 screen. Two nuclear method moisture-density tests were performed on the fill placed this shift. Tests No. RBE-12 and RBE-13 both met the project specifications. Samples RBE-ATT-7 and RBE-200-10 were collected for laboratory testing. The results of density tests are presented on the attached summary sheet. The results of all laboratory testing are presented on Table I, attached.

Mr. Jim Smith (BCU) established grade on top of the existing radon barrier and instructed Carr on where to place fill. Pond #2 area was scarified and was allowed to air dry overnight. The pump in Pond #3 area was moved as a majority of the water has been removed. Carr confirmed that they will be working four 10-hour shifts this week due to the holiday. Carr had a blade work on Saturday (6/27/98) to grade the 3:1 slope on the right side of the diversion channel.

Tue **DAILY REPORT NO. 37 - Billy Ray, Field Engineer - 12.0 Hours**
June 30, 1998

6:00 am to 6:30 pm - Carr Construction resumed the placement of radon barrier extension. Two scrapers placed fill ahead of the blade which was "finishing" the grade, and the other scrapers placed fill on the leading edge of the extension. All material that was placed was cut from the W-8 borrow area.

The Pond #2 area was bladed and rolled after being exposed overnight to allow drying. Grade was established as Bear Creek would like to begin the placement of radon barrier in this area as soon as possible. Retests of failed moisture-density tests were performed with the nuclear gauge, Tests No. RB-2A, RB-2B, RB-4A, RB-5A and RB-5B. Initially three tests, RB-2B, RB-5A and RB-4A were thought to have met the project specifications. After a review of the oven dried moisture contents, only Test No. RB-4A met project specifications. A correlation is being determined to enable us to adjust the nuclear gauge moisture content so that we will not have this discrepancy.

A nuclear method moisture-density test, No. RBE-14, was performed on the radon barrier extension fill that was placed this shift. After a one-point Proctor was performed, it was determined that this test did meet project specifications. A retest of failed test No. RBE-9 was performed and it too met project specifications. The results of all field testing are presented on the attached summary sheet.

Samples RBE-ATT-8 and RB-200-11 were collected for laboratory testing. The results are presented on Table I, attached. Proctor 12 was collected from the W-8 borrow area.

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Wed **DAILY REPORT NO. 38 - Billy Ray, Field Engineer - 12.0 Hours**
July 1, 1998

6:00 am to 6:30 am - Carr Construction continued placement of the radon barrier extension. Again, two scrapers placed fill ahead of the blade which was "finishing" the final grade and two scrapers were placing fill on the leading edge of the radon barrier extension on top of existing radon barrier. The area in Pond #2 was rolled and bladed as grade was established along the grid that was set up based on the dam face axis. All material that was placed as radon barrier extension was cut from the W-8 borrow area. A -200 analysis (RBE-200-12) was performed to verify the acceptability of some material that, based on a visual inspection, appeared too sandy. The test result showed that the material in question met the -200 criteria and placement was allowed to be continued.

One nuclear method moisture-density test, RBE-15, was performed on the radon barrier extension fill placed this shift. Once again the oven dried moisture content revealed that the material was too wet to meet the +3% of optimum moisture criteria. Two retests, RB-1A and RB-6A, were performed on the failing areas of radon barrier (existing) in Pond #2. Both tests met the project specifications. The results of all field testing are presented on the attached summary sheet. In addition to sample RB-200-12, samples RBE-ATT-9, RBE-200-13, RBE-200-14, RBE-ATT-10 and a one-point Proctor for density test RBE-15 were collected for laboratory testing. All laboratory test results are presented on Table I, attached.

Thur **DAILY REPORT NO. 39 - Billy Ray, Field Engineer - 5.5 Hours**
July 2, 1998

6:00 am to 11:30 am - Upon arrival on site, it was obvious that there would be no construction this shift. A heavy rain overnight left the site flooded once again. Some time was spent collecting lab work samples to return to the Casper laboratory. Project reports were finished and we returned to the Casper office. There will not be any construction until Monday, 7/7/98, at which time all areas will have to be retested before any fill will be allowed to be placed. This is fortunate for us as we will be able to retest failed areas which were erroneously reported as passing to both Mr. Jim Smith (BCU) and Mr. John Smith (Carr).

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 4 of 5

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER (EXISTING)							
6-30-98	RB-2A	16.6	107.8	14.9	115.3	(94)	#9, Clayey Sand
	RETEST OF TEST NO. RB-2						
6-30-98	RB-5A	18.2	103.9	14.9	115.3	(90)	#9, Clayey Sand
	RETEST OF TEST NO. RB-5						
6-30-98	RB-2B	17.5	108.7	14.9	115.3	(94)	#9, Clayey Sand
	RETEST OF TEST NO. RB-2A						
6-30-98	RB-5B	19.4	106.1	14.9	115.3	(92)	#9, Clayey Sand
	RETEST OF TEST NO. RB-5A						
6-30-98	RB-4A	15.0	116.2	14.9	115.3	100+	#9, Clayey Sand
	RETEST OF TEST NO. RB-4						
7-01-98	RB-1A	16.5	111.1	14.9	115.3	96	#9, Clayey Sand
	RETEST OF TEST NO. RB-1						
7-01-98	RB-6A	16.6	110.9	14.9	115.3	96	#9, Clayey Sand
	RETEST OF TEST NO. RB-6						
RADON BARRIER EXTENSION							
6-29-98	RBE-12	16.3	113.4	15.9	113.8	100	#10, Sandy Lean Clay
Location:	Sta. 22+20, 35' left of 5165.0 contour line; El = 5165.0'						
6-29-98	RBE-13	15.2	110.9	15.9	113.9	97	#10, Sandy Lean Clay
Location:	Sta. 27+30, 20' right of 5165.0 contour line; El = 5165.0'						
6-30-98	RBE-14	16.1	110.4	15.6	115.2	96	#11, Clayey Sand
Location:	Sta. 27+00, 20' left of 5165.0 contour line; El = 5165.0'						
6-30-98	RBE-9A	13.7	114.5	14.9	115.3	99	#9, Clayey Sand
Location:	Sta. 20+00, 30' right of 5165.0 contour line; El = 5164.5'						
	RETEST OF TEST NO. RBE-9						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 5 of 5

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER EXTENSION							
7-01-98	RBE-15	19.4	106.5	15.6	115.2	(92)	#11, Clayey Sand
Location:	Sta. 26+45, 20' left of 5165.0 contour line; EL = 5164.5'						

( ) Failed to meet project requirements.

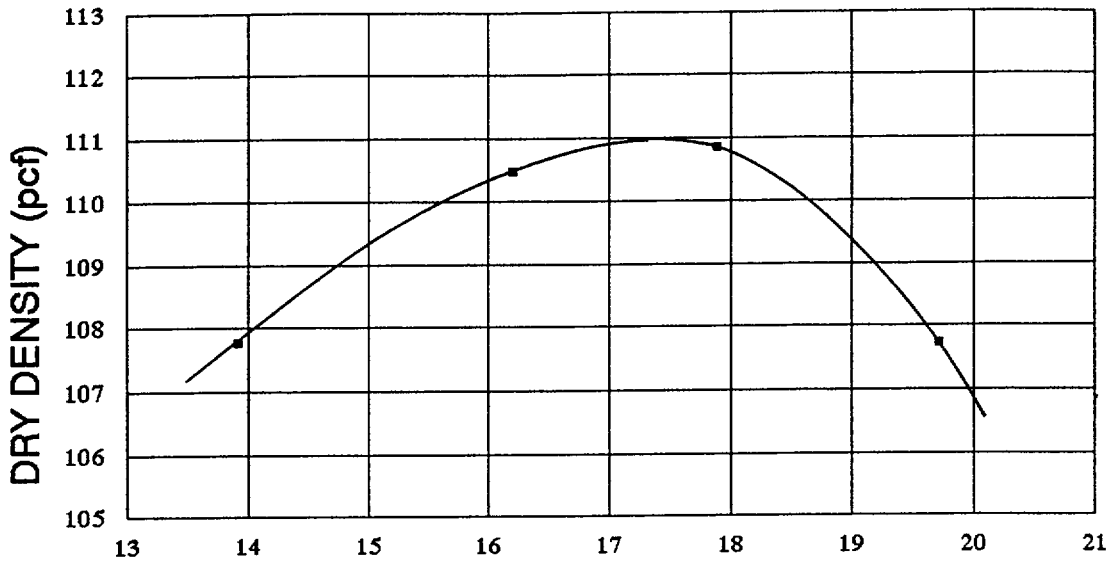
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
RBE-200-9					0	52	48			Clayey Sand
RBE-200-10, RB-ATT-7 RBE			30	13	0	53	47			Clayey Sand
RBE-14, One-Point								15.5	116.9	Proctor #11, Clayey Sand
RBE-ATT-8, RBE-200-11			29	13	0	66	34			Clayey Sand
Proctor #12	17.2	111.0	41	23	0	18	82			Lean Clay with Sand
RBE-200-12					0	64	36			Clayey Sand
RBE-200-13, RBE-ATT-9			31	12	0	64	36			Clayey Sand
RBE-200-14, RBE-ATT-10			31	14	0	62	38			Clayey Sand
RBE-15, One-Point								15.8	115.5	Proctor #11, Clayey Sand

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 111.0 pcf OPTIMUM WATER CONTENT: 17.2%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	18
FINES (SILT AND CLAY)	82

ATTERBERG LIMITS

LIQUID LIMIT	41
PLASTICITY INDEX	23

SAMPLE IDENTIFICATION:
No. 12, W–8 Borrow Area

SOIL CLASSIFICATION:
Lean Clay with Sand (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 12

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
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Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: July 20, 1998
JOB NO.: 9851711
SHEET 1 OF 7

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 13

PROJECT REPORT

Mon T

DAILY REPORT NO. 40 - Billy Ray, Field Engineer - 11.0 Hours
July 6, 1998

7:00 am to 6:30 pm - I was telephoned by Mr. Jim Smith (BCU) at 7:00 am and he informed me that Carr Construction would be working today, there was some question after last week's storm. Upon my arrival on-site, Carr was stripping topsoil from an area in the south diversion channel. Two samples were obtained from this area to determine the suitability of the material. The sample collected at Station 28+00 met the project requirements for minus #200, whereas, the sample collected from Station 31+00 did not. Mr. Jim Smith (BCU) and Mr. John Smith (Carr) were advised of the test results.

The construction stakes were offset by Carr personnel as a roller and blade worked on the existing radon barrier. After suitable material was identified, the scrapers began the placement of the radon barrier extension. A one-point sample was collected and density test No. RBE-16 (nuclear method) was performed on the material placed this shift. Retest No. RBE-15A was also performed after the area had been rerolled. Both tests met the project specifications and the results are presented on the attached summary sheet. One sample was obtained from the fill for tests RBE-ATT-10 and RBE-200-14. At the request of Mr. Jim Smith (BCU) samples were collected from the northeast channel for -200 analysis and atterberg limits. Samples were collected at Stations S0+50, N1+00, N2+50 and N4+00. All laboratory results are presented on Table I, attached.

F Tue

DAILY REPORT NO. 41 - Billy Ray, Field Engineer - 12.0 Hours
July 7, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier extension. Two scrapers placed fill along the leading edge and the other two scrapers placed fill in low spots as a blade "finished" grading the radon barrier extension near the north swale. Two water holes were removed as a blade pushed water aside, some dry soil was mixed with the wetter soil and then it was removed using a scraper. Once solid, dry and firm subgrade was established, placement of fill continued. The material in the cut became increasingly sandy so samples RBE-ATT-11 and RBE-200-15 were collected to verify proper blending. Samples RBE-ATT-12 and RBE-200-16 were also collected from the cut. The laboratory test results are presented on Table I, attached.

Two nuclear method moisture-density tests, Nos. RBE-17 and RBE-18, were performed. Both tests met the project requirements and the results and locations are presented on the attached summary sheet. All low spots were filled and "rough" areas were sealed with the 50-ton truck as threatening clouds were on the horizon. All material placed this shift was cut from the diversion channel. Proctor #13 was collected from the W-8 borrow area as Carr plans to move the cut back to that area.

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Mr. Bob Coppin was on-site today. He was generally pleased with the progress. I was informed that the samples sent to Casper for hydrometer testing were from the wrong area. Mr. Coppin asked me to collect samples from the rock weir for hydrometer testing.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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MAXIM TECHNOLOGIES INC

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Casper, Wyoming 82602
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TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: July 22, 1998
JOB NO.: 9851711
SHEET 1 OF 7

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 14

PROJECT REPORT

Mon **DAILY REPORT NO. 45 - Billy Ray, Field Engineer - 12.0 Hours**
July 13, 1998

6:00 am to 6:30 pm - Carr Construction began the shift by stripping topsoil from an area of the diversion channel on the eastern portion of the site. As topsoil was being stripped, the Pond #2 area was being prepared for radon barrier placement. A blade and the 50-ton truck smoothed and compacted the area ahead of the fill. A retest, No. RB-4A, was performed with the nuclear density gauge; it passed and the contractor was notified.

The placement of radon barrier was started but the spread was shut down shortly after noon as the area was not being very well processed (moisturized and compacted) as the short haul did not allow the blade, water truck and roller to keep up. The scrapers were diverted to the radon barrier extension as that fill was resumed. One moisture/density test was performed on the radon barrier extension fill, test No. RBE-25. That test met project specifications. Tests No. RB-18 and RB-18A were performed on the radon barrier as test No. RB-18 failed originally and the area was reworked and retest No. RB-18A met project specifications. Samples RB-ATT-9, RB-200-9, RB-200-10, RBE-ATT-17 and RBE-200-21 were collected for laboratory testing. Proctor sample No. 14 was also collected from the fill. All laboratory test results are presented on Table I, attached. The results and locations of all field testing are shown on the attached summary sheet.

Tue **DAILY REPORT NO. 46 - Billy Ray, Field Engineer - 12.0 Hours**
July 14, 1998

6:00 am to 6:30 pm - Carr Construction had two additional scrapers on-site this shift for a total of six. A new vibratory roller was also added. Initially, some topsoil was stripped on the diversion channel then four scrapers hauled W-8 borrow material to the radon barrier extension between the intermediate ridge line and the south swale as two scrapers hauled diversion channel cut to the radon barrier. Carr parked the smaller water truck and instead used Plate Valley's large water wagon. Mr. John Smith (Carr) was advised about the radon barrier extension fill being too dry in spots and some rocks were showing up in the fill. Corrective actions were taken as the rocks were hauled back to the W-8 borrow area and the area was watered. Tests No. RBE-26 and RBE-27 were performed with the nuclear gauge; both tests met project specifications. Tests No. RB-6A, RB-19, RB-20 and RB-21 were also performed on the fill placed this shift. Test No.RB-20 failed due to low moisture, however, all of the other tests met the project specifications.

Samples RB-ATT-10, RB-200-11, RB-200-12, RB-200-13, RBE-ATT-18 and RBE-200-22 were collected for laboratory testing. All laboratory test results are presented on Table I, attached. The results and locations of all field testing are shown on the attached summary sheet. In addition, a blade and the D-6 dozer smoothed the area on the edge of the dam face.

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DAILY REPORT NO. 47 - Billy Ray, Field Engineer - 12.0 Hours
July 15, 1998

6:00 am to 6:30 am - Carr Construction placed fill in both the radon barrier extension and the radon barrier. Four scrapers placed fill that was cut from the W-8 borrow area on the radon barrier extension between the intermediate ridge and the south swale. The other two scrapers placed radon barrier with fill that was cut from the diversion channel. A crossed lath was placed at a point in the diversion channel where a definite material change occurred to denote the end of the cut, approximately Station 63+00.

Again, it was a hot and dry day and the water trucks had a hard time keeping up with the spread. A nuclear method moisture/density test,No. RBE-28, failed as the density was too low. The 50-ton truck was added to help with compaction. The area was retested with test No. RBE-28A and it passed. Three nuclear method moisture/density tests were performed on the radon barrier fill placed this shift. Tests No. RB-22, RB-23 and RB-24 all met the project specifications. The locations and results of all field testing are presented on the attached summary sheet.

A one-point Proctor sample was collected prior to density tests No. RBE-28 and RB-22. Proctor sample No. 15 was collected from the diversion channel cut. Samples RB-ATT-11, RB-200-14, RB-200-15, RBE-200-23 and RBE-ATT-19 were collected from the fill areas. All laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 48 - Billy Ray, Field Engineer - 12.0 Hours
July 16, 1998

6:00 am to 6:30 pm - Carr Construction hauled W-8 material to the radon barrier extension until approximately 10:00 am with four scrapers. At that time, a scraper broke down so Mr. John Smith (Carr) used the three scrapers to haul from the W-8 to the radon barrier. The other two scrapers also placed radon barrier, but they were using material cut from the diversion channel. The two scrapers from the diversion channel placed the 5th lift to Station 14+50 as the other three scrapers placed the 6th lift to Station 18+50. The hot temperatures made several pieces of equipment slow down to avoid overheating.

A blade and the 50-ton truck worked in the "neck" between Ponds #2 and #3. They worked an area approximately 150 ft wide. Mr. Jim Smith (BCU) will stake that area and a determination will be made as to where lift #1 terminated last year. At that point all radon barrier that was exposed over the winter will be retested before placement of subsequent lifts are allowed to be placed.

Several nuclear method and one sand cone moisture/density tests were performed on the radon barrier placed this shift. The material represented by tests No. RB-25, RB-26, RB-27, RB-27 (SC), and RB-29 was from the channel cut and test No. RB-28 as from the W-8 borrow area. A one-point Proctor was performed ahead of test No. RB-28 to show a material change. Tests No. RBE-29 and RBE-30 were performed on the fill placed at the end of yesterday's shift and the beginning of today's shift. All tests except test No. RBE-29 met the project specifications. All test results and locations are shown on the attached summary sheet.

Along with the one-point, samples RB-ATT-12, RB-200-16, RB-200-17, RB-200-18, RB-200-19, RBE-ATT-20 and RBE-200-24 were collected for laboratory testing. All results are presented on Table I, attached.

Fri **DAILY REPORT NO. 49 - Billy Ray, Field Engineer - 12.0 Hours**
July 17, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of radon barrier. Due to the contractor being shorthanded, a blade that was used to mix the fill was parked so that all of the scrapers could run. The fill placed as the 5th lift between Stations 13+50 and 14+50 appeared to be too dry. Several holes were dug using the hand auger and the area was found to be too dry. I talked with Mr. John Smith (Carr) and he had the area scarified, watered, bladed and then rolled. The area was tested as test No. RB-30 , which met project specifications. Six nuclear method moisture/density tests were performed this shift, Tests No. RB-30, RB-31, RB-32, RB-33, RB-34 and RB-34A. All tests met the project specifications except test

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No. 34. The failed area was reworked and retest No. RB-34A passed. The failed test was due to a low moisture content. All test results and locations are presented on the attached summary sheet.

I was informed by Mr. Jim Smith (BCU) that the area in the "neck" between Ponds #2 and #3 will be treated as the top of subgrade. It was originally planed that this area had the 1st lift of radon barrier already in place, but as Mr. Smith was establishing grade, it was clear that the area needs all six lifts. Before placement of the 1st lift, a visual inspection verifying proof-rolling and watering is all that is necessary.

Several samples were collected for laboratory testing from the fill, Proctor No. 16, RB-ATT-13, RB-200-20, RB-200-21, RB-200-22 and a one-point Proctor for test No. RB-30. The results of all laboratory testing are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 5 of 7

TEST RESULTS:

Test Date	Test Number	----------FIELD---------- Moisture Content (%)	Dry Density (p.c.f.)	------LABORATORY------ Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
7-13-98	RB-4A	16.7	112.5	14.9	115.3	98	#9, Clayey Sand
Location:	Sta. 15+00, 180' from road; 3rd lift						
7-13-98	RB-18	13.7	104.8	14.5	115.6	(91)	#14, Sandy Lean Clay
Location:	Sta. 17+20, 350' from road; 4th lift						
7-13-98	RB-18A	13.3	112.8	14.5	115.6	98	#14, Sandy Lean Clay
Location:	Sta. 17+20, 350' from road; 4th lift **RETEST OF TEST NO. RB-18**						
7-14-98	RB-19	17.0	108.3	15.9	113.8	95	#10, Sandy Lean Clay
Location:	Sta. 19+20, ≈ 140' from road; 5th lift						
7-14-98	RB-6A	17.1	111.2	14.9	115.3	96	#9, Clayey Sand
Location:	Sta. 16+20, 350' from road; 3rd lift						
7-14-98	RB-20	11.6	116.7	15.9	113.8	100+	#10, Sandy Lean Clay
Location:	Sta. 17+40, 130' from road; 5th lift						
7-14-98	RB-21	13.8	114.0	15.9	113.8	100	#10, Sandy Lean Clay
Location:	Sta. 16+45, 300' from road, 3rd lift						
7-15-98	RB-22	19.2	106.2	18.5	108.9	98	#8, Lean Clay w/Sand
Location:	Sta. 14+35, 125' from road; 3rd lift						
7-15-98	RB-23	18.8	104.8	18.5	108.9	96	#8, Lean Clay w/Sand
Location:	Sta. 15+20, 225' from road; 4th lift						
7-15-98	RB-24	21.3	104.4	18.5	108.9	96	#8, Lean Clay w/Sand
Location:	Sta. 14+70, 155' from road; 4th lift						
7-16-98	RB-25	17.8	107.8	18.5	108.9	99	#8, Lean Clay w/Sand
Location:	Sta. 13+75, 170' from road; 4th lift						
7-16-98	RB-26	20.8	105.1	18.5	108.9	97	#8, Lean Clay w/Sand
Location:	Sta. 12+70, 350' from road; 4th lift						
7-16-98	RB-27	17.9	104.9	18.5	108.9	96	#8, Lean Clay w/Sand
Location:	Sta. 16+00, 375' from road; 5th lift						

( ) Failed to meet project requirements.

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
7-16-98	RB-27 (SC)	17.9	103.4	18.5	108.9	95	#8, Lean Clay w/Sand
Location:	Sta. 16+00, 375' from road; 5th lift						
7-16-98	RB-28	16.5	109.2	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	Sta. 18+60, 210 from road; 6th lift						
7-16-98	RB-29	16.2	105.3	18.5	108.9	97	#8, Lean Clay w/Sand
Location:	Sta. 14+60, 595' from road; 5th lift						
7-17-98	RB-30	18.4	106.2	18.5	108.9	98	#8, Lean Clay w/Sand
Location:	Sta. 14+10, 110' from road; 5th lift						
7-17-98	RB-31	15.4	110.9	14.5	115.6	96	#8, Lean Clay w/Sand
Location:	Sta. 10+10, 420' from road; 1st lift existing						
7-17-98	RB-32	17.6	104.5	18.5	108.9	96	#8, Lean Clay w/Sand
Location:	Sta. 13+70, 330' from road; 5th lift						
7-17-98	RB-33	16.1	106.9	17.2	111.0	96	#12, Lean Clay w/Sand
Location:	Sta. 17+60, 125' from road; 6th lift						
7-17-98	RB-34	(13.8)	109.0	18.5	108.9	100	#8, Lean Clay w/Sand
Location:	Sta. 12+80, 100' from road, 5th load						
7-17-98	RB-34A	18.3	107.1	18.5	108.9	98	#8, Lean Clay w/Sand
Location:	Sta. 12+80, 100' from road, 5th load **RETEST OF TEST NO. RB-34**						

( ) Failed to meet project requirements.

Dens. 17 test
Re test 4

TEST RESULTS:

Test Date	Test Number	----------FIELD---------- Moisture Content (%)	Dry Density (p.c.f.)	------LABORATORY------ Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER EXTENSION							
7-13-98	RBE-25	15.4	113.5	13.3	117.9	96	#13, Clayey Sand
Location:	Sta. 30+50, 120' right of contour line 5165.5 between ridge line and south swale; El = 5265.2						
7-14-98	RBE-26	14.8	114.4	13.3	117.9	97	#13, Clayey Sand
Location:	Sta. 22+25, 75' left of contour line 5165.0; El = 5165.1						
7-14-98	RBE-27	16.3	115.0	13.3	117.9	98	#13, Clayey Sand
Location:	Sta. 26+00, 20' left of contour line 5165.0'; El = 5164.5						
7-15-98	RBE-28	16.9	107.2	15.7	113.8	(94)	#10, Sandy Lean Clay
Location:	Sta. 21+50, 20' left of contour line 5165.0; El = 5164.5						
7-15-98	RBE-28A	17.2	113.1	15.9	113.8	99	#10, Sandy Lean Clay
Location:	Sta. 21+50, 20' left of contour line 5165.0; El = 5164.5 **RETEST OF TEST NO. RBE-28**						
7-16-98	RBE-29	13.7	109.8	17.2	111.0	99	#12, Lean Clay w/Sand
Location:	Sta. 22+30, 45' right of contour line 5165.0; El = 5165.0						
7-16-98	RBE-30	15.8	109.3	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	Sta. 30+00, 20' right of contour line 5165.0; El = 5165.0						

( ) Failed to meet project requirements.

Density Test = 6
Retest 1

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor #14	14.6	115.6	28	12	0	44	56			Sandy Lean Clay
1-pt. Density Test RB-18								12.4	110.4	Proctor #14, Sandy Lean Clay
RB-ATT-9, RB-200-9			30	12	0	45	55			Sandy Lean Clay
RB-200-10					0	43	57			Sandy Lean Clay
RBE-ATT-17, RBE-200-21			28	10	0	53	47			Clayey Sand
RB-ATT-10, RB-200-11			56	26	0	3	97			Fat Clay
RB-200-12					0	13	87			Lean Clay
RB-200-13					0	8	92			Lean Clay
RBE-ATT-18, RBE-200-22			30	14	0	51	49			Clayey Sand
Proctor #15	23.9	100.2	53	22	0	1	99			Fat Clay
1-pt. Density Test RB-22								19.9	105.9	Proctor #8, Lean Clay with Sand
1-pt. Density Test RBE-28								15.3	111.4	Proctor #10, Sandy Lean Clay
RB-ATT-11, RB-200-14			41	21	0	35	65			Sandy Lean Clay
RB-200-15					0	9	91			Fat Clay
RBE-ATT-19, RBE-200-23			31	12	0	59	41			Clayey Sand
1-Pt. Density Test RB-28								19.2	109.9	Proctor #12, Lean Clay with Sand
RB-ATT-12, RB-200-16			34	13	0	7	93			Lean Clay
RB-200-17					0	4	96			Lean Clay
RB-200-18					0	5	95			Lean Clay
RB-200-19					0	3	97			Lean Clay
RBE-ATT-20, RBE-200-24			30	10	0	45	55			Sandy Lean Clay

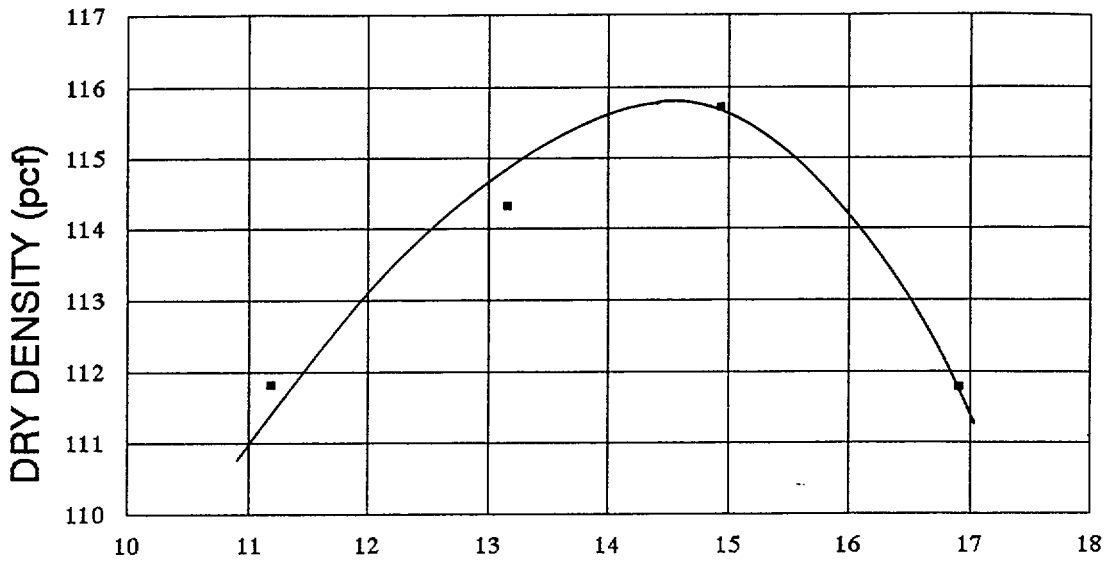
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor #16	15.5	114.3	32	14	0	47	53			Sandy Lean Clay
1-pt. Density Test RB-30								14.5	116.0	Proctor #14, Sandy Lean Clay
RB-ATT-13, RB-200-20			39	20	0	20	80			Sandy Lean Clay
RB-200-21					0	5	95			Lean Clay
RB-200-22					0	54	46			Clayey Sand

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 115.6 pcf OPTIMUM WATER CONTENT: 14.6%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	44
FINES (SILT AND CLAY)	56

ATTERBERG LIMITS	
LIQUID LIMIT	28
PLASTICITY INDEX	12

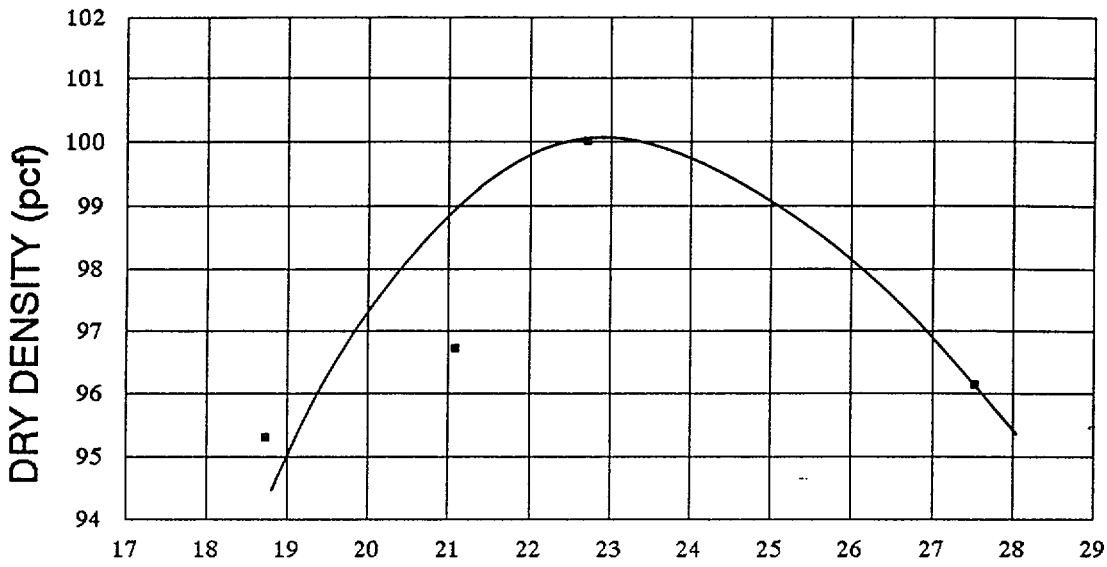
SAMPLE IDENTIFICATION:
No. 14, Radon Barrier Fill Area on 7/13/98

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 14

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 100.2 pcf OPTIMUM WATER CONTENT: 23.9%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	1
FINES (SILT AND CLAY)	99

ATTERBERG LIMITS

LIQUID LIMIT	53
PLASTICITY INDEX	22

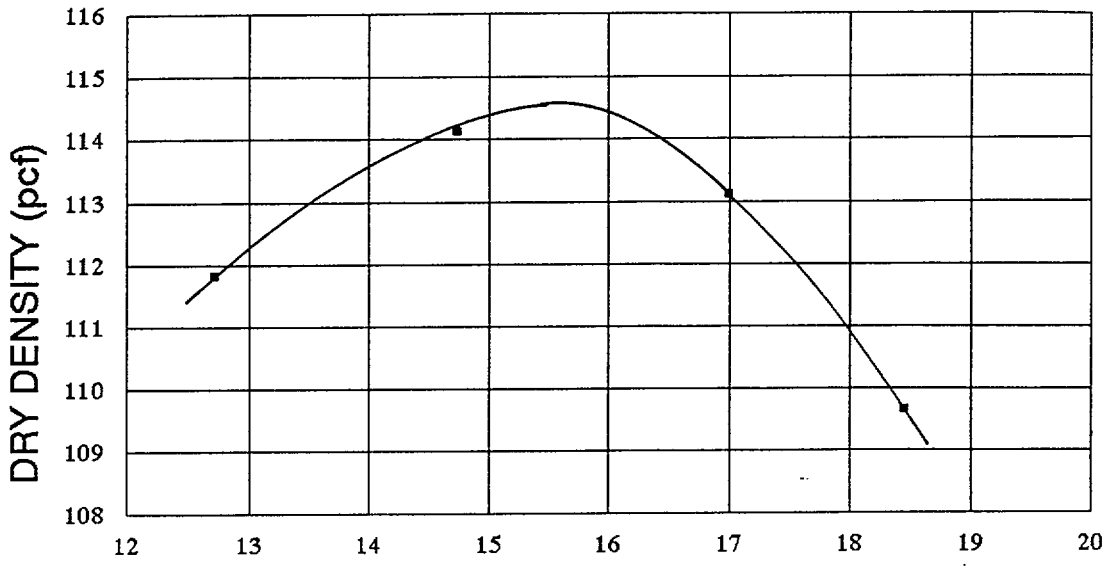
SAMPLE IDENTIFICATION:
No. 15, Diversion Channel Cut

SOIL CLASSIFICATION:
Fat Clay (CH)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 15

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 114.3 pcf OPTIMUM WATER CONTENT: 15.5%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	47
FINES (SILT AND CLAY)	53

ATTERBERG LIMITS

LIQUID LIMIT	32
PLASTICITY INDEX	14

SAMPLE IDENTIFICATION:
No. 16, Radon Barrier Fill Area on 7/17/98

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 16

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: August 4, 1998
JOB NO.: 9851711
SHEET 1 OF 8

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 15

PROJECT REPORT

DAILY REPORT NO. 50 - Billy Ray, Field Engineer - 12.0 Hours
Mon July 20, 1998

6:00 am to 6:30 pm - Carr Construction was shorthanded this shift, down four operators. One scraper had to be parked as a water truck and a blade were added to mix soil properly. Three scrapers hauled from borrow area W-8 to the radon barrier and two scrapers hauled from the diversion channel to the radon barrier. The two scrapers from the diversion channel were used to haul tailings from an area below the ridge to the small fills that will be covered with six lifts of radon barrier. Shortly after the tailings were placed, they were rolled and a lift was placed (radon barrier) on top of them to avoid any movement due to the wind.

Mr. John Smith (Carr Construction) corrected the fill between Stations 11+50 and 12+00, as there were not stakes. A "stair-step" was left to distinguish the lifts numbered 2 through 6 over 50 ft. Nuclear method moisture-density tests No. RB-37, RB-38, RB-39 and RB-40 and sand cone method test No. RB-37(SC) were performed on the 6th lift behind the fill and ahead of the finish blade. All tests met project specifications.

Nuclear method moisture-density tests No. RB-35, RB-36, RB-41 and RB-41A were performed on the fill placed this shift. Test No. RB-41 failed initially, as it was too wet and not dense enough. The failed area was reworked, retested and passed. All field density test results are presented on the attached summary sheet.

One-point samples were collected from test areas RB-35 and RB-39 along with RB-ATT-14 and RB-200-23 through RB-200-26 for laboratory testing. All laboratory test results are presented on Table I. Mr. Gary Chase of BCU was not on-site today.

Tue **DAILY REPORT NO. 51 - Billy Ray, Field Engineer - 12.0 Hours**
July 21, 1998

6:00 am to 6:30 pm - Upon my arrival on-site, Carr Construction had watered the work areas very well ahead of any placement of radon barrier. Only five scrapers were used this shift, three hauled from the W-8 borrow area and two hauled from the diversion cut with all fill placed as radon barrier. The fill was consistently dry this shift as the weather was hot and dry once again. Mr. John Smith (Carr) was informed that the tests performed this shift were very close to the minimum moisture specification. Nuclear method moisture-density tests No. RB-42 failed with low moisture. The failed area was reworked and retested as test No. RB-42A, which met project specifications. Test No. RB-47 and RB-47(SC) failed due to low density. The failed area was recompacted and passed as test No. RB-47A. Tests No. RB-43 through RB-49 met the project requirements. All field density test results are presented on the attached summary sheet.

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More the of the "neck" was staked and grade was set for fill placement on 7-22-98. The grade breaks between lifts ("stair-steps") had to be re-defined after the 50-ton rock truck inadvertently flattened the grade breaks. I talked to the operator and showed him what we were trying to accomplish and why. A Proctor sample (#17) was collected as were one point proctor samples from density tests No. RB-47 and RB-50. Samples RB-ATT-15 and RB-200-27, RB-200-28, RB-200-29 and RB-200-30 were collected for laboratory testing. All laboratory testing is presented on Table I, attached. Mr. Gary Chase with BCU was not on-site today.

WED **DAILY REPORT NO. 52 - Billy Ray, Field Engineer - 12.0 Hours**
July 22, 1998

6:00 am to 6:30 am - Carr Construction had a full crew for the first time this week. There were six scrapers running this shift with four scrapers hauling from the diversion channel to the radon barrier and two scrapers hauling from the W-8 borrow area to the radon barrier. There were some small fills below the bottom of the radon barrier that were filled with random fill before the first lift of the radon barrier. There was a lack of control of the fill that upset Mr. Jim Smith (BCU). Mr. John Smith (Carr) assumed more control dumping scrapers.

The haul road that was used last year was cut as it ran directly across the panels that we were filling this shift. Only part of the road was cut as it served as a dike to direct any potential precipitation. The radon barrier fill was moved further into the "neck" towards Pond #3. Radon barrier tests No. RB-50 through RB-57 were performed with the nuclear gauge. Test No. RB-57(SC) was performed using the sand cone method. All tests met the project specifications. Results of the field testing are presented on the attached summary sheet. A one-point Proctor sample was performed in advance of test No. RB-55. Samples RB-ATT-16 and RB-200-31, RB-200-32, RB-200-33 and RB-200-34 were collected for laboratory testing. The results of all laboratory testing are presented on Table I, attached. Mr. Gary Chase was not on-site this shift.

THUR **DAILY REPORT NO. 53 - Billy Ray, Field Engineer - 12.0 Hours**
July 23, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of radon barrier in the "neck" between Ponds #2 and #3. There were four scrapers hauling from the diversion channel cut and two scrapers hauling from W-8 to the radon barrier. The finishing work of the sixth lift in Pond #2 area was started. A blade, water truck and the 50-ton truck worked for a majority of the shift. An occasional scraper was used to place fill in low spots where needed in the sixth lift. Carr plans to have three to four people on-site on Saturday to continue the finishing of the radon barrier. The sixth lift was sampled in the first half of the "neck".

A trench was cut through a haul road to allow a pond to drain into the diversion channel so the material could be cut from the area underneath the standing water. Nuclear method moisture-density tests No. RB-58 through RB-65 were performed. Field test results are presented on the attached summary sheet. A one-point Proctor was performed ahead of test No. RB-61, as the material in the fill appeared to be sandier. It was determined that Proctor #8 would be used. Proctor No. 18 and Samples RB-ATT-17 and RB-200-35, RB-200-36, RB-200-37 and RB-200-38 were collected for laboratory testing. The results of all laboratory testing are presented on Table I, attached. Mr. Gary Chase returned to the project site this shift.

FRI **DAILY REPORT NO. 54 - Billy Ray, Field Engineer - 12.0 Hours**
July 24, 1998

6:00 am to 6:30 pm - Carr Construction continued placing radon barrier this shift. Two scrapers hauled from the W-8 borrow area and four scrapers hauled from the diversion channel cut. The area in Pond #3 was bladed, proof-rolled and staked. Cuts and fills for the surface of the tailings were defined and all cuts and fills will be performed prior to the placement of the first lift of radon barrier in Pond #3. "Stair-steps" were left in the radon barrier in Pond #3 last season and this year the radon barrier fill will be keyed into each existing lift.

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Some tailings were cut from an area at the base of the ridge and they were placed on top of the ridge. The tailings were then rolled. A thin lift of dry clay from W-8 was placed on top of the exposed tailings to firm up the subgrade before placement of the first lift of radon barrier and to keep erosion to a minimum should there be any precipitation over the weekend.

Mr. Bob Coppin was on-site today. He dropped off some rock samples for durability testing, those samples were delivered to the Casper office. Also discussed with Mr. Coppin the correlation between the nuclear gauge moisture content and the over-dried moisture content at each test location. Mr. Coppin was advised that we were not comfortable with the approximate ±1.5% variation between the two methods and have been reporting exclusively oven-dried moisture contents for all of the field tests since June 16, 1998, the start of the radon barrier. A change was made to the design of the diversion channel to allow Carr to use more of the clay that is present in the channel.

At the end of the shift, all six scrapers placed fill in a small area in the "neck". The area was unable to be properly processed and failed to meet the project moisture specifications. A considerable amount of work was required to get the area to meet the project requirements. Nuclear method moisture-density tests were performed on the radon barrier placed this shift. Tests No. RB-66 through RB-69, RB-70A, RB-71 and RB-72 met the project specifications. Test No. RB-70 failed originally and the area was reworked and retested. A sand cone test No. RB-67(SC) was also performed. All field density test results are presented on the attached summary sheet.

A one-point Proctor was performed prior to test No. RB-67. Samples RB-ATT-18 and RB-200-39 through RB-200-42 were collected for laboratory testing. The results of all laboratory testing are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 5 of 8

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
7-20-98	RB-35	15.6	109.1	15.9	113.8	96	#10, Sandy Lean Clay
Location:	Sta. 7+20, 320' from ridge line; 1st lift						
7-20-98	RB-36	15.0	106.3	17.2	111.0	96	#12, Lean Clay w/Sand
Location:	Sta. 12+20, 380' from road; 5th lift						
7-20-98	RB-37	14.1	111.1	15.9	113.8	100	#10, Sandy Lean Clay
Location:	Sta. 17+10, 300' from road; 6th lift						
7-20-98	RB-37(SC)	14.1	108.9	15.9	113.8	98	#10, Sandy Lean Clay
Location:	Sta. 17+10, 300' from road; 6th lift						
7-20-98	RB-38	16.1	110.3	17.2	111.0	99	#12, Lean Clay w/Sand
Location:	Sta. 15+70, 210' from road; 6th lift						
7-20-98	RB-39	15.3	112.3	15.1	114.3	98	#17, Sandy Lean Clay
Location:	Sta. 14+20, 115' from road; 6th lift						
7-20-98	RB-40	14.8	112.4	15.1	114.3	98	#17, Sandy Lean Clay
Location:	Sta. 12+70, 275' from road; 6th lift						
7-20-98	RB-41	19.0	99.9	15.1	114.2	(87)	#17, Sandy Lean Clay
Location:	Sta. 11+25, 145' from road; 2nd lift						
7-20-98	RB-41A	16.9	107.9	15.1	114.3	95	#17, Sandy Lean Clay
Location:	Sta. 11+25, 145' from road; 2nd lift						
7-21-98	RB-42	14.9	104.1	17.2	111.0	(94)	#10, Sandy Lean Clay
Location:	Sta. 9+55, 275' from ridge line; 2nd lift						
7-21-98	RB-43	17.3	108.4	17.2	111.0	98	#10, Sandy Lean Clay
Location:	Sta. 6+00, 295' from ridge line; 2nd lift						
7-21-98	RB-42A	15.6	107.5	17.2	111.0	97	#10, Sandy Lean Clay
Location:	Sta. 9+55, 275' from ridge line; 2nd lift						
7-21-98	RB-44	14.8	114.3	15.5	114.3	100	#16, Sandy Lean Clay
Location:	Sta. 11+20, 325' from ridge line; 3rd lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 8

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
7-21-98	11 RB-45	(14.7)	105.1	17.2	111.0	95	#10, Sandy Lean Clay
Location:	Sta. 6+40, 210' from ridge line; 1st lift						
7-21-98	12 RB-46	17.3	113.3	154.5	114.3	99	#16, Sandy Lean Clay
Location:	Sta. 5+20, 320' from ridge line; 3rd lift						
7-21-98	3 RB-45A	16.7	105.3	17.2	111.0	95	#10, Sandy Lean Clay
Location:	Sta. 6+40, 210' from ridge line; 1st lift						
7-21-98	13 RB-47	17.5	103.8	17.2	110.6	(94)	#5, Lean Clay
Location:	Sta. 8+75, 290' from ridge line; 3rd lift						
7-21-98	2 RB-47(SC)	17.5	104.4	17.2	110.6	(94)	#5, Lean Clay
Location:	Sta. 8+75, 290' from ridge line; 3rd lift						
7-21-98	14 RB-48	17.0	109.3	17.2	110.6	99	#5, Lean Clay
Location:	Sta. 9+10, 235' from ridge line; 2nd lift						
7-21-98	15 RB-49	16.9	108.2	17.2	110.6	98	#5, Lean Clay
Location:	Sta. 10+00, 320' from ridge line; 4th lift						
7-21-98	4 RB-47A	17.4	107.8	17.2	110.6	97	#5, Lean Clay
Location:	Sta. 8+75, 290' from ridge line; 3rd lift						
7-22-98	16 RB-50	18.7	108.2	15.9	113.8	95	#10, Sandy Lean Clay
Location:	Sta. 9+50, 270' from ridge line; 4th lift						
7-22-98	17 RB-51	16.4	108.4	15.9	113.8	95	#10, Sandy Lean Clay
Location:	Sta. 11+20, 140' from ridge line; 4th lift						
7-22-98	8 RB-52	16.5	109.2	15.9	113.8	96	#10, Sandy Lean Clay
Location:	Sta. 6+25, 230' from ridge line; 3rd lift						
7-22-98	19 RB-53	17.5	108.1	15.9	113.8	95	#10, Sandy Lean Clay
Location:	Sta. 57+00, 335' from ridge line; 1st lift						
7-22-98	20 RB-54	18.5	109.4	15.9	113.8	96	#10, Sandy Lean Clay
Location:	Sta. 5+00, 215' from ridge line; 4th lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 8

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
7-22-98	RB-55	20.2	104.8	17.2	110.6	95	#5, Lean Clay
Location:	Sta. 9+35, 305' from ridge line; 5th lift						
7-22-98	RB-56	17.6	109.0	17.2	110.6	99	#5, Lean Clay
Location:	Sta. 59+00, 285' from ridge line; 1st lift						
7-22-98	RB-57	17.8	106.9	17.2	110.6	97	#5, Lean Clay
Location:	Sta. 6+00, 340' from ridge line; 5th lift						
7-22-98	RB-57(SC)	17.8	107.4	17.2	110.6	97	#5, Lean Clay
Location:	Sta. 6+00, 340' from ridge line; 5th lift						
7-23-98	RB-58	18.7	105.5	17.2	110.6	95	#5, Lean Clay
Location:	Sta. 7+50, 280' from ridge line; 5th lift						
7-23-98	RB-59	15.6	107.4	17.2	110.6	97	#5, Lean Clay
Location:	Sta. 6+20; 210' from ridge line; 5th lift						
7-23-98	RB-60	17.7	107.2	17.2	110.6	97	#5, Lean Clay
Location:	Sta. 11+80, 355' from ridge line; 5th lift						
7-23-98	RB-61	17.9	106.4	18.5	108.9	98	#8, Lean Clay w/Sand
Location:	Sta. 56+50, 130' from end of radon barrier; 1st lift						
7-23-98	RB-62	19.9	105.6	18.5	108.9	97	#8, Lean Clay w/Sand
Location:	Sta. 54+50, 30' from end of radon barrier; 3rd lift						
7-23-98	RB-63	17.6	108.8	18.5	108.9	100	#8, Lean Clay w/Sand
Location:	Sta. 57+50, 80' from end of radon barrier, 2nd lift						
7-23-98	RB-64	16.5	103.8	18.5	108.9	95	#8, Lean Clay w/Sand
Location:	Sta. 5+20, 35' from end of radon barrier, 6th lift						
7-23-98	RB-65	19.1	103.7	18.5	108.9	95	#8, Lean Clay w/Sand
Location:	Sta. 9+60, 95' from end of radon barrier, 6th lift						
7-24-98	RB-66	21.3	103.7	18.5	108.9	95	#8, Lean Clay w/Sand
Location:	Sta. 57+00, 180' from end of radon barrier, 2nd lift						
7-24-98	RB-67	17.8	105.6	17.2	111.0	95	#12, Lean Clay w/Sand
Location:	Sta. 54+50, 25' from end of radon barrier, 4th lift						

Bear Creek Uranium
Job No. 9851711
Sheet 8 of 8

TEST RESULTS:		----------FIELD----------		------LABORATORY------			
Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
7-24-98	RB-67(SC)	17.8	107.6	17.2	111.0	97	#12, Lean Clay w/Sand
Location:	Sta. 54+50, 25' from end of radon barrier, 4th lift						
7-24-98	RB-68	17.1	105.7	17.2	111.0	95	#12, Lean Clay w/Sand
Location:	Sta. 56+50, 165' from end of radon barrier, 3rd lift						
7-24-98	RB-69	16.5	108.6	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	Sta. 54+00, 115' from end of radon barrier, 3rd lift						
7-24-98	RB-70	16.2	107.8	18.5	108.9	99	#8, Lean Clay w/Sand
Location:	Sta. 57+50, 90' from end of radon barrier, 4th lift						
7-24-98	RB-71	16.2	109.2	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	Sta. 59+00, 205' from end of radon barrier, 4th lift						
7-24-98	RB-70A	18.8	106.3	18.5	108.9	98	#8, Lean Clay w/Sand
Location:	Sta. 57+50, 90' from end of radon barrier, 4th lift						
7-24-98	RB-72	17.4	108.8	18.5	108.9	100	#8, Lean Clay w/Sand
Location:	Sta. 54+50, 125' from end of radon barrier, 4th lift						

( ) Failed to meet project requirements.

DENSITY TESTS RB = 38

SAND CONE TESTS = 4

RETEST = 5

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1-pt. Density Test RB-39								14.5	113.3	#17, Sandy Lean Clay
1-pt. Density Test RB-35								15.2	112.3	#10, Sandy Lean Clay
RB-ATT-14, RB-200-23			37	18	0	14	86			Lean Clay
RB-200-24					0	46	54			Sandy Lean Clay
RB-200-25					0	53	47			Clayey Sand
RB-200-26					0	36	64			Sandy Lean Clay
Proctor #17	15.1	114.3	30	12	0	50	50			Sandy Lean Clay
1-pt. Density Test RB-50								13.0	111.0	#13, Sandy Lean Clay
1-pt. Density Test RB-47								17.2	110.6	#5, Lean Clay
RB-ATT-15, RB-200-27			40	23	0	31	69			Sandy Lean Clay
RB-200-28					0	10	90			Lean Clay
RB-200-29					0	27	73			Lean Clay with Sand
RB-200-30					0	56	44			Clayey Sand
1-pt. Density Test RB-55								20.3	109.1	#5, Lean Clay
RB-ATT-16, RB-200-31			33	15	0	34	66			Sandy Lean Clay
RB-200-32					0	43	57			Sandy Lean Clay
RB-200-33					0	6	94			Lean Clay
RB-200-34					0	32	68			Sandy Lean Clay
Proctor #18	20.2	107.8	46	21	0	3	97			Lean Clay
1-pt. Density Test RB-61								17.8	108.7	#8, Lean Clay with Sand
RB-ATT-17, RB-200-35			36	18	0	29	71			Lean Clay with Sand

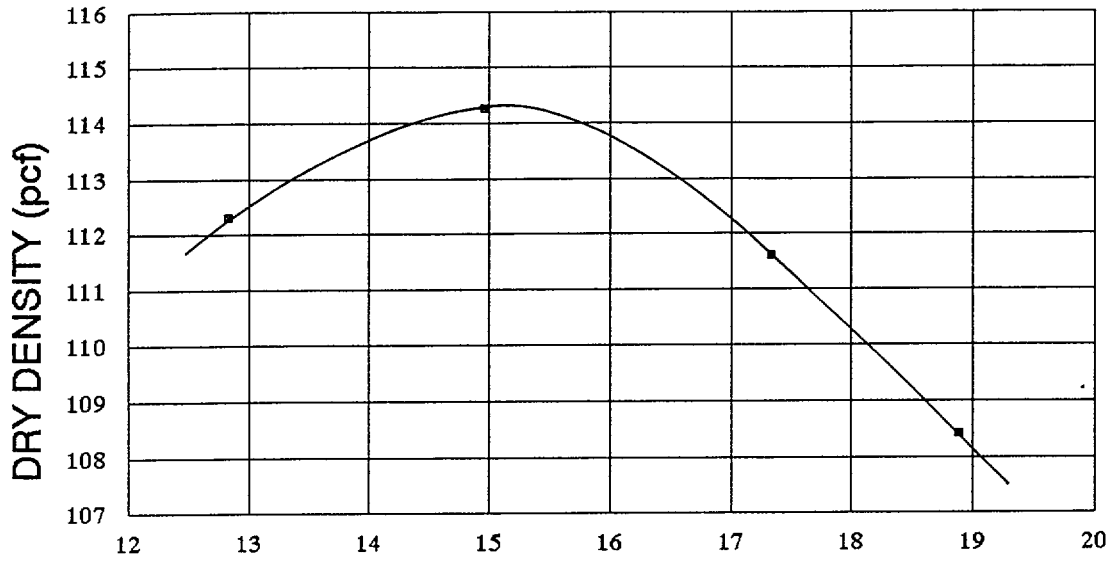
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
RB-200-36 (14)					0	4	96			Lean Clay
RB-200-37 (15)					0	9	91			Lean Clay
RB-200-38 (16)					0	11	89			Lean Clay
1-pt. Density Test RB-67 7								17.2	111.0	#12, Lean Clay with Sand
RB-ATT-18 (5), RB-200-39 (17)			43	17	0	4	96			Lean Clay
RB-200-40 (18)					0	42	58			Sandy Lean Clay
RB-200-41 (19)					0	38	62			Sandy Lean Clay
RB-200-42 (20)					0	24	76			Lean Clay with Sand
- 200	20 ea									
ATH	5 ea									
1 Pt Proctor	7 ea									
Proctor 4 pt	2 ea									

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 114.3 pcf OPTIMUM WATER CONTENT: 15.1%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	50
FINES (SILT AND CLAY)	50

ATTERBERG LIMITS

LIQUID LIMIT	30
PLASTICITY INDEX	12

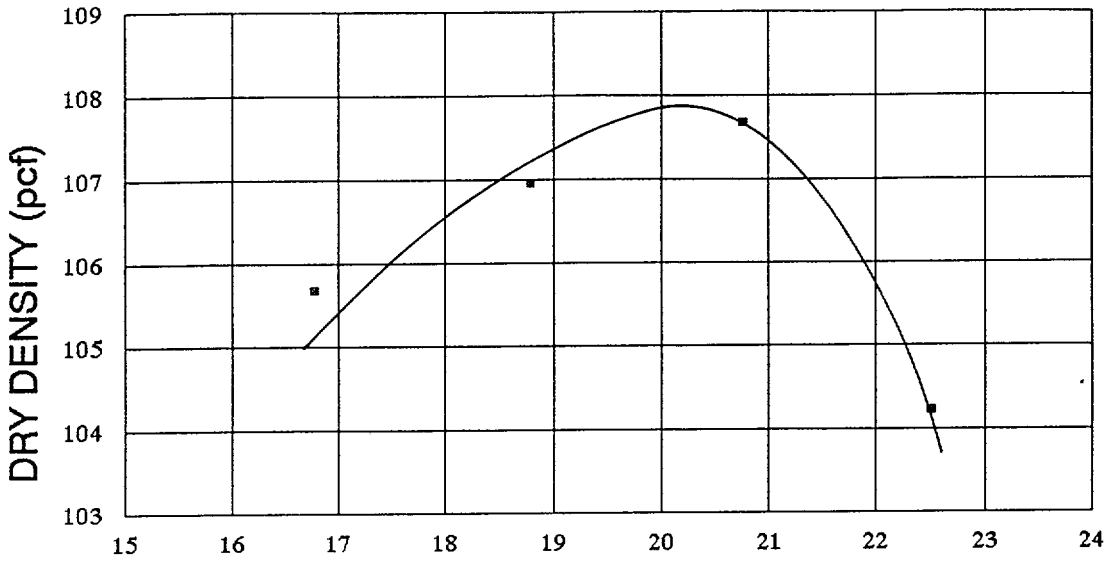
SAMPLE IDENTIFICATION:
No. 17, Radon Barrier Fill Area on 7/21/98

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 17

MOISTURE – DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 107.8 pcf OPTIMUM WATER CONTENT: 20.2%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	3
FINES (SILT AND CLAY)	97

ATTERBERG LIMITS

LIQUID LIMIT	46
PLASTICITY INDEX	21

SAMPLE IDENTIFICATION:
Proctor No. 18

SOIL CLASSIFICATION:
Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 18

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: August 6, 1998
JOB NO.: 9851711
SHEET 1 OF 6

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 16

PROJECT REPORT

MON **DAILY REPORT NO. 55 - Billy Ray, Field Engineer - 12.0 Hours**
July 27, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier. The sixth lift was placed on the second half of the neck between Ponds #2 and #3. The first and second lift placement was started in Pond #3 as each lift was tied into the matching lift from last year's construction. Initially, there were four scrapers hauling from the diversion channel and two scrapers from the W-8 borrow area. Two of the scrapers from the diversion channel were pulled from the spread and they worked with the D-6 dozer as the slope of the ridge line was constructed. The top of the tailings, near the top of the ridges, were bladed and rolled in advance of first lift of radon barrier placement. I talked with Mr. Jim Smith (BCU) about referencing test locations in Pond #3. He will ask the surveyors from Powers Elevation to set up a baseline on northings and eastings as the area in Pond #3 will run east-west and to the north.

Three nuclear method moisture-density tests were performed, Tests No. RB-73, RB-74 and RB-75. All three tests met the project specifications. The tests on the sixth lift placed this shift will be performed after the 50-ton truck finishes rolling this area. All field density test results are presented on the attached summary sheet. Proctor #19 and a one-point Proctor for test No. RB-73 were performed. Samples RB-ATT-19 and RB-200-43, RB-200-44, RB-200-45 and RB-200-46 were collected for laboratory analysis. All laboratory test results are presented on Table I.

TUE **DAILY REPORT NO. 56 - Billy Ray, Field Engineer - 12.0 Hours**
July 28, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of radon barrier. There were two scrapers hauling from the W-8 borrow area and up to four scrapers hauling from the diversion channel cut. Due to the fact that Carr Construction was shorthanded, there was considerable shuffling of personnel and equipment. Equipment troubles also contributed to the shuffling. Two blades prepared the first lift in Pond #3 as the moisture was inconsistent. Two nuclear method moisture-density tests, Nos. RB-76 and RB-77, were performed on the sixth lift placed on 7-27-98; both tests met project specifications. A sand cone test, No. RB-77(SC), was performed along side test No. RB-77.

Tailings were cut in Pond #3 to get the proper grade prior to the placement of the first lift. The tailings were placed above the ridge line and then rolled with the smaller sheepsfoot roller. In addition to the sixth lift tests performed, nuclear method moisture-density tests No. RB-78 through RB-83 were performed. All tests met the project specifications except test No. RB-83, which was not dense enough. The test locations and results are presented on the attached summary sheet. One-point Proctors were performed for density tests No. RB-78 and RB-82. Samples RB-ATT-20 and RB-200-47, RB-200-48, RB-200-49 and RB-200-50 were collected for laboratory analysis. All laboratory test results are presented on Table I, attached.

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC & OURSELVES, ALL REPORTS ARE SUBMITTED AS CONFIDENTIAL PROPERTY OF OUR CLIENTS & AUTHORIZATION FOR PUBLICATION OF STATEMENTS. CONCLUSIONS/EXTRACTS FROM OR REGARDING OUR REPORTS ARE RESERVED PENDING OUR WRITTEN APPROVAL. SAMPLES WILL BE DISPOSED OF AFTER TESTING IS COMPLETED UNLESS OTHER ARRANGEMENTS ARE AGREED TO IN WRITING.

DAILY REPORT NO. 57 - Billy Ray, Field Engineer - 12.0 Hours
Wed July 29, 1998

6:00 am to 6:30 am - Carr Construction spent some time in the beginning of the shift repairing the failed areas from 7-28-98. The scrapers did not run immediately. The second lift on the first east-west panel was placed as the rest of the crew worked on the failed areas. The tailings relocation continued as the tailings were cut from Pond #3 and placed as fill on the ridge line. The reworking of the failed areas was completed and retest No. RB-83A was performed. The test passed and the placement of the third lift was allowed to proceed. For the first time the fill was placed predominately with moisture contents greater than optimum. Extra moisture and added effort contributed to the fact that all tests passed. In addition to the retest, six nuclear moisture-density tests and one sand cone test, Nos. RB-84 through RB-89, were performed on the fill placed this shift. All test locations and results are presented on the attached summary sheet.

Two scrapers were used in the relocation of tailings, two scrapers placed radon barrier that was cut from the W-8 borrow area, and two scrapers placed radon barrier that was cut from the diversion channel cut. A one-point Proctor was performed prior to density test No. RB-86. Samples RB-ATT-21 and RB-200-51, RB-200-52 and RB-200-53 were collected for laboratory analysis.

As the diversion channel gets closer to grade, Mr. Jim Smith (BCU) plans on relocating the cut. He asked me to collect some samples from the next potential borrow area which extends west from the existing diversion channel. Borrow check samples were collected from Stations 42+00, 45+00, 46+00, 49+00 and 51+00 along the road and to the north. Atterberg limits and -200 content were determined for each sample. The results of all borrow check and radon barrier laboratory testing are presented on Table I, attached.

Thur **DAILY REPORT NO. 58 - Billy Ray, Field Engineer - 7.0 Hours**
July 30, 1998

6:00 am to 1:00 pm - It rained overnight and left the site very wet. Two scrapers cut tailings from Pond #3 to the top of the ridge line. Four scrapers hauled from the W-8 borrow area to the radon barrier fill. Moisture-density test No. RB-90 failed due to excessive moisture. Mr. John Smith (Carr) was notified of the failure. About 8:30 am the scrapers were parked as the roads had to be cleared of the mud. About 9:00 am it rained hard and Carr end the shift. Remained on-site to catch up on laboratory testing and paper work before returning to the Casper office. Called Mr. Gary Chase (BCU) at approximately 3:00 pm, he told me that the site was drying nicely and that Carr would most likely be able to work on 7-31-98.

Fri **DAILY REPORT NO. 59 - Billy Ray, Field Engineer - 12.5 Hours**
July 31, 1998

6:00 am to 7:00 pm - Carr Construction continued placement of the radon barrier. Due to the rains over the last couple of days, all six scrapers hauled from the W-8 borrow area. The failed areas from 7-30-98 were scarified and allowed to air dry. At the end of the shift, areas were still too wet to place fill on top of. Carr plans to have a few people work on Saturday, they will again scarify and blade these wet areas.

The first and second lifts were placed in what had become a hole at the end of the neck as each lift was stopped short and the end was tapered. The lifts running through the neck were tied into the existing lifts that run east-west in Pond #3. Several rocks appeared in the fill. Mr. John Smith (Carr) was made aware of their presence and they were hauled back to the W-8 rock waste area.

Nuclear method moisture-density tests No. RB-91 through RB-96 were performed. All tests met the project specifications. A one-point Proctor was performed prior to test No. RB-91. Field density test results are presented on the attached summary sheet. Samples RB-ATT-23, RB-200-55, RB-200-56 and RB-200-57 were collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
7-27-98	RB-73	14.7	108.8	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	Sta. 53+50, 35' from end of radon barrier; 5th lift						
7-27-98	RB-74	16.9	109.7	17.2	111.0	99	#12, Lean Clay w/Sand
Location:	Sta. 57+00, 90' from end of radon barrier; 5th lift						
7-27-98	RB-75	17.5	108.4	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	947435N and 375650E						
7-28-98	RB-76	19.6	105.6	17.2	111.0	95	#12, Lean Clay w/Sand
Location:	Sta. 5+70, 120' from toe of ridge; 1st lift						
7-28-98	RB-77	16.0	109.8	17.2	111.0	99	#12, Lean Clay w/Sand
Location:	D.C. Sta. 54+00, 40' from existing radon barrier; 2nd lift						
7-28-98	RB-77(SC)	16.0	109.1	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	D.C. Sta. 54+00, 40' from existing radon barrier; 2nd lift						
7-28-98	RB-78	20.5	105.3	20.9	107.9	98	#18, Lean Clay
Location:	Sta. 58+60, 70' from end of radon barrier; 6th lift						
7-28-98	RB-79	18.8	108.4	20.9	107.9	100	#18, Lean Clay
Location:	Sta. 55+00, 20' from end of radon barrier; 6th lift						
7-28-98	RB-80	18.0	110.2	17.2	111.0	99	#12, Lean Clay w/Sand
Location:	Sta. 10+20, 90' from toe of ridge line; 1st lift						
7-28-98	RB-81	17.8	105.4	17.2	111.0	95	#12, Lean Clay w/Sand
Location:	947520N, 325730E, 80' from existing radon barrier; 1st lift						
7-28-98	RB-82	17.0	106.6	17.2	111.0	96	#12, Lean Clay w/Sand
Location:	Sta. 10+20, 25' from toe of ridge line; 1st lift						
7-28-98	RB-83	17.8	014.4	17.2	111.0	(94)	#12, Lean Clay w/Sand
Location:	Sta. 6+00, 130' from toe of ridge line; 2nd lift						

( ) Failed to meet project requirements.

TEST RESULTS:

Test Date	Test Number	----------FIELD---------- Moisture Content (%)	Dry Density (p.c.f.)	------LABORATORY------ Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
7-29-98	12 RB-84	18.2	108.7	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	Sta. 59+40, 65' from toe of ridge line; 2nd lift						
7-29-98	13 RB-85	18.6	108.2	17.2	111.0	97	#12, Lean Clay w/Sand
Location:	Sta. 9+25, 40' from toe of ridge line; 2nd lift						
7-29-98	RB-83A	19.3	108.9	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	Sta. 6+00, 130' from toe of ridge line; 2nd lift **RETEST OF TEST NO. RB-83**						
7-29-98	14 RB-86	17.7	105.3	19.5	108.6	97	#19, Lean Clay
Location:	Sta. 57+50, 30' from toe of ridge line; 3rd lift						
7-29-98	15 RB-87	21.5	102.5	19.5	108.6	95	#19, Lean Clay
Location:	Sta. 59+00, 85' from toe of ridge line; 3rd lift						
7-29-98	2 RB-87(SC)	21.5	103.1	19.5	108.6	95	#19, Lean Clay
Location:	Sta. 59+00, 85' from toe of ridge line; 3rd lift						
7-29-98	16 RB-88	18.6	107.2	19.5	108.6	99	#19, Lean Clay
Location:	Sta. 7+50,45' from toe of ridge line; 3rd lift						
7-29-98	17 RB-89	18.4	105.0	19.5	108.6	97	#19, Lean Clay
Location:	Sta. 58+25, 70' from toe of ridge line; 4th lift						
7-30-98	18 RB-90	24.9	100.9	19.5	108.6	(93)	#19, Lean Clay
Location:	Sta. 7+75, 105' from toe of ridge line; 4th lift						
7-31-98	19 RB-91	18.0	109.8	15.1	114.3	96	#17, Sandy Lean Clay
Location:	Sta. 57+20, 180' from toe of ridge line; 1st lift						
7-31-98	20 RB-92	14.9	111.8	15.1	114.3	98	#17, Sandy Lean Clay
Location:	Sta. 54+80, 210' from toe of ridge line; 2nd lift						
7-31-98	21 RB-93	16.9	109.4	15.1	114.3	96	#17, Sandy Lean Clay
Location:	Sta. 60+40, 110' from toe of ridge line; 5th lift						
7-31-98	22 RB-94	16.7	111.1	15.1	114.3	97	#17, Sandy Lean Clay
Location:	Sta. 56+00, 160' from toe of ridge line; 1st lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 6

TEST RESULTS:		----------FIELD----------		------LABORATORY------			
Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
7-31-98	RB-95 (23)	17.9	109.0	15.1	114.3	95	#17, Sandy Lean Clay
Location:	Sta. 53+00, 270' from toe of ridge line; 2nd lift						
7-31-98	RB-96 (24)	16.7	108.0	15.1	114.3	95	#17, Sandy Lean Clay
Location:	Sta. 9+40, 135' from toe of ridge line; 6th lift						

DENSITY 24

Sand Cone 2

Roboost 1

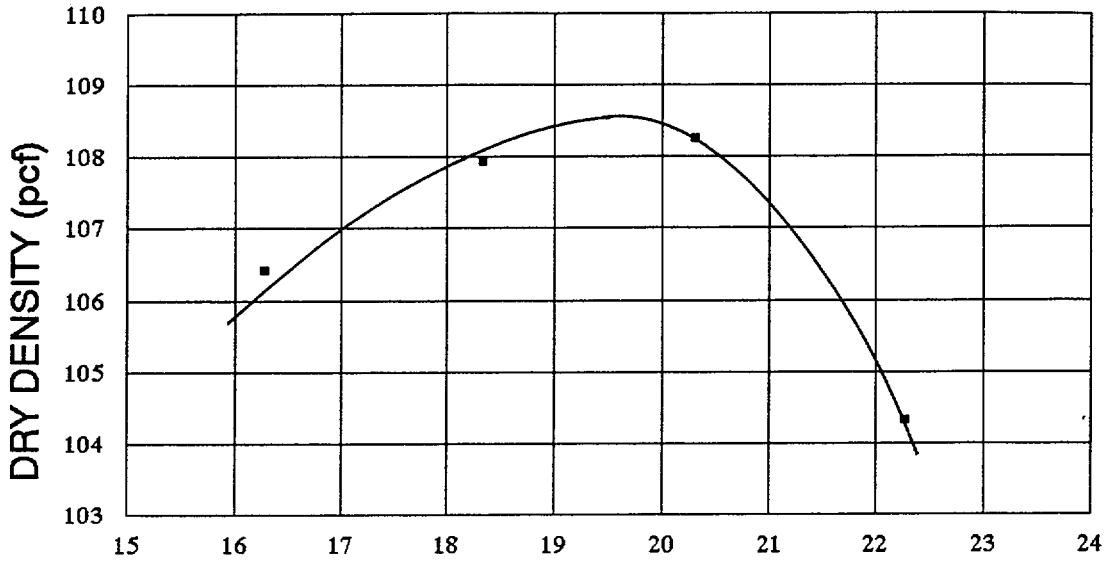
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor #19	19.5	108.6	44	19	0	4	96			Lean Clay
1-pt. Density Test RB-73								17.6	110.7	#12, Lean Clay with Sand
RB-ATT-19, RB-200-43			42	22	0	16	84			Lean Clay with Sand
RB-200-44					0	16	84			Lean Clay with Sand
RB-200-45					0	22	78			Lean Clay with Sand
RB-200-46					0	57	43			Clayey Sand
1-pt. Density Test RB-78								17.7	108.4	#18, Lean Clay
1-pt. Density Test RB-82								18.7	111.6	#12, Lean Clay with Sand
RB-ATT-20, RB-200-47			44	23	0	19	81			Lean Clay with Sand
RB-200-48					0	5	95			Lean Clay
RB-200-49					0	25	75			Lean Clay with Sand
RB-200-50					0	16	84			Lean Clay with Sand
1-pt. Density Test RB-86								19.2	109.6	#19, Lean Clay
RB-ATT-21, RB-200-51			50	30	0	12	88			Fat Clay
RB-200-52					0	26	74			Lean Clay with Sand
RB-200-53					0	23	77			Lean Clay with Sand
Borrow Check, Sta. 42+00			38	19	0	23	77			Lean Clay with Sand
Borrow Check, Sta. 45+00			44	22	0	16	84			Lean Clay with Sand
Borrow Check, Sta. 46+00			40	21	0	18	82			Lean Clay with Sand
Borrow Check, Sta. 49+00			47	33	0	17	83			Lean Clay with Sand
Borrow Check, Sta. 51+00			34	18	0	40	60			Sandy Lean Clay

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 108.6 pcf OPTIMUM WATER CONTENT: 19.5%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	4
FINES (SILT AND CLAY)	96

ATTERBERG LIMITS

LIQUID LIMIT	44
PLASTICITY INDEX	19

SAMPLE IDENTIFICATION:
Proctor No. 19

SOIL CLASSIFICATION:
Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 19

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: August 13, 1998
JOB NO.: 9851711
SHEET 1 OF 6

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 17

PROJECT REPORT

DAILY REPORT NO. 60 - Billy Ray, Field Engineer - 12.0 Hours
August 3, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier. Until 10:00 am there were four scrapers hauling from the W-8 borrow area to the radon barrier and two scrapers hauling from the diversion channel to the radon barrier. At 10:00 am, two of the scrapers from the W-8 area were pulled from the radon barrier spread. They were used to cut and haul tailings from the Pond #3 area to the top of the ridge.

The failed areas from 7-30-98 were reworked and retested as moisture-density test No. RB-90A. That test met the project specifications. All radon barrier fill was placed as 5th and 6th lifts in the neck. In addition to test No. RB-90A, nuclear method moisture-density tests No. RB-97 through RB-101 were performed. A sand cone test was performed with test No. RB-97. Tests No. RB-97, RB-98 and RB-101 represented material from the diversion channel cut and tests No. RB-99 and RB-100 represented material from the W-8 borrow area. A one-point Proctor was performed prior to test No. RB-99 to account for a change in material. All moisture-density tests met project specifications and the results and locations are presented on the attached summary sheet.

Samples RB-ATT-24, RB-200-58, RB-200-59 and RB-200-60 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 61 - Billy Ray, Field Engineer - 4.0 Hours
August 4, 1998

6:00 am to 10:00 am - Heavy rains overnight inundated the work site. No construction was performed this shift. I will call Mr. Gary Chase (BCU) in the afternoon to check on conditions and prospects for working 8-5-98. Remained on-site for two hours to perform laboratory work. There were no field tests performed or samples collected this shift.

DAILY REPORT NO. 62 - Billy Ray, Field Engineer - 12.0 Hours
August 5, 1998

6:00 am to 6:30 am - The site had dried enough to allow Carr Construction to resume the placement of the radon barrier. Initially, there were six scrapers placing radon barrier in the neck with material cut from the W-8 borrow area. As the site dried further, two of the scrapes cut tailings from the Pond #3 area and placed them on top of the ridge line. The remaining four scrapers continuing hauling from the W-8 borrow area before eventually relocating their cut to the diversion channel.

Mr. Mark Peloquin with Maxim was on-site this shift for a visit. We discussed one-point procedures, moisture content reporting and went on a site tour.

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC & OURSELVES, ALL REPORTS ARE SUBMITTED AS CONFIDENTIAL PROPERTY OF OUR CLIENTS & AUTHORIZATION FOR PUBLICATION OF STATEMENTS. CONCLUSIONS/EXTRACTS FROM OR REGARDING OUR REPORTS ARE RESERVED PENDING OUR WRITTEN APPROVAL. SAMPLES WILL BE DISPOSED OF AFTER TESTING IS COMPLETED UNLESS OTHER ARRANGEMENTS ARE AGREED TO IN WRITING.

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
4 RB-ATT-22, 12 RB-200-54			43	24	0	24	76			Lean Clay with Sand
5 RB-ATT-23, 13 RB-200-55			32	14	0	46	54			Sandy Lean Clay
14 RB-200-56					0	46	54			Sandy Lean Clay
15 RB-200-57					0	37	63			Sandy Lean Clay
1-pt. Density Test RB-91								17.4	112.2	#17, Sandy Lean Clay
Proctors 1 Lean										
1 Pt 5 Lean										
Att 5 Lean										
-200 15 Lean										

Uranium
317

XIM
RIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
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TECHNICAL REPORT

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DATE: August 13, 1998
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SHEET 1 OF 6

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 17

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Samples RB-ATT-24, RB-200-58, RB-200-59 and RB-200-60 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

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cc:

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Bear Creek Uranium
Job No. 9851711
Sheet 4 of 6

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
8-03-98	RB-90A[1]	18.3	107.9	19.5	108.6	99	#19, Lean Clay
Location:	Sta. 7+75, 105' from toe of ridge; 4th lift						
	RETEST OF TEST NO. RB-90						
8-03-98	RB-97[1]	17.7	109.1	19.5	108.6	100	#19, Lean Clay
Location:	Sta. 62+25, 20' from toe of ridge; 4th lift						
8-03-98	RB-97(SC)	17.7	108.6	19.5	108.6	100	#19, Lean Clay
Location:	Sta. 62+25, 20' from toe of ridge; 4th lift						
8-03-98	RB-98[2]	18.3	107.3	19.5	108.5	99	#19, Lean Clay
Location:	Sta. 8+75, 230' from toe of ridge; 6th lift						
8-03-98	RB-99[3]	16.1	112.1	15.1	114.3	98	#17, Sandy Lean Clay
Location:	Sta. 61+00, 110' from toe of ridge; 6th lift						
8-03-98	RB-100[4]	16.5	110.5	15.1	114.3	97	#17, Sandy Lean Clay
Location:	Sta. 5+20, 75' from toe of ridge; 5th lift						
8-03-98	RB-101[5]	18.3	104.5	19.5	108.6	96	#19, Lean Clay
Location:	Sta. 10+00, 35' from toe of ridge; 5th lift						
8-04-98	RB-102[6]	18.7	107.2	19.5	108.6	99	#19, Lean Clay
Location:	Sta. 61+50, 85' from toe of ridge; 6th lift						
8-04-98	RB-103[7]	20.3	103.3	19.5	108.6	95	#19, Lean Clay
Location:	Sta. 53+10, 160' from ridge line; 1st lift						
8-04-98	RB-104[8]	19.0	108.4	19.5	108.6	100	#19, Lean Clay
Location:	Sta. 55+00, 185' from channel; 3rd lift						
8-04-98	RB-105[9]	(16.0)	106.3	19.5	108.6	98	#19, Lean Clay
Location:	947650N, 376000E (based on state coord.); 3rd lift						
8-04-98	RB-106[10]	19.5	107.4	19.5	108.6	99	#19, Lean Clay
Location:	947875N, 376100E; 2nd lift						
8-04-98	RB-105A[2]	21.6	109.0	19.5	108.6	96	#19, Lean Clay
Location:	947650N, 376000E; 3rd lift						
	RETEST OF TEST NO. RB-105						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 5 of 6

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
8-06-98	RB-107	20.2	106.3	19.5	108.6	98	#19, Lean Clay
Location:	947500N, 376000E; 4th lift						
8-06-98	RB-107(SC)	20.2	103.6	19.5	108.6	95	#19, Lean Clay
Location:	947500N, 376000E; 4th lift						
8-06-98	RB-108	18.8	107.5	19.5	108.6	99	#19, Lean Clay
Location:	947754N, 375906E; 2nd lift						
8-06-98	RB-109	19.9	106.8	19.5	108.6	98	#19, Lean Clay
Location:	Sta. 56+50, 210' from diversion channel; 4th lift						
8-06-98	RB-110	20.8	106.0	19.5	108.6	98	#19, Lean Clay
Location:	947475N, 375725E; 3rd lift						
8-06-98	RB-111	18.1	106.9	19.5	108.6	98	#19, Lean Clay
Location:	Sta. 54+50, 196' from toe of ridge; 4th lift						
8-06-98	RB-112	17.1	108.5	16.6	109.6	99	#20, Lean Clay w/Sand
Location:	Sta. 16+00, 110' from toe of ridge; 4th lift						
8-06-98	RB-113	17.6	108.8	16.6	109.6	99	#20, Lean Clay w/Sand
Location:	947485N, 375580E; 3rd lift						
8-07-98	RB-114	20.1	106.3	17.0	109.8	98	#20, Lean Clay w/Sand
Location:	947850N, 375540E; 2nd lift						
8-07-98	RB-115	17.1	110.2	17.0	109.8	100	#20, Lean Clay w/Sand
Location:	947650N, 376065E; 5th lift						
8-07-98	RB-116	19.0	107.3	17.0	109.8	98	#20, Lean Clay w/Sand
Location:	947530N, 375985E; 5th lift						
8-07-98	RB-117	20.0	105.7	17.0	109.8	96	#20, Lean Clay w/Sand
Location:	947670N, 376110E; 4th lift						
8-07-98	RB-117(SC)	20.0	106.3	17.0	109.8	97	#20, Lean Clay w/Sand
Location:	947670N, 376110E; 4th lift						
8-07-98	RB-118	19.6	106.8	17.0	109.8	98	#20, Lean Clay w/Sand
Location:	947450N, 375675E; 3rd lift						

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 6

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
8-07-98	RB-119 (23)	16.5	109.1	15.5	114.3	95	#16, Sandy Lean Clay
Location:	947820N, 376050E; 5th lift						
8-07-98	RB-120 (24)	17.0	110.5	15.5	114.3	97	#16, Sandy Lean Clay
Location:							

DENSITY TESTS 24

RETEST 2

SAND CONE 3

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

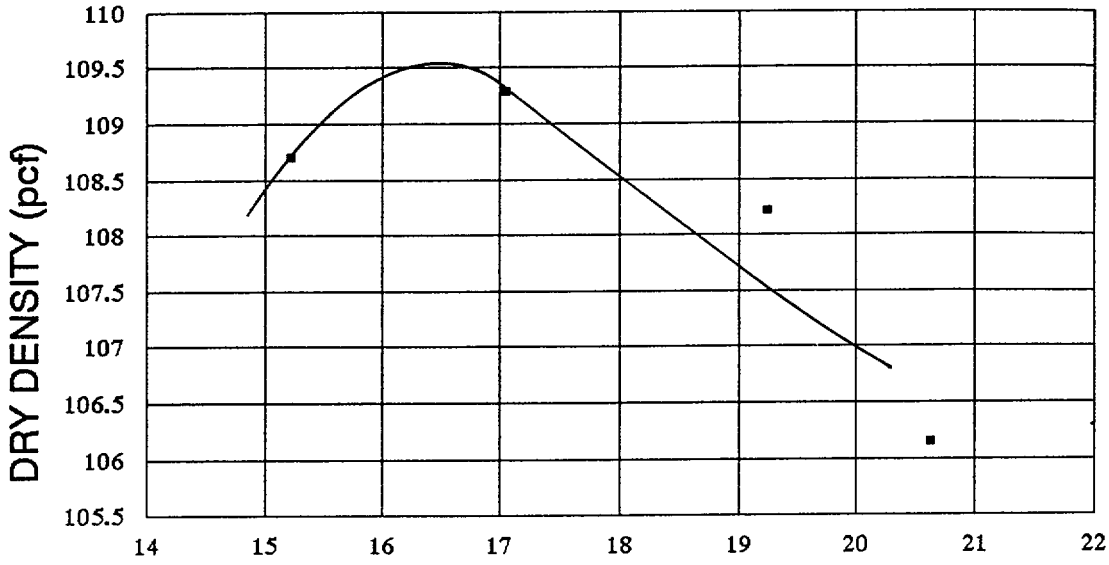
UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1 1-pt. Density Test RB-99								15.1	114.3	#17, Sandy Lean Clay
RB-ATT-29, RB-200-58			38	19	0	47	53			Sandy Lean Clay
RB-200-59					0	55	45			Clayey Sand
RB-200-60					0	21	79			Lean Clay with Sand
Proctor #20	16.6	109.6	31	14	0	29	71			Lean Clay with Sand
2 1-pt. Density Test RB-102								19.8	108.9	#19, Lean Clay
RB-ATT-25, RB-200-61			44	24	0	12	88			Lean Clay
RB-200-62					0	14	86			Lean Clay
RB-200-63					0	12	88			Lean Clay
RB-200-64					0	21	79			Lean Clay with Sand
RB-200-65					0	12	88			Lean Clay
RB-200-66					0	24	76			Lean Clay with Sand
3 1-pt. Density Test RB-112, RB-ATT-26, RB-200-67			41	24	0	25	75	19.0	110.7	#20, Lean Clay with Sand
RB-ATT-27, RB-200-68			44	25	0	24	76			Lean Clay with Sand
4 1-pt. Density Test RB-107								19.4	109.6	#20, Lean Clay
Proctor #21	19.9	108.1	41	19	0	14	86			Lean Clay
5 1-pt. Density Test RB-119			43	23	0	19	81	17.2	112.6	#16, Sandy Lean Clay
RB-200-69					0	9	91			Lean Clay
RB-ATT-28, RB-200-70			43	23	0	19	81			Lean Clay with Sand
RB-200-72 71?					0	8	82			Lean Clay
RB-200-73					0	27	73			Lean Clay with Sand
Diversion Channel, Sta.34+00					0	81	19			Clayey Sand

-200 -16 eq Proctor 2
AH - 5 eq 1 pt 5

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 109.6 pcf OPTIMUM WATER CONTENT: 16.6%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	29
FINES (SILT AND CLAY)	71

ATTERBERG LIMITS

LIQUID LIMIT	31
PLASTICITY INDEX	14

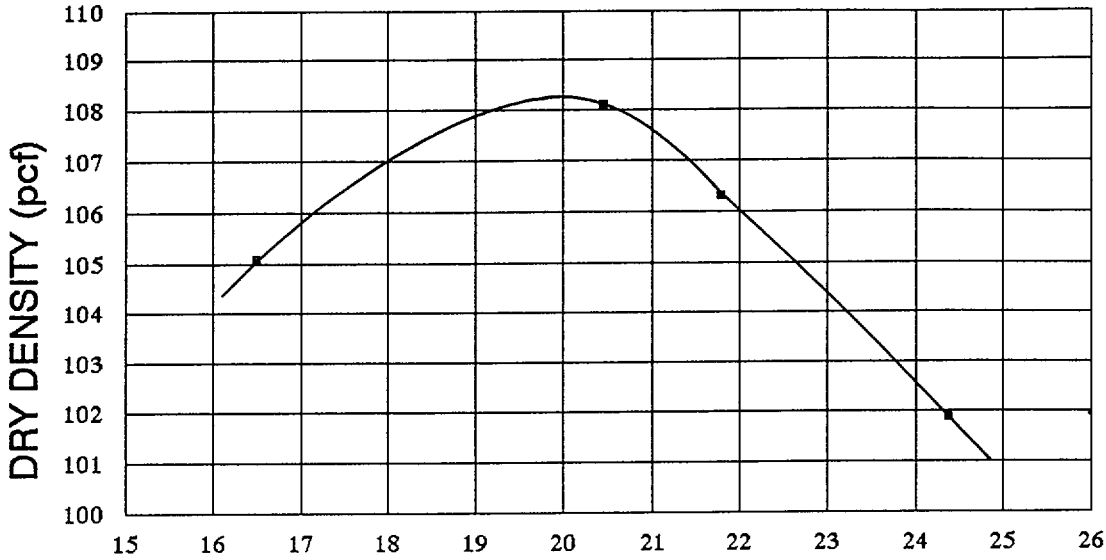
SAMPLE IDENTIFICATION:
Proctor No. 20

SOIL CLASSIFICATION:
Lean Clay with Sand (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 20

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 108.1 pcf OPTIMUM WATER CONTENT: 19.9%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	14
FINES (SILT AND CLAY)	86

ATTERBERG LIMITS

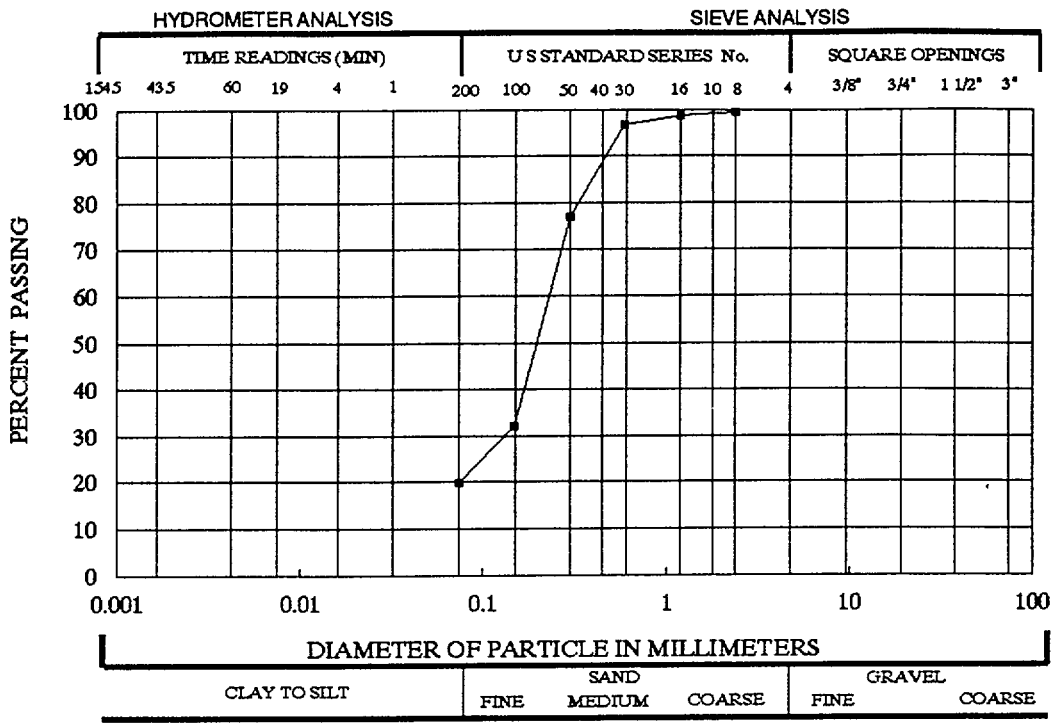
LIQUID LIMIT	41
PLASTICITY INDEX	19

SAMPLE IDENTIFICATION:
Proctor No. 21

SOIL CLASSIFICATION:
Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 21



SIEVE SIZE	PERCENT PASSING
#8	100
#16	99
#30	97
#50	77
#100	32
#200	20

SAMPLE IDENTIFICATION:
Diversion Channel, Sta. 34+00

SOIL CLASSIFICATION:
Clayey Sand

UPR – BEAR CREEK URANIUM PROJECT
CONVERSE COUNTY, WYOMING

9851711	*MAXIM* Technologies, Inc.	GRADATION ANALYSIS

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
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Casper, Wyoming 82602
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TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: August 24, 1998
JOB NO.: 9851711
SHEET 1 OF 7

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 8

PROJECT REPORT

DAILY REPORT NO. 65 - Billy Ray, Field Engineer - 12.0 Hours
MON August 10, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier. Five scrapers cut material from the diversion channel and placed it as the sixth lift in the "neck". A lack of grade control left the lifts incomplete and Carr had to double back to bring the area to grade. About 4:00 pm the first lift of radon barrier was started on the panels running east/west in Pond #3. Two scrapers continued the removal of tailings from the north area of Pond #3. The tailings were placed along the ridge line. Once it was determined that all of the tailings were removed, some random fill was cut from the sandy portion of the diversion channel near Station 35+00 and placed as a cover on top of the tailings.

The 50-ton truck broke down and diesel was spilled on the compacted fill. The contaminated soil was removed and placed on the waste pile near the site of the mill building. The large water truck began to sink in the soft subgrade; Carr was instructed to use only the small truck in the area and the damaged area was repaired. The power was knocked out in an afternoon storm at approximately 3:15 pm. Mr. Gary Chase (BCU) was on-site.

Three nuclear method moisture-density tests were performed, tests No. RB-121, RB-122 and RB-122A. Test No. 122 failed due to a lack of both moisture and compaction. The failed area was reworked and passes as test No. RB-122A. All density test locations and results are presented on the attached summary sheet. A sample, RB-200-74, was collected and tested. A one-point Proctor was performed for test No. RB-122 and tests RB-200-74 and RB-ATT-29 were performed on the material from the one-point Proctor. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 66 - Billy Ray, Field Engineer - 12.0 Hours
TUE August 11, 1998

6:00 am to 6:30 pm - Carr Construction stripped topsoil from an area in the diversion channel until about 10:00 am. Radon barrier placement was then resumed as material was cut from the diversion channel and placed as the first lift in the east/west panels in Pond #3. The cut was very dry. The water truck was still down and the first three panels failed based on a visual inspection. Approximately 20 hand auger holes were dug to verify that moisture was not uniform throughout the entire lift.

Three scrapers placed random fill on top of the tailings placed on top of the ridge line. Several sixth lift tests were performed as Carr completed the rolling and blading of that area. Sand cone method test No. RB-127(SC) was performed along with nuclear method moisture-density tests No. RB-123, RB-124, RB-126 and RB-127. All sixth lift tests met the project specifications. Of the first lift tests performed, tests No. RB-125, RB-128 and RB-129, only test No. RB-129 met project specifications. Field density test results are presented on the attached summary sheets.

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Several samples were collected including Proctor #22. A one-point was performed for test No. RB-128 with RB-ATT-30 and RB-200-79. In addition, samples RB-200-76, RB-200-77, RB-200-78 and RB-200-78 were collected. All laboratory test results are presented on Table I, attached.

Wed **DAILY REPORT NO. 67 - Billy Ray, Field Engineer - 12.0 Hours**
August 12, 1998

6:00 am to 6:30 am - Carr Construction had more problems with moisture as the cut being used for radon barrier in Pond #3 was extremely dry. Only three scrapers placed radon barrier as the blades, dozer and water trucks repaired all of the 6-inch lifts. The three scrapers placed the fill all day as Mr. Monty Carr was resigned to work the soil after it was all placed. The other four scrapers hauled material from the W-8 borrow area to the radon barrier extension. About 4:00 pm the scrapers from Pond #3 joined the haul from the W-8 borrow area to the radon barrier. Some rock was hauled from the diversion channel to the waste area near the mill building.

Only one radon barrier test was performed; nuclear method test No. RB-130 met project specifications. Several hand auger holes were dug to check for uniform moisture throughout the lift. Three nuclear method moisture-density tests were performed on the radon barrier extension fill placed this shift. Tests No. RBE-31, RBE-32 and RBE-33 all met project specifications. Field density test locations and results are presented on the attached summary sheets.

One-point Proctors were performed for density test Nos. RBE-31 and RBE-33 with property tests RBE-ATT-21, RBE-200-25 and RBE-ATT-22, RBE-200-27, respectively. In addition, tests RBE-200-26 and RB-ATT-31, RB-200-81 were also performed. The results of all laboratory testing are presented on Table I, attached.

Thurs **DAILY REPORT NO. 68 - Billy Ray, Field Engineer - 12.0 Hours**
August 13, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier, although progress was very slow. Several areas failed a visual inspection as the fill was still too dry. More topsoil was stripped from the diversion channel to expose suitable material in an area of cut that Mr. Bob Coppin suggested that we move to the east. Random fill was placed on top of the ridge line from a cut in the diversion channel at approximately Station 35+00, the ~~sandy portion~~ of the channel. In the diversion channel between Stations 15+00 and 0+00, three scrapers and a blade cleared the slope and the bottom. I met briefly with Mr. Ernie Scott (BCU).

A third party testing firm (Hollingsworth Associates) was on-site to perform quality assurance testing. Three nuclear method moisture-density tests were performed side-by-side. Due to an error in numbering, the test numbers that I gave the technician were incorrect. Test Nos. RB-134 and RB-135 will show up as test Nos. RB-127 and RB-128 on Hollingswoth's report. Test No. RBE-34 will not change. A sample was collected for a Proctor, sieve analysis and Atterberg limits testing. There was some variation in the results obtained by Maxim and Hollingsworth. It will be up to Mr. Coppin to determine how much variation is acceptable. In addition to the side-by-side testing, tests No. RB-131, RB-132 and RB-133 were performed with the nuclear gauge. Field density test locations and results are presented on the attached summary sheet. Samples RBE-ATT-23, RBE-200-28, RB-200-82, RB-200-83 and RB-20084 were collected along with Proctor #23. The results of all laboratory testing are presented on Table I, attached.

Fri **DAILY REPORT NO. 69 - Billy Ray, Field Engineer - 11.5 Hours**
August 14, 1998

6:00 am to 6:00 pm - Carr Construction had more problems this shift with the placement of the radon barrier. Two scrapers placed radon barrier from the diversion channel to Pond #3. Again, several areas failed a visual inspection and the areas needed to be reworked. The processing and moisturizing of the radon barrier is so far behind the placement of fill that Carr plans to have a crew work Saturday to catch up on the processing. All grade control appears to have been lost and Mr. Jim Smith (Carr) suggested pulling all stakes, reworking all failed areas, rerolling the area and then re-staking and re-establishing grade. Topsoil was stripped from the area on top of the diversion channel. The self-loading scraper and a blade

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cleaned up the slope and the bottom of the diversion channel from Stations 15+00 to 0+00. Mr. Gary Chase (BCU) allowed Carr to cut material from the W-8 borrow area and place it as radon barrier to the north and west of the ridge.

A total of six nuclear method moisture-density tests were performed, tests No. RB-136 through RB-141. All six tests met the project specifications. Due to the numbering error on 8-13-98, the scheduled sand cone test, RB-137(SC), was not performed as this error was not discovered until 8-17-98. All field density test locations and results are presented on the attached summary sheet. A one-point Proctor from density test No. RB-136 and property tests RB-ATT-32 and RB-200-85 were performed. Test No. RB-200-86 was also performed. The results of all laboratory testing are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
8-10-98	RB-121	16.3	111.6	15.5	114.3	98	#16, Sandy Lean Clay
Location:	947890N, 376030E; 5th lift						
8-10-98	RB-122	(12.3)	104.1	17.2	111.0	(94)	#12, Lean Clay w/Sand
Location:	947480N, 375940E; 5th lift						
8-10-98	RB-122A	19.2	109.2	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	947480N, 375940E; 5th lift **RETEST OF TEST NO. RB-122**						
8-11-98	RB-123	16.8	109.9	17.2	111.0	99	#12, Lean Clay w/Sand
Location:	947675N, 376060E; 6th lift						
8-11-98	RB-124	16.8	109.2	17.2	111.0	98	#12, Lean Clay w/Sand
Location:	947450N, 376200E; 6th lift						
8-11-98	RB-125	(21.6)	103.9	17.2	111.0	(94)	#12, Lean Clay w/Sand
Location:	947620N, 375450E; 1st lift						
8-11-98	RB-126	16.7	110.0	17.2	111.0	99	#12, Lean Clay w/Sand
Location:	948000N, 376210E; 6th lift						
8-11-98	RB-127	16.8	110.8	17.2	111.0	100	#12, Lean Clay w/Sand
Location:	947910N, 376120E; 6th lift						
8-11-98	RB-127(SC)	16.8	109.4	17.2	111.0	99	#12, Lean Clay w/Sand
Location:	947910N, 376120E; 6th lift						
8-11-98	RB-128	19.1	105.0	17.2	111.3	(94)	#22, Lean Clay w/Sand
Location:	947630N, 375550E; 1st lift						
8-11-98	RB-129	16.9	106.0	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	947850N, 375700E; 1st lift						
8-12-98	RB-130	19.9	106.8	17.2	111.3	96	#22, Lean Clay w/Sand
Location:	947535N, 375550E; 2nd lift						
8-13-98	RB-131	18.5	106.8	17.2	111.3	96	#22, Lean Clay w/Sand
Location:	Sta. 39+30, 230' north of 5146.8 contour line; 2nd lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 7

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
8-13-98	RB-132	18.8	107.7	17.2	111.3	97	#22, Lean Clay w/Sand
Location:	Sta. 41+60, 190' north of 5147.0 contour line; 2nd lift						
8-13-98	RB-133	19.2	105.9	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 40+00, 80' north of 5146.8 contour line; 2nd lift						
8-13-98	RB-134*	17.5	106.2	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 34+50, 180' from diversion channel; 1st lift						
8-13-98	RB-135*	17.9	106.5	17.2	111.3	96	#22, Lean Clay w/Sand
Location:	Sta. 34+70, 550' from diversion channel 1st lift						
8-14-98	RB-136	16.7	103.3	18.5	108.9	95	#8, Lean Clay w/Sand
Location:	947440N, 375260E; 4th lift						
8-14-98	RB-137	20.4	105.0	18.5	108.9	96	#8, Lean Clay w/Sand
Location:	947460N, 375520E; 3rd lift						
8-14-98	RB-138	20.2	105.1	18.5	108.9	96	#8, Lean Clay w/Sand
Location:	Sta. 35+00, 210' from diversion channel; 2nd lift						
8-14-98	RB-139	17.8	105.9	18.5	108.9	97	#8, Lean Clay w/Sand
Location:	Sta. 32+50, 425' from diversion channel; 1st lift						
8-14-98	RB-140	17.8	107.9	18.5	108.9	99	#8, Lean Clay w/Sand
Location:	Dam Face, Sta. 9+00, 20' north of top of ridge; 1st lift						
8-14-98	RB-141	21.6	103.7	18.5	108.9	95	#8, Lean Clay w/Sand
Location:	Sta.31+80, 230' from diversion channel; 1st lift						

* Side-by-side Tests

Density Test RB = 21 SAND CONE = 1 ea
Recess RB 1

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 7

TEST RESULTS:		----------FIELD----------		------LABORATORY------			
Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER EXTENSION							
8-12-98	RBE-31	20.0	105.3	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Dam Face, Sta. 4+50, 110' west of 5164.5 contour line; at grade						
8-12-98	RBE-32	17.8	107.3	17.2	111.3	96	#22, Lean Clay w/Sand
Location:	Dam Face, Sta. 7+00, 60' west of 5164.5 contour line; at grade						
8-12-98	RBE-33	15.9	111.6	15.6	115.2	98	#22, Lean Clay w/Sand
Location:	Dam Face, Sta. 10+00, 20' west of 5164.5 contour line; at grade						
8-13-98	RBE-34	18.1	98.5	15.6	115.2	(86)	#11, Clayey Sand
Location:	Sta. 6+00, 75' from 5164.5 contour line; at grade						

RBE Density 4 ea

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

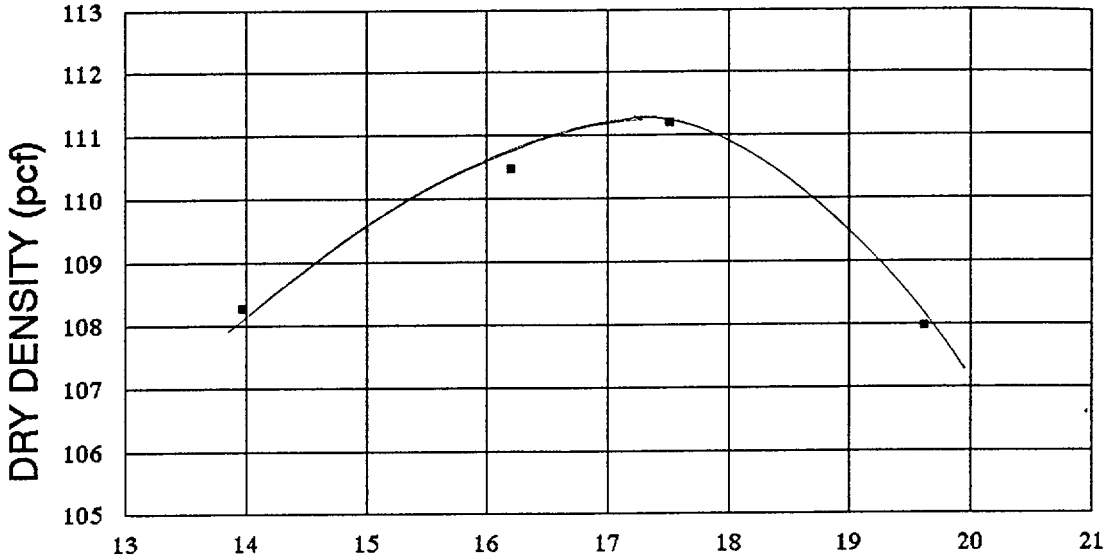
Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1 RB-200-74					0	20	80			Lean Clay with Sand
1-pt. Density Test RB-122, RB-ATT-29, RB-200-75			41	23	0	22	78	17.2	111.0	#12, Lean Clay with Sand
Proctor #22	111.3	17.2	39	20	0	25	75			Lean Clay with Sand
RB-200-76					0	28	72			Lean Clay with Sand
RB-200-77					0	19	81			Lean Clay with Sand
RB-200-78					0	30	70			Sandy Lean Clay
1-pt. Density Test RB-128, RB-ATT-30, RB-200-79			42	24	0	26	74	17.2	111.3	#22, Lean Clay with Sand
RB-200-80					0	24	76			Lean Clay with Sand
1-pt. Density Test RBE-31, RBE-ATT-21, RBE-200-25			34	16	0	37	63	19.4	106.4	#10, Sandy Lean Clay
RBE-200-26					0	24	76			Lean Clay with Sand
RB-ATT-31, RB-200-81			44	25	0	27	73			Lean Clay with Sand
1-pt. Density Test RBE-33, RBE-ATT-22, RBE-200-27			30	12	0	59	41	16.5	113.3	Clayey Sand
Proctor #23	15.5	114.6	40	22	0	29	71			Lean Clay with Sand
RBE-ATT-23, RBE-200-28			37	19	0	46	54			Sandy Lean Clay
RB-200-82					0	18	82			Lean Clay with Sand
RB-200-83					0	26	74			Lean Clay with Sand
RB-200-84					0	31	69			Sandy Lean Clay
1-pt. Density Test RB-136, RB-ATT-32, RB-200-85			45	27	0	29	71	20.1	108.6	#8, Lean Clay with Sand
RB-200-86					0	29	71			Lean Clay with Sand

Proctor 2 ea -200 - 16 ea

1 pt 7 ea AH - 7 ea

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 111.3 pcf OPTIMUM WATER CONTENT: 17.2%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	25
FINES (SILT AND CLAY)	75

ATTERBERG LIMITS

LIQUID LIMIT	39
PLASTICITY INDEX	20

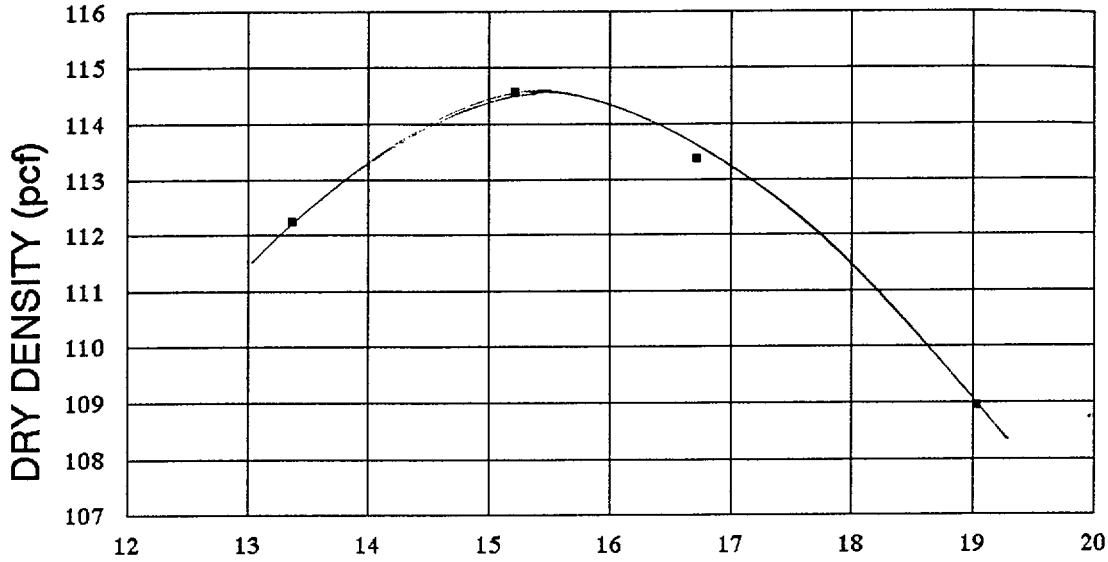
SAMPLE IDENTIFICATION:
Proctor No. 22

SOIL CLASSIFICATION:
Lean Clay with Sand (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 22

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 114.8 pcf OPTIMUM WATER CONTENT: 15.5%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	29
FINES (SILT AND CLAY)	71

ATTERBERG LIMITS

LIQUID LIMIT	40
PLASTICITY INDEX	22

SAMPLE IDENTIFICATION:
Proctor No. 23

SOIL CLASSIFICATION:
Lean Clay with Sand (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 23

MAXIM TECHNOLOGIES INC

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TECHNICAL REPORT

Revised September 18, 1998
DATE: August 27, 1998
JOB NO.: 9851711
SHEET 1 **OF** 8

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 9

PROJECT REPORT

DAILY REPORT NO. 70 - Billy Ray, Field Engineer - 12.0 Hours
August 17, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier as three scrapers hauled from the diversion channel to Pond #3 and four scrapers hauled from W-8 borrow area to the top of the ridge. The work that was performed over the weekend (processing of placed radon barrier) was inspected and later tested. There were problems as the end of each panel was not up to grade. Mr. Jim Smith (Carr) talked to Carr's grade foreman about maintaining a 6-inch lift all of the way to the end of each panel. Carr had more equipment trouble which slowed production. A disc that arrived on-site this shift was down several times. The 50-ton roller and a water truck were also down periodically. A rain shower in the afternoon did not adversely affect the production.

One retest (RB-136A) was performed using the nuclear method. Tests No. RB-142, RB-143, RB-144 and RB-145 were also performed using the nuclear gauge. A sand cone test, No. RB-144(SC), was performed next to test No. RB-144. The locations and test results are presented on the attached summary sheet. A one-point Proctor (RB-144) was performed along with property tests RB-ATT-34 and RB-200-89. Other laboratory tests performed this shift were RB-ATT-33, RB-200-87, RB-200-88 and RB-200-90. All laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 71 - Billy Ray, Field Engineer - 11.5 Hours
August 18, 1998

6:00 am to 6:00 pm - Carr Construction continued placement of the radon barrier. Three scrapers cut material from the diversion channel and placed it as radon barrier in Pond #3. Two scrapers started the placement of topsoil in the diversion channel at approximately Stations 3+00 to 0+00. Two scrapers arrived on-site overnight so there were four scrapers that hauled from the W-8 borrow area to the radon barrier on top of the ridge. That haul lasted until noon and then the four scrapers hauled from the W-8 borrow area to the radon barrier in the ridge and sand from the diversion channel to the random fill on top of the radon barrier placed in 1997 at the base of the ridge.

Again, Carr had equipment problems. The 50-ton roller was still broken down and they had to roll with a loaded front-end loader. A small blade broke down in the late afternoon. The scrapers were shut down at approximately 4:30 pm as several employees went to vote. After we left a water truck rolled over on its side. Carr kept a crew on until 5:30 as they processed some of the radon barrier that had been placed earlier in the shift.

Six nuclear method moisture-density tests were performed, Nos. RB-146 through RB-151. The test locations and results are presented on the attached summary sheet. A One-point Proctor (RB-151) was performed along with the corresponding property tests RB-ATT-35 and RB-200-93. Minus #200 analysis tests RB-200-91, RB-200-92 and RB-200-94 were also performed. Even though no random fill density testing was

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performed, a one-point Proctor and property tests were performed in advance of testing tomorrow. Samples RF-1, RF-ATT-1 and RF-200-1 were collected from the fill and testing was performed. All laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 72 - Billy Ray, Field Engineer - 12.0 Hours
August 19, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the radon barrier with three scrapers hauling from the diversion channel to Pond #3, lifts 3, 4 and 5. Four other scrapers hauled both random fill and radon barrier. The radon barrier was hauled from the W-8 borrow area and the random fill was cut from the "lay down" area of the diversion channel. The radon barrier placed by these scrapers was placed at the base of the ridge line and will serve as the 20-ft wide 2:1 slope of the ridge. The random fill was placed in the next 100 ft from the ridge. The other four scrapers placed topsoil in the diversion channel. The disc and the 50-ton truck both broke down at approximately 12:00 pm. The blades worked on catching up with the processing of the radon barrier. The large water truck got stuck as it sank into the first lift, the area was re-rolled and cleared. Mr. Jim Smith (Carr) scanned the area to ensure that there was no radioactive contamination.

Nuclear method moisture-density tests No. RB-152 through RB-159 were performed on the radon barrier. Test No. RB-154 failed and the area was reworked and retested as test No. RB-154A, which passed. Test No. RB-157 was accompanied by a sand cone test No. RB-157 (SC). Three nuclear method tests were also performed on the random fill, test Nos. RF-1, RF-2 and RF-3. All field test locations and results are presented on the attached summary sheet. A one-point Proctor was performed was performed prior to test No. RB-153. The property tests RB-ATT-36 and RB-200-96 accompanied the one-point Proctor. Proctor Sample #24 was also performed. Samples RB-200-95, RB-200-97, RB-200-98 and RB-200-99 were collected for -#200 analysis. Property tests RF-ATT-2 and RF-200-2 were also performed. The results of all laboratory testing are presented on Table I, attached. Mr. Gary Chased was not on-site this shift.

DAILY REPORT NO. 73 - Billy Ray, Field Engineer - 4.5 Hours
August 20, 1998

6:00 am to 10:30 am - Heavy rains overnight inundated the work site and no construction was performed this shift. We spend some time preparing paperwork and completing lab work from 8-19-98. Mr. Jim Smith (Carr) instructed us to return to the site tomorrow as Carr would likely resume construction.

DAILY REPORT NO. 74 - Billy Ray, Field Engineer - 12.0 Hours
August 21, 1998

6:00 am to 6:30 pm - The start of the shift was delayed due to heavy fog and standing water from the storm earlier in the week. Roads were cleaned and work areas were bladed and rolled in advance of the placement of any fill. The only area that had dried enough to place fill was on top of the ridge. Once the scrapers stated, only eight were in use. Four scrapers placed topsoil between the intermediate ridge line and the dam face, the other four scrapers hauled material from the W-8 borrow area to the radon barrier.

Mr. Bob Coppin was on-site. He toured the site with me as Mr. Jim Carr (BCU) was busy pumping standing water into the diversion channel and Mr. Gary Chase (BCU) was not on-site this shift. Mr. Coppin discussed the "establishing" of the new project specifications that will be applied to the placement of the random fill. The new specifications are as follows:

Compaction:	90% of standard Proctor ✓
Moisture:	-3% to +4% of Optimum
Frequency:	1 nuclear test per 2,000 cubic yards
	1 -200 analysis per 4,000 cubic yards ✓
	1 Atterberg limits per day ✓
	1 Proctor for every 20,000 cubic yards placed ✓

These specifications are subject to change.

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Ms. Patty Carpenter with Hollingsworth Associates was back on-site for additional side-by-side testing which was directed by Mr. Coppin. Nuclear method moisture/density tests No. RB-160, RB-161 and RB-162 were all performed side-by-side using a Troxler 3411-B gauge. Proctor #25 and samples RB-200-100, RB-ATT-37 and RB-200-101 were collected and split with Hollingsworth Associates for their own testing. The differences between the results of the field testing were acceptable to Mr. Coppin. He indicated that there would not be any further testing by Hollingsworth. Along with the side-by-side testing, nuclear method tests RB-153, RB-164 and RB-165 were also performed. The results of all field density tests are presented on the attached summary sheet.

Samples RB-200-102 was collected for -200 analysis. Mr. Coppin noticed some sand showing up in the fill so we went to the W-8 borrow area to see the extent. The presence of the sand was spotty and we felt that when it was mixed with the clay in the fill that it would be acceptable. Mr. Coppin asked me to collect a sample of the sand for -200 analysis, that sample was labeled W-8 borrow check. The results of all laboratory testing are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 5 of 8

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
8-17-98	RB-136A	22.3	102.9	19.5	108.6	95	#19, Lean Clay
Location:	947440N, 375260E; 4th lift **RETEST OF TEST NO. RB-136**						
8-17-98	RB-142	18.6	105.7	19.5	108.6	97	#19, Lean Clay
Location:	947510N, 375700E; 3rd lift						
8-17-98	RB-143	22.3	103.3	19.5	108.6	95	#19, Lean Clay
Location:	947615N, 375400E; 4th lift						
8-17-98	RB-144	18.5	106.1	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Dam Face, Sta. 2+30, 25' from top of ridge; 2nd lift						
8-17-98	RB-144(SC)	18.5	105.7	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Dam Face, Sta. 2+30, 25' from top of ridge; 2nd lift						
8-17-98	RB-145	19.5	107.2	17.2	111.3	96	#22, Lean Clay w/Sand
Location:	Dam Face, Sta. 8+25, 30' from top of ridge; 2nd lift						
8-18-98	RB-146	19.7	105.8	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 35+00, 50' from contour line 47.8; 3rd lift						
8-18-98	RB-147	19.6	105.8	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 34+20, 575' from contour line 47.8; 3rd lift						
8-18-98	RB-148	20.3	106.2	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Dam Face, Sta. 0+50, 30' from top of ridge; 3rd lift						
8-18-98	RB-149	18.6	108.0	17.2	111.3	97	#22, Lean Clay w/Sand
Location:	Dam Face, Sta. 10+20, 55' from top of ridge; 3rd lift						

( ) Failed to meet project requirements.

01

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 8

TEST RESULTS:

Test Date	Test Number	----------FIELD---------- Moisture Content (%)	Dry Density (p.c.f.)	------LABORATORY------ Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
8-18-98	RB-150	(20.8)	105.9	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 38+10, 390' from contour line 47.8; 5th lift						
8-18-98	RB-151	15.8	109.4	15.5	114.8	95	#23, Lean Clay w/Sand
Location:	Sta. 33+60, 230' from contour line 47.8; 2nd lift						
8-19-98	RB-152	17.2	109.6	15.5	114.8	95	#23, Lean Clay w/Sand
Location:	Dam Face, Sta. 20+50, 5' from existing toe of ridge; 1st lift						
8-19-98	RB-153	18.1	109.3	15.5	114.3	96	#16, Sandy Lean Clay
Location:	Sta. 35+60, 210' from contour line 47.8; 5th lift						
8-19-98	RB-154	(22.5)	102.7	15.5	114.3	(90)	#16, Sandy Lean Clay
Location:	Sta. 34+75, 425' from contour line 47.8; 4th lift						
8-19-98	RB-155	15.8	108.2	15.5	114.3	95	#16, Sandy Lean Clay
Location:	Sta. 34+00, 510' from contour line 47.8; 4th lift						
8-19-98	RB-156	20.6	108.9	15.5	114.3	95	#16, Sandy Lean Clay
Location:	Sta. 33+30, 130' from contour line 47.8; 3rd lift						
8-19-98	RB-157	16.1	110.2	15.5	114.3	96	#16, Sandy Lean Clay
Location:	Sta. 22+25,15; from existing ridge toe; 2nd lift						
8-19-98	RB-157(SC)	16.1	109.7	15.5	114.3	96	#16, Sandy Lean Clay
Location:	Sta. 22+25,15; from existing ridge toe; 2nd lift						
8-19-98	RB-158	16.2	110.5	15.5	114.3	97	#16, Sandy Lean Clay
Location:	Sta. 32+40, 375' from contour line 47.8; 2nd lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 8

TEST RESULTS:		----------FIELD----------		------LABORATORY------			
Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
8-19-98	RB-154A	17.3	108.5	15.5	114.3	95	#16, Sandy Lean Clay
Location:	Sta. 34+75, 425' from contour line 47.8; 4th lift RETEST OF TEST NO. RB-154						
8-19-98	RB-159	17.8	108.4	15.5	114.3	95	#16, Sandy Lean Clay
Location:	Sta. 31+60, 125' from contour line 47.8; 1st lift						
8-21-98	RB-160*	19.9	104.4	21.7	106.9	98	#24, Lean Clay
Location:	Sta. 10+50, 10' from top of ridge; 3rd lift						
8-21-98	RB-161*	17.8	109.5	16.3	112.8	97	#25, Sandy Lean Clay
Location:	Sta. 19+25, 120' from top of ridge; 1st lift						
8-21-98	RB-162*	17.3	107.8	16.3	112.8	96	#25, Sandy Lean Clay
Location:	Sta. 38+40, 275' from diversion channel; 6th lift						
8-21-98	RB-163	15.0	108.3	16.3	112.8	96	#25, Sandy Lean Clay
Location:	Sta. 17+90, 35' from top of ridge; 1st lift						
8-21-98	RB-164	18.5	108.0	16.3	112.8	96	#25, Sandy Lean Clay
Location:	Sta. 16+30, 65' from top of ridge; 2nd lift						
8-21-98	RB-165	15.5	107.2	16.3	112.8	95	#25, Sandy Lean Clay
Location:	Sta. 20+50, 28' from top of ridge; 3rd lift						

* Side-by-Side Tests

RB Density Test 24 ea Sand Cone 2 ea
Retest 2 ea
QA Tests –

Bear Creek Uranium
Job No. 9851711
Sheet 8 of 8

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL							
8-19-98	RF-1	15.5	111.0	15.1	114.3	97	#17, Sandy Lean Clay
Location:	Sta. 23+00, 65' from existing toe of ridge; 1st lift						
8-19-98	RF-2	13.2	112.0	15.1	114.3	98	#17, Sandy Lean Clay
Location:	Sta. 22+20, 110' from existing toe of ridge; 1st lift						
8-19-98	RF-3	(18.6)	103.2	15.1	114.3	(90)	#17, Sandy Lean Clay
Location:	Sta. 16+50, 60' from existing toe of ridge; 2nd lift						

( ) Failed to meet project requirements.

Random fill 3 ea

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

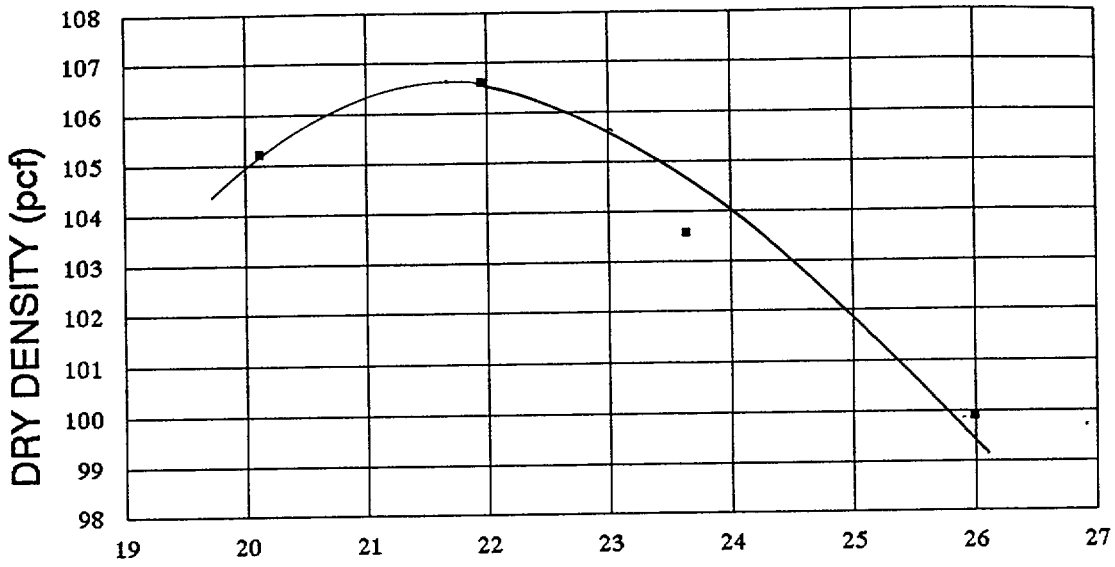
UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1-pt. Density Test RB-144, RB-ATT-34, RB-200-89			45	25	0	28	72	20.7	106.8	#22, Lean Clay with Sand
RB-ATT-33, RB-200-87			35	17	0	38	62			Sandy Lean Clay
RB-200-88					0	33	67			Sandy Lean Clay
RB-200-90					0	50	50			Sandy Lean Clay
1-pt. Density Test RB-151, RB-ATT-35, RB-200-93			43	24	0	29	71	18.1	111.9	#23, Lean Clay with Sand
1-pt., RB-ATT-1, RB-200-1 ? RF-1	?		37	18	0	44	56	17.8	110.8	#17, Sandy Lean Clay
RB-200-91					0	21	79			Lean Clay with Sand
RB-200-92					0	48	52			Sandy Lean Clay
RB-200-94					0	30	70			Sandy Lean Clay
Proctor #24	21.7	106.9	41	19	0	11	89			Lean Clay
1-pt. Density Test RB-155, RB-ATT-36, RB-200-96			41	23	0	38	62	17.2	112.4	#16, Sandy Lean Clay
RB-200-95					0	36	64			Sandy Lean Clay
RB-200-97					0	26	74			Lean Clay with Sand
RB-200-98					0	40	60			Sandy Lean Clay
RB-200-99					0	26	74			Lean Clay with Sand
RF-ATT-2, RF-200-2			36	18	0	49	51			Sandy Lean Clay
Proctor #25	16.3	112.8	38	19	0	49	51			Sandy Lean Clay
RB-200-100					0	54	46			Clayey Sand
RB-ATT-37, RB-200-101			42	23	0	25	75			Lean Clay with Sand
RB-200-102					0	54	46			Clayey Sand
W-8 Borrow Check					0	93	7			Sand

Proctors 2 ea -200 - 18 ea

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 106.9 pcf OPTIMUM WATER CONTENT: 21.7%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	11
FINES (SILT AND CLAY)	89

ATTERBERG LIMITS

LIQUID LIMIT	41
PLASTICITY INDEX	19

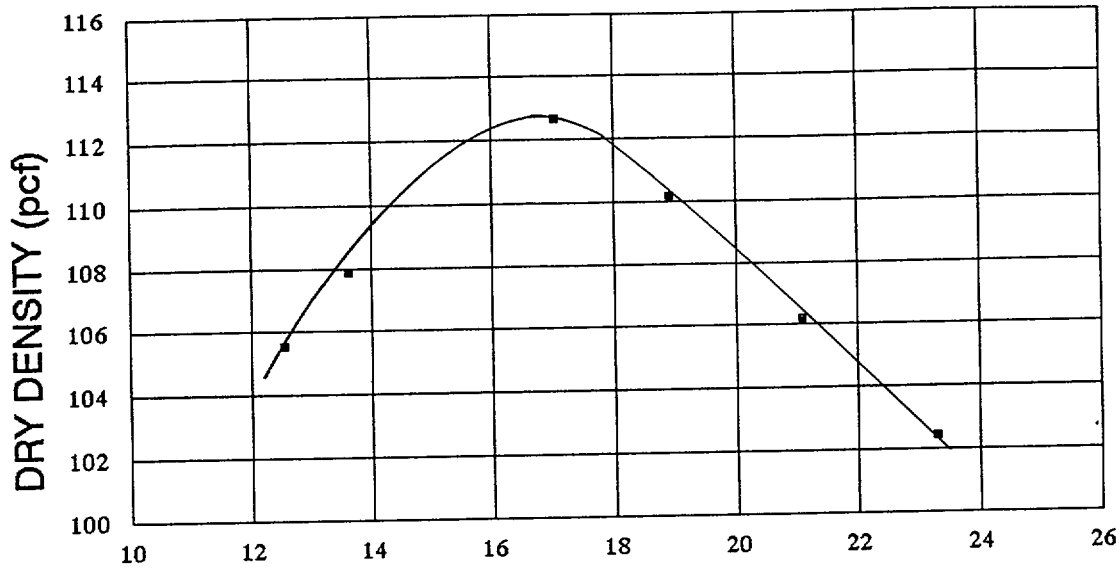
SAMPLE IDENTIFICATION:
Proctor No. 24

SOIL CLASSIFICATION:
Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 24

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 112.8 pcf OPTIMUM WATER CONTENT: 16.3%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	49
FINES (SILT AND CLAY)	51

ATTERBERG LIMITS	
LIQUID LIMIT	38
PLASTICITY INDEX	19

SAMPLE IDENTIFICATION:
Proctor No. 25

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 25

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: September 3, 1998
JOB NO.: 9851711
SHEET 1 OF 7

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 20

PROJECT REPORT

Mon **DAILY REPORT NO. 75 - Billy Ray, Field Engineer - 12.5 Hours**
August 24, 1998

6:00 am to 7:00 pm - Carr Construction continued the placement of the radon barrier with seven scrapers hauling from the W-8 borrow area to the top of the ridge. Four scrapers went to the south area and three scrapers to the north to allow the blades, disc, water trucks and the rollers enough time to process each lift. Carr was shorthanded this shift so nobody was removing the large rocks from the cut. As a result, several rocks made it to the fill; they were dug out of the fill and returned to the rock waste area south of W-8 borrow area. There were four scrapers placing topsoil from the east stockpile to the area between the dam face and the intermediate swale. The 50-ton roller was still down and did not run this shift. Carr had a small crew work on Saturday (8-22-98) and they processed some of the radon barrier fill and bladed the topsoil in the diversion channel.

Six nuclear method moisture-density tests were performed this shift, test Nos. RB-166 through RB-171. All of the tests met the project requirements. The locations and test results are presented on the attached summary sheet. A one-point Proctor was performed for density test RB-166 along with the corresponding property tests RB-ATT-38 and RB-200-103. Another one-point Proctor was performed for density test RB-171 along with the corresponding property tests RB-ATT-39 and RB-200-106. Tests RB-200-104 and RB-200-105 were also performed. All laboratory test results are presented on Table I, attached.

Tue **DAILY REPORT NO. 76 - Billy Ray, Field Engineer - 13.0 Hours**
August 25, 1998

5:30 am to 7:00 pm - Carr Construction continued placement of the radon barrier on top of the ridge and in Pond #3. Four scrapers were used to haul material from the W-8 borrow area to the top of the ridge until approximately 4:30 pm then the cut was moved to the 5:1 layback of the diversion channel. Two scrapers cut material from the diversion channel and placed it in Pond #3. The self-loading scraper hauled material from the diversion channel to the blade that was "finishing" the final surface of the radon barrier extension. There were four scrapers placing topsoil between the intermediate swale and the dam face. The topsoil was cut from two different stockpiles to allow for the shortest haul.

Five nuclear method moisture-density tests were performed on the radon barrier placed this shift, tests No. RB-172 through RB-176. All of the tests met the project specifications. Field test locations and results are presented on the attached summary sheet. A one-point Proctor was performed for test No. RB-176 along with property tests RB-ATT-40 and RB-200-109. Samples RB-200-107 and RB-200-108 were also collected for -200 analysis. The results of all laboratory testing are presented on Table I, attached.

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property tests RB-ATT-43 and RB-200-119 were performed to confirm. Test No. RB-200-118 was also performed. The results of all laboratory testing are presented on Table I, attached.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
8-24-98	RB-166	15.0	110.9	15.6	115.2	96	#11, Clayey Sand
Location:	Sta. 16+60, 135' from top of ridge; 3rd lift						
8-24-98	RB-167	18.2	109.5	15.6	115.2	95	#11, Clayey Sand
Location:	Sta. 10+60, 70' from top of ridge; 4th lift						
8-24-98	RB-168	14.4	110.0	15.6	115.2	95	#11, Clayey Sand
Location:	Sta. 17+30, 40' from top of ridge; 4th lift						
8-24-98	RB-169	16.0	110.7	15.6	115.2	96	#11, Clayey Sand
Location:	Sta. 21+00, 135' from top of ridge; 4th lift						
8-24-98	RB-170	17.1	109.1	15.6	115.2	95	#11, Clayey Sand
Location:	Sta. 3+00, 90' rom top of ridge; 4th lift						
8-24-98	RB-171	17.5	109.6	15.6	115.2	95	#11, Clayey Sand
Location:	Sta. 19+20, 50' from top of ridge; 5th lift						
8-25-98	RB-172	18.3	109.2	15.6	115.2	95	#11, Clayey Sand
Location:	Sta. 17+35, 20' from top of ridge (dam face); 5th lift						
8-25-98	RB-173	20.4	104.9	21.7	106.9	98	#24, Lean Clay
Location:	Sta. 14+10, 135' from top of ridge (dam face); 4th lift						
8-25-98	RB-174	14.3	113.8	15.6	115.2	99	#11, Clayey Sand
Location:	Sta. 25+20, 210' from contour line 47.6 (diversion channel); 5th lift						
8-25-98	RB-175	21.9	106.1	21.7	115.2	99	#24, Lean Clay
Location:	Sta. 22+20, 125' from top of ridge (dam face); 5th lift						
8-25-98	RB-176	16.9	110.9	17.2	111.3	100	#22, Lean Clay w/Sand
Location:	Sta. 34+75; 320' from contour line 47.6 (diversion channel); 5th lift						

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 7

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
8-26-98	RB-177	(13.2)	109.2	17.2	111.3	98	#22, Lean Clay w/Sand
Location:	Sta. 34+20, 295' from contour line 47.6 (diversion channel); 4th lift						
8-26-98	RB-177(SC)	13.2	109.5	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 34+20, 295' from contour line 47.6 (diversion channel); 4th lift						
8-26-98	RB-177A	14.9	108.6	17.3	111.3	98	#22, Lean Clay w/Sand
Location:	Sta. 34+20, 295' from contour line 47.6 (diversion channel); 4th lift **RETEST OF TEST NO. RB-177**						
8-26-98	RB-178	16.2	111.0	17.2	111.3	100	#22, Lean Clay w/Sand
Location:	Sta. 33+70, 420' from contour line 47.6 (diversion channel); 3rd lift						
8-26-98	RB-179	19.5	105.5	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 4+50, 40' from top of ridge line (dam face); 5th lift						
8-26-98	RB-180	16.1	106.1	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 11+80, 65' from top of ridge (dam face); 5th lift						
8-26-98	RB-181	19.7	108.1	17.2	111.3	97	#22, Lean Clay w/Sand
Location:	Sta. 32+95, 75' from contour line 47.6 (diversion channel); 4th lift						
8-26-98	RB-182	14.0	109.8	14.5	115.6	95	#14, Sandy Lean Clay
Location:	Sta. 10+35, 125' from top of ridge (dam face); 5th lift						
8-27-98	RB-183	18.9	109.8	17.2	111.3	99	#22, Lean Clay w/Sand
Location:	Sta. 3+30, 15' from top of ridge (dam face); 6th lift						
8-27-98	RB-184	21.1	101.7	17.2	111.3	(91)	#22, Lean Clay w/Sand
Location:	Sta. 31+65, 200' from contour line 47.6 (diversion channel); 2nd lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 7

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
8-27-98	RB-185	16.8	107.4	17.2	111.3	97	#22, Lean Clay w/Sand
Location:	Sta. 33+15, 230' from contour line 47.2 (diversion channel); 5th lift						
8-27-98	RB-186	19.0	107.6	17.2	111.3	97	#22, Lean Clay w/Sand
Location:	Sta. 32+95, 510' from contour line 47.2 (diversion channel) 5th lift						
8-27-98	RB-187	14.3	109.4	14.5	115.6	95	#14, Sandy Lean Clay
Location:	Sta. 12+60, 80' from top of ridge; 6th lift						
8-27-98	RB-187(SC)	14.3	110.1	14.5	115.6	95	#14, Sandy Lean Clay
Location:	Sta. 12+60, 80' from top of ridge; 6th lift						
8-27-98	RB-188	16.3	109.5	17.8	110.8	99	#27, Sandy Lean Clay
Location:	Sta. 4+35, 95' from top of ridge; 6th lift						
8-28-98	RB-189	19.1	105.9	17.8	110.8	96	#27, Sandy Lean Clay
Location:	Sta. 31+70, 255' from contour line 47.0; 3rd lift						
8-28-98	RB-190	17.9	109.5	17.8	110.8	99	#27, Sandy Lean Clay
Location:	Sta. 3+70, 130' from top of ridge; 6th lift						
8-28-98	RB-191	16.4	110.3	17.8	110.8	100	#27, Sandy Lean Clay
Location:	Sta. 9+20, 175' from top of ridge; 6th lift						
8-28-98	RB-192	24.7	99.4	23.5	102.6	97	#26, Fat Clay
Location:	Sta. 13+10, 145' from top of ridge; 6th lift						
8-28-98	RB-193	22.4	102.0	23.5	102.6	99	#26, Fat Clay
Location:	Sta. 31+45, 130' from contour line 47.0; 4th lift						

Density Tests 29 Sand Cone 2ea

Retests 2ea

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

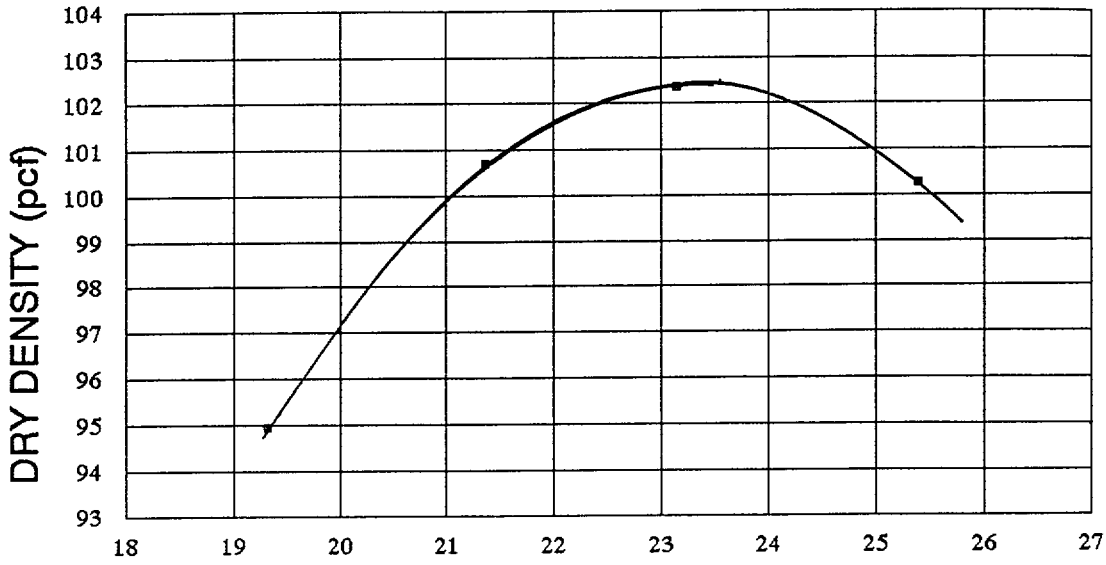
UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1-pt. Density Test RB-166, RB-ATT-38, RB-200-103			37	19	0	53	47	16.1	114.6	#11, Clayey Sand
1-pt. Density Test RB-171, RB-ATT-39, RB-200-106			35	19	0	56	44	14.6	115.1	#11, Clayey Sand
RB-200-124 1047					0	58	42			Clayey Sand
RB-200-105					0	55	45			Clayey Sand
1-pt. Density Test RB-176, RB-ATT-40, RB-200-109			46	27	0	24	76	19.5	109.6	#22, Lean Clay with Sand
RB-200-107					0	53	47			Clayey Sand
RB-200-108					0	24	76			Lean Clay with Sand
Proctor #26	23.5	102.6	51	27	0	4	96			Fat Clay
1-pt. Density Test RB-182, RB-ATT-41, RB-200-112			38	21	0	46	54	15.8	116.3	#14, Sandy Lean Clay
RB-200-110					0	33	67			Sandy Lean Clay
RB-200-111					0	31	69			Sandy Lean Clay
Proctor #27	17.8	110.8	35	18	0	33	67			Sandy Lean Clay
RB-200-113					0	19	81			Lean Clay with Sand
RB-200-114					0	28	72			Lean Clay with Sand
RB-200-115					0	26	74			Lean Clay with Sand
RB-200-116					0	45	55			Sandy Lean Clay
1-pt. Density Test 189, RB-ATT-42, RB-200-117 15			39	21	0	30	70	18.8	111.1	#27, Sandy Lean Clay
1-pt. Density Test RB-192, RB-ATT-43, RB-200-119 16			59	34	0	12	88			Fat Clay
RB-200-118 17					0	46	54			Sandy Lean Clay

Proctor - 2 ea -200 - 17 ea

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 102.6 pcf OPTIMUM WATER CONTENT: 23.5%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	4
FINES (SILT AND CLAY)	96

ATTERBERG LIMITS	
LIQUID LIMIT	51
PLASTICITY INDEX	27

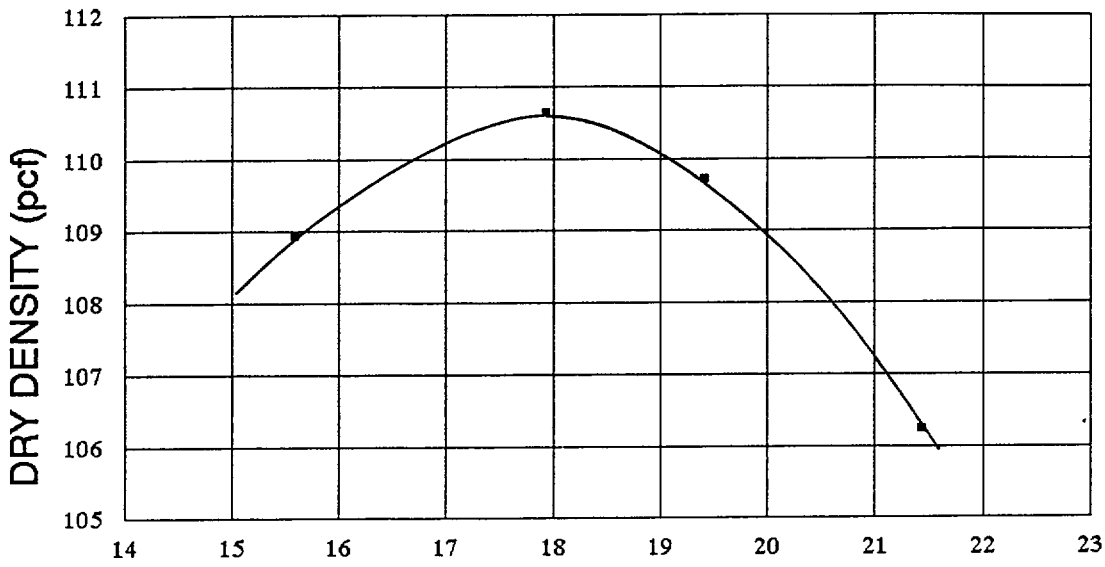
SAMPLE IDENTIFICATION:
Proctor No. 26

SOIL CLASSIFICATION:
Fat Clay (CH)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 26

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 110.8 pcf OPTIMUM WATER CONTENT: 17.8%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	33
FINES (SILT AND CLAY)	67

ATTERBERG LIMITS

LIQUID LIMIT	35
PLASTICITY INDEX	18

SAMPLE IDENTIFICATION:
Proctor No. 27

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 27

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: September 11, 1998
JOB NO.: 9851711
SHEET 1 OF 8

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 2)

PROJECT REPORT

DAILY REPORT NO. 80 - Billy Ray, Field Engineer - 14.0 Hours
August 31, 1998

5:30 am to 8:00 pm - Carr Construction continued the placement of the radon barrier. Three scrapers double hauled with material from the 5:1 layback of the diversion channel being placed in Pond #3 and sand from the diversion channel being placed in the 2:1 fill on the slope of the ridge. Four scrapers cut material from the 5:1 layback of the diversion channel and placed it as radon barrier on top of the ridge. An occasional load of sand and silt was encountered, that material was placed on the 2:1 slope in place of tailings which were not as plentiful as originally believed. Four scrapers placed topsoil between the dam face and the intermediate swale as well as in the diversion channel. Two of the topsoil scrapers were diverted to the W-8 borrow area and fill was hauled to the north of the ridge near the confluence of the two swales to the bottom of the radon barrier. Carr will place the 1st lift of the radon barrier on 9-1-98 from the cut in the wing dam after the grade has been brought to the bottom of the radon barrier. Some wet spots in Pond #3 were mixed with dry soil to speed up the drying process.

Seven nuclear method moisture-density tests were performed along with one sand cone test. Test RB-197(SC) was next to RB-197 and in addition to tests RB-194, RB-195, RB-196, RB-198, RB-199 and RB-200. All tests met the project specifications; the results and locations are presented on the attached summary sheet. A one-point Proctor was performed for density test No. RB-197 along with property tests RB-ATT-45 and RB-200-121. Samples RB-ATT-44, RB-200-120, RB-200-122 and RB-123 were also collected for laboratory testing. The results of all laboratory tests are presented on Table I, attached. Mr. Gerald Steely with Maxim was not on-site this shift.

DAILY REPORT NO. 81 - Billy Ray, Field Engineer - 12.0 Hours
September 1, 1998

6:00 am to 6:30 pm - Carr Construction continued placement of the radon barrier. Three scrapers hauled material from the 5:1 layback of the diversion channel to the Pond #3 area. Those three scrapers double hauled as reject fill from the diversion channel was placed in the 2:1 fill. Four scrapers hauled from the 5:1 layback to the radon barrier on top of the ridge. Two scrapers placed topsoil directly as it was cut from the south diversion channel and placed it in the diversion channel. Two scrapers hauled rejected material from the W-8 borrow area to the "X" fill in the swale to bring the area to the bottom of the radon barrier elevation. In the afternoon, those two scrapers started the wing dam cut, placing that soil to the confluence of the two swales. Late in the shift the four scrapers from the top of the ridge fill were relocated to the radon barrier and random fill below the ridge.

Some tailings were noticed pumping through the 2nd lift of radon barrier in Pond #3. Mr. Jim Smith (BCU) was notified and Mr. Monty Carr (Carr) used the excavator to load the tailings into a scraper and they were placed in the 2:1 slope fill reserved for tailings. Soil was then placed next to the soft area where it was processed and then dozed into the affected area where it was compacted.

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC & OURSELVES, ALL REPORTS ARE SUBMITTED AS CONFIDENTIAL PROPERTY OF OUR CLIENTS & AUTHORIZATION FOR PUBLICATION OF STATEMENTS. CONCLUSIONS/EXTRACTS FROM OR REGARDING OUR REPORTS ARE RESERVED PENDING OUR WRITTEN APPROVAL. SAMPLES WILL BE DISPOSED OF AFTER TESTING IS COMPLETED UNLESS OTHER ARRANGEMENTS ARE AGREED TO IN WRITING.

Five nuclear method moisture-density tests, RB-221 through RB-225, were performed on the radon barrier fill placed this shift. One nuclear method moisture-density test RB-7 was also performed. All tests met the project specifications. The field test locations and results are presented on the attached summary sheet. A one-point Proctor was performed for density test No. RB-221 along with property tests RB-ATT-49 and RB-200-137. Samples RB-200-138, RF-ATT-5 and RF-200-5 were also collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

Mr. Bob Coppin was on-site this shift. He suggested some changes in the past reports. On the report dated August 21, 1998, the word "relaxing" could be changed to "establishing." Also, on the same report, Mr. Jim Smith should be shown as working for BCU instead of Carr. A sample of rock was collected for durability testing and the rocks were delivered to the Casper office.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC & OURSELVES, ALL REPORTS ARE SUBMITTED AS CONFIDENTIAL PROPERTY OF OUR CLIENTS & AUTHORIZATION FOR PUBLICATION OF STATEMENTS. CONCLUSIONS/EXTRACTS FROM OR REGARDING OUR REPORTS ARE RESERVED PENDING OUR WRITTEN APPROVAL. SAMPLES WILL BE DISPOSED OF AFTER TESTING IS COMPLETED UNLESS OTHER ARRANGEMENTS ARE AGREED TO IN WRITING.

Bear Creek Uranium
Job No. 9851711
Sheet 5 of 8

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
8-31-98	RB-194	21.7	100.8	23.5	102.6	98	#26, Fat Clay
Location:	Sta. 3+20, 35' from top of ridge; 2nd lift (dam face)						
8-31-98	RB-195	(18.8)	102.6	21.7	106.9	96	#24, Lean Clay
Location:	Sta.31+10, 210' from contour line 47.2; 1st lift (diversion channel)						
8-31-98	RB-196	20.4	103.3	21.7	106.9	97	#24, Lean Clay
Location:	Sta. 9+10, 90' from top of ridge; 7th lift (dam face)						
8-31-98	RB-197	(20.5)	98.4	23.5	102.6	96	#26, Fat Clay
Location:	Sta. 4+20, 100' from top of ridge; 7th lift (dam face)						
8-31-98	RB-197(SC)	(20.5)	99.3	23.5	102.6	97	#26, Fat Clay
Location:	Sta. 4+20, 100' from top of ridge; 7th lift (dam face)						
8-31-98	RB-198	19.0	108.9	16.3	112.8	97	#25, Sandy Lean Clay
Location:	Sta. 31+75, 675' from contour lint 47.2; 5th lift (diversion channel)						
8-31-98	RB-199	21.4	97.4	23.5	103.6	95	#26, Fat Clay
Location:	Sta. 30+80, 110' from contour line 47.2; 1st lift (diversion channel)						
8-31-98	RB-200	18.7	109.1	16.3	112.8	97	#25, Sandy Lean Clay
Location:	Sta. 7+35, 145' from top of ridge; 7th lift (dam face)						
9-01-98	RB-201	20.1	104.8	21.7	106.9	98	#24, Lean Clay
Location:	Sta. 30+90, 75' from contour line 47.2; 2nd lift (diversion channel)						
9-01-98	RB-202	20.4	103.2	21.7	106.9	97	#24, Lean Clay
Location:	Sta. 31+45, 245' from contour line 47.2; 3rd lift (diversion channel)						

( ) Failed to meet project requirements.

TEST RESULTS:

Test Date	Test Number	----------FIELD---------- Moisture Content (%)	Dry Density (p.c.f.)	------LABORATORY------ Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
9-01-98	RB-203	14.1	113.8	13.3	117.9	97	#13, Clayey Sand
Location:	Sta. 2+20, 85' from top of ridge; 8th lift (dam face)						
9-01-98	RB-204	13.2	112.0	13.3	117.9	95	#13, Clayey Sand
Location:	Sta. 7+80, 75' from top of ridge; 8th lift (dam face)						
9-01-98	RB-205	13.4	114.0	13.3	117.9	97	#13, Clayey Sand
Location:	Sta. 11+35, 20' from top of ridge; 8th lift (dam face)						
9-01-98	RB-206	17.5	107.5	18.9	108.9	99	#28, Lean Clay w/Sand
Location:	Swale, Sta. 10+50, 35' right of centerline; 1st lift						
9-02-98	RB-207	15.9	109.0	15.5	114.8	95	#23, Lean Clay w/Sand
Location:	Sta. 3050, 110' from contour line 47.2; 3rd lift (diversion channel)						
9-02-98	RB-208	(19.0)	105.0	15.5	114.8	(91)	#23, Lean Clay w/Sand
Location:	Sta. 30+00, 225' from contour line 47.2; 3rd lift (diversion channel)						
9-02-98	RB-209	19.1	105.0	17.8	110.8	95	#27, Sandy Lean Clay
Location:	Sta. 21+20, 15' from the 2:1 slope; 4th lift (dam face)						
9-02-98	RB-210	20.7	103.0	18.9	108.9	95	#28, Lean Clay w/Sand
Location:	Swale, Sta. 9+00, 10' left of centerline; 2nd lift						
9-02-98	RB-208A	18.5	108.5	15.5	114.8	95	#23, Lean Clay w/Sand
Location:	Sta. 30+00, 225' from contour line 47.2; 3rd lift (diversion channel) **RETEST OF TEST NO. RB-208**						
9-02-98	RB-211	21.4	104.2	18.9	108.9	96	#28, Lean Clay w/Sand
Location:	Sta. 30+00, 50' from contour line 47.2; 3rd lift (diversion channel)						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 8

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
9-02-98	RB-212	16.9	106.3	18.9	108.9	98	#28, Lean Clay w/Sand
Location:	Swale, Sta. 10+10, 20' right of centerline; 3rd lift						
9-02-98	RB-212A	19.2	106.0	18.9	108.9	97	#28, Lean Clay w/Sand
Location:	Swale, Sta. 10+10, 20' right of centerline; 3rd lift **RETEST OF TEST NO. RB-212**						
9-03-98	RB-213	25.0	97.4	23.5	102.6	95	#26, Fat Clay
Location:	Sta. 31+05, 310' from contour line 47.2; 4th lift (diversion channel)						
9-03-98	RB-214	14.4	108.7	16.0	110.5	98	#29, Sandy Lean Clay
Location:	Sta. 19+00, 15' from top of ridge; 5th lift (dam face)						
9-03-98	RB-215	18.6	105.1	16.0	110.5	95	#29, Sandy Lean Clay
Location:	Sta. 28+70, 85' from contour line 47.2; 4th lift (diversion channel)						
9-03-98	RB-216	15.9	108.1	16.0	110.5	98	#29, Sandy Lean Clay
Location:	Swale, Sta. 8+30, 55' right of centerline; 2nd lift						
9-03-98	RB-217	15.0	105.8	16.0	110.5	96	#29, Sandy Lean Clay
Location:	Swale, Sta. 8+50, 35' south of top of ridge; 6th lift						
9-03-98	RB-217(SC)	15.0	106.5	16.0	110.5	96	#29, Sandy Lean Clay
Location:	Swale, Sta. 8+50, 35' south of top of ridge; 6th lift						
9-03-98	RB-218	21.0	103.1	18.9	108.9	95	#28, Lean Clay w/Sand
Location:	Sta. 31+60, 300' from contour line 47.2; 5th lift (diversion channel)						
9-03-98	RB-219	24.2	100.3	23.5	102.6	98	#26, Fat Clay
Location:	Sta. 30+35, 95' from contour line 47.2; 5th lift (diversion channel)						
9-03-98	RB-220	18.2	107.4	18.9	108.9	99	#28, Lean Clay w/Sand
Location:	Swale, Sta. 11+90, 25' left of centerline; 2nd lift						
9-04-98	RB-221	17.4	105.6	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 20+40, 80' from top of ridge; 3rd lift						

Bear Creek Uranium
Job No. 9851711
Sheet 8 of 8

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
9-04-98	RB-222	18.7	105.5	17.2	111.3	95	#22, Lean Clay w/Sand
Location:	Sta. 18+85, 20' from top of ridge; 7th lift						
9-04-98	RB-223	14.5	107.7	16.0	110.5	97	#29, Sandy Lean Clay
Location:	Swale, Sta. 13+30, 15' right of centerline; 3rd lift						
9-04-98	RB-224	17.0	108.8	17.2	111.3	98	#22, Lean Clay w/Sand
Location:	Swale, Sta. 12+00, 95' left of centerline; 3rd lift						
9-04-98	RB-225	22.0	98.2	23.5	102.6	96	#26, Fat Clay
Location:	Sta. 30+20, 110' from contour line 67.2; 6th lift						
RANDOM FILL							
9-02-98	RF-4	17.6	110.6	17.8	110.8	100	#27, Sandy Lean Clay
Location:	Sta. 20+10, 85' from top of ridge; 3rd lift						
9-03-98	RF-5	14.3	110.1	13.3	117.9	93	#13, Clayey Sand
Location:	Sta. 19+25, 135' from top of ridge; 4th lift						
9-03-98	RF-6	16.8	106.4	13.3	117.9	90	#13, Clayey Sand
Location:	Sta. 21+35, 65' from top of ridge; 5th lift						
9-04-98	RF-7	17.4	107.1	16.0	110.5	97	#29, Sandy Lean Clay
Location:	Sta. 20+00, 90' from top of ridge; 6th lift						

Radon Barrier
Density Test 32 Retest 2 ea 5C 2 ea
Random fill 4

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1-pt. Density Test RB-197, RB-ATT-45, RB-200-121			50	26	0	6	94	22.5	102.6	#26, Fat Clay
RB-ATT-44, RB-200-120			52	28	0	10	90			Fat Clay
RB-200-122					0	13	87			Lean Clay
RB-200-123					0	37	63			Sandy Lean Clay
Proctor #28	18.9	108.9	41	22	0	22	78			Lean Clay with Sand
1-pt. Density Test RB-203 RB-ATT-46, RB-200-125			27	10	0	52	48	13.3	117.9	#13, Clayey Sand
RB-200-124					0	25	75			Lean Clay with Sand
RB-200-126					0	33	67			Sandy Lean Clay
RB-200-127					0	21	79			Lean Clay with Sand
1-pt. Density Test RB-207, RB-ATT-48, RB-200-130			41	20	0	17	83	19.7	108.5	#23, Lean Clay with Sand
1-pt. Density Test RB-209, RB-ATT-47, RB-200-129			39	20	0	43	57	17.6	113.1	#27, Sandy Lean Clay
RB-200-128					0	23	77			Lean Clay with Sand
RF-ATT-3, RF-200-3			35	18	0	43	57			Sandy Lean Clay
Proctor #29	16.0	110.5	29	9	0	36	64			Sandy Lean Clay
RB-200-132					0	11	89			Fat Clay
RB-200-133					0	59	41			Clayey Sand
RB-200-134					0	35	65			Sandy Lean Clay
RB-200-135					0	18	82			Lean Clay with Sand
RB-200-136					0	31	69			Sandy Lean Clay
RF-ATT-4, RF-200-4			29	12	0	58	42			Clayey Sand

Proctor - 2 ea AH - 9 ea

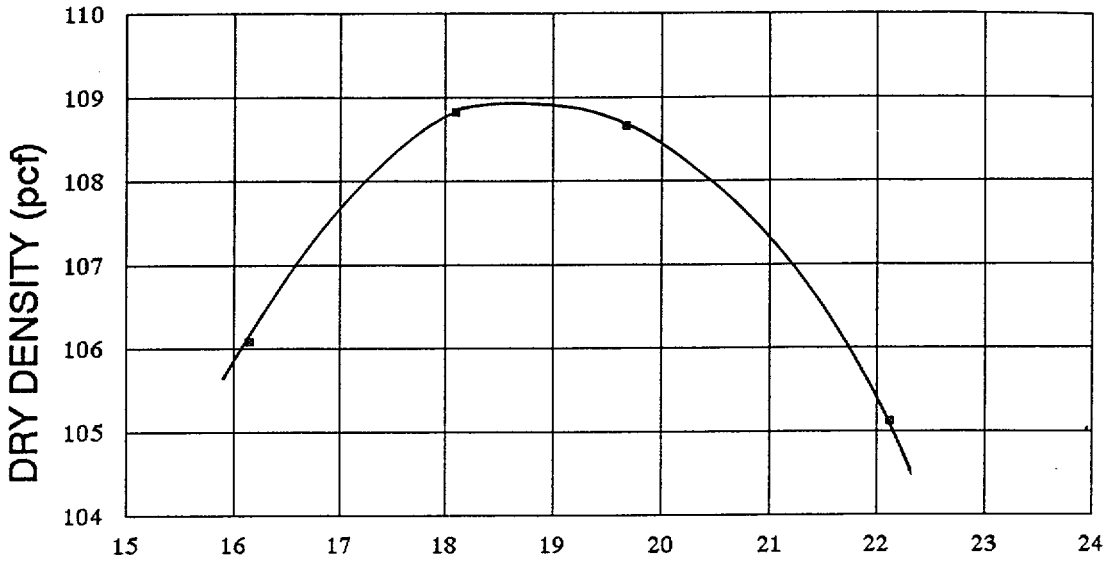
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
BC-North			28	8	0	54	46			Clayey Sand
BC-South			31	12	0	36	64			Sandy Lean Clay
1-pt Density Test RB-221, RB-ATT-49, RB-200-137			45	24	0	25	75	19.3	109.7	#22, Lean Clay with Sand
RB-200-138					0	11	89			Fat Clay
RF-ATT-5, RF-200-5			36	19	0	38	62			Sandy Lean Clay

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 108.9 pcf OPTIMUM WATER CONTENT: 18.9%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	22
FINES (SILT AND CLAY)	78

ATTERBERG LIMITS

LIQUID LIMIT	41
PLASTICITY INDEX	22

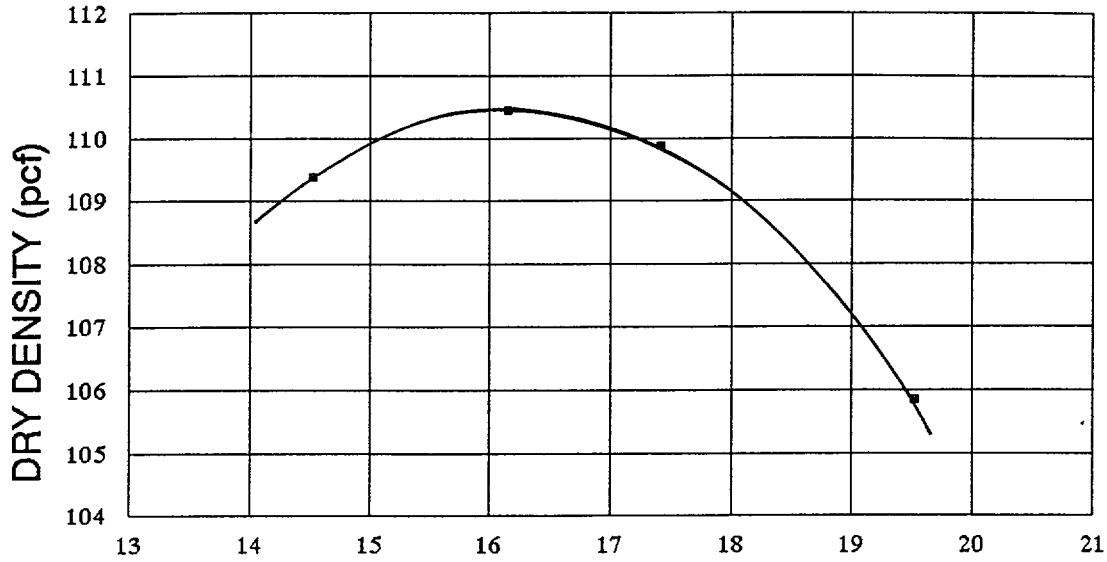
SAMPLE IDENTIFICATION:
Proctor No. 28

SOIL CLASSIFICATION:
Lean Clay with Sand (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 28

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 110.5 pcf OPTIMUM WATER CONTENT: 16.0%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	36
FINES (SILT AND CLAY)	64

ATTERBERG LIMITS

LIQUID LIMIT	29
PLASTICITY INDEX	9

SAMPLE IDENTIFICATION:
Proctor No. 29

SOIL CLASSIFICATION:
Sandy Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 29

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: September 18, 1998
JOB NO.: 9851711
SHEET 1 OF 7

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

WEEK 22

PROJECT REPORT

TUE **DAILY REPORT NO. 85 - Billy Ray, Field Engineer - 12.0 Hours**
September 8, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier. Mr. Gary Chase (BCU) asked Carr to cut back on the placement of random fill and to concentrate on the radon barrier as he fears not completing the radon barrier before the cold weather. Four scrapers placed radon barrier and random fill from the W-8 borrow area. Two scrapers placed radon barrier in the swale from the W-8 borrow. Five scrapers placed rejected material in the 2:1 slope that was once reserved for tailings. The fourth lift of radon barrier was placed in the chute approach with material from the wing dam. Some blade work was done in the rock weir.

Six nuclear method moisture-density tests and one sand cone method test were performed on the radon barrier fill placed this shift. Tests No. RB-226, RB-227, RB-227(SC), RB-228, RB-229, RB-230 and RB-231 all met the project requirements. The results and locations are presented on the attached summary sheet. Standard Proctor #30 was performed as was a one-point Proctor for density test No. RB-228 along with property tests RB-ATT-50 and RB-200-141. Samples RB-200-139, RB-200-140, RB-200-142 and RB-143 were also collected for laboratory testing. The results of all laboratory tests are presented on Table I, attached.

WED **DAILY REPORT NO. 86 - Billy Ray, Field Engineer - 12.0 Hours**
September 9, 1998

6:00 am to 6:30 pm - Carr Construction continued placement of the radon barrier. It was a hot and windy day and Carr had trouble keeping up with watering as one of the water wagons was down for approximately 1.5 hours. As many as six scrapers placed radon barrier and random fill at the bottom of the ridge with material cut from the W-8 borrow area. Two scrapers placed radon barrier in the swale with material from the W-8 borrow area and the wing dam. Four scrapers placed rejected fill in the 2:1 slope in the area that was originally reserved for the tailings until approximately 3:00 pm, when they placed radon barrier on top of the ridge. The excavator worked in the rock weir, regrading the area in advance of the rock placement. Production slowed as Carr had numerous equipment problems.

Five nuclear method moisture-density tests, Nos. RB-232 through RB-236, were performed on the radon barrier and two tests, Nos. RF-8 and RF-9, were performed on the random fill. All tests met the project specifications. The test results and locations are presented on the attached summary sheet. Samples RB-200-144, RB-200-145, RB-200-146, RB-200-147, RF-ATT-6 and RF-200-6 were collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

THUR **DAILY REPORT NO. 87 - Billy Ray, Field Engineer - 12.0 Hours**
September 10, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the radon barrier as all scrapers hauled material from the W-8 borrow area to the placement areas. Radon barrier was placed in the ridge line, swale

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TEST RESULTS:		----------FIELD----------		------LABORATORY------			
Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
9-08-98	RB-226	21.0	103.0	21.7	106.9	96	#24, Lean Clay
Location:	Sta. 27+50, 20' from top of ridge; 1st lift (diversion channel)						
9-08-98	RB-227	13.5	113.8	13.3	117.9	97	#13, Clayey Sand
Location:	Sta. 10+00 (swale axis), 15' from toe of ridge; 8th lift						
9-08-98	RB-227(SC)	13.5	114.7	13.3	117.9	97	#13, Clayey Sand
Location:	Sta. 10+00 (swale axis), 15' from toe of ridge; 8th lift						
9-08-98	RB-228	15.2	108.2	16.3	112.8	96	#25, Sandy Lean Clay
Location:	Sta. 21+20, 55' from top of ridge; 4th lift						
9-08-98	RB-229	14.6	108.4	16.3	112.8	96	#25, Sandy Lean Clay
Location:	Sta. 11+75 (swale), 24' left of flow line; 4th lift						
9-08-98	RB-230	18.6	108.0	16.3	112.8	96	#25, Sandy Lean Clay
Location:	Sta. 18+00, 15' from toe of existing ridge; 9th lift						
9-08-98	RB-231	18.5	108.9	16.3	112.8	97	#25, Sandy Lean Clay
Location:	Sta. 17+10, 70' from toe of existing ridge; 10th lift						
9-09-98	RB-232	18.1	106.8	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Swale, Sta. 9+10, 10' left of centerline; 4th lift						
9-09-98	RB-233	18.2	106.6	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Sta. 11+25 (swale axis), 30' from existing toe of ridge; 11th lift						
9-09-98	RB-234	14.4	112.8	13.3	117.9	96	#13, Clayey Sand
Location:	Sta. 17+00, 95' from top of ridge; 5th lift (diversion channel)						
9-09-98	RB-235	19.8	104.1	18.1	108.7	96	#30, Sandy Lean Clay
Location:	Sta. 17+50, 10' from existing toe of ridge; 12th lift (diversion channel)						

Bear Creek Uranium
Job No. 9851711
Sheet 5 of 7

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
9-09-98	11 RB-236	18.4	104.4	18.1	108.7	96	#30, Sandy Lean Clay
Location:	Sta. 29+50, 25' from top of ridge; 1st lift (diversion channel)						
9-10-98	12 RB-237	19.5	105.4	18.1	108.7	97	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 9+50, 12' from toe of existing ridge; 13th lift						
9-10-98	2 RB-237(SC)	19.5	104.4	18.1	108.7	96	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 9+50, 12' from toe of existing ridge; 13th lift						
9-10-98	13 RB-238	19.5	104.9	18.1	108.7	97	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 6+50, 10' from toe of existing ridge; 1st lift						
9-10-98	14 RB-239	18.0	105.0	18.1	108.7	97	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 13+00, 35' left of centerline; 5th lift						
9-10-98	15 RB-240	(11.5)	111.1	18.1	108.7	100+	#30, Sandy Lean Clay
Location:	Diversion channel axis, Sta. 29+50, 35' from top of ridge; 2nd lift						
9-10-98	16 RB-241	18.4	103.0	18.1	108.7	95	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 19+70, 15' from toe of existing ridge; 14th lift						
9-10-98	RB-240A	16.6	107.1	18.1	108.7	99	#30, Sandy Lean Clay
Location:	Diversion channel axis, Sta. 29+50, 35' from top of ridge; 2nd lift **RETEST OF TEST NO. RB-240**						
9-10-98	17 RB-242	17.7	108.2	18.1	108.7	100	#30, Sandy Lean Clay
Location:	Swale, Sta. 10+40, centerline; 5th lift						
9-10-98	18 RB-243	17.9	107.0	16.3	112.8	95	#25, Sandy Lean Clay
Location:	Dam axis, Sta. 1+00, 15' from existing toe of ridge; 2nd lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 7

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
9-10-98	RB-244	18.7	106.9	16.3	112.8	95	#25, Sandy Lean Clay
Location:	Dam axis, Sta. 17+50, 20' from existing toe of ridge; 15th lift						
9-11-98	RB-245	18.4	106.9	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 20+45, 50' from top of ridge; 6th lift						
9-11-98	RB-246	20.2	103.0	18.1	108.7	95	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 9+20, 15' from top of ridge; 16th lift						
9-11-98	RB-247	14.1	108.0	13.3	117.9	(92)	#13, Clayey Sand
Location:	Swale, Sta. 12+00, 30' right of centerline; 6th lift						
9-11-98	RB-247(SC)	14.1	106.5	13.3	117.9	(90)	#13, Clayey Sand
Location:	Swale, Sta. 12+00, 30' right of centerline; 6th lift						
9-11-98	RB-248	(14.2)	104.6	18.1	108.7	96	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 8+50, 20' from top of ridge; 17th lift						
9-11-98	RB-248A	20.4	104.8	18.1	108.7	96	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 8+50, 20' from top of ridge; 17th lift **RETEST OF TEST NO. RB-248**						
9-11-98	RB-249	19.0	106.7	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Sta. 29+00, 45' from top of ridge; 3rd lift (diversion channel)						
9-11-98	RB-250	14.1	109.9	15.6	115.2	95	#11, Clayey Sand
Location:	Dam axis, Sta. 5+40, 25' from top of ridge; 3rd lift						
9-11-98	RB-251	19.2	104.2	18.1	108.7	96	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 1+00, 95' from top of ridge; 3rd lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 7

TEST RESULTS:		----------FIELD----------		------LABORATORY------			
Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
9-11-98	RB-252 (27)	18.8	105.3	18.1	108.7	97	#30, Sandy Lean Clay
Location:	Dam face axis, Sta. 23+10, 15' from existing toe of ridge; 18th lift						
RANDOM FILL							
9-09-98	RF-4 (8?)	16.9	107.3	13.3	117.9	91	#13, Clayey Sand
Location:	Sta. 19+25, 60' from toe of existing ridge; 8th lift						
9-09-98	RF-9	18.4	101.9	18.1	108.7	94	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 9+50, 80' from toe of existing ridge; 10th lift						
9-10-98	RF-10	17.6	109.7	15.6	115.2	95	#11, Clayey Sand
Location:	Dam axis, Sta. 22+00, 65' from toe of ridge; 11th lift						
9-11-98	RF-11	13.2	106.3	15.6	115.2	92	#11, Clayey Sand
Location:	Swale axis, Sta. 6+50, 90' from toe of ridge; 13th lift						

Density Test RB 27 ea Random Fill 9 ea
Retest 2 ea
SC 3 ea

VXM
OGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: September 23, 1998
JOB NO.: 9851711
SHEET 1 **OF** 10

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

WEEK 23

PROJECT REPORT

Mon **DAILY REPORT NO. 89 - Billy Ray, Field Engineer - 12.0 Hours**
September 14, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier with material borrowed from the W-8 borrow area. The north portion of the ridge line has reached the elevation of the radon barrier south of the swale. The south and west portions of the ridge were filled to lift #3. The radon barrier on top of the ridge and south of the road was filled to lift #4. The chute approach was filled with material borrowed from the wing dam cut. The ridge line (south) extended as the result of Bear Creek's radon emanation testing allowed Carr to move into Pond #3 with the ridge. Carr was shorthanded and there was some equipment broken that slowed production. Mr. Jim Smith (BCU) and Mr. Gary Chase (BCU) left the site at 4:15 pm.

Seven nuclear method moisture-density tests, Nos. RB-253 through RB-259, were performed on the radon barrier fill placed this shift. All tests except test No. RB-255 met the project requirements. The failed area was reworked and retested as test No. RB-255A. One sand cone method test, RB-257(SC), was performed next to test No. RB-257. The results and locations are presented on the attached summary sheet. Standard Proctor #31 was performed on fill placed this shift. Samples RB-ATT-54 and RB-200-158, RB-200-159, RB-200-160 and RB-200-161 were also collected for laboratory analysis. The results of all laboratory tests are presented on Table I, attached.

Tue **DAILY REPORT NO. 90 - Billy Ray, Field Engineer - 12.0 Hours**
September 15, 1998

6:00 am to 6:30 pm - Carr Construction continued placement of the radon barrier. Three scrapers hauled material from the W-8 borrow area to the southern portion on top of the ridge. One scraper hauled from the diversion channel with the sand being placed on the 2:1 slope in place of tailings, and the clay was placed to the top of the ridge (south). Six scrapers hauled from the W-8 borrow area to the top of the ridge (north), the ridge line south and to between the dam face and the swale. Mr. John Smith (Carr) and Mr. Monty Carr (Carr) were concerned with the depression being created in the W-8 borrow area so the cut was moved in an effort to keep the borrow area level. The new material was sandier than it had been, based on a visual inspection. Based on laboratory tests, the material still meets the project requirements for radon barrier fill.

Eleven nuclear method moisture-density tests, Nos. RB-260 through RB-270, were performed on the radon barrier. Tests No. RB-260 and RB-265 did not meet the project requirements. After the failed areas were reworked, retests No. RB-260A and RB-265A passed. One sand cone test, No. RB-267(SC), was performed along side test No. RB-267. The test results and locations are presented on the attached summary sheet. Standard Proctor No. 32 and a one point for test No. RB-263 along with property tests RB-ATT-56 and RB-200-164 were performed. Samples RB-ATT-55, RB-200-162, RB-200-163, RB-200-165, RB-200-166 and RB-200-167 were also collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

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DAILY REPORT NO. 91 - Billy Ray, Field Engineer - 12.0 Hours
Wed September 16, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the radon barrier with all material being hauled from the W-8 borrow area. Two scrapers placed fill between the dam face and the swale. Three scrapers placed fill on top of the ridge (south). Five scrapers placed fill on top of the ridge (north) and the ridge line south. The cut was moved again in the W-8 borrow area as Carr tried to level the pile. Mr. John Smith (Carr) was informed that the material was becoming increasingly sandy. Several questionable areas of W-8 borrow were staked and the scrapers were told not to cut from those areas as they were too sandy. The excavator continued to work in the rock weir as the area was reshaped in advance of the rock placement.

Nuclear method moisture-density tests Nos. RB-271 through RB-279 were performed and all tests met the project specifications. A sand cone test was performed along side of test RB-277. Test results are presented on the attached summary sheet. Standard Proctor No. 33 was performed. A one-point Proctor was performed for test No. RB-273 along with property tests RB-ATT-57 and RB-200-169. Samples RB-200-168, RB-200-170, RB-200-171, RB-172 and RB-200-173 were also collected for -200 analysis. The results of all laboratory testing are presented on Table I, attached.

Thur **DAILY REPORT NO. 92 - Billy Ray, Field Engineer - 12.0 Hours**
September 17, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the radon barrier. Material from the W-8 borrow area was placed between the dam and the swale, on top of the ridge (north), and on top of the ridge (south). Some clay was borrowed from the diversion channel and was placed on the ridge line (south). That clay was very dry and required more processing effort. The area was not ready for testing by the end of the shift. One panel of random fill was placed along side the radon barrier on the south ridge line. The random fill material was borrowed from the sandy portion of the diversion channel near Station 35+00. One scraper and the excavator worked on stripping topsoil and constructing the rock structures west of the face of the dam.

Nuclear method moisture-density tests No. RB-280 through RB-288 were performed on the radon barrier placed this shift. Test RB-280 failed due to a lack of density. The area was recompacted and tested as test RB-280A, which met the project requirements. All other tests met project specifications. Not enough random fill was placed to warrant any testing. Test locations and results are presented on the attached summary sheets.

Standard Proctor No. 34 was performed and a one-point Proctor was performed for test No. RB-287 along with property tests RB-ATT-58 and RB-200-179. Samples RB-200-174, RB-200-175, RB-200-176, RB-200-177 and RB-200-178 were collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

Fri **DAILY REPORT NO. 93 - Billy Ray, Field Engineer - 12.0 Hours**
September 18, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the radon barrier. Six scrapers hauled material from the W-8 borrow area to the top of the south ridge. Two scrapers hauled from the W-8 to the area between the dam face and the swale. The other two scrapers hauled from the W-8 to the bottom of the ridge (south) and the top of the ridge (north). It was hot, dry and windy this shift,and one water truck was down for approximately an hour, this slowed production as the processing was slowed. The area from 9-17-98 that was too dry, the south ridge line, was reworked as the area was plowed, scarified and watered. Mr. Bob Coppin was on-site today. Most of his time was spent observing the excavator construct the rock structures west of the dam face.

Nuclear method moisture-density tests No. RB-289 through RB-296 were performed on the radon barrier placed this shift. There were two failures, tests No. RB-291 and RB-296. Test No. RB-291 was retested as test No. RB-291A after the failed area was reworked, test No. RB-291A passed. Test No. RB-296 was unable to be retested as it failed right at the end of the shift. Mr. John Smith (Carr) was made aware of the

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failure. The area will be reworked on Saturday and it will be retested on 9-21-98. The remainder of the tests performed this shift met the project requirements. Test locations and results are presented on the attached summary sheets.

A one-point Proctor was performed for test No. RB-293 along with property tests RB-ATT-59 and RB-200-184. Samples RB-200-180, RB-200-181, RB-200-182, RB-200-183 and RB-200-185 were collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

Carr plans to have a crew work Saturday, 9-19-98. They will process any areas that were unable to be processed this shift, approximately 3,000 cubic yards. They also plan on "finishing" the topsoil that has been placed.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
9-14-98	RB-253	17.8	106.7	16.8	112.4	95	#31, Clayey Sand
Location:	Dam axis, Sta. 11+10, 20' from toe of existing ridge; 2nd lift						
9-14-98	RB-254	18.9	107.5	16.8	112.4	96	#31, Clayey Sand
Location:	Dam axis, Sta. 20+55, 15' south of contour line 5166.0; 18th lift						
9-14-98	RB-255	(22.2)	93.9	18.1	108.7	(86)	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 4+50, 15' from toe of existing ridge; 2nd lift						
9-14-98	RB-256	17.5	108.1	18.1	108.7	99	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 8+20, 30' south of contour line 5165.5; 4th lift						
9-14-98	RB-255A	16.6	106.5	16.8	112.4	95	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 4+50, 15' from toe of existing ridge; 2nd lift **RETEST OF TEST NO. RB-255**						
9-14-98	RB-257	18.1	106.4	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 18+00, 20' south of contour line 5165.5; 19th lift						
9-14-98	RB-257(SC)	18.1	106.8	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 18+00, 20' south of contour line 5165.5; 19th lift						
9-14-98	RB-258	17.2	106.5	16.8	112.4	95	#31, Clayey Sand
Location:	Swale, Sta. 11+00, 65' left of centerline; 6th lift						
9-14-98	RB-259	19.0	106.6	16.8	112.4	95	#31, Clayey Sand
Location:	Dam axis, Sta. 28+40, 25' north of contour line 5165.5; 4th lift						
9-15-98	RB-260	(14.4)	110.2	18.1	108.7	100+	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 13+40, 15' south of existing toe of ridge; 3rd lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
9-15-98	RB-261	12.5	111.8	13.3	117.9	95	#13, Clayey Sand
Location:	Dam axis, Sta. 18+00, 90' north of top of ridge; 7th lift						
9-15-98	RB-260A	20.6	104.7	18.1	108.7	96	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 13+40, 15' south of existing toe of ridge; 3rd lift **RETEST OF TEST NO. RB-260**						
9-15-98	RB-262	14.8	112.9	13.3	117.9	96	#13, Clayey Sand
Location;	Dam axis, sta. 20+45, 15' north of contour line 5164.0; 7th lift						
9-15-98	RB-263	21.5	103.4	18.1	108.7	95	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 11+10, 55' right of centerline; 7th lift						
9-15-98	RB-264	17.4	111.0	18.1	108.7	100+	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 3+10, 25' north of ridge line; 5th lift						
9-15-98	RB-265	14.7	105.8	13.3	117.9	(90)	#13, Clayey Sand
Location:	Dam axis, sta. 16+10, 35' north of contour line 5166.0; 7th lift						
9-15-98	RB-266	16.9	107.9	16.8	112.4	96	#31, Clayey Sand
Location:	Channel axis, Sta. 26+30, 35' from top of ridge; 5th lift						
9-15-98	RB-267	15.9	107.3	16.8	112.4	95	#31, Clayey Sand
Location:	Dam axis, Sta. 11+00, 20' south of existing toe of ridge; 4th lift						
9-15-98	RB-267(SC)	15.9	106.4	16.8	112.4	95	#31, Clayey Sand
Location:	Dam axis, Sta. 11+00, 20' south of existing toe of ridge; 4th lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 10

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
9-15-98	RB-265A	15.3	111.4	13.3	117.9	95	#13, Clayey Sand
Location:	Dam axis, sta. 16+10, 35' north of contour line 5166.0; 7th lift **RETEST OF TEST NO. RB-265**						
9-15-98	RB-268	16.5	107.2	16.8	112.4	95	#31, Clayey Sand
Location:	Dam axis, Sta. 16+35, 25' south of contour line 5165.0' 8th lift						
9-15-98	RB-269	16.4	106.5	16.8	112.4	95	#31, Clayey Sand
Location:	Dam axis, Sta. 1+00, 160' north of ridge; 5th lift						
9-15-98	RB-270	17.9	105.3	18.1	108.7	97	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 8+50, 15' south of existing toe; 5th lift						
9-16-98	RB-271	18.7	106.0	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 16+00, 125' north of centerline; 7th lift						
9-16-98	RB-272	16.0	108.5	15.6	114.8	95	#33, Clayey Sand
Location:	Dam axis, Sta. 21+30, 20' south of contour line 5165.0; 9th lift						
9-16-98	RB-273	18.9	109.0	15.6	114.8	95	#33, Clayey Sand
Location:	Dam axis, Sta. 13+20, 15' from toe of existing ridge; 6th lift						
9-16-98	RB-274	17.2	110.2	18.1	108.7	100+	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 1+30, 30' north of top of ridge; 6th lift						
9-16-98	RB-275	16.7	108.9	18.1	108.7	100	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 22+50, 25' north of contour line 5165.0; 8th lift						
9-16-98	RB-276	14.8	108.9	15.6	114.8	95	#33, Clayey Sand
Location:	Dam axis, Sta. 6+75, 25' south of contour line 5165.0; 6th lift						

Bear Creek Uranium
Job No. 9851711
Sheet 8 of 10

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
9-16-98	RB-277	16.6	109.4	18.1	108.7	100+	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 22+00, 330' east of dam face; 8th lift						
9-16-98	RB-277(SC)	16.6	104.9	18.1	108.7	96	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 22+00, 330' east of dam face; 8th lift						
9-16-98	RB-278	18.6	106.1	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 17+50, 20' south of contour line 5165.0; 10th lift						
9-16-98	RB-279	16.9	111.1	15.6	114.8	97	#33, Clayey Sand
Location:	Dam axis, Sta. 11+10, 20' south of existing toe; 7th lift						
9-17-98	RB-280	14.4	107.2	15.7	114.2	(94)	#34, Clayey Sand
Location:	Swale axis, Sta. 6+00, 45' right of centerline; 7th lift						
9-17-98	RB-281	19.1	105.2	18.1	108.7	97	#30, Sandy Lean Clay
Location:	Sta. axis, Sta. 17+80, 20' south of contour line 5165.0; 10th lift						
9-17-98	RB-282	16.3	110.1	15.7	114.2	96	#34, Clayey Sand
Location:	Swale axis, Sta. 13+00, 145' left of centerline; 8th lift						
9-17-98	RB-283	17.3	109.1	15.7	114.2	96	#34, Clayey Sand
Location:	Diversion Channel axis, Sta. 29+00, 130' from top of ridge; 6th lift						
9-17-98	RB-280A	15.7	108.0	15.7	114.2	95	#34, Clayey Sand
Location:	Swale axis, Sta. 6+00, 45' right of centerline; 7th lift **RETEST OF TEST NO. 280**						
9-17-98	RB-284	17.8	109.3	15.7	114.2	96	#34, Clayey Sand
Location:	Dam axis, Sta. 1+50, 45' south of contour line 5164.8; 6th lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 9 of 10

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER							
9-17-98	RB-285	16.1	110.1	15.7	114.2	96	#34, Clayey Sand
Location:	Dam axis, Sta. 24+50, 80' west of contour line 5165.5; 9th lift						
9-17-98	RB-286	14.9	111.3	15.7	114.2	97	#34, Clayey Sand
Location:	Dam axis, Sta. 9+40, 20' south of existing toe; 8th lift						
9-17-98	RB-287	18.7	106.9	16.3	112.8	95	#25, Sandy Lean Clay
Location:	Swale, Sta. 8+0, 20' right of centerline; 8th lift						
9-17-98	RB-288	17.2	110.3	16.3	112.8	98	#25, Sandy Lean Clay
Location:	Diversion Channel axis, Sta. 22+00, 25' north of ridge; 7th lift						
9-18-98	RB-289	15.9	110.8	15.7	114.2	97	#34, Clayey Sand
Location:	Dam axis, Sta. 2+25, 20' north of contour line 5165.5; 7th lift						
9-18-98	RB-290	18.2	108.6	15.7	114.2	95	#34, Clayey Sand
Location:	Dam axis, Sta. 9+60, 35' south of contour line 5165.5; 7th lift						
9-18-98	RB-291	14.2	106.0	15.7	114.2	(93)	#34, Clayey Sand
Location:	Swale axis, Sta. 8+45, 35' right of centerline; 9th lift						
9-18-98	RB-292	21.9	104.1	18.9	108.9	96	#28, Lean Clay w/Sand
Location:	Diversion Channel axis, Sta. 28+50, 20' south of existing toe; 2nd lift						
9-18-98	RB-291A	16.3	109.1	15.7	114.2	96	#34, Clayey Sand
Location:	Swale axis, Sta. 8+45, 35' right of centerline; 9th lift **RETEST OF TEST NO. RB-290**						
9-18-98	RB-293	13.6	114.1	14.4	117.1	97	#32, Clayey Sand
Location:	Dam axis, Sta. 10+00, 20' south of existing toe of ridge; 9th lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 10 of 10

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RADON BARRIER							
9-18-98	RB-294 (43)	13.9	113.0	14.4	117.1	96	#32, Clayey Sand
Location:	Dam axis, Sta. 18+40, 30' south of contour line 5165.0; 13th lift						
9-18-98	RB-295 (43)	18.5	107.5	15.1	105.7	99	#30, Sandy Lean Clay
Location:	Swale axis, Sta. 6+75, 45' right of centerline; 10th lift						
9-18-98	RB-296 (44)	(10.8)	111.0	15.7	114.2	97	#34, Clayey Sand
Location:	Dam axis, Sta. 7+50, 20' south of toe of existing ridge; 10th lift						

Radon Barrier Density Tests 44

Retests 5

SC 3

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor #31	16.8	112.4	31	12	0	57	43			Clayey Sand
RB-54, RB-200-158			31	13	0	38	62			Sandy Lean Clay
RB-200-159					0	38	62			Sandy Lean Clay
RB-200-160					0	43	57			Sandy Lean Clay
RB-200-161					0	51	49			Clayey Sand
Proctor #32	14.4	117.1	26	9	0	62	38			Clayey Sand
1-pt. Density Test RB-263, RB-ATT-56, RB-200-164			36	19	0	33	67	14.9	107.6	#30, Sandy Lean Clay
RB-200-162					0	53	47			Clayey Sand
RB-ATT-55, RB-200-163			31	15	0	48	52			Sandy Lean Clay
RB-200-165					0	49	51			Sandy Lean Clay
RB-200-166					0	45	55			Sandy Lean Clay
RB-200-167					0	52	48			Clayey Sand
Proctor #33	15.6	114.8	30	10	0	57	43			Clayey Sand
1-pt. Density Test RB-273, RB-ATT-57, RB-200-169			36	19	0	58	42	15.6	114.8	#33, Clayey Sand
RB-200-168					0	40	60			Sandy Lean Clay
RB-200-170					0	51	49			Clayey Sand
RB-200-171					0	33	67			Sandy Lean Clay
RB-200-172					0	37	63			Sandy Lean Clay
RB-200-173					0	53	47			Clayey Sand
Proctor #34	15.7	114.2	31	15	0	51	49			Clayey Sand

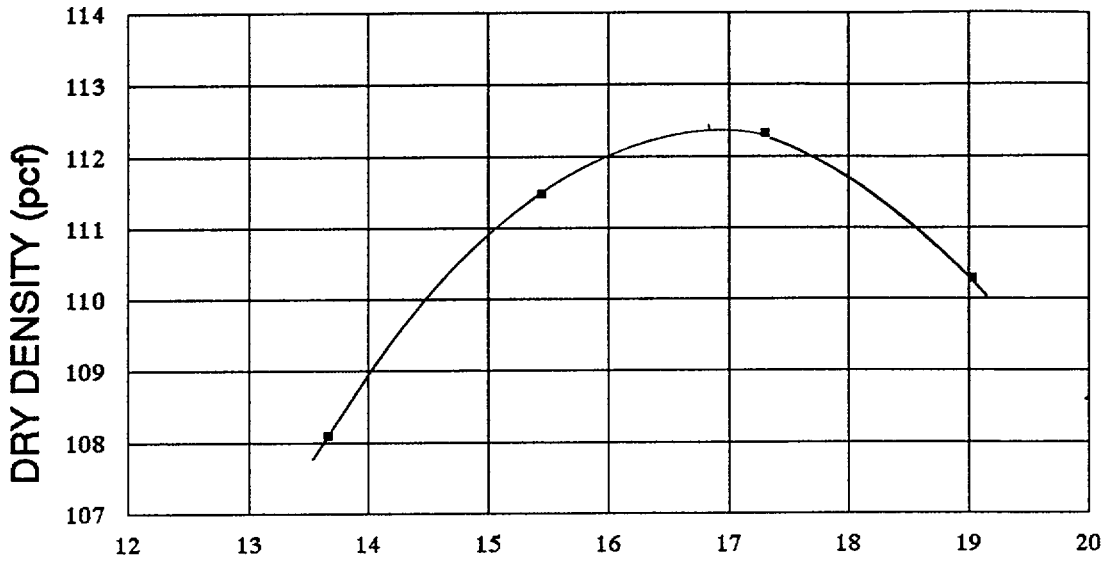
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1-pt Density Test RB-287, RB-ATT-58, RB-200-179 5			34	17	0	50	50	16.3	112.8	#25, Sandy Lean Clay
RB-200-174 17					0	58	42			Clayey Sand
RB-200-175 18					0	53	47			Clayey Sand
RB-200-176 19					0	57	43			Clayey Sand
RB-200-177 20					0	30	70			Sandy Lean Clay
RB-200-178 21					0	56	44			Clayey Sand
1-pt Density Test RB-293, RB-ATT-59, RB-200-184 4			31	13	0	63	37	13.6	115.8	#32, Clayey Sand
RB-200-180 22					0	56	44			Clayey Sand
RB-200-181 23					0	58	42			Clayey Sand
RB-200-182 24					0	33	67			Sandy Lean Clay
RB-200-183 25					0	59	41			Clayey Sand
RB-200-185 26					0	48	52			Sandy Lean Clay
Proctor Tests	4	ea								
1 Pt Proctor	4	ea								
Att	6	ea								
-200	26	ea								

MOISTURE – DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 112.4 pcf OPTIMUM WATER CONTENT: 16.8%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	57
FINES (SILT AND CLAY)	43

ATTERBERG LIMITS

LIQUID LIMIT	31
PLASTICITY INDEX	12

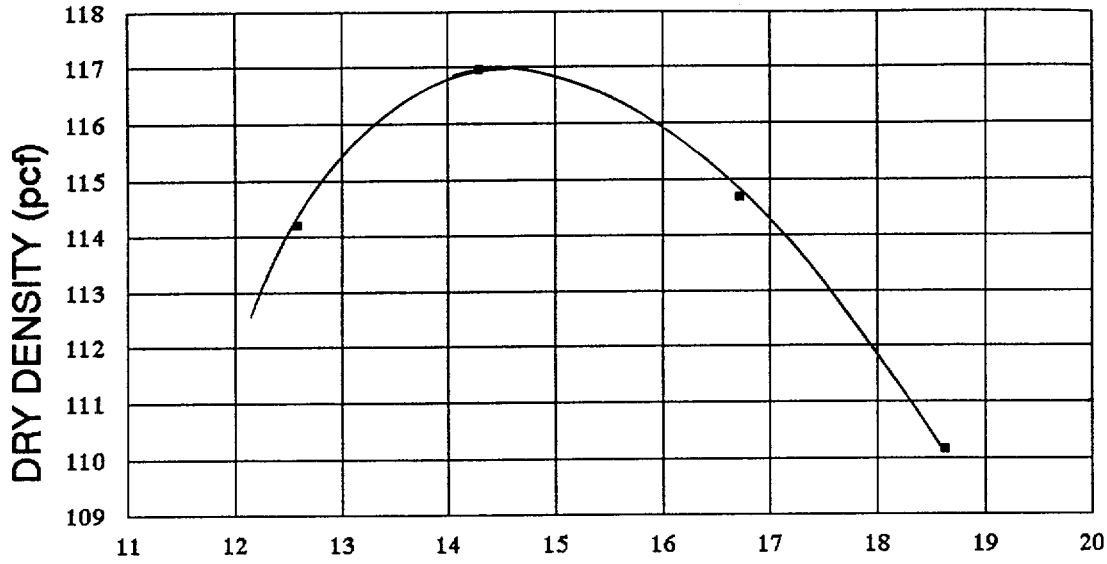
SAMPLE IDENTIFICATION:
Proctor No. 31

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 31

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 117.1 pcf OPTIMUM WATER CONTENT: 14.4%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	62
FINES (SILT AND CLAY)	38

ATTERBERG LIMITS

LIQUID LIMIT	26
PLASTICITY INDEX	9

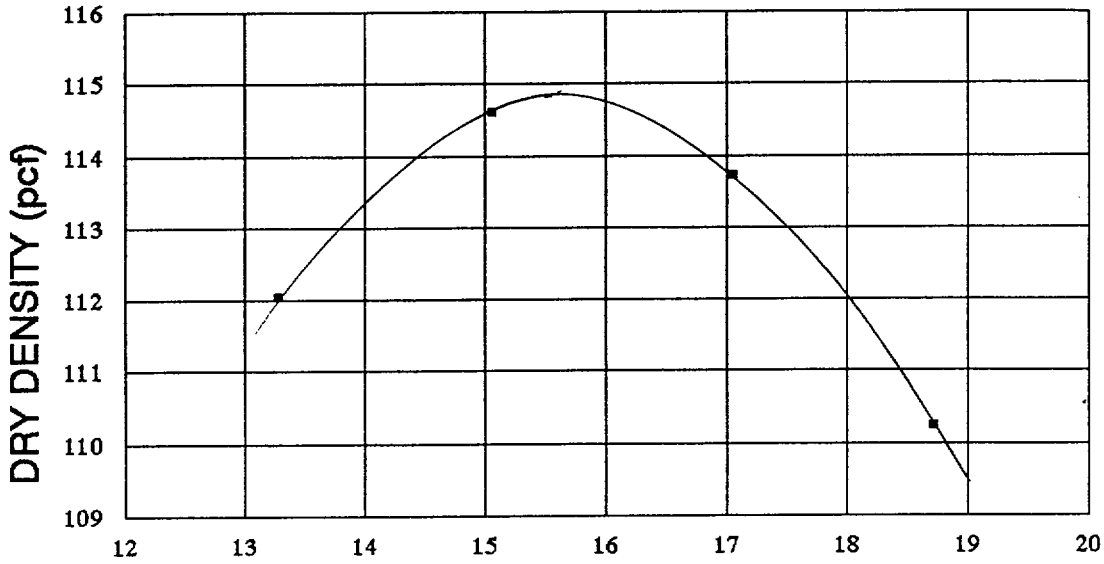
SAMPLE IDENTIFICATION:
Proctor No. 32

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 32

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 114.8 pcf OPTIMUM WATER CONTENT: 15.6%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	57
FINES (SILT AND CLAY)	43

ATTERBERG LIMITS

LIQUID LIMIT	30
PLASTICITY INDEX	10

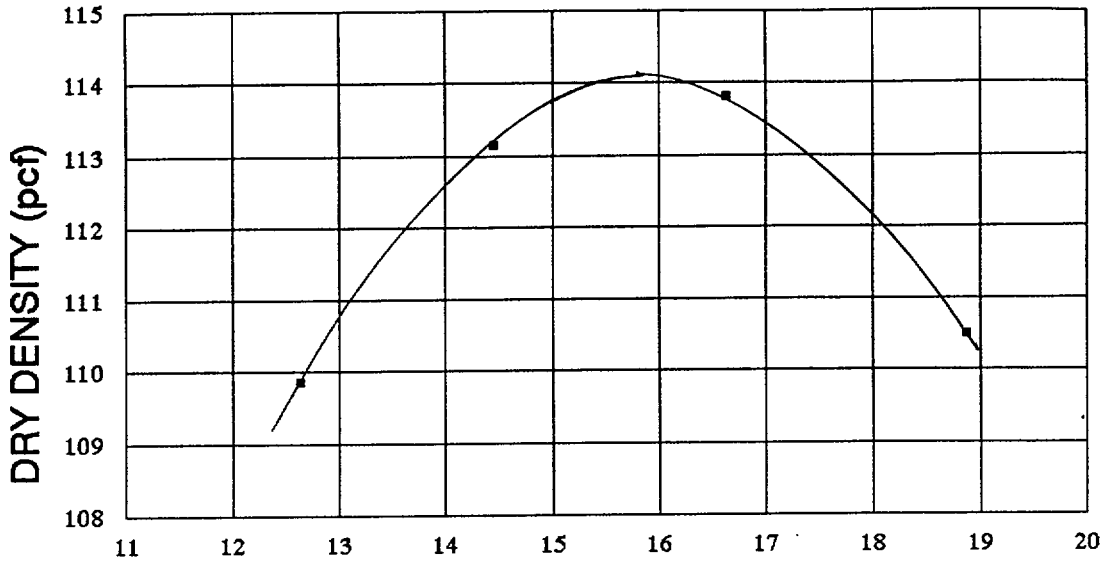
SAMPLE IDENTIFICATION:
Proctor No. 33

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 33

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 114.2 pcf OPTIMUM WATER CONTENT: 15.7%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	51
FINES (SILT AND CLAY)	49

ATTERBERG LIMITS

LIQUID LIMIT	31
PLASTICITY INDEX	15

SAMPLE IDENTIFICATION:
Proctor No. 34

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 34

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: October 1, 1998
JOB NO.: 9851711
SHEET 1 OF 5

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

WEEK 24

PROJECT REPORT

DAILY REPORT NO. 94 - Billy Ray, Field Engineer - 6.0 Hours
September 21, 1998

6:00 am to 12:00 pm - Heavy rains over the weekend inundated the work site and no construction took place this shift. Mr. Gerald Steeley and I stayed on-site to finish laboratory work and Project reports from last week. Mr. Jim Smith (BCU) will call me on 9-22-98 to inform me when our services will be needed.

DAILY REPORT NO. 95 - Billy Ray, Field Engineer - 12.0 Hours
September 24, 1998

6:00 am to 6:30 pm - Carr Construction continued placement of the radon barrier. Five scrapers hauled material from the W-8 borrow area to the top of the ridge (south). Two scrapers hauled material from the W-8 borrow area to the are between the swale and the ridge. Three scrapers placed radon barrier in the ridge (south) and random fill (from the diversion channel) in the area next to the ridge in Pond #3 and the neck. There were still some wet spots on top of the ridge (south); they were dug out with scrapers and spread out to speed up the drying. The five scrapers stopped hauling in the ridge area around 12:00 pm and placed random fill in Pond #2 to allow Powers Elevation to survey and establish final grade to the top of the ridge. The wind and afternoon sun dried the job site and Carr Construction was asked to formulate a plan to keep the haul roads dust free and safe.

One nuclear method moisture-density test, No. RB-296A was performed. Sand cone tests No. RB-297 through RB-302 were performed on the radon barrier placed this shift. Tests No. RB-301 and RB-302 did not meet the project specifications. Due to time constraints those failed areas will be reworked on 9-25-98 and retested. The rest of the tests met project specifications. The test results and locations are presented on the attached summary sheet.

Standard Proctor No. 35 and a one point for test No. RB-298 along with property tests RB-ATT-60 and RB-200-187 were performed. Samples RB-200-186, RB-200-188, RB-200-189, RF-ATT-10 and RF-200-10 were also collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

DAILY REPORT NO. 96 - Billy Ray, Field Engineer - 12.0 Hours
September 25, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the radon barrier and the random fill. Four scrapers placed random fill with material from the W-8 borrow area. Powers Elevation finished surveying the top of the ridge (south) about noon and the four scrapers placed radon barrier with material from the W-8 borrow area. Four scrapers placed both radon barrier and random fill in Pond #3. The radon barrier from the W-8 borrow area and the random fill was from the diversion channel. Two scrapers placed radon barrier between the swale and the ridge with material from the W-8 borrow area. The cut was relocated in the W-8 area in an effort to level the floor of the borrow area. It was another windy day which made it hard for Carr to keep up with the necessary watering.

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Tests No. RB-303 through RB-308 and RB-301A and RB-302A were performed. All tests met project specifications. Three nuclear method moisture-density tests were also performed on the random fill placed this shift, test Nos. RF-13 through RF-15, the tests met project specifications. Test results are presented on the attached summary sheet. Standard Proctor No. 33 was performed.

Standard Proctor No. 36 and a one-point Proctor for test No. RB-307 along with property tests RB-ATT-61 and RB-200-192 were performed. Samples RB-200-190, RB-200-191, RF-ATT-11, RF-200-11 and RF-200-12 were also collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

Reviewed By: _____
Kenneth E. Temme, P.E.
Wyoming Division Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 4 of 5

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
9-24-98	RB-296A	18.3	108.8	15.7	114.2	95	#34, Clayey Sand
Location:	Dam axis, Sta. 7+50, 20' south of toe of existing ridge; 10th lift						
9-24-98	RB-297(SC)	16.9	110.9	15.8	114.7	97	#35, Clayey Sand
Location:	Dam axis, Sta. 2+00, 25' south of contour line 5165.5; 8th lift						
9-24-98	RB-298(SC)	17.1	109.3	16.3	112.8	97	#25, Sandy Lean Clay
Location:	Dam axis, Sta. 29+00, 20' south of existing ridge; 3rd lift						
9-24-98	RB-299(SC)	16.2	109.3	15.8	114.7	95	#35, Clayey Sand
Location:	Dam axis, Sta. 13+20, 15' south of existing ridge; 11th lift						
9-24-98	RB-300(SC)	18.6	108.2	16.3	112.8	96	#25, Sandy Lean Clay
Location:	Dam axis, Sta. 3+50, 25' north of contour line 5166.0; 8th lift						
9-24-98	RB-301(SC)	18.3	101.8	15.8	114.7	(89)	#35, Clayey Sand
Location:	Diversion channel axis, Sta. 21+75, 75' north of contour line 5165.5; 8th lift						
9-24-98	RB-302(SC)	(13.2)	108.8	15.8	114.7	95	#35, Clayey Sand
Location:	Swale, Sta. 7+90, 100' right of centerline; El = 5165.5						
9-25-98	RB-303	17.3	108.8	15.8	114.7	95	#35, Clayey Sand
Location:	Dam axis, Sta. 12+65, 15' south of existing ridge; 10th lift						
9-25-98	RB-304	15.6	111.0	15.8	114.7	97	#35, Clayey Sand
Location:	Dam axis, Sta. 29+50, 10' south of existing ridge; 4th lift						
9-25-98	RB-305	16.8	110.1	15.8	114.7	96	#35, Clayey Sand
Location:	Dam axis, Sta. 6+30, 10' south of existing ridge; 11th lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 5 of 5

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
9-25-98	RB-306	17.3	109.5	15.8	114.7	95	#35, Clayey Sand
Location:	Dam axis, Sta. 3+50, 15' south of existing ridge; 5th lift						
9-25-98	RB-301A	17.5	108.3	15.8	114.7	95	#35, Clayey Sand
Location:	Diversion Channel axis, Sta. 21+75, 75' north of contour line 5165.5; 8th lift **RETEST OF TEST NO. RB-301**						
9-25-98	RB-307	17.7	111.6	15.5	114.3	98	#16, Sandy Lean Clay
Location:	Diversion Channel axis, Sta. 20+00, 15' south of contour line 5165.5; 9th lift						
9-25-98	RB-308	14.2	112.4	15.8	114.7	98	#35, Clayey Sand
Location:	Dam axis, Sta. 3+80, 18' south of existing ridge; 12th lift						
9-25-98	RB-302A	16.7	110.0	15.8	114.7	96	#35, Clayey Sand
Location:	Swale, Sta. 7+90, 100' right of centerline; El = 5165.5 **RETEST OF TEST NO. RB-302**						
RANDOM FILL - 90% Compaction Required							
9-24-98	RF-12(SC)	11.7	112.9	11.8	118.9	95	#6, Silty Sand
Location:	Diversion Channel, Sta. 28+30, 45' south of existing ridge; 1st lift						
9-25-98	RF-13	17.7	104.3	15.8	114.7	91	#35, Clayey Sand
Location:	Swale axis, Sta. 9+20, 20' south of existing toe; 14th lift						
9-25-98	RF-14	16.1	104.1	15.8	114.7	91	#35, Clayey Sand
Location:	Dam axis, Sta. 16+70, 70' south of existing toe; 8th lift						
9-25-98	RF-15	18.8	104.4	17.2	111.3	94	#22, Lean Clay w/Sand
Location:	Swale axis, Sta. 4+00, 45' right of centerline; El = 5166.0'						

RB Density Test 6 SC 7

RB Retest 3 RF 3

Week 24

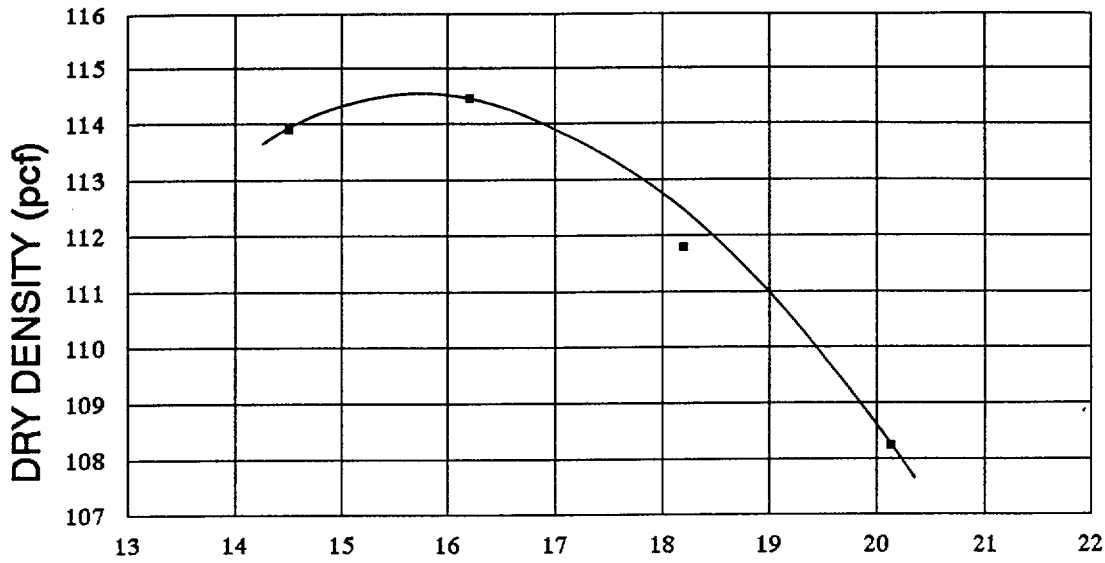
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor #35	15.8	114.7	32	15	0	52	48			Clayey Sand
1-pt. Density Test RB-298, RB-ATT-60, RB-200-187			35	17	0	48	52	18.1	112.0	#25, Sandy Lean Clay
RB-200-186					0	51	49			Clayey Sand
RB-200-188					0	54	46			Clayey Sand
RB-200-189					0	45	55			Sandy Lean Clay
RF-ATT-10, RF-200-10			NV	NP	0	77	23			Silty Sand
Proctor #36	14.3	116.9	NV	NP	0	65	35			Silty Sand
1-pt. Density Test RB-307, RB-ATT-61, RB-200-192			33	15	0	43	57	16.9	113.0	#16, Sandy Lean Clay
RB-200-190					0	42	58			Sandy Lean Clay
RB-200-191					0	49	51			Sandy Lean Clay
RF-ATT-11, RF-200-11			33	15	0	60	40			Clayey Sand
RF-200-12					0	25	75			Lean Clay with Sand
Proctor	2	ea								
1 pt	2	ea								
Att	4	ea								
-200	10	ea								

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 114.7 pcf OPTIMUM WATER CONTENT: 15.8%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	52
FINES (SILT AND CLAY)	48

ATTERBERG LIMITS

LIQUID LIMIT	32
PLASTICITY INDEX	15

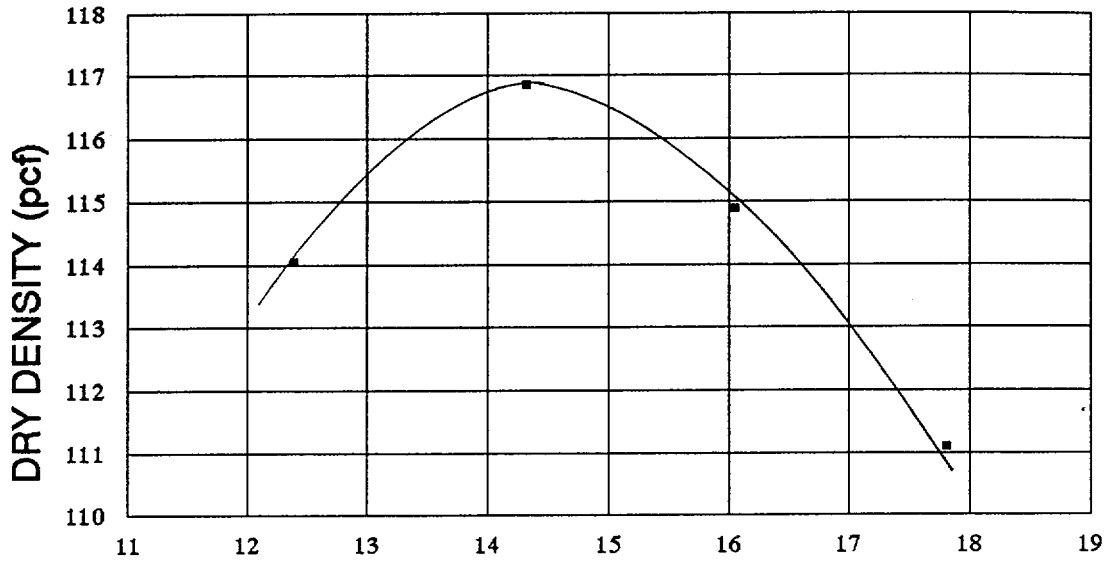
SAMPLE IDENTIFICATION:
Proctor No. 35

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 35

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 116.9 pcf OPTIMUM WATER CONTENT: 14.3%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	65
FINES (SILT AND CLAY)	35

ATTERBERG LIMITS

LIQUID LIMIT	NV
PLASTICITY INDEX	NP

SAMPLE IDENTIFICATION:
Proctor No. 36

SOIL CLASSIFICATION:
Silty Sand (SM)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 36

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: October 8, 1998
JOB NO.: 9851711
SHEET 1 **OF** 10

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

WEEK 25

PROJECT REPORT

DAILY REPORT NO. 97 - Billy Ray, Field Engineer - 12.0 Hours
September 28, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of the radon barrier and random fill. Five scrapers placed radon barrier on top of the ridge (south) with material from the W-8 borrow area until it was filled to final grade. Those scrapers then placed random fill in Pond #2 until the end of the shift. Two scrapers placed both random fill and radon barrier on the slope of the chute approach with material from the W-8 borrow area. A layer of clay was discovered in the diversion channel cut near the fill in Pond #3. That clay was used as radon barrier on the ridge instead of the longer haul from the W-8 borrow area. Four scrapers placed radon barrier and random fill in Pond #3 with material from the diversion channel. The cut in the diversion channel was scarified and watered in an attempt to pre-condition the soil.

Six nuclear method moisture-density tests (Nos. RB-309 through RB-314) were performed on the radon barrier placed this shift. All tests except test No. RB-314, met the project specifications. Test No. RB-314 failed due to low density. Mr. John Smith (Carr) was notified and the area will be retested on 9-29-98 after the area is re-rolled. Nuclear tests No. RF-16 and RF-17 were performed on the random fill placed this shift. Both tests met the project specifications. All test results and locations are presented on the attached summary sheet.

Standard Proctor No. 37 was performed. Samples RB-200-193, RB-200-194, RB-200-195, RB-200-196, RF-ATT-12, RF-200-13 and RF-200-14 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 98 - Billy Ray, Field Engineer - 12.0 Hours
September 29, 1998

6:00 am to 6:30 pm - Carr Construction continued placement of the radon barrier and the random fill. Two scrapers placed radon barrier to the contours along the top of the ridge and to the swale with material from the W-8 borrow area. Four scrapers placed both radon barrier and random fill along the ridge and Pond #3 with material from the diversion channel. The clay was placed in the ridge and the sand next to it. Three scrapers placed random fill on the 10:1 slope next to the ridge in Pond #3 with material from the W-8 borrow area. Several boulders were showing up in the random fill. Carr was asked to remove the rock and place it in the designated waste areas in the W-8 borrow area and south of the diversion channel. One scraper placed topsoil directly from the area of the new haul road to the slope east of the diversion channel.

Nuclear method moisture-density retest No. RB-314A and density tests RB-315 through RB-319 were performed. Tests No. RB-315 and RB-318 did not meet the project specifications. The failed areas were re-worked and re-tested as tests No. RB-315A and RB-318A, which passed. The remainder of the radon barrier tests met the project specifications. Tests No. RF-8 through RF-21 were performed on the random fill placed this shift. Test No. RF-19 failed and was retested as test No. RF-19A which passed as did the rest of the random fill tests. All test locations and results are presented on the attached summary sheet.

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC & OURSELVES, ALL REPORTS ARE SUBMITTED AS CONFIDENTIAL PROPERTY OF OUR CLIENTS & AUTHORIZATION FOR PUBLICATION OF STATEMENTS. CONCLUSIONS/EXTRACTS FROM OR REGARDING OUR REPORTS ARE RESERVED PENDING OUR WRITTEN APPROVAL. SAMPLES WILL BE DISPOSED OF AFTER TESTING IS COMPLETED UNLESS OTHER ARRANGEMENTS ARE AGREED TO IN WRITING.

A one-point Proctor was performed for test No. RF-18 along with property tests RF-ATT-13 and RF-200-15. Samples RB-ATT-62, RB-200-197, RB-198, RB-200-199, RB-200-200 and RF-200-16 were also collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 99 - Billy Ray, Field Engineer - 12.0 Hours
September 30, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the radon barrier and the random fill. It was a cool and cloudy day and that enabled the water trucks to concentrate on the fill. Four scrapers placed radon barrier on the south ridge with clay from the diversion channel, and placed random fill in Pond #3 with sand from the diversion channel. Five scrapers placed random fill in Pond #2 on the 10:1 slope with material from the W-8 borrow area. Two scrapers placed radon barrier to the final contours between the swale and the ridge. Several rocks from the W-8 borrow area were placed as random fill and Mr. John Smith (Carr) was asked to remove them and place them in the waste area in the W-8 borrow area.

Nuclear method moisture-density tests No. RB-320 through RB-324 were performed. Tests No. RB-320 and RB-322 failed. Each failed area was re-worked and retests No. RB-320A and RB-322A were performed and passed. Tests No. RB-321, RB-323 and RB-324 all passed as well. Tests RF-22, RF-23 and RF-24 were performed on the random fill this shift. All three tests passed. All test locations and results are presented on the attached summary sheet.

Proctor No. 38 and a one-point Proctor for Test No. RB-322 along with property tests RB-ATT-63 and RB-200-203 were performed. Samples RB-200-201, RB-200-202, RB-200-204, RF-ATT-14, RF-200-17 and RF-200-18 were collected for laboratory analysis. Laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 100 - Billy Ray, Field Engineer - 12.0 Hours
October 1, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the radon barrier and the random fill. Four scrapers placed material from the diversion channel into Pond #3 with the clay going as radon barrier and the sand as random fill. Two scrapers placed radon barrier on top of the ridge (north) to the final grade with material from the W-8 borrow area, they also placed occasional loads as random fill in Pond #2. Four scrapers placed random fill in Pond #2 along the 10:1 slope with material from the W-8 borrow area. In the afternoon two scrapers cut material from the road and the chute intersection and placed it as "X" fill in place of what could have been tailings in the hole of the ridge that was left for access. The "X" fill was watered, rolled but not tested.

Nuclear method moisture-density tests No. RB-325 through RB-328 were performed on the radon barrier placed this shift. Only test No. RB-325 failed and that area was reworked and retested as test No. RB-325A which passed. Tests No. RF-26 through RF-27 were performed on the random fill placed this shift. All three tests met the project specifications. All test locations and results are presented on the attached summary sheet.

Proctor No. 39 and a one-point Proctor for Test No. RB-328 along with property tests RB-ATT-64 and RB-200-207 were performed. Samples RB-200-205, RB-200-206, RF-ATT-15, RF-200-19 and RF-200-20 were collected for laboratory analysis. Laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 101 - Billy Ray, Field Engineer - 12.0 Hours
October 2, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the radon barrier and the random fill. The remainder of the "X" fill was placed as the area was brought to the bottom of the radon barrier elevation. The material from the channel proved to be clay with a high percentage of minus #200 content so it was used as radon barrier along the ridge, and the "X" fill was completed with rejected material from the W-8 borrow area. Two scrapers started the placement of the radon barrier on top of the "X" fill. Five scrapers placed both random fill and radon barrier with material from the diversion channel. The clay was placed on the ridge and the sand was placed in Pond #3. Four scrapers placed random fill on the 10:1 slope in Pond #2 with material from the W-8 borrow area. At the end of the shift all random fill work areas were

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cleared for placement as Carr plans on working a small crew on Saturday (10-3-98) placing random fill. A blade and an occasional scraper worked on regrading the face of the dam in advance of the placement of the rock.
Nuclear method moisture-density tests No. RB-329 through RB-333 and tests No. RF-28 through RF-30 were performed on the radon barrier and random fill. All tests met the project specifications. All test locations and results are presented on the attached summary sheet.

A one-point Proctor for Test No. RB-332 was performed along with property tests RB-ATT-65 and RB-200-211. Samples RB-200-208, RB-200-209, RB-200-210, RF-ATT-16, RF-200-21, RF-200-22 and RF-200-23 were collected for laboratory analysis. Laboratory test results are presented on Table I, attached.

Reviewed By: _____
Kenneth E. Temme, P.E.
Wyoming Division Manager

cc: Bob Coppin

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC & OURSELVES, ALL REPORTS ARE SUBMITTED AS CONFIDENTIAL PROPERTY OF OUR CLIENTS & AUTHORIZATION FOR PUBLICATION OF STATEMENTS. CONCLUSIONS/EXTRACTS FROM OR REGARDING OUR REPORTS ARE RESERVED PENDING OUR WRITTEN APPROVAL. SAMPLES WILL BE DISPOSED OF AFTER TESTING IS COMPLETED UNLESS OTHER ARRANGEMENTS ARE AGREED TO IN WRITING.

Bear Creek Uranium
Job No. 9851711
Sheet 5 of 10

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
9-28-98	RB-309	14.2	109.1	15.8	114.2	95	#35, Clayey Sand
Location:	Dam axis, Sta. 13+50, 15' south of existing ridge; 13th lift						
9-28-98	RB-310	17.8	109.8	15.8	114.7	96	#35, Clayey Sand
Location:	Swale axis, Sta. 4+20, 65' right of centerline; El = 5163.5						
9-28-98	RB-311	14.6	110.2	15.8	114.7	96	#35, Clayey Sand
Location:	Dam axis, sta. 2+70, 15' south of existing ridge; 6th lift						
9-28-98	RB-312	16.9	108.4	15.8	114.7	95	#35, Clayey Sand
Location:	Swale axis, Sta. 6+30, 60' right of centerline; El = 5164.5						
9-28-98	RB-313	19.5	107.1	19.9	108.0	99	#37, Lean Clay
Location:	Dam axis, Sta. 1+50, 20' south of existing ridge; 8th lift						
9-28-98	RB-314	19.0	100.2	19.9	108.0	(93)	#37, Lean Clay
Location:	Diversion Channel axis, Sta. 30+00, 15' south of existing ridge; 10th lift						
9-29-98	RB-314A	16.2	108.7	15.8	114.7	95	#37, Lean Clay
Location:	Diversion Channel axis, Sta. 30+00, 15' south of existing ridge; 10th lift **RETEST OF TEST NO. RB-314**						
9-29-98	RB-315	14.8	100.3	15.8	114.7	(88)	#35, Clayey Sand
Location:	Dam axis, Sta. 11+20, 11' south of existing ridge; 14th lift						
9-29-98	RB-316	17.7	104.9	17.8	110.0	95	#27, Sandy Lean Clay
Location:	Dam axis, Sta. 0+50, 15' south of existing ridge; 11th lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 10

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
9-29-98	RB-315A	16.4	110.4	15.8	114.7	96	#35, Clayey Sand
Location:	Dam axis, Sta. 11+20, 11' south of existing ridge; 14th lift **RETEST OF TEST NO. RB-315**						
9-29-98	RB-317	20.0	104.3	19.9	108.0	97	#37, Lean Clay
Location:	Dam axis, Sta. 7+30, 10' south of existing ridge; 15th lift						
9-29-98	RB-318	(23.4)	100.2	17.8	110.8	(90)	#27, Sandy Lean Clay
Location:	Diversion Channel axis, Sta. 27+50, 5' south of existing ridge; 13th lift						
9-29-98	RB-318A	16.0	106.6	17.8	110.8	96	#27, Sandy Lean Clay
Location:	Diversion Channel axis, Sta. 27+50, 5' south of existing ridge; 13th lift **RETEST OF TEST NO. RB-318**						
9-29-98	RB-319	15.5	111.1	15.8	114.7	97	#35, Clayey Sand
Location:	Dam axis, Sta. 16+60, 11' south of contour line 5167.0; El = 5167.0						
9-30-9-8	RB-320	(16.8)	102.7	19.9	108.0	95	#37, Lean Clay
Location:	Dam axis, Sta. 13+10, 15' south of existing ridge; 16th lift						
9-30-98	RB-320A	18.4	105.5	19.9	108.0	98	#37, Lean Clay
Location:	Dam axis, Sta. 13+10, 15' south of existing ridge; 16th lift **RETEST OF TEST NO. RB-320**						
9-30-98	RB-321	17.2	107.7	16.9	112.6	96	#38, Clayey Sand
Location:	Diversion Channel axis, Sta. 27+55, 10' south of existing ridge; 15th lift						
9-30-98	RB-322	15.5	102.2	16.9	112.6	(91)	#38, Clayey Sand
Location:	Swale axis, Sta. 8+15, 8' north of contour line 5168.0; El = 5167.0						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 10

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
9-30-98	RB-322A (5)	16.8	109.8	16.9	112.6	98	#38, Clayey Sand
Location:	Swale axis, Sta. 8+15, 8' north of contour line 5168.0; El = 5167.0 **RETEST OF TEST NO. RB-322**						
9-30-98	RB-323 (15)	20.9	104.0	19.9	108.0	96	#37, Lean Clay
Location:	Diversion Channel axis, Sta. 29+10, 5' south of existing ridge; 16th lift						
9-30-98	RB-324 (16)	21.0	104.0	19.9	108.0	96	#37, Lean Clay
Location:	Dam axis, Sta. 9+30, 20' south of existing ridge; 17th lift						
10-1-98	RB-325 (17)	13.6	105.4	16.9	112.6	(94)	#38, Clayey Sand
Location:	Dam axis, Sta. 12+70, 20' south of existing ridge; 18th lift						
10-1-98	RB-326 (18)	22.8	102.4	19.9	108.0	95	#37, Lean Clay
Location:	Diversion Channel axis, Sta. 27+50, 15' south of existing ridge; 18th lift						
10-1-98	RB-325A (6)	19.2	106.8	16.9	112.6	95	#38, Clayey Sand
Location:	Dam axis, Sta. 12+70, 20' south of existing ridge; 18th lift **RETEST OF TEST NO. RB-325**						
10-1-98	RB-327 (19)	14.5	112.1	14.4	117.1	96	#32, Clayey Sand
Location:	Swale axis, Sta. 10+10, 10' north of contour line 5168.0; El = 5167.0						
10-1-98	RB-328 (20)	12.3	113.4	14.4	117.1	97	#32, Clayey Sand
Location:	Dam axis, Sta. 9+50, 20' south of existing ridge; 19th lift						
10-2-98	RB-329 (21)	16.3	107.2	18.1	108.7	99	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 3+20, 10' south of existing ridge; 21st lift						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 8 of 10

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
10-2-98	RB-330	15.5	111.9	14.4	117.1	96	#32, Clayey Sand
Location:	Dam axis, Sta. 8+20, 15' south of existing ridge; 20th lift						
10-2-98	RB-331	17.1	106.1	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 17+50, 35' north of ridge line; 2nd lift						
10-2-98	RB-332	14.5	111.3	14.4	117.1	95	#32, Clayey Sand
Location:	Dam axis, Sta. 7+70, 10' south of existing ridge; 21st lift						
10-2-98	RB-333	16.8	110.8	14.4	117.1	95	#32, Clayey Sand
Location:	Dam axis, Sta. 16+50, 20' north of ridge line; 3rd lift						

RB Tests 25

Re Test 6

Bear Creek Uranium
Job No. 9851711
Sheet 9 of 10

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL - 90% Compaction Required							
9-28-98	1 RF-16	13.3	107.8	15.8	114.7	94	#35, Clayey Sand
Location:	Diversion Channel axis, Sta. 30+00, 65' south of existing ridge; 5th lift						
9-28-98	2 RF-17	20.4	102.7	19.9	108.0	95	#37, Lean Clay
Location:	Dam axis, Sta. 10+30, 75' south of ridge; 3rd lift						
9-29-98	3 RF-18	15.6	108.7	15.8	114.7	95	#35, Clayey Sand
Location:	Swale axis, Sta. 8+00, 15' south of contour line 5168; El = 5164.5						
9-29-98	4 RF-19	13.7	108.5	15.8	114.7	95	#35, Clayey Sand
Location:	Dam axis, Sta. 20+50, 10' south of contour line 5168; El = 5164.5						
9-29-98	RF-19A	18.3	107.6	15.8	114.7	94	#35, Clayey Sand
Location:	Dam axis, Sta. 20+50, 10' south of contour line 5168; El = 5164.5 **RETEST OF TEST NO. RF-19**						
9-29-98	5 RF-20	16.5	106.4	15.8	114.7	93	#35, Clayey Sand
Location:	Swale axis, Sta. 7+30, 45' south of contour line 5168; El = 5164.0						
9-29-98	6 RF-21	14.8	110.6	15.8	114.7	96	#35, Clayey Sand
Location:	Dam axis, Sta. 8+45, 40' south of ridge; 6th lift						
9-30-98	7 RF-22	13.0	111.3	14.3	116.9	95	#36, Silty Sand
Location:	Swale axis, St. 4+30, 35' north of contour line 5159.0; El = 5162.0						
9-30-98:	8 RF-23	15.3	107.9	14.3	116.9	92	#36, Silty Sand
Location:	Swale axis, Sta. 7+15, 60' north of contour line 5159.0; El = 5163.0						
9-30-98	9 RF-24	15.6	107.0	14.3	116.9	92	#36, Silty Sand
Location:	Dam axis, Sta. 21+30, 10' north of contour line 5155.0; El = 5155.0						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 10 of 10

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL - 90% Compaction Required							
10-1-98	RF-25 (10)	16.5	108.3	14.4	117.1	93	#32, Clayey Sand
Location:	Dam axis, Sta. 20+30, 90' south of existing ridge; 4th lift						
10-1-98	RF-26 (11)	16.5	106.2	14.4	117.1	91	#32, Clayey Sand
Location:	Swale axis, Sta. 6+10, 25' south of contour line 5168.0; EL = 5165.5						
10-1-98	RF-27 (12)	15.6	109.7	14.4	117.1	94	#32, Clayey Sand
Location:	Dam axis, Sta. 13+15, 55' south of existing ridge; 7th lift						
10-2-98	RF-28 (13)	15.0	109.9	14.4	117.1	94	#32, Clayey Sand
Location:	Dam axis, Sta. 4+75, 95' south of existing ridge; 1st lift						
10-2-98	RF-29 (14)	13.5	111.2	14.4	117.1	95	#32, Clayey Sand
Location:	Dam axis, Sta. 19+50, 25' north of contour line 5154.5; El = 5154.0						
10-2-98	RF-30 (15)	11.4	111.8	14.4	117.1	96	#32, Clayey Sand
Location:	Dam axis, Sta. 20+70, 15' south of contour line 5158.0'; El = 5157.5						

RF Density Test 15

Retest 1

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor #37	19.9	108.0	39	19	0	11	89			Lean Clay
RB-200-193					0	54	46			Clayey Sand
RB-200-194					0	30	70			Sandy Lean Clay
RB-200-195					0	60	40			Clayey Sand
RB-200-196					0	11	89			Lean Clay
RF-ATT-12, RF-200-13			25	7	0	70	30			Sandy, Silty Clay
RF-200-14					0	20	80			Lean Clay with Sand
1-pt. Density Test RF-18, RF-ATT-13, RF-200-15			33	16	0	54	46	15.6	112.8	#35, Clayey Sand
RB-ATT-62			33	16						Clayey Sand
RB-200-197					0	36	64			Sandy Lean Clay
RB-200-198					0	37	63			Sandy Lean Clay
RB-200-199					0	15	85			Lean Clay with Sand
RB-200-200					0	47	53			Sandy Lean Clay
RF-200-16					0	51	49			Clayey Sand
Proctor #38	16.9	112.6	34	17	0	51	49			Clayey Sand
1-pt. Density Test RB-322, RB-ATT-63, RB-200-203			33	17	0	54	46	15.3	115.4	#35, Clayey Sand
RB-200-201					0	38	62			Sandy Lean Clay
RB-200-202					0	45	55			Sandy Lean Clay
RB-200-204					0	8	92			Lean Clay
RF-ATT-14, RF-200-17			30	13	0	64	36			Clayey Sand
RF-200-18					0	62	38			Clayey Sand

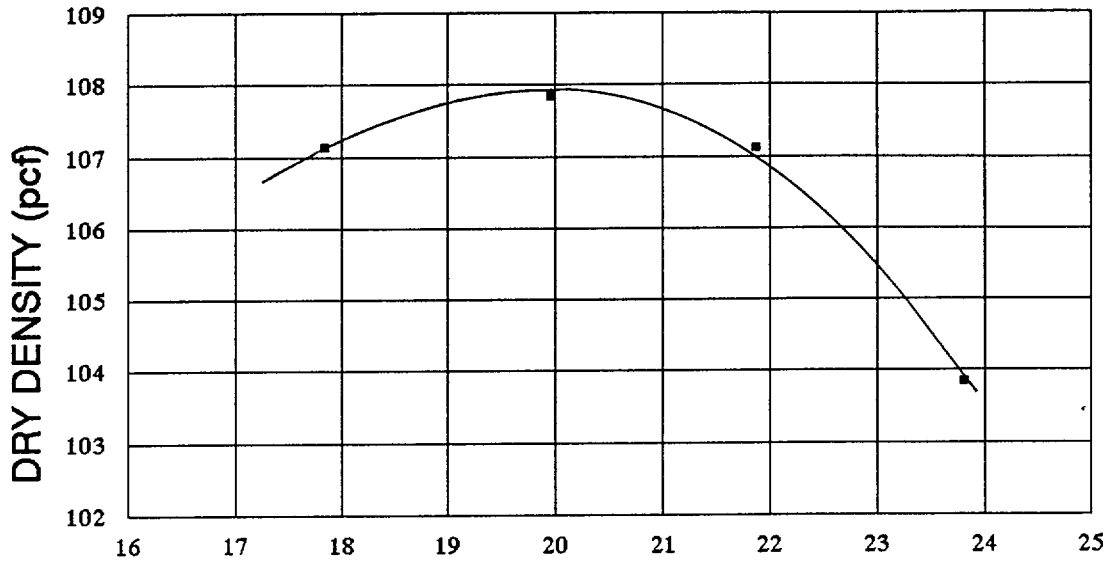
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
3 Proctor #39	25.1	99.8	50	23	0	12	88			Fat Clay
3 1-pt. Density Test RB-328, RB-ATT-64, RB-200-207 (19)			30	14	0	65	35	12.0	112.7	#32, Clayey Sand
RB-200-205 (20)					0	58	42			Clayey Sand
RB-200-206 (21)					0	56	44			Clayey Sand
RF-ATT-15, RF-200-19 (22)			31	15	0	50	50			Sandy Lean Clay
RF-200-20 (23)					0	54	46			Clayey Sand
4 1-pt. Density Test RB-332, RB-ATT-65, RB-200-211 (24)			33	16	0	60	40	14.9	117.1	#32, Clayey Sand
RB-200-208 (25)					0	45	55			Sandy Lean Clay
RB-200-209 (26)					0	48	52			Sandy Lean Clay
RB-200-210 (27)					0	12	88			Lean Clay
RF-ATT-16, RF-200-21 (28)			31	10	0	58	42			Clayey Sand
RF-200-22 (29)					0	56	44			Clayey Sand
RF-200-23 (30)					0	62	38			Clayey Sand
Proctor Tests	3	ea								
1 PT	4	ea								
ATT	9	ea								
-200	20	ea								

MOISTURE – DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 108.0 pcf OPTIMUM WATER CONTENT: 19.9%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	11
FINES (SILT AND CLAY)	89

ATTERBERG LIMITS

LIQUID LIMIT	39
PLASTICITY INDEX	19

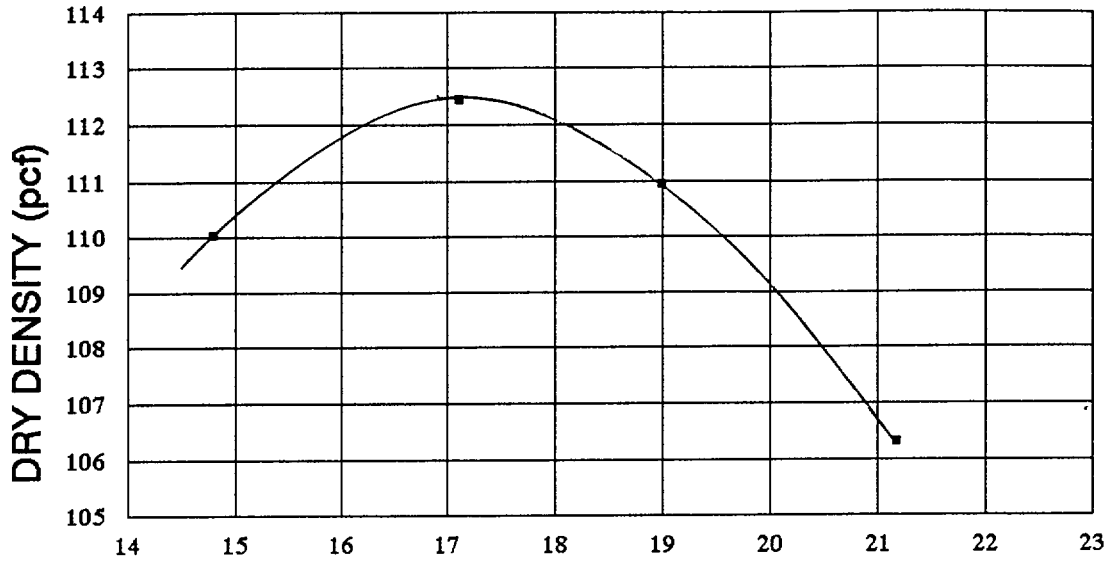
SAMPLE IDENTIFICATION:
Proctor No. 37

SOIL CLASSIFICATION:
Lean Clay (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 37

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 112.6 pcf OPTIMUM WATER CONTENT: 16.9%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	51
FINES (SILT AND CLAY)	49

ATTERBERG LIMITS

LIQUID LIMIT	34
PLASTICITY INDEX	17

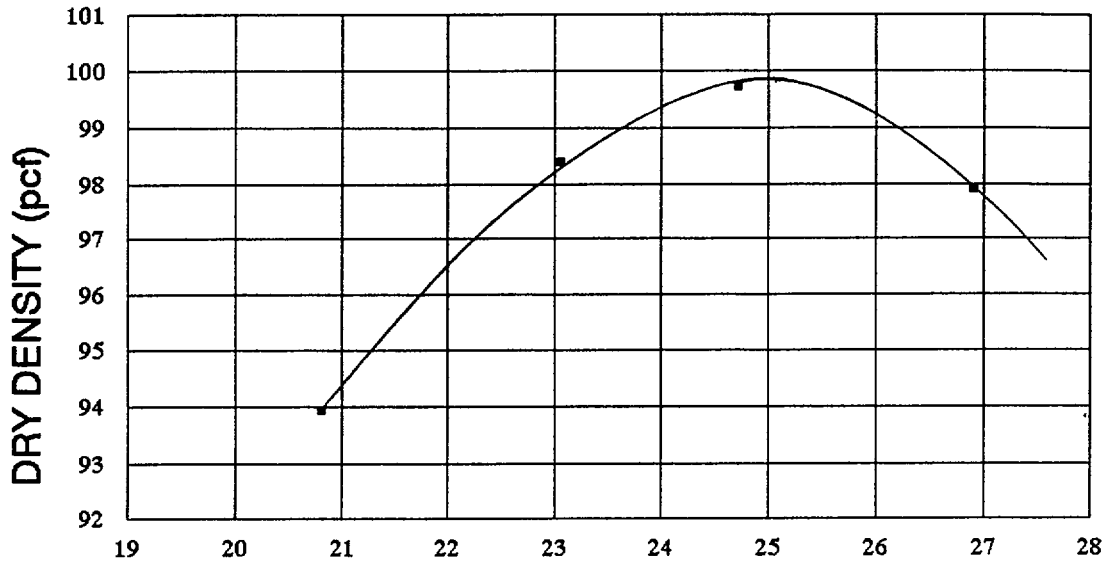
SAMPLE IDENTIFICATION:
Proctor No. 38

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 38

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 99.8 pcf OPTIMUM WATER CONTENT: 25.1%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	12
FINES (SILT AND CLAY)	88

ATTERBERG LIMITS	
LIQUID LIMIT	50
PLASTICITY INDEX	23

SAMPLE IDENTIFICATION:
Proctor No. 39

SOIL CLASSIFICATION:
Fat Clay (CH)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 39

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: October 13, 1998
JOB NO.: 9851711
SHEET 1 **OF** 7

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

WEEK 26

PROJECT REPORT

WED **DAILY REPORT NO. 102 - Billy Ray, Field Engineer - 12.0 Hours**
October 7, 1998

6:00 am to 6:30 pm - Today was the first day of construction since 10-3-98, as the site finally dried enough to place both radon barrier and the random fill. A 6-inch lift was placed on the haul road in an effort to dry the work areas. The ridge line dried quickly as it was graded for positive drainage on Saturday. Five scrapers placed radon barrier along the ridge with material borrowed from the diversion channel and the W-8 borrow area. Six scrapers placed random fill along the 10:1 slope in Pond #2. The standing water in Pond #2 was bladed and rolled ahead of the placement of random fill. Once a visual inspection determined that the soft areas were firm, placement of the random fill was allowed to continue. The radon barrier on top of the "X" fill was still too wet to place fill. The area was scarified and allowed to air dry.

Five nuclear method moisture-density tests (Nos. RB-334 through RB-338) were performed on the radon barrier placed this shift. Test No. RB-335 failed due to a lack of moisture. The failed area was reconditioned and retested as Test No. RB-335A, which passed. A sand cone test, No. RB-337(SC), was performed. Tests RF-31, RF-32 and RF-33 were performed on the random fill placed this shift, all of which passed. All test results and locations are presented on the attached summary sheet.

Standard Proctor No. 40 was performed. A one-point Proctor was performed for density Test No. RB-336 along with property tests RB-ATT-66 and RB-200-214. Samples RB-200-212, RB-200-213, RB-200-215, RF-ATT-17, RF-200-24, RF-200-25 and RF-200-26 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

THUR **DAILY REPORT NO. 103 - Billy Ray, Field Engineer - 12.0 Hours**
October 8, 1998

6:00 am to 6:30 pm - Carr Construction continued placement of the radon barrier and the random fill. Some more wet spots were dried with the blade and then rolled with the 50-ton truck. Two scrapers placed radon barrier on top of the "X" fill where the access ramp was with clay from the chute. Five scrapers placed both radon barrier and random fill along the ridge and in Pond #3, with radon barrier material obtained from the diversion channel and the random fill from the W-8 borrow area. Six scrapers placed random fill in Pond #2 with material from the W-8 borrow area. A blade and an occasional scraper filled in the 10:1 slope in Pond #2.

Nuclear method moisture-density tests No. RB-339 through RB-344 were performed. Tests No. RB-342 failed and was reworked and retested as test No. RB-342A which passed. Tests No. RF-34 through RF-37 were performed on the random fill placed this shift and all tests met project specifications. All test locations and results are presented on the attached summary sheet.

Standard Proctor No. 41 was performed. A one-point was performed for density test No. RF-36 along with property tests RF-ATT-19 and RF-200-29. Samples RB-ATT-66, RB-200-216, RB-200-217, RB-ATT-67,

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC & OURSELVES, ALL REPORTS ARE SUBMITTED AS CONFIDENTIAL PROPERTY OF OUR CLIENTS & AUTHORIZATION FOR PUBLICATION OF STATEMENTS. CONCLUSIONS/EXTRACTS FROM OR REGARDING OUR REPORTS ARE RESERVED PENDING OUR WRITTEN APPROVAL. SAMPLES WILL BE DISPOSED OF AFTER TESTING IS COMPLETED UNLESS OTHER ARRANGEMENTS ARE AGREED TO IN WRITING.

Bear Creek Uranium
Job No. 9851711
Sheet 4 of 7

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
10-7-98	RB-334	17.5	108.0	18.1	108.7	99	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 3+10, 15' south of existing ridge; 22nd lift						
10-7-98	RB-335	(14,4)	110.2	18.1	108.7	100+	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 9+70, 10' south of existing ridge; 23rd lift						
10-7-98	RB-336	15.1	110.2	16.9	112.6	98	#38, Clayey Sand
Location:	Dam axis, Sta. 7+65, 15' south of existing ridge; 24th lift						
10-7-98	RB-337	17.3	108.6	16.9	112.6	96	#38, Clayey Sand
Location:	Dam axis, Sta. 2+25, 10' south of existing ridge; 24th lift						
10-7-98	RB-337(SC)	17.3	109.0	16.9	112.6	97	#38, Clayey Sand
Location:	Dam axis, Sta. 2+25, 10' south of existing ridge; 24th lift						
10-7-98	RB-338	17.8	107.2	16.9	112.6	95	#38, Clayey Sand
Location:	Dam axis, Sta. 2+00, 15' south of existing ridge; 25th lift						
10-7-98	RB-335A	17.9	106.7	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 9+70, 10' south of existing ridge; 23rd lift **RETEST OF TEST NO. RB-335**						
10-8-98	RB-339	14.6	112.9	14.7	118.0	96	#41, Clayey Sand
Location:	Dam axis, Sta. 12+20, 10' south of existing ridge; 26th lift						
10-8-98	RB-340	16.8	111.8	14.7	118.0	95	#41, Clayey Sand
Location:	Dam axis, Sta. 14+10, 5' south of existing ridge; 28th lift						
10-8-98	RB-341	17.3	104.9	18.7	109.6	96	#40, Lean Clay w/Sand
Location:	Diversion Channel axis, Sta. 19+10, 15' south of existing ridge; 27th lift						

( ) Failed to meet project requirements.

TEST RESULTS:		----------FIELD----------		------LABORATORY------			
Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
10-8-98	RB-342	(21.8)	99.4	18.7	109.6	(91)	#40, Lean Clay w/Sand
Location:	Dam axis, Sta. 17+00, 55' north of ridge line; 3rd lift						
10-8-98	RB-342A	16.8	107.8	18.7	109.6	98	#40, Lean Clay w/Sand
Location:	Dam axis, Sta. 17+00, 55' north of ridge line; 3rd lift **RETEST OF TEST NO. RB-342**						
10-8-98	RB-343	17.5	108.9	18.7	109.6	99	#40, Lean Clay w/Sand
Location:	Dam axis, Sta. 7+30, 15' south of existing ridge; 29th lift						
10-8-98	RB-344	19.0	106.1	19.9	108.0	98	#37, Lean Clay
Location:	Diversion Channel axis, Sta. 18+20, 15' south of existing ridge; 29th lift						
10-9-98	RB-345	18.7	107.8	18.7	109.6	98	#40, Lean Clay w/Sand
Location:	Dam axis, Sta. 6+30, 10' north of existing ridge; 30th lift						
10-9-98	RB-346	17.9	108.1	18.1	108.7	99	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 1+50, 10' south of existing ridge; 31st lift						
10-9-98	RB-347	15.5	111.7	14.7	118.0	95	#41, Clayey Sand
Location:	Dam axis, Sta. 16+70, 15' south of existing ridge; 3rd lift						
10-9-98	RB-348	16.0	113.7	14.7	118.0	96	#41, Clayey Sand
Location:	Dam axis, Sta. 17+30, 60' north of ridge line; 4th lift						
10-9-98	RB-349	(12.5)	117.2	14.7	118.0	99	#41, Clayey Sand
Location:	Dam axis, Sta. 11+20, 15' north of ridge line; 32nd lift						
10-9-98	RB-350	18.3	107.4	18.7	109.6	98	#40, Lean Clay w/Sand
Location;	Diversion Channel axis, Sta. 23+20, 15' south of ridge; 32nd lift						

( ) Failed to meet project requirements.

TEST RESULTS:		----------FIELD----------		------LABORATORY------			
Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
10-9-98	RB-349A	14.5	115.1	14.7	118.0	97	#41, Clayey Sand
Location:	Dam axis, Sta. 11+20, 15' north of ridge line; 32nd lift **RETEST OF TEST NO. RB-349**						
10-9-98	RB-351	20.1	105.2	18.7	109.6	96	#40, Lean Clay w/Sand
Location:	Dam axis, Sta. 15+50, 20' north of ridge line; 4th lift						
10-10-98	RB-352	16.7	108.1	18.7	109.6	99	#40, Lean Clay w/Sand
Location:	Diversion Channel axis, Sta. 23+70, 10' south of existing ridge; 33rd lift						
10-10-98	RB-353	17.1	107.9	18.7	109.6	98	#40, Lean Clay w/Sand
Location:	Dam axis, Sta. 17+00, 105' north of ridge; 5th lift						
10-10-98	RB-354	17.1	109.3	18.7	109.6	100	#40, Lean Clay w/Sand
Location:	Dam axis, Sta. 16+10, 125' north of ridge; 6th lift						
Radon Barrier Density Tests 21 Retest 3 ea SC = 1 ea							
RANDOM FILL - 90% Compaction Required							
10-7-98	RF-31	15.4	109.9	16.9	112.6	98	#38, Clayey Sand
Location:	Dam axis, Sta. 19+20, 5' north of contour line 5156.0; El = 5156.0						
10-7-98	RF-32	19.1	105.0	16.9	112.6	93	#38, Clayey Sand
Location:	Dam axis, Sta. 18+10, 65' south of contour line 5154.5' El = 5154.0						
10-7-98	RF-33	17.7	106.7	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 19+70, 110' south of contour line 5154.5; El = 5154.0						
10-8-98	RF-34	15.0	109.2	14.7	118.0	93	#41, Clayey Sand
Location:	Dam axis, Sta. 20+75, 40' north of contour line 5159.0; El = 5160.0						

Bear Creek Uranium
Job No. 9851711
Sheet 7 of 7

TEST RESULTS:

Test Date	Test Number	----FIELD---- Moisture Content (%)	Dry Density (p.c.f.)	----LABORATORY---- Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL - 90% Compaction Required							
10-8-98	RF-35	15.6	108.0	14.7	118.0	92	#41, Clayey Sand
Location:	Dam axis, Sta. 6+50, 10' south of contour line 5159.0; 2nd lift						
10-8-98	RF-36	14.7	109.2	14.7	118.0	93	#41, Clayey Sand
Location:	Dam axis, Sta. 20+00, 70' north of contour line 5159.0; El = 5161.0						
10-8-98	RF-37	16.2	111.0	14.7	118.0	94	#41, Clayey Sand
Location:	Dam axis, Sta. 17+50, 30' south of contour line 5154.5; El = 5154.5						
10-9-98	RF-38	15.5	117.3	14.7	118.0	99	#41, Clayey Sand
Location:	Dam axis, Sta. 19+75, 85' south of contour line 5154.0; El = 5154.0						
10-9-98	RF-39	16.2	110.8	14.7	118.0	94	#41, Clayey Sand
Location:	Dam axis, Sta. 18+50, 5' south of contour line 5168.0; El = 5166.5						
10-9-98	RF-40	15.9	109.1	14.7	118.0	93	#41, Clayey Sand
Location:	Dam axis, Sta. 16+10, 35' south of existing toe of ridge; 2nd lift						
10-10-98	RF-41	15.5	105.2	18.7	109.6	96	#40, Lean Clay w/Sand
Location:	Dam axis, Sta. 15+00, 65' south of ridge; final grade						
10-10-98	RF-42	18.7	108.4	18.7	109.6	99	#40, Lean Clay w/Sand
Location:	dam axis, Sta. 10+20, 95' south of ridge; 4th lift						

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Proctor #40	18.7	109.6	40	21	0	21	79			Lean Clay with Sand
1-pt. Density Test RB-336, RB-ATT-66, RB-200-214			32	16	0	53	47	14.2	112.7	#38, Clayey Sand
RB-200-212					0	35	65			Sandy Lean Clay
RB-200-213					0	53	47			Clayey Sand
RB-200-215					0	35	65			Sandy Lean Clay
RF-200-24					0	58	42			Clayey Sand
RF-ATT-17, RF-200-25			33	17	0	54	46			Clayey Sand
RF-200-26					0	46	54			Sandy Lean Clay
Proctor #41	14.7	118.0	30	13	0	65	35			Clayey Sand
1-pt. Density Test RF-36, RF-ATT-19, RF-200-29			31	15	0	58	42	14.8	116.9	#41, Clayey Sand
RB-ATT-66, RB-200-216			31	15	0	58	42			Clayey Sand
RB-200-217					0	1	99			Lean Clay
RB-ATT-67, RB-200-218			43	24	0	14	86			Lean Clay
RB-200-219					0	16	84			Lean Clay with Sand
RF-ATT-18, RF-200-27			30	13	0	60	40			Clayey Sand
RF-200-28					0	66	34			Clayey Sand
1-pt. Density Test RB-349, RB-ATT-69, RB-200-223			31	14	0	55	45	11.1	111.3	#41, Clayey Sand
RB-ATT-68, RB-200-220			37	21	0	43	57			Sandy Lean Clay
RB-200-221					0	57	43			Clayey Sand
RB-200-222					0	21	79			Lean Clay with Sand
RB-200-224					0	27	73			Lean Clay with Sand

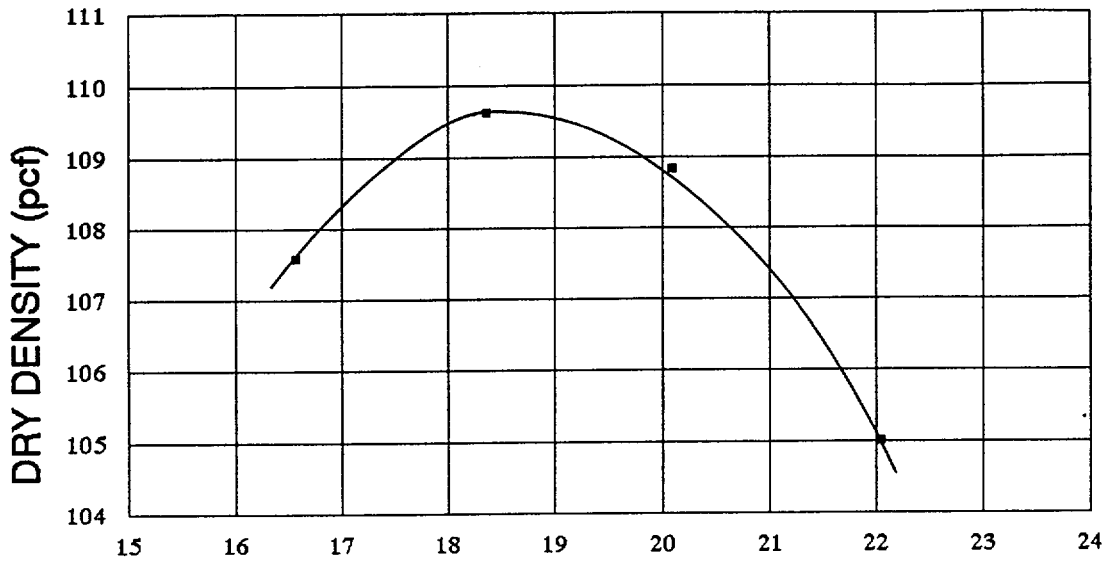
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
RF-ATT-20, RF-200-30			29	12	0	68	32			Clayey Sand
RF-200-31					0	58	47			Clayey Sand
Proctor #42	14.8	116.9	34	16	0	53	47			Clayey Sand
RB-200-225					0	21	79			Lean Clay with Sand
RB-200-226					0	25	75			Lean Clay with Sand
RB-200-227					0	28	72			Lean Clay with Sand
RF-ATT-21, RF-200-32			35	18	0	43	57			Sandy Lean Clay
Proctor	3	ea								
1 Pt Proctor	3	ea								
Att	10	ea								
-200	25	ea								

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 109.6 pcf OPTIMUM WATER CONTENT: 18.7%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	21
FINES (SILT AND CLAY)	79

ATTERBERG LIMITS

LIQUID LIMIT	40
PLASTICITY INDEX	21

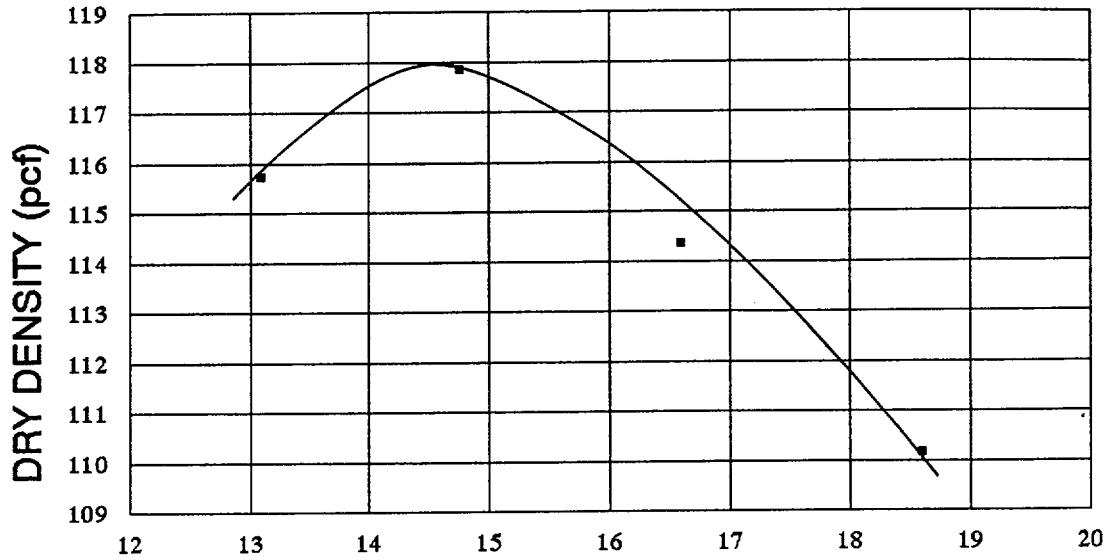
SAMPLE IDENTIFICATION:
Proctor No. 40

SOIL CLASSIFICATION:
Lean Clay with Sand (CL)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 40

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 118.0 pcf OPTIMUM WATER CONTENT: 14.7%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	65
FINES (SILT AND CLAY)	35

ATTERBERG LIMITS	
LIQUID LIMIT	30
PLASTICITY INDEX	13

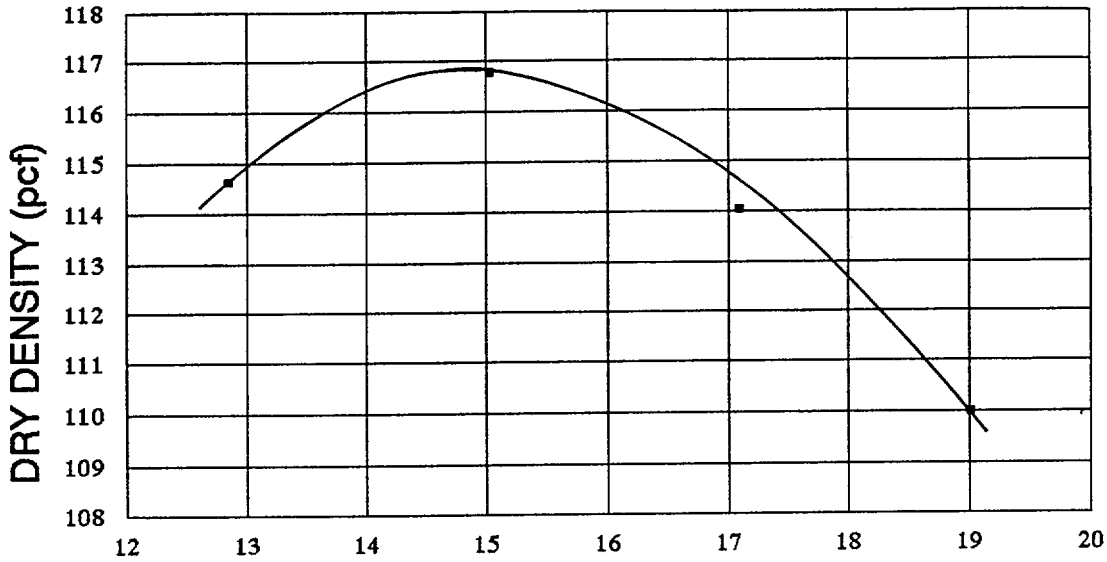
SAMPLE IDENTIFICATION:
Proctor No. 41

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 41

MOISTURE–DENSITY CURVE



WATER CONTENT %

ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 116.9 pcf OPTIMUM WATER CONTENT: 14.8%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	53
FINES (SILT AND CLAY)	47

ATTERBERG LIMITS

LIQUID LIMIT	34
PLASTICITY INDEX	16

SAMPLE IDENTIFICATION:
Proctor No. 42

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 42

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

Week 2 B

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: October 26, 1998
JOB NO.: 9851711
SHEET 1 OF 6

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

PROJECT REPORT

DAILY REPORT NO. 106 - Billy Ray, Field Engineer - 12.0 Hours
October 12, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of both the radon barrier and the random fill. Most of the effort was concentrated on the radon barrier as Bear Creek plans on conducting radon emanation testing on Wednesday, 10-14-98. Eleven scrapers were used this shift and due to the small work areas, those 11 scrapers were split into various groupings which rotated work areas. The radon barrier placed on the south section of the ridge was cut from the diversion channel. Material from the W-8 borrow area was used as radon barrier in the center section of the ridge and random fill in Pond #2 and the neck between Ponds #2 and #3.

Nuclear method moisture-density tests Nos. RB-355 through RB-359 were performed on the radon barrier placed this shift. Test No. RB-356 failed due to low moisture. The failed area was reprocessed and retested as Test No. RB-356A, which passed. Test No. RB-359 failed due to an excess of moisture. The failed area will be retested on 10-13-98 due to time constraints. A sand cone test, No. RB-357(SC), was performed next to test No. RB-357. Tests No. RF-43 and RF-44 were performed on the random fill placed this shift. Both tests met the project specifications. All test results and locations are presented on the attached summary sheet.

A one-point Proctor was performed for density Test No. RB-358 along with property tests RB-ATT-70 and RB-200-231. Samples RB-200-228, RB-200-229, RB-200-230, RF-ATT-22 and ~~RF-~~200-33 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 107 - Billy Ray, Field Engineer - 12.0 Hours
October 13, 1998

6:00 am to 6:30 pm - Carr Construction continued placement of the radon barrier and the random fill. Four scrapers placed radon barrier along the south section of the ridge with material from the diversion channel. As the radon barrier was processed, those scrapers placed random fill in Pond #3 with material also borrowed from the diversion channel. Five scrapers placed radon barrier on the middle section of the ridge and random fill in Pond #2 and the neck with material from the W-8 borrow area. The radon barrier north of the ridge was bladed smooth for the surveyors. In the afternoon, four scrapers borrowed random fill from the south channel. That material was extremely dry and Carr Construction had trouble properly conditioning the soil. That area was not ready for testing by the end of the shift and will be tested on 10-14-98.

Nuclear method moisture-density tests No. RB-360 through RB-363 and retest No. RB-359A were performed on the radon barrier placed this shift. Tests No. RF-45 through RF-47 were performed on the random fill. All tests met the project specifications. The test locations and results are presented on the attached summary sheet.

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC & OURSELVES, ALL REPORTS ARE SUBMITTED AS CONFIDENTIAL PROPERTY OF OUR CLIENTS & AUTHORIZATION FOR PUBLICATION OF STATEMENTS. CONCLUSIONS/EXTRACTS FROM OR REGARDING OUR REPORTS ARE RESERVED PENDING OUR WRITTEN APPROVAL. SAMPLES WILL BE DISPOSED OF AFTER TESTING IS COMPLETED UNLESS OTHER ARRANGEMENTS ARE AGREED TO IN WRITING.

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL - 90% Compaction Required							
10-14-98	RF-50	18.4	106.7	16.6	112.7	94	#43, Clayey Sand
Location:	Dam axis, Sta. 12+70, 10' south of contour line 5151.5; El = 5151.0						
10-14-98	RF-51	(10.7)	109.4	16.0	110.5	99	#29, Sandy Lean Clay
Location:	Diversion Channel axis, Sta. 37+50, 10' north of contour line 5149.0; El = 5148.5						
10-14-98	RF-52	15.6	106.4	16.0	110.5	96	#29, Sandy Lean Clay
Location:	Dam axis, Sta. 10+10, 20' north of contour line 5155; El = 5153.0						
10-15-98	RF-53	14.9	108.0	14.8	116.9	92	#42, Clayey Sand
Location:	Diversion Channel axis, Sta. 33+30, 40' north of contour line 5148' El = 5148.0						
10-15-98	RF-54	13.0	110.5	14.8	116.9	95	#42, Clayey Sand
Location:	Dam axis, Sta. 12+00, 20' north of contour line 5152; El = 5152.0						
10-15-98	RF-55	14.8	106.1	14.8	116.9	91	#42, Clayey Sand
Location:	Dam axis, Sta. 5+70, 35' south of contour line 5155; El = 5153.0						
10-15-98	RF-56	15.7	104.7	15.8	116.9	94	#42, Clayey Sand
Location:	Dam axis, Sta. 15+50, 40' north of contour line 5155; El = 5153.5						
10-15-98	RF-57	17.3	108.8	14.8	108.8	93	#42, Clayey Sand
Location:	Dam axis, Sta. 11+00, 10' north of contour line 5151.5; El = 5151.5						

( ) Failed to meet project requirements.

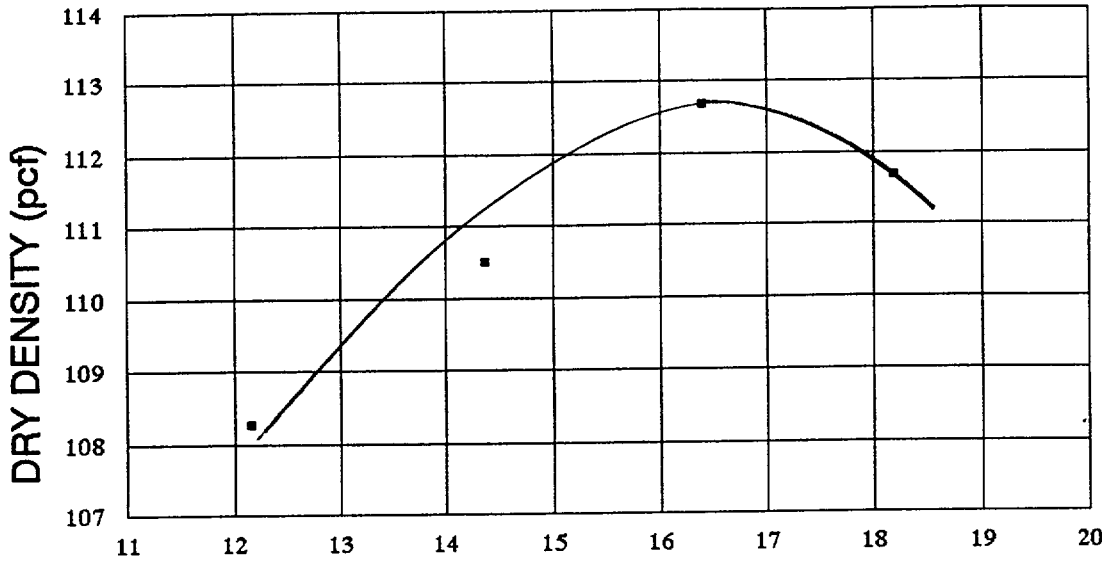
TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1-pt. Proctor, Density Test RB-358, RB-ATT-70, RB-200-231			32	14	0	59	41	17.6	113.0	#42, Clayey Sand
RB-200-228					0	43	57			Sandy Lean Clay
RB-200-229					0	50	50			Sandy Lean Clay
RB-200-230					0	52	48			Clayey Sand
RF-ATT-22, RF-200-33			30	14	0	50	50			Sandy Lean Clay
Proctor #43	16.6	112.7	29	11	0	63	37			Clayey Sand
RB-ATT-70, RB-200-232			33	16	0	51	49			Clayey Sand
RB-200-233					0	27	73			Lean Clay with Sand
RB-200-234					0	60	40			Clayey Sand
RF-ATT-23, RF-200-34			33	15	0	51	49			Clayey Sand
RF-200-35					0	59	41			Clayey Sand
RF-200-36					0	47	53			Sandy Lean Clay
1-pt. Density Test RF-50, RF-ATT-24, RF-200-39			35	17	0	45	55	16.4	113.7	#29, Sandy Lean Clay
RF-200-37					0	41	59			Sandy Lean Clay
RF-200-38					0	53	47			Clayey Sand
RF-200-40					0	47	53			Sandy Lean Clay
RF-ATT-45, RF-200-41			25	10	0	54	46			Clayey Sand
RF-200-42					0	62	38			Clayey Sand
RF-200-43					0	56	44			Clayey Sand
RF-200-44					0	54	46			Clayey Sand

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 112.7 pcf OPTIMUM WATER CONTENT: 16.6%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	63
FINES (SILT AND CLAY)	37

ATTERBERG LIMITS	
LIQUID LIMIT	29
PLASTICITY INDEX	11

SAMPLE IDENTIFICATION:
Proctor No. 43

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 43

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: October 26, 1998
JOB NO.: 9851711
SHEET 1 OF 6

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 27

PROJECT REPORT

DAILY REPORT NO. 106 - Billy Ray, Field Engineer - 12.0 Hours
October 12, 1998

6:00 am to 6:30 pm - Carr Construction continued the placement of both the radon barrier and the random fill. Most of the effort was concentrated on the radon barrier as Bear Creek plans on conducting radon emanation testing on Wednesday, 10-14-98. Eleven scrapers were used this shift and due to the small work areas, those 11 scrapers were split into various groupings which rotated work areas. The radon barrier placed on the south section of the ridge was cut from the diversion channel. Material from the W-8 borrow area was used as radon barrier in the center section of the ridge and random fill in Pond #2 and the neck between Ponds #2 and #3.

Nuclear method moisture-density tests Nos. RB-355 through RB-359 were performed on the radon barrier placed this shift. Test No. RB-356 failed due to low moisture. The failed area was reprocessed and retested as Test No. RB-356A, which passed. Test No. RB-359 failed due to an excess of moisture. The failed area will be retested on 10-13-98 due to time constraints. A sand cone test, No. RB-357(SC), was performed next to test No. RB-357. Tests No. RF-43 and RF-44 were performed on the random fill placed this shift. Both tests met the project specifications. All test results and locations are presented on the attached summary sheet.

A one-point Proctor was performed for density Test No. RB-358 along with property tests RB-ATT-70 and RB-200-231. Samples RB-200-228, RB-200-229, RB-200-230, RF-ATT-22 and RF-200-33 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 107 - Billy Ray, Field Engineer - 12.0 Hours
October 13, 1998

6:00 am to 6:30 pm - Carr Construction continued placement of the radon barrier and the random fill. Four scrapers placed radon barrier along the south section of the ridge with material from the diversion channel. As the radon barrier was processed, those scrapers placed random fill in Pond #3 with material also borrowed from the diversion channel. Five scrapers placed radon barrier on the middle section of the ridge and random fill in Pond #2 and the neck with material from the W-8 borrow area. The radon barrier north of the ridge was bladed smooth for the surveyors. In the afternoon, four scrapers borrowed random fill from the south channel. That material was extremely dry and Carr Construction had trouble properly conditioning the soil. That area was not ready for testing by the end of the shift and will be tested on 10-14-98.

Nuclear method moisture-density tests No. RB-360 through RB-363 and retest No. RB-359A were performed on the radon barrier placed this shift. Tests No. RF-45 through RF-47 were performed on the random fill. All tests met the project specifications. The test locations and results are presented on the attached summary sheet.

AS A MUTUAL PROTECTION TO CLIENTS, THE PUBLIC & OURSELVES, ALL REPORTS ARE SUBMITTED AS CONFIDENTIAL PROPERTY OF OUR CLIENTS & AUTHORIZATION FOR PUBLICATION OF STATEMENTS. CONCLUSIONS/EXTRACTS FROM OR REGARDING OUR REPORTS ARE RESERVED PENDING OUR WRITTEN APPROVAL. SAMPLES WILL BE DISPOSED OF AFTER TESTING IS COMPLETED UNLESS OTHER ARRANGEMENTS ARE AGREED TO IN WRITING.

Standard Proctor No. 43 was performed. Samples RB-ATT-70, RB-200-232, RB-200-233, RB-200-234, RF-ATT-23, RF-200-34, RF-200-35 and RF-200-36 were also collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 108 - Billy Ray, Field Engineer - 12.0 Hours
October 14, 1998

6:00 am to 6:30 am - All fill placed by Carr Construction this shift was placed as random fill. Three scrapers placed random fill in Pond #3 with material borrowed from the south diversion channel. Six scrapers placed random fill in the neck between Ponds #2 and #3 with material borrowed from the W-8 borrow area. Two scrapers placed fill in Pond #2 from the W-8 borrow area and the area was "finished" with the blade and the 50-ton roller. Mr. Bob Coppin (BCU) was on-site today. He and I performed Schmidt hammer tests on several rocks in the stockpiles. Mr. Coppin kept notes and recorded all test results.

Five nuclear method moisture-density tests, No. RF-48 through RF-52, were performed on the random fill placed this shift. Test No. RF-51 failed due to low moisture. After talking with Mr. Coppin and Mr. Jim Smith (BCU), the test was allowed to pass. The material being borrowed from the south channel was extremely dry and Carr was having trouble processing. Mr. Smith said that if the compaction was less the 95% the test could pass. All test locations and results are presented on the attached summary sheet.

A one-point Proctor was performed for density test No. RF-50 along with property tests RF-ATT-24 and RF-200-39. Samples RF-200-37, RF-200-38 and RF-200-39 were collected for laboratory analysis. Laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 109 - Billy Ray, Field Engineer - 12.0 Hours
October 15, 1998

6:00 am to 6:30 am - Carr Construction continued the placement of the random fill. Four scrapers placed random fill in Pond #3 with material from the diversion channel. Seven scrapers placed random fill in the neck and the 10:1 slope with material from the W-8 borrow area. I talked with Mr. John Smith (Carr) about keeping the lift thickness to 6 inches and about the presence of rock in the fill. The rock was returned to the waste area near the W-8 borrow area, and Mr. Smith talked to his foreman about keeping lifts thin. After the radon emanation test cartridges were removed, the ridge line was re-staked. One lift of radon barrier was placed on the south half of the ridge with material from the diversion channel. Due to time constraints, no testing was performed on the radon barrier.

Nuclear method moisture-density tests No. RF-53 through RF-57 were performed on the random fill placed this shift. All five tests met the project specifications. The test locations and results are presented on the attached summary sheet. Samples RF-ATT-45, RF-200-41, RF-200-42, RF-200-43 and RF-200-44 were collected for laboratory analysis. Laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 110 - Billy Ray, Field Engineer - 7.0 Hours
October 16, 1998

6:00 am to 1:30 pm - Carr Construction continued the placement of the random fill. Three scrapers placed random fill in Pond #3 with material from the diversion channel. Eight scrapers placed random fill in the neck and the 10:1 slope with material from the W-8 borrow area. Again, I talked with Mr. John Smith (Carr) about the presence of rock in the fill. Mr. Smith told me that he would take care of it. Rain fell all morning and turned to heavy rain at approximately 11:00 am. The work area became too dangerous and Carr Construction shut down operations at approximately 11:30 am. No testing was performed due to the poor weather.

Reviewed By: _____
Kenneth E. Temme, P.E.
Wyoming Division Manager

cc: Bob Coppin

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TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
10-12-98	RB-355	15.1	112.4	14.8	116.9	96	#42, Clayey Sand
Location:	Diversion Channel axis, Sta. 28+50, 10' north of ridge line; 34th lift						
10-12-98	RB-356	(12.8)	106.0	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 15+75, 85' north of ridge line; 7th lift						
10-12-98	RB-356A	17.9	106.3	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 15+75, 85' north of ridge line; 7th lift **RETEST OF TEST NO. RB-356**						
10-12-98	RB-357	14.9	115.7	14.8	116.9	99	#42, Clayey Sand
Location:	Dam axis, Sta. 17+10, 20' south of ridge line; 8th lift						
10-12-98	RB-357(SC)	14.9	112.8	14.8	116.9	97	#42, Clayey Sand
Location:	Dam axis, Sta. 17+10, 20' south of ridge line; 8th lift						
10-12-98	RB-358	16.7	110.7	14.8	116.9	95	#42, Clayey Sand
Location:	Dam axis, Sta. 14+60, 10' south of contour line 5168; El = 5167.5						
10-12-98	RB-359	(22.7)	103.7	18.1	108.7	95	#30, Sandy Lean Clay
Location:	Diversion Channel, Sta. 26+20, 10' north of ridge line; 36th lift						
10-13-98	RB-360	16.2	111.0	14.8	116.9	95	#42, Clayey Sand
Location:	Dam axis, Sta. 17+10, 20' south of existing toe of ridge; 10th lift						
10-13-98	RB-359A	19.7	106.2	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Diversion Channel, Sta. 26+20, 10' north of ridge line; 36th lift **RETEST OF TEST NO. RB-359**						

( ) Failed to meet project requirements.

Bear Creek Uranium
Job No. 9851711
Sheet 5 of 6

TEST RESULTS:		----------FIELD----------		------LABORATORY------			
Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RADON BARRIER - 95% Compaction Required							
10-13-98	RB-361	17.7	111.6	14.8	116.9	95	#42, Clayey Sand
Location:	Dam axis, Sta. 15+25, 10' north of ridge line; 12th lift						
10-13-98	RB-362	13.9	111.2	14.8	116.9	95	#42, Clayey Sand
Location:	Dam axis, Sta. 18+60, 20' north of ridge line; 14th lift						
10-13-98	RB-363	20.1	106.9	18.7	109.6	98	#40, Lean Clay w/Sand
Location:	Diversion Channel axis, Sta. 27+20, 10' north of ridge line; 38th lift						
Retest 2 SC 1							
RANDOM FILL - 90% Compaction Required							
10-12-98	RF-43	14.6	109.9	14.8	116.9	94	#42, Clayey Sand
Location:	Dam axis, Sta. 7+20, 15' south of ridge line; 8th lift						
10-12-98	RF-44	17.6	106.5	18.1	108.7	98	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 11+15, 40' south of ridge line; 9th lift						
10-13-98	RF-45	18.3	105.0	14.8	116.9	90	#42, Clayey Sand
Location:	Dam axis, Sta. 15+20, 25' south of contour line 5152.5; El = 5152.0						
10-13-98	RF-46	16.0	109.7	14.8	116.9	94	#42, Clayey Sand
Location:	Dam axis, Sta. 16+60, 60' north of contour line 5152.5; El = 5152.5						
10-13-98	RF-47	16.6	108.8	18.1	108.7	100	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 15+75, 20' south of contour line 5153.0; El = 5153.0						
10-14-98	RF-48	15.0	109.3	16.0	110.5	99	#29, Sandy Lean Clay
Location:	Diversion Channel axis, Sta. 32+50, 75' north of channel; 1st lift						
10-14-98	RF-49	13.9	111.1	16.6	112.7	99	#43, Clayey Sand
Location:	Dam axis, Sta. 13+60, 32' south of ridge line; 2nd lift						

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 6

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL - 90% Compaction Required							
10-14-98	9 RF-50	18.4	106.7	16.6	112.7	94	#43, Clayey Sand
Location:	Dam axis, Sta. 12+70, 10' south of contour line 5151.5; El = 5151.0						
10-14-98	9 RF-51	(10.7)	109.4	16.0	110.5	99	#29, Sandy Lean Clay
Location:	Diversion Channel axis, Sta. 37+50, 10' north of contour line 5149.0; El = 5148.5						
10-14-98	10 RF-52	15.6	106.4	16.0	110.5	96	#29, Sandy Lean Clay
Location:	Dam axis, Sta. 10+10, 20' north of contour line 5155; El = 5153.0						
10-15-98	11 RF-53	14.9	108.0	14.8	116.9	92	#42, Clayey Sand
Location:	Diversion Channel axis, Sta. 33+30, 40' north of contour line 5148' El = 5148.0						
10-15-98	12 RF-54	13.0	110.5	14.8	116.9	95	#42, Clayey Sand
Location:	Dam axis, Sta. 12+00, 20' north of contour line 5152; El = 5152.0						
10-15-98	13 RF-55	14.8	106.1	14.8	116.9	91	#42, Clayey Sand
Location:	Dam axis, Sta. 5+70, 35' south of contour line 5155; El = 5153.0						
10-15-98	14 RF-56	15.7	104.7	15.8	116.9	94	#42, Clayey Sand
Location:	Dam axis, Sta. 15+50, 40' north of contour line 5155; El = 5153.5						
10-15-98	15 RF-57	17.3	108.8	14.8	108.8	93	#42, Clayey Sand
Location:	Dam axis, Sta. 11+00, 10' north of contour line 5151.5; El = 5151.5						

( ) Failed to meet project requirements.

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

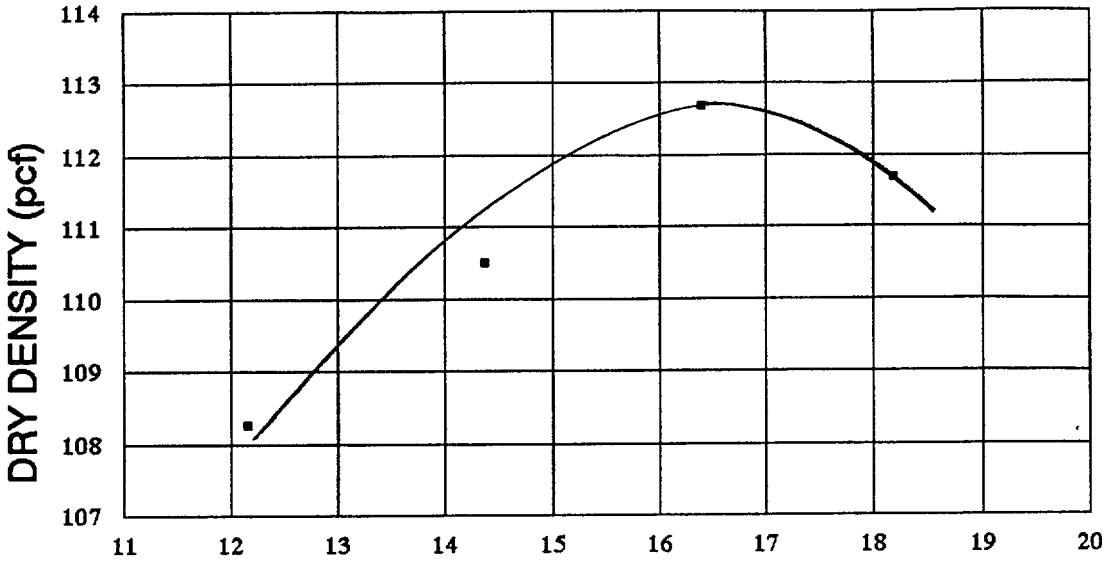
UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
1 1-pt. Proctor, Density Test RB-358, RB-ATT-70, RB-200-231			32	14	0	59	41	17.6	113.0	#42, Clayey Sand
RB-200-228					0	43	57			Sandy Lean Clay
RB-200-229					0	50	50			Sandy Lean Clay
RB-200-230					0	52	48			Clayey Sand
2 RF-ATT-22, RF-200-33			30	14	0	50	50			Sandy Lean Clay
Proctor #43	16.6	112.7	29	11	0	63	37			Clayey Sand
3 RB-ATT-70, RB-200-232			33	16	0	51	49			Clayey Sand
RB-200-233					0	27	73			Lean Clay with Sand
RB-200-234					0	60	40			Clayey Sand
4 RF-ATT-23, RF-200-34			33	15	0	51	49			Clayey Sand
RF-200-35					0	59	41			Clayey Sand
RF-200-36					0	47	53			Sandy Lean Clay
5 1-pt. Density Test RF-50, RF-ATT-24, RF-200-39			35	17	0	45	55	16.4	113.7	#29, Sandy Lean Clay
RF-200-37					0	41	59			Sandy Lean Clay
RF-200-38					0	53	47			Clayey Sand
RF-200-40					0	47	53			Sandy Lean Clay
6 RF-ATT-45, RF-200-41			25	10	0	54	46			Clayey Sand
RF-200-42					0	62	38			Clayey Sand
RF-200-43					0	56	44			Clayey Sand
RF-200-44					0	54	46			Clayey Sand

Proctor 1 ea -200 - 19 ea
1 pt - 2 ea ATT C...

MOISTURE–DENSITY CURVE



ASTM D698–91, METHOD A

MAXIMUM DRY DENSITY: 112.7 pcf OPTIMUM WATER CONTENT: 16.6%

PARTICLE SIZE	FRACTION OF SAMPLE (%)
GRAVEL	0
SAND	63
FINES (SILT AND CLAY)	37

ATTERBERG LIMITS	
LIQUID LIMIT	29
PLASTICITY INDEX	11

SAMPLE IDENTIFICATION:
Proctor No. 43

SOIL CLASSIFICATION:
Clayey Sand (SC)

UPR – BEAR CREEK URANIUM PORJECT
CONVERSE COUNTY, WYOMING

9851711	***MAXIM*** Technologies, Inc.	MOISTURE–DENSITY RELATIONSHIP	Fig. 43

MAXIM TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: October 28, 1998
JOB NO.: 9851711
SHEET 1 OF 3

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 28

PROJECT REPORT

Thur **DAILY REPORT NO. 111 - Billy Ray, Field Engineer - 12.0 Hours**
October 22, 1998

6:00 am to 6:30 pm - Carr Construction placed random fill for the first time since the storm last week. Four scrapers placed fill between the swale and the office in the existing channel. All material was from the W-8 borrow area. An excavator worked on the rock structures west of the dam face. Two of the scrapers worked with the excavator and hauled occasional loads to the random fill. A blade worked on the ridge line random fill, the area was scarified and allowed to air dry as it was still too wet. Several pumps were set up to remove standing water. Nearly all of Pond #3 is under water as is the diversion channel from the south channel to the dam face. Carr did not run a water truck as the material from the W-8 borrow area was very near optimum moisture following the rain. The fill looked as though it was getting dry and Mr. John Smith (Carr) had the scrapers relocate their cut within the W-8 borrow area to stay in the preconditioned soil.

Only one nuclear method moisture-density test was performed due to the limited amount of fill placed this shift. Test No. RF-58 met the project specifications. The test location and results are presented on the attached summary sheet. One sample was collected for Atterberg limits and -200 analysis, RF-ATT-26 and RF-200-45. The laboratory test results are presented on Table I, attached.

Fri **DAILY REPORT NO. 112 - Billy Ray, Field Engineer - 10.5 Hours**
October 23, 1998

6:00 am to 5:00 pm - Carr Construction again placed random fill between the swale and the office in the existing channel. Four scrapers placed random fill with material from the W-8 borrow area. One scraper worked with the excavator which was working on the rock structures west of the face of the dam. The 10:1 ridge in the random fill was scarified, bladed and rolled in an effort to assist in the drying. Several pumps were set up to dry some of the water holes, with the water being pumped into the diversion channel. The material being cut from the W-8 borrow area was still near optimum moisture and the water truck was not needed. Carr plans to work a crew tomorrow (10-24-98); Mr. Jim Smith (BCU) said they would not need me on-site as Carr would not move that much soil.

Only one nuclear method moisture-density test was performed on the random fill placed this shift. Test No. RF-59 met the project specifications. The test location and results are presented on the attached summary sheet. One sample was collected for Atterberg limits and -200 analysis, RF-ATT-27 and RF-200-45. The laboratory test results are presented on Table I, attached.

Reviewed By: _____
Kenneth E. Temme, P.E.
Wyoming Division Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 3 of 3

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL - 90% Compaction Required							
10-22-98	RF-58	16.2	111.4	14.8	116.9	95	#42, Clayey Sand
Location:	Swale axis, Sta. 7+00, 220' north of the centerline; 3' below grade						
10-23-98	RF-59	14.8	110.6	14.8	116.9	95	#42, Clayey Sand
Location:	Swale axis, Sta. 7+50, 20' south of the ridge; 1' below grade						

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
RF-ATT-26, RF-200-45			24	13	0	58	42			Clayey Sand
RF-ATT-27, RF-200-46			30	15	0	65	35			Clayey Sand

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TECHNICAL REPORT

Week 29

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: November 2, 1998
JOB NO.: 9851711
SHEET 1 **OF** 4

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

PROJECT REPORT

DAILY REPORT NO. 113 - Billy Ray, Field Engineer - 11.0 Hours
October 26, 1998

6:00 am to 5:30 pm - Carr Construction continued the placement of the random fill. Five scrapers hauled material from the W-8 borrow area to the 10:1 slope in the neck between Ponds #2 and #3. The pumps were relocated in an effort to dewater Pond #3. The excavator constructed the rock structures north of the dam face. Occasionally, a scraper hauled a load of random fill from the rock structures to the fill. The Cat 815 roller broke down in the morning; all fill was then rolled with the 50-ton truck and the small vibratory sheepsfoot. The blade worked on "finishing" the top of the ridge. A scraper placed fill in the low spots ahead of the blade and roller. Mr. Bob Coppin (BCU) was on-site.

Two nuclear method moisture-density tests were performed on the random fill placed this shift and Saturday's shift (10-24-98). Tests No. RF-60 and RF-61 both met project specifications. The test locations and results are presented on the attached summary sheet. One sample was collected for Atterberg limits and -200 analysis, RF-ATT-28 and RF-200-47. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 114 - Billy Ray, Field Engineer - 11.5 Hours
October 27, 1998

6:00 am to 6:00 pm - Carr Construction continued the placement of the random fill and resumed the placement of the radon barrier. Carr had sent six scrapers to another project last week and those were returned to Bear Creek this shift. The first four arrived at approximately 10:00 am and the last two arrived at approximately 2:00 pm. Carr had 11 scrapers on-site. Six scrapers placed random fill in the neck between Ponds #2 and #3 with material from the W-8 borrow area. Four scrapers placed radon barrier on the ridge between the swale and the office with material from the W-8 borrow area. The self-loading scraper worked several areas, including the random fill, radon barrier, rock structures and the low spots on top of the ridge. The excavator continued the construction of the rock structures north of the dam face. A blade regraded the area on top of the ridge in advance of possible rain. Mr. Bob Coppin (BCU) was on-site and we collected a sample of in-place filter for gradation analysis and a bulk density. The sample was delivered to the Casper office.

Only one nuclear method moisture-density test was performed on the radon barrier (Test No. RB-364) and one test (RF-62) was performed on the random fill. Both tests met project specifications. The test locations and results are presented on the attached summary sheet. Two samples were collected for laboratory testing, RB-ATT-71 and RB-200-35 and RF-ATT-29 and RF-200-48. The laboratory test results are presented on Table I, attached.

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DAILY REPORT NO. 115 - Billy Ray, Field Engineer - 6.0 Hours
October 28, 1998

6:00 am to 12:00 pm - Once again, rains overnight inundated the work areas. Carr Construction did not perform any work with shift. I stayed on-site to complete lab work and project reports. Mr. Jim Smith (Carr) will let me know when construction will resume and when I will be needed on-site.

Reviewed By: _____
Kenneth E. Temme, P.E.
Wyoming Division Manager

cc: Bob Coppin

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TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL - 90% Compaction Required							
10-26-98	RF-60	14.7	110.8	16.6	112.7	98	#43, Clayey Sand
Location:	Swale axis, Sta. 6+00, 60' south of paved road; 1.5' below grade						
10-26-98	RF-61	17.5	107.1	16.6	112.7	95	#43, Clayey Sand
Location:	Dam axis, Sta. 17+20, 40' north of contour line 5155; El = 5157.0						
10-27-98	RF-62	18.3	108.7	18.1	108.7	100	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 6+50, 15' north of contour line 5158.0' El = 5158.5						
RADON BARRIER - 95% Compaction Required							
10-27-98	RB-364	17.3	110.4	16.6	112.7	98	#43, Clayey Sand
Location:	Swale axis, Sta. 6+50, 20' south of ridge line; 1' below grade						

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
RF-ATT-28, RF-200-47			29	11	0	61	39			Clayey Sand
RB-ATT-71, RB-200-235			33	14	0	53	47			Clayey Sand
RF-ATT-29, RF-200-48			39	17	0	49	51			Sandy Lean Clay

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Week 30

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: November 17, 1998
JOB NO.: 9851711
SHEET 1 **OF** 3

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

PROJECT REPORT

DAILY REPORT NO. 116 - Billy Ray, Field Engineer - 11.0 Hours
November 13, 1998

6:00 am to 5:30 pm - It was my first day on-site since the storm at the end of October. Earlier in the week Carr Construction had placed 6 inches of cover on top of the radon barrier in the neck and Pond #3. Initially, Bear Creek asked that only that be done, but it was then decided that work will be performed as long as the good weather holds. Carr continued the placement of the random fill with three scrapers hauling from the W-8 borrow area and two scrapers from the diversion channel. The excavator cut the slopes in the chute. Several rocks were in the fill and Mr. John Smith (Carr) was asked to have them removed. Those rocks were removed and taken back to the stockpile in the W-8 borrow area. Carr plans on working a small crew on Saturday, 11-14-98.

Four nuclear method moisture-density tests, Nos. RF-63 through RF-66, were performed on the random fill placed earlier in the week and during this shift. All four tests met the project specifications. The test locations and results are presented on the attached summary sheet.

Samples RF-ATT-30, RF-200-49 and RF-200-50 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

Reviewed By: _____
Kenneth E. Temme, P.E.
Wyoming Division Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 3 of 3

TEST RESULTS:

Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
		----------FIELD----------		------LABORATORY------			
RANDOM FILL - 90% Compaction Required							
11-13-98	RF-63	16.4	110.1	16.6	112.7	98	#43, Clayey Sand
Location:	Dam axis, Sta. 3+00, 110' south of the ridge; 1st lift						
11-13-98	RF-64	14.7	103.8	16.6	112.7	92	#43, Clayey Sand
Location:	Diversion Channel axis, Sta. 57+00, 200' north of channel; 1st lift						
11-13-98	RF-65	16.8	107.2	16.6	112.7	95	#43, Clayey Sand
Location:	Dam axis, Sta. 4+50, 150' north of the channel; 1st lift						
11-13-98	RF-66	16.4	106.8	16.6	112.7	95	#43, Clayey Sand
Location:	Dam axis, Sta. 7+50, 10' south of contour line 5150.5; El = 5150.0'						

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
RF-ATT-30, RF-200-49			35	16	0	54	46			Clayey Sand
RF-200-50					0	58	42			Clayey Sand

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TECHNICAL REPORT

Week 31 & 32

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: December 4, 1998
JOB NO.: 9851711
SHEET 1 **OF** 6

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

PROJECT REPORT

DAILY REPORT NO. 117 - Billy Ray, Field Engineer - 10.5 Hours
November 16, 1998

6:00 am to 5:00 pm - Carr Construction continued the placement of the random fill in the neck between Ponds #2 and #3 as well as the area in Pond #2. Five scrapers were used this shift with four scrapers hauling material from the W-8 borrow area and one scraper hauling from the diversion channel cut. Two of the scrapers placed topsoil between the two swales north of the ridge to test whether or not the surface could support the weight of loaded scrapers. The area had dried sufficiently and the scrapers did not have a negative impact on the compacted fill. The excavator continued cutting the slopes in the chute. A dozer worked in some of the soft, wet areas in an effort to heal some of the damage from standing water. Carr worked a small crew over the weekend placing random fill.

Three nuclear method moisture-density tests were performed on the random fill placed Saturday and today. Test Nos. RF-67, RF-68 and RF-69 all met project specifications. The test locations and results are presented on the attached summary sheet. Samples RF-ATT-31 and RF-200-51 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 118 - Billy Ray, Field Engineer - 10.5 Hours
November 17, 1998

6:00 am to 5:00 pm - Carr Construction continued the placement of the random fill in Pond #3 and the neck between Ponds #2 and #3. Five scrapers placed random fill with material cut from the W-8 borrow area. Four more scrapers arrived on-site this shift, bringing the total to nine. Those four scrapers placed topsoil between the two swales north of the ridge. The excavator continued rutting the slopes of the chute. A dozer cut a trench in the diversion channel to free some standing water that had pooled in a low spot. A water pump was used to pump standing water from between the swales to the diversion channel. A blade smoothed the surface behind the fill in anticipation of more moisture from an approaching storm.

Two nuclear method moisture-density tests were performed in the random fill placed this shift. Tests No. RF-70 and RF-71 met the project requirements. The test locations and results are presented on the attached summary sheet. Samples RF-ATT-32 and RF-200-52 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 119 - Billy Ray, Field Engineer - 10.5 Hours
November 18, 1998

6:00 am to 5:00 pm - Carr Construction continued the placement of the random fill and topsoil. Two additional scrapers arrived on-site at approximately 11:00 am bringing the total to 11 scrapers. Seven scrapers placed random fill in the area of Pond #3 with material borrowed from the W-8 borrow area. Wet areas of the fill were bladed and rolled several times as strong winds aided in the drying. The 50-ton roller worked behind the fill to seal off the work areas. Four scrapers placed topsoil between the two swales.

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The road to the topsoil fill area was constructed out of topsoil in an effort to firm a soft spot and to speed up the placement of the topsoil. A water pump was again set up to drain standing water west of the topsoil placement.

Two nuclear method moisture-density tests were performed in the random fill placed this shift. Tests No. RF-72 and RF-73 met the project requirements. The test locations and results are presented on the attached summary sheet. Samples RF-ATT-33 and RF-200-53 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 120 - Billy Ray, Field Engineer - 10.5 Hours
November 19, 1998

6:00 am to 5:00 pm - Carr Construction continued the placement of both the random fill and topsoil. Seven scrapers placed random fill in Pond #3 with material borrowed from the W-8 borrow area. The fill appeared to be going down thicker than 6 in. lifts and Mr. John Smith (Carr) was notified. A blade cut the excess material and greater attention was paid to lift thickness. The work area moved to the south and several soft spots were encountered. A second blade was added to the fill to try to heal the soft spots. The Cat 815 roller was used ahead and behind the fill to firm up those soft spots. Some areas were left due to softness, Carr will address those areas once they have dried adequately. Four scrapers again placed topsoil between the two swales.

Three nuclear method moisture-density tests were performed in the random fill placed this shift. Tests No. RF-74, RF-75 and RF-76 all met the project requirements. The test locations and results are presented on the attached summary sheet. Samples RF-ATT-34, RF-200-54 and RF-200-55 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 121 - Billy Ray, Field Engineer - 10.5 Hours
November 20, 1998

6:00 am to 5:00 pm - Carr Construction continued the placement of the random fill and topsoil. Seven scrapers placed random fill in the neck between Ponds #2 and #3 and south of the ridge in Pond #3. All random fill was cut from the W-8 borrow area. Four scrapers placed topsoil between the two swales north of the ridge. The topsoil was cut from the T-18 topsoil stockpile. The excavator continued cutting the slopes in the chute. A water wagon was used for dust control as strong wings reduced visibility. Again, soft spots were compacted ahead of the placement of the random fill with the 50-ton roller and the sheepsfoot roller. Carr plans to work a finish crew and place topsoil on Saturday, 11-21-98. The placement of random fill will resume on Monday, 11-23-98. I will not be on-site that day and Mr. Jim Smith (BCU) and Mr. Gary Chase (BCU) said that would not be a problem. I will make up necessary nuclear method moisture-density tests on Tuesday, 11-24-98. Mr. Jim Smith (BCU) will collect a sample for -200 analysis and Atterberg limits testing. I will performed those tests upon my return.

Two nuclear method moisture-density tests, Nos. RF-77 and RF-78, were performed in the random fill placed this shift. Both tests met the project requirements. The test locations and results are presented on the attached summary sheet. Samples RF-ATT-35 and RF-200-56 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

Wk 31

DAILY REPORT NO. 122 - Billy Ray, Field Engineer - 10.5 Hours
November 24, 1998

6:00 am to 5:00 pm - Carr Construction continued the placement of the random fill and the topsoil. Strong winds made the work difficult this shift as the water truck struggled to keep up with dust control. Carr had a finish crew regrade the work areas on Saturday (11-21-98). Fill was placed on Monday (11-23-98) as I was not on-site. Mr. Jim Smith with BCU watched the fill and collected a sample in my absence. The area of random fill placed on Monday was tested this shift, as it was all at final grade elevation. This shift seven scrapers placed random fill in Pond #3 and four scrapers placed topsoil north of the ridge line. Three of the scrapers placing random fill cut material from the diversion channel and the other four scrapers borrowed material from the W-8 borrow area.

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Three nuclear method moisture-density tests were performed in the random fill placed on 11-23-98 and this shift. Tests No. RF-79, RF-80 and RF-81 all the project requirements. The test locations and results are presented on the attached summary sheet. Samples RF-ATT-36 and RF-200-57 were collected on 11-23-98 by Mr. Jim Smith (BCU). Samples RF-ATT-37, RF-200-58 and RF-200-59 were collected this shift for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 123 - Billy Ray, Field Engineer - 11.0 Hours
November 25, 1998 W ED

6:00 am to 5:30 pm - Carr Construction continued the placement of the random fill and the topsoil. Seven scrapers placed random fill in Pond #3 with four scrapers borrowing material from the W-8 borrow area and three scrapers cutting from the diversion channel. All of Pond #3 had been brought to final grade and fill was once again resumed on the 10:1 slope. Mr. John Smith (Carr) was reminded to keep the fill in horizontal lifts, even on the 10:1 slope fill. A gradual slope was built to allow for drainage. Several large rocks appeared in the fill; they were removed and placed in the waste pile near the W-8 borrow area. Four scrapers placed topsoil north of the ridge line with topsoil borrowed from the T-18 borrow area. The excavator and small roller worked on the rock structures north of the dam face. Carr plans on working a topsoil and finish crew Friday and Saturday (11-27-98 and 11-28-98) but Maxim does not need to be present on those days.

Two nuclear method moisture-density tests were performed in the random fill placed this shift. Tests No. RF-82 and RF-83 met the project requirements. The test locations and results are presented on the attached summary sheet. Samples RF-ATT-38, RF-200-60 and RF-200-61 were collected for laboratory analysis. The laboratory test results are presented on Table I, attached.

DAILY REPORT NO. 124 - Billy Ray, Field Engineer - 4.5 Hours
November 30, 1998

6:00 am to 10:30 am - I arrived on-site and inspected the finish work that Carr Construction had performed over the holiday weekend. Carr stated the shift placing both random fill and topsoil. It was then decided by Mr. Gary Chase (BCU) that Carr should concentrate their efforts on the placement of topsoil so that the area north of the ridge line to the dam face may be seeded this weekend. I was informed by Mr. Jim Smith (BCU) that he would call me to let me know when Carr will resume the placement of the random fill and thus when BCU would need our services.

Reviewed By: _____
Kenneth E. Temme, P.E.
Wyoming Division Manager

cc: Bob Coppin

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TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL - 90% Compaction Required							
11-16-98	RF-67	15.1	108.4	16.6	112.7	96	#43, Clayey Sand
Location:	Dam axis, Sta. 3+00, 120' south of the ridge; El = 5150.0'						
11-16-98	RF-68	19.2	106.0	16.6	112.7	94	#43, Clayey Sand
Location:	Dam axis, Sta. 2+00, 210' south of the ridge; El = 5150.0'						
11-16-98	RF-69	16.9	106.4	16.6	112.7	94	#43, Clayey Sand
Location:	Dam axis, Sta. 5+00, 75' south of the ridge; El = 5150.5						
11-17-98	RF-70	13.6	111.2	14.8	116.9	95	#42, Clayey Sand
Location:	Dam axis, Sta. 4+50, 280' south of the ridge; El = 5149.5'						
11-17-98	RF-71	16.6	106.4	14.8	116.9	91	#42, Clayey Sand
Location:	Dam axis, Sta. 1+00, 75' south of the ridge; El = 5151.5'						
11-18-98	RF-72	16.4	109.0	14.8	116.9	93	#42, Clayey Sand
Location:	Dam axis, Sta. 3+50, 35' south of contour line 5150.0; El = 5150.5'						
11-18-98	RF-73	15.2	107.8	14.8	116.9	92	#42, Clayey Sand
Location:	Dam axis, Sta. 6+20, 280' south of the ridge; El = 5149.5'						
11-19-98	RF-74	19.3	104.4	18.1	108.7	96	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 5+80, 70' south of contour line 5149.5; El = 5149.0'						
11-19-98	RF-75	15.6	108.4	16.6	112.7	97	#43, Clayey Sand
Location:	Dam axis, Sta. 2+30, 20' north of contour line 5150.0'; El = 5146.5'						
11-19-98	RF-76	16.8	108.6	16.6	112.7	96	#43, Clayey Sand
Location:	Dam axis, Sta. 4+00, 35' north of contour line 5149.5; El = 5149.0'						

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 6

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL - 90% Compaction Required							
11-20-98	RF-77	19.3	104.9	18.1	108.7	97	#30, Sandy Lean Clay
Location:	Dam axis, Sta. 8+50, 90' south of contour line 5151.0; El = 5150.5'						
11-20-98	RF-78	16.7	105.9	18.1	108.7	97	#30, Sandy Lean Clay
Location:	Diversion Channel axis, Sta. 29+00, 35' south of contour line 5150.0; El = 5148.5'						
11-24-98	RF-79	14.9	110.0	14.8	116.9	94	#42, Clayey Sand
Location:	Dam axis, Sta. 1+75, 135' south of ridge; El = 5150.5'						
11-24-98	RF-80	17.6	109.1	14.8	116.9	93	#42, Clayey Sand
Location:	Dam axis, Sta. 4+25, 25' north of contour line 5150.5; El = 5150.5'						
11-24-98	RF-81	21.3	100.0	18.7	109.6	91	#40, Lean Clay w/Sand
Location:	Dam axis, Sta. 1+00, 20' north of contour line 5149.0; El = 5149.0'						
11-25-98	RF-82	16.0	110.9	14.8	116.9	95	#42, Clayey Sand
Location:	Dam axis, Sta. 1+00, 40' north of contour line 5151.0; El = 5151.5'						
11-25-98	RF-83	17.8	107.9	18.9	108.9	99	#28, Lean Clay w/Sand
Location:	Dam axis, Sta. 3+00, 70' north of contour line 5146.5; El = 5146.5						

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
RF-ATT-31, RF-200-51			26	14	0	54	46			Clayey Sand
RF-ATT-32, RF-200-52			32	13	0	51	49			Clayey Sand
RF-ATT-33, RF-200-53			38	16	0	51	49			Clayey Sand
RF-ATT-34, RF-200-54			33	13	0	41	59			Sandy Lean Clay
RF-200-55					0	54	46			Clayey Sand
RF-ATT-35, RF-200-56			37	12	0	30	70			Sandy Lean Clay
RF-ATT-36, RF-200-57			37	17	0	48	52			Sandy Lean Clay
RF-ATT-37, RF-200-58			31	15	0	52	48			Clayey Sand
RF-200-59					0	18	82			Lean Clay with Sand
RF-ATT-38, RF-200-60			30	18	0	52	48			Clayey Sand
RF-200-61					0	26	74			Lean clay with Sand

MAXIM
TECHNOLOGIES INC

Engineering & Environmental Consultants
605 N. Warehouse Road
P. O. Box 2599
Casper, Wyoming 82602
PH: (307) 234-2126
Fax: (307) 266-5143

TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: December 16, 1998
JOB NO.: 9851711
SHEET 1 OF 1

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

PROJECT REPORT

DAILY REPORT NO. 125 - Billy Ray, Field Engineer - 6.0 Hours
December 8, 1998

7:30 am to 2:00 pm - At the request of Mr. Jim Smith (BCU), I arrived on-site to check the condition of the 10:1 ridge line slope. After checking the soil in several places, it was determined that the frost depth was approximately five inches. This confirmed Mr. Jim Smith's suspicions and Mr. Gary Chase (BCU) was notified. Mr. Bob Coppin (BCU) had stated that there will be no fill placed on top of frost on the ridge line. It was then decided by Mr. Gary Chase (BCU) that the construction will be halted until the summer of 1999. All of Maxim's laboratory equipment was then loaded and returned to the Casper office. This will conclude Maxim's involvement at Bear Creek for 1998.

Reviewed By: Jason Stratton for
Kenneth E. Temme, P.E.
Wyoming Division Manager

cc: Bob Coppin

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TECHNICAL REPORT

REPORT TO: Mr. Gary Chase
Bear Creek Uranium
P.O. Box 366
Casper, Wyoming 82602

DATE: July 16, 1999
JOB NO.: 9851711
SHEET 1 **OF** 6

REPORT OF: UPR - Bear Creek Uranium Project
Converse County, Wyoming

Week 35

PROJECT REPORT

DAILY REPORT NO. 126 - Billy Ray, Field Engineer - 8.0 Hours
July 6, 1999 TUE

8:00 am to 2:00 pm - Traveled to the project site with the laboratory and field testing equipment required for the remainder of the project. The laboratory was set up and the site was toured with Mr. Jim Smith (BCU). There was little change to the site over the winter and Carr Construction resumed the placement of topsoil. Before the topsoil was placed, the area was watered and rolled with construction traffic. Met with Mr. Monty Carr and discussed the preparation of the compacted fill on the 10:1 slope. Prior to the placement of any compacted fill, the area of the 10:1 slope will be watered, bladed and rolled. As no testing was required this shift, I returned to the office and prepared daily report.

DAILY REPORT NO. 127 - Billy Ray, Field Engineer - 12.0 Hours
July 7, 1999 WED

6:00 am to 6:30 pm - Traveled to the project site. Carr Construction resumed the placement of topsoil over areas that were completed during the 1998 construction. All eight scrapers placed topsoil while a blade, water wagon and roller conditioned the soil on top of which random fill is to be placed. After a visual inspection it was determined that Carr could resume the placement of random fill constructing the ridge line. After lunch, four scrapers hauled material from the W-8 borrow area and placed fill along the ridge line.

Two nuclear method moisture-density tests, Nos. RF-84 and RF-85, were performed on the radon fill. Both tests met the project requirements. The test results and locations are presented on the attached summary sheet. Samples RF-ATT-39 and RF-200-62 were collected for Atterberg limits and minus #200 testing. The results of all laboratory testing are presented on Table I, attached.

DAILY REPORT NO. 128 - Billy Ray, Field Engineer - 12.0 Hours
July 8, 1999 THUR

6:00 am to 6:30 am - Carr Construction continued the placement of the random fill along the ridge line and the placement of topsoil over completed areas. Five scrapers hauled material from the W-8 borrow area to the ridge line and three scrapers placed topsoil.

Four nuclear method moisture-density tests, Nos. RF-86 through RF-89, were performed on the random fill placed this shift. One sand cone test was also performed, Test No. RF-87(SC). All tests met the project requirements. The test results and locations are presented on the attached summary sheet. Samples RF-ATT-40, RF-200-63 and RF-200-64 were collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

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DAILY REPORT NO. 129 - Billy Ray, Field Engineer - 12.0 Hours
July 9, 1999 FRI

6:00 am to 6:30 am - Carr Construction continued the placement of random fill and topsoil. Five scrapers placed random fill along the ridge line with material from the W-8 borrow area and two scrapers placed topsoil over completed areas. The 50-ton roller broke down and the compaction was provided by a half-loaded scraper. Mr. Bob Coppin with BCU was on-site this shift and the use of the best possible clay was recommended for the final 1 to 1.5 ft of the ridge line.

Four nuclear method moisture-density tests, Nos. RF-90 through RF-93, were performed on the random fill placed this shift. All tests met the project requirements. The test results and locations are presented on the attached summary sheets. Standard Proctor #44 along with property tests RF-ATT-41 and RF-200-65 were performed. Sample RF-200-66 was also collected for laboratory testing. The results of all laboratory testing are presented on Table I, attached.

Mr. Jim Smith (BCU) used the excavator to dig a pit that will be used for miscellaneous trash and debris disposal. Some debris was placed in it this shift. A thin lift of soil was placed on the debris to prevent spreading due to wind. The soil was tamped with the bucket of the excavator.

Week 36

DAILY REPORT NO. 130 - Billy Ray, Field Engineer - 12.0 Hours
July 12, 1999 MON

6:00 am to 6:30 pm - Carr Construction continued the placement of random fill and topsoil. Six scrapers hauled W-8 borrow area material to the fill of the ridge line. Two scrapers placed topsoil over completed areas. The 50-ton roller was repaired and it resumed compaction. Powers Elevation was on-site and they surveyed the ridge line and established final grade.

Three nuclear method moisture-density tests, RF-94 through RF-96, were performed on the random fill placed this shift. All tests met the project requirements. The test locations and results are presented on the attached summary sheet. Samples RF-AT-42, RF-200-67 and RF-200-68 were also collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached.

DAILY REPORT NO. 131 - Billy Ray, Field Engineer - 11.5 Hours
July 13, 1999 TUE

6:00 am to 6:00 pm - Carr Construction continued the placement of random fill and topsoil. Three scrapers placed topsoil between the dam fence and the previously topsoiled area. Four scrapers hauled material from the W-8 borrow area to the ridge line. The compacted fill of the ridge line was completed this shift. Since that was the last remaining area requiring quality control testing, Maxim will no longer be needed on a daily basis. Mr. Jim Smith (BCU) discussed further testing needs with Mr. Bob Coppin (BCU) and it was agreed that proper construction practices will be followed for the remainder of the project, but no additional testing will be required.

Three nuclear method moisture-density tests, RF-97 through RF-99, were performed on the random fill placed this shift. All tests met the project requirements. The test locations and results are presented on the attached summary sheet. Samples RF-AT-43, RF-200-69 and RF-200-70 were also collected for laboratory analysis. The results of all laboratory testing are presented on Table I, attached. Once the compacted fill was completed, all of the scrapers on-site placed topsoil.

DAILY REPORT NO. 132 - Billy Ray, Field Engineer - 6.5 Hours
July 14, 1999 WED

7:00 am to 2:00 pm - Before traveling to the project site, the required laboratory work from 7-13-99 was performed at the Casper laboratory. Traveled to the project site and met with Mr. Jim Smith, Mr. Gary Chase and Mr. Ernie

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Scott (BCU), and verified that there would not be any need for further testing from Maxim. All testing equipment was returned to the Casper office where it was unloaded. The laboratory work was completed and a daily report was prepared.

Reviewed By: _____
Mark Peloquin
Construction Services Manager

cc: Bob Coppin

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Bear Creek Uranium
Job No. 9851711
Sheet 5 of 6

TEST RESULTS:

	Test Date	Test Number	Moisture Content (%)	Dry Density (p.c.f.)	Optimum Moisture Content (%)	Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
			----------FIELD----------		------LABORATORY------			
	RANDOM FILL							
1	7-07-99	RF-84	20.0	106.7	16.6	112.7	95	#43, Clayey Sand
	Location:	Dam Axis, Sta. 6+50, 20' NE of toe of existing ridge; El = 5161'						
2	7-07-99	RF-85	19.8	103.9	16.6	112.7	92	#43, Clayey Sand
	Location:	Dam Axis, Sta. 4+00, 300' E. of ditch, 15' N. of existing ridge; El = 5156'						
3	7-08-99	RF-86	17.8	106.0	16.6	112.7	94	#43, Clayey Sand
	Location:	Dam Axis, Sta. 0+00, 20' SE of existing ridge; EL = 5156.5'						
4	7-08-99	RF-87	18.0	105.5	16.6	112.7	94	#43, Clayey Sand
	Location:	Dam Axis, Sta. 9+50, 15' E. of existing ridge; El = 5162.0'						
→	7-08-99	RF-87(SC)	17.3	108.9	16.6	112.7	97	#43, Clayey Sand
	Location:	Dam Axis, Sta. 9+50, 15' E. of existing ridge; EL = 5162.0'						
5	7-08-99	RF-88	16.0	109.6	16.6	112.7	97	#43, Clayey Sand
	Location:	Dam Axis, Sta. 4+50, 10' E. of existing ridge; EL = 5167.0'						
6	7-08-99	RF-89	17.7	106.0	16.6	112.7	94	#43, Clayey Sand
	Location:	Dam Axis, Sta. 11+50, 15' E. of existing ridge; El = 5163.0'						
7	7-09-99	RF-90	16.6	102.6	16.6	112.7	95	#43, Clayey Sand
	Location:	Dam Axis, Sta. 7+50, 10' E. of existing ridge; El = 5163.5'						
8	7-09-99	RF-91	16.0	106.1	16.6	112.7	94	#43, Clayey Sand
	Location:	Dam Axis, Sta. 1+00, 15' E. of existing ridge; EL = 5158.0'						
9	7-09-99	RF-92	20.2	105.9	18.7	109.6	97	#40, Lean Clay w/Sand
	Location:	Dam Axis, Sta. -3+50, 250' N. of diversion channel; El = 5159.0'						
10	7-09-99	RF-93	17.3	108.0	18.7	109.6	99	#40, Lean Clay w/Sand
	Location:	Dam Axis, Sta. 12+50, 10' E. of existing ridge; El = 5165.5'						

Bear Creek Uranium
Job No. 9851711
Sheet 6 of 6

TEST RESULTS:

Test Date	Test Number	FIELD: Moisture Content (%)	FIELD: Dry Density (p.c.f.)	LABORATORY: Optimum Moisture Content (%)	LABORATORY: Maximum Dry Density (p.c.f.)	% of Maximum Obtained	Soil Type
RANDOM FILL							
7-12-99	RF-94	16.9	107.7	16.4	114.5	94	#44, Clayey Sand
Location:	Dam Axis, Sta. 10+00, 15' E. of ridge line; El = 5167.0'						
7-12-99	RF-95	14.3	111.6	16.4	114.5	97	#44, Clayey Sand
Location:	Dam Axis, Sta. -3+50, 230' e. of diversion channel; El = 5160.5'						
7-12-99	RF-96	16.3	103.8	16.4	114.5	91	#44, Clayey Sand
Location:	Dam Axis, Sta. 2+50, 10' E. of ridge line; El = 5163.5'						
7-13-99	RF-97	17.7	106.5	19.9	108.0	99	#37, Lean Clay
Location:	Dam Axis, Sta. 11+50, 10' W. of ridge line (crest); El = 5167.5'						
7-13-99	RF-98	18.2	105.9	19.9	108.0	98	#37, Lean Clay
Location:	Dam Axis, Sta. 0+00, 10' W. of crest of ridge; El = 5168.0'						
7-13-99	RF-99	16.1	105.9	18.1	108.7	97	#30, Sandy Lean Clay
Location:	Dam Axis, sta. 17+50, 10' W. of crest of ridge; El = 5168.0'						

TABLE I
SUMMARY OF LABORATORY TEST RESULTS

UPR - Bear Creek Uranium Project
Converse County, Wyoming

Job No. 9851711

SAMPLE IDENTIFICATION	PROCTOR		ATTERBERG LIMITS		GRADATION		PERCENT PASSING NO. 200 SIEVE	CHECK POINT		SAMPLE DESCRIPTION/CLASSIFICATION
	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM DENSITY (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	GRAVEL (%)	SAND (%)		MOISTURE CONTENT (%)	DRY DENSITY (pcf)	
Week 35										
1 RF-ATT-39, RF-200-62 1			28	12	0	55	45			Clayey Sand
2 RF-ATT-40, RF-200-63 2			30	11	0	64	36			Clayey Sand
3 RF-200-64 3					0	60	40			Clayey Sand
Proctor #44, RF-ATT-41, RF-200-65 4	16.1	114.5	27	9	0	52	48			#44, Clayey Sand
RF-200-66 5					0	17	83			Lean Clay with Sand
RF-ATT-42, RF-200-67 6			23	9	0	52	48			Clayey Sand
Week 36 RF-200-68 7					0	60	40			Clayey Sand
RF-ATT-43, RF-200-69			48	27	0	10	90			Lean Clay
RF-200-70					0	34	66			Sandy Lean Clay

December 1999

BEAR CREEK URANIUM
TAILINGS AREA RECLAMATION

APPENDIX E

AS-BUILT

DRAWINGS

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