plateau resources LIMITED

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Via Federal Express

September 9, 1996

Joseph J. Holonich, Chief
High-Level Waste and Uranium Recovery Projects Branch - MS-T-7-J-9
Division of Waste and Management
Office of Nuclear Materials Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: License No. SUA-1371
Docket No. 40-8698
Reclamation Plan.

Dear Mr. Holonich:

Pursuant to phone conversations with James Parks and Mr. Dan Rom, enclosed are two copies of the Reclamation Information requested. Plateau will bond the entire reclamation amount immediately, as outlined on the reclamation cost analysis attached, if the result would constitute a quicker approval of the renewal/amendment for full operations. This would allow Plateau to start the mill upgrades and repair as soon as possible.

The largest issue, of which we have h: :o response from the NRC to date, is whether we can use the existing single clay lined cells above the cross valley berm. Plateau also requested in the renewal/amendment application to be able to construct cells below the cross valley berm with a single clay liner, which would be a duplicate as those above the cross valley berm. We would appreciate a response to enable us to determine which direction we would have to take and what additional information will have to be provided.

Please contact me if additional information is needed.

Yours truly,

Kenneth Webber
Environmental coordinator

KW/ms

NLOS
1 1

Ltr. Encl.
ADD: Tad Johnson 1 1
Dan Rom 1 1

Plateau\Permits\SUA1371\1996\JJH9-9-96

Drawings located in File Center

RECLAMATION PLAN
First Response

Shootaring Canyon Processing Facility
License SUA-1371

Appendix A through G are included herein as a prerequisite for the requirement of Condition No. 38 which states:

A. The post operations interim stabilization plan which details methods to prevent wind and water erosion and recharge of the tailings area.

B. A proposed methodology to dewater and/or consolidate the tailings cells prior to placement of the final reclamation cover.

C. Plan and cross-sectional views of a final reclamation cover which detail the location and elevation of tailings. The plan shall include details on cover thickness, physical characteristics of cover materials, proposed testing of cover materials (specifications and QA), the estimated volumes of cover materials and their availability and location.

D. Detailed plans for placement of rock or vegetative cover on the final reclaimed tailings pile and mill site area.

E. A proposed reclamation schedule for items A through D above which defines the sequence of events and expected time ranges.

F. Analysis to show that the proposed type and thickness of soil cover is adequate to provide appropriate attenuation of radon and is adequate to assure long term stability.

G. The licensee shall include a detailed cost analysis of each phase of the reclamation plan to include contractor costs, projected costs of inflation based upon the schedule proposed in item E, a proposed contingency cost, and the costs of long term maintenance and monitoring.

Plateau Resources, Ltd.
877 North 8th West
Riverton, WY 82501

September 9, 1996

APPENDIX A

POST OPERATIONS INTERIM STABILIZATION PLAN

During the operation of the mill it will be anticipated that from time to time a short term shut down in operations may be required for various reasons. For most, if not all, of these occurrences the tailings ponds will be operated per the tailings management plan. For example, the ponds under drain system will continue to collect the excess water from the tails. A pump will spray this water on the surface of the tailings to keep the surface moist, in turn limiting or preventing wind blown erosion on the surface of the tailings. The continued evaporation of this liquid along with little or no inflow from the mill will further consolidate or stabilize the tailings. Also, if a major precipitation event should occur the impoundment design will contain this water, which in turn this water will be recycled through the tails and be evaporated. The mill itself will continue to follow the operating and monitoring procedures for the facility.

In the event that a longer shut down is required than currently planned, and before the economic life of the facility necessitates permanent decommissioning, a more stringent plan will be developed in accordance with the NRC's review, recommendations and approval. Such a plan may require that the tails be covered with a one foot layer of soil to protect the tailings from wind erosion. At this time once the mill is back on active status it will continue to operate until the designed life has expired or the economic viability of the mill requires decommissioning.

APPENDIX B

Methodology to Dewater Tailings Cells

The methodology to dewater and/or consolidate the tailings cells prior to placement of the final reclamation cover are described in the Tailings Management Pland and Geotechnical Engineering Studies, Shootaring Canyon Uranium Project, Garfield County, Utah, September, 1978, and State I - Tailing Impoundment and Dam Final Design Report, Shootaring Canyon Uranium Project, Garfield County, Utah, May, 1979 as prepared by Woodward-Clyde Consultant. Attached are excerpts from the reports which discuss the under drain system which will be utilized in dewatering the tailings.

A hypolon lined evaporation impoundment will be constructed within one of the cells during final reclamation. The impoundment will be used for storage and evaporation during dewatering. See Cross section in Appendix "C".

TAILINGS MANAGEMENT PLAN
AND
GEOTECHNICAL ENGINEERING STUDIES
SHOOTERING CANYON URANIUM PROJECT
Garfield County, Utah
September, 1978

Docket Number 40-8698

For

PLATEAU RESOURCES LIMITED
772 Horizon Drive
Grand Junction, Colorado 81501

TAILINGS DRAINAGE SYSTEM

Tailings as delivered to the Shootering impoundment would be expected to contain about 45% solids, by weight. The remaining 55% of the mass would be liquid, which would be mainly water. That water might be suitable for reuse in the process circuit and reuse would reduce the requirements for water drawn from the project wells. In the tailings impoundment the liquid would have the potential for escape by seepage through the impoundment dam and through the impoundment area clay liner. In the impoundment the liquid would occupy space which could more usefully be devoted to the storage of tailings solids. Removal of the liquid from the impoundment would serve the purposes of potential reuse, reducing the possibilities of escape and groundwater degradation, and increasing the efficiency of the tailings storage facility. Those benefits could all be realized to some extent if the tailings could be drained within the impoundment. Accordingly, Plateau Resources Limited plans to install a tailings underdrainage system in the lower portion (bottom 50 feet) of the Shootering tailings impoundment, and to manage the tailings disposal procedures with the objective of facilitating tailings drainage. A description of the proposed drainage system follows. A later section describes the planned operating procedures.

A perforated plastic drain pipe will be laid longitudinally in the bottom of the basin, above the basin clay liner. This pipe will serve as a collector drain. Branching lateral drains will connect to the collector drain at approximately 500 feet centers. The collector and lateral drains will be extended up the sides of the basin along natural topographic depressions insofar as possible. The collector drain will discharge into a drainage sump located at the low point within the impoundment. A pump will be installed to withdraw collected drainage liquid from the sump.

The tailings drainage pipes will be placed on top of the impoundment area compacted clay liner. The drainage pipes will be encased in a pea gravel jacket. Approximately 2 cubic feet of pea gravel will be placed along each linear foot of drain pipe. A sand filter drain (drainage berm) will be placed over the pea gravel. About 75 cubic feet of sand will be installed along each linear foot of drain pipe (5 feet high by 15 feet average width). In the area between collector drains a 3 feet thick layer of sand and waste rock from the mines will be placed. Together the sand and waste rock will serve the dual purpose of acting as a drainage blanket and neutralizing the tailings liquid due to a carbonate reaction with the residual sulfuric acid in the tailings liquid.

The drainage sump will be constructed of structural grade timbers such as railroad ties. It will have internal dimensions of approximately 6 feet on all three sides. The timbers will be notched and assembled in log-cabin fashion so that no metal fasteners will be required. A vertical fiberglass or plastic riser pipe will be installed in one corner of the sump. This pipe will be progressively extended to maintain its top above the tailings level in the impoundment at all times. A well-type pump will be installed in the riser pipe to remove tailings liquid from the sump. The sump will be encased on the sides and top with a layer of free draining sand and gravel.

If the tailings drainage system performs as expected the system will be extended and used throughout the facility life, and tailings placement will be as described in the following section. If the tailings drainage system is not successful tailings placement will be in accordance with conventional U.S. practice. For purposes of being conservative, in this and other reports submitted for the proposed processing facility, seepage and impact analyses have been based on the assumption that the tailings underdrainage system was ineffective.

Woodward-Clyde Consultants

STAGE I - TAILINGS IMPOUNDMENT AND DAM
FINAL DESIGN REPORT
SHOOTERING CANYON URANIUM PROJECT
Garfield County Utah
May, 1979

Prepared for

PLATEAU RESOURCES LIMITED
772 Horizon Drive
Grand Junction, Colorado 81501

8.4 Compacted Clay Lining of Local Clayey Soil

The material for the compacted clay lining shall consist of natural silty, sandy, clayey soil obtained from the designated clay borrow areas as shown on Figure 2 of the plans. The compacted clay lining material shall conform to the Zone 1 material as specified in Paragraph 7.2.1. The Contractor shall handle and place this material as specified for Zone 1 materials in Paragraphs 9.2, 10.2.1, and 10.3.1.

8.5 Impoundment Sub-Drain Layer

In order to provide for drainage of the tailings, a minimum of 18 inches of sub-drain material shall be placed on top and over the total of the clay lining. Minimum compaction of the sub-drain material with one complete coverage by track walking with a D8 bulldozer or equivalent will be sufficient. Materials for the sub-drain may be obtained from borrow areas designated for Zone 3 (see Paragraph 7.2.3). Where drain pipes are placed in the sub-drain layer, a filter is required (see Pipe Detail, Figure 4). The filter material shall be the same as that specified in Paragraph 7.2.5.

The sub-drain material shall consist of sand and gravel conforming to the following gradation:

Sieve Size, U.S. Standard Sieve Mesh	Percent by Weight Passing Individual Sieves
No. 30	100
No. 50	70-100
No.200	0- 20

Materials previously sampled in the Zone 3 borrow area generally conform to the above requirements. Therefore, no processing of the borrow material is required. Any roots, organic material or other undesirable material that would cause unsatisfactory performance of the fill shall be removed prior to placement of the material. Material to be used in the sub-drain shall be approved by the geotechnical engineer prior to placement.

8.6 Waste Rock Cover

For the purpose of protecting the clay liner and sub-drain

layer and facilitating the drainage system, a minimum of 12 inches of rock 100 percent of which is finer than 12 inches and a maximum of 15-20 percent passing the No. 200-mesh sieve shall be placed on top of the sub-drain layer. The material may be obtained from the Zone (2) borrow area(s) or from material excavated during site preparation (excluding topsoil and spoil material), or from mine waste stockpiles. Minimum compaction of the waste rock with one complete coverage by track-walking with a D8 bulldozer or equivalent will be sufficient.

9. PLACEMENT

9.1 General

No embankment or impoundment lining materials shall be placed until the foundation area and sub-base preparation have been completed as specified in Sections 5 and 8, and to the satisfaction of the geotechnical engineer.

9.2 Zones 1, 2, and 3

After dumping, Zone 1 and 3 materials shall be spread in horizontal layers not exceeding 8 inches in thickness before compaction by tamping rollers. Layers of Zone 2 materials shall not exceed 12 inches in thickness before compaction by vibrating rollers. Zone 2 material used in the outer 10 feet of the shell for slope protection may be placed in 18" lifts (maximum) prior to compaction. Where hand operated tampers are used, the lift thickness shall not exceed 4 inches before compaction.

Blading, discing or harrowing may be required when necessary to mix the material and the moisture required for compaction. The surface of each layer shall be adequately scarified to ensure proper bond with subsequent layers. Any stone or rock fragments of excessive size as specified in Paragraphs 7.2.1 (Zone 1), 7.2.2 (Zone 2), and 7.2.3 (Zone 3) shall be removed and used elsewhere. Debris or roots shall be removed from the fill before compacting each layer. Material in contact with rock foundation or an uneven surface shall be worked into the fractures. Mosture control and compaction requirements may be varied by the engineer where appropriate.

9.3 Blanket Drain

The blanket drain shall be placed by dumping on the freshly prepared and approved filter material surface

APPENDIX C

Final Reclamation Cover

A plan and Cross-sectional view of the final reclamation cover which details the location and elevation of tailings is attached as:

Figure 1, Cross Section;
Figure 2, Barrow Area Plan;
Figure 3, Reclamation Plan; and
Figure 4, Topographic Map of the Millsite Area.

The tailings area is to be divided at the existing cross valley berm into two drainage areas. The area above the berm would drain to the North West out a cut made in the natural rock outcrop which surrounds the tailings area. The area below the berm would drain toward the impoundment dam and in time sheet flow across the entire crest of the dam. Run off ditches will be constructed as per schedule to divert runoff from entering the impoundment areas. The Topographic Map of the Millsite Area, Figure 4, illustrates the areas of watershed and drainages therefrom. Calculations of flows and details of ditches are included hereto. The cover material required to protect the tailings from erosion and dispersion and to limit the release of radon is a layer of clay material placed three (3.09 feet minimum) feet thick on top of the tails followed by two (2) feet minimum of native soil and finally one (8" thick minimum) foot of rock blanket or riprap with 50% of the rock diameter equal to three (3") inches. For a distance of thirty (30) feet in front of the rock cut in the upper area, a larger riprap diameter will be required to protect the tails, therefore, in this area 50% of the rock diameter will be twelve (12) inches in size (see detail on Figure 1, Cross-section).

The clay cover material shall consist of natural silty sandy clayey soil obtained from the designated clay borrow areas as shown on figure 2 of Woodward-Clyde Consultants, Earthwork Quality Control Overview and As-Built Drawings Construction of Stage I Tailings Impoundment and Dam, Shootaring Canyon Uranium project, Garfield County, Utah, July 1982. This material shall be placed in a manner as to produce a reasonably well-graded and homogeneous impervious soil with not less than 50 percent finer than the No. 200 sieve. The material shall be compacted to 95 percent of maximum dry density at plus or minus 2 percent of optimum moisture content. Compaction and moisture testing will be conducted at one test per 3000 cubic yards to ensure compliance. If any areas fail to meet the requirements for composition, compaction or moisture, the material shall be removed and/or reworked until it is in compliance.

The native soil cover will consist of the natural sand and gravel soils found in the borrow areas adjacent to the tailings area. This material will be placed at 95 percent of maximum dry density at plus or minus 2 percent of optimum moisture content. Compaction and moisture testing will be conducted at one test per 3000 cubic yards to ensure compliance. If any areas fail to meet the requirements for compaction or moisture the material shall be reworked until it

is in compliance. But more may be used to help establish slopes for runoff. A minimum of two (2) feet depth is required.

The rock cover material shall be processed from the borrow areas adjacent to the tailings area. This material can be machine placed to the required depth. No special compactive effort is required for this material. Depth of rock cover will be measured to maintain the minimum rock cover thickness.

Estimates of the cover materials:

1) Clay cover 446,200 Cubic Yards

2) Native soil cover 287,700 Cubic Yards

3) Rock cover 96,000 Cubic Yards

The availability of these materials are shown on figure 2 of Woodward-Clyde Consultants, Earthwork Quality Control Overview and As-Built Drawings Construction of Stage I Tailings Impoundment and Dam, Shootaring Canyon Uranium project, Garfield County, Utah, July 1982. A copy of figure 2 is included in this Appendix C.

APPENDIX C

RE: Design of the drainage ditches and erosion cap on the tailings impoundment of the Shootering Canyon Uranium Mill, located in Garfield County, Utah.

Note: From a meeting between the NRC and Plateau Resources on May 16, 1996 and a subsequent follow up phone call in August of 1996, it was decided to split the tailings pond into two separate drainage areas. The area north of the existing cross valley berm would drain to the north west through a cut in the natural topography, and precipitation on the area south of the cross valley berm would drain across the slope to the impoundment dam and be retained. In the event that deposition of sediment has occurred in an amount sufficient to fill the area behind the dam, the runoff would sheet flow across the entire crest of the dam. In addition, runoff ditches would be constructed above the tailing pond to capture any precipitation from the surrounding area and discharge it to the south past the location of the Impoundment Dam,eliminating the probability of infiltration of the precipitation into the tailings.

Design of Runoff Ditch A.

This runoff area is on the easterly side of the tailings area and includes the mill site. This ditch may be constructed in two to three stages as the lining of the area below the existing cross valley berm in the tailings impoundment progresses. Runoff from the mill site area will collect in the tailings area during operations. Part of the cost of constructing portions A1 & A2 of runoff ditch A would be part of operations and portion A3 would be included in the final reclamation cost.

Area of Drainage:	91 Acres	
Runoff Coefficient	0.95 From table 4.4 of	NUREG/CR-4620 ORNL/TM-10067 Dated June 1986

Using Equation (4.45) the Time of Concentration is determined to be 16.8 Minutes

Time of Concentration = (11.9*L^3 / H)^ 0.385
=(11.9*0.76^3 / 142)^ 0.385
= 0.28 HRS
= 16.8 Minutes

Where L = 4000/5280 = 0.76 miles
H = 4582-4440 = 142 FT

Using Table 2.1 in Section 2.1.1 The % PMP is found by interpolation using the Time of Concentration above.

%PMP = 76.9 %

Using Equation 2.1 the Rainfall Depth is Calculated to be 6.53 inches.

Rain Depth = (%PMP) X (PMP)
=(76.9 %)X(8.5)
= 6.53 inches

Where the PMP is found in fig. 2.1 PMP = 8.5 inches

Using Equation 2.2 the Rain Intensity "i" is Calculated to be 23.34 inches / Hour

Rain Intensity = (Rain Depth) X (60 / Time of Concentration)
= 6.53 X (60/16.8)
= 23.34 inches / Hour

Using the Rational Method

Q= CiA
Q = 0.95 X 23.34 X 91
Q = 2,018 CFS

Ultimately this water is to be captured in Runoff Ditch A and flow to the south past the Impoundment Dam.

Using Equation 4.40 a depth of flow can be found by trial and error on various configurations of ditches.

Q = 1.486/n * Area of Flow * (Area of Flow / Wetted Perimeter)^(2/3) * Slope^0.5

Note: Using Equation 4.11 the value of n can be determined by the size of Riprap used in the channel

n = 0.395 (d50) ^ (1/6)

For this Runoff Ditch use the following criteria:

Q = 2,018 CFS
S = 1%
Side Slope of 2:1
Bottom Width of 15 Feet
Size of Riprap is 15" Diameter therefore n = 0.041

By trial and error the depth of flow is found to be 7.1 Feet.

V = Q/A
V = 9.73 FT/Sec

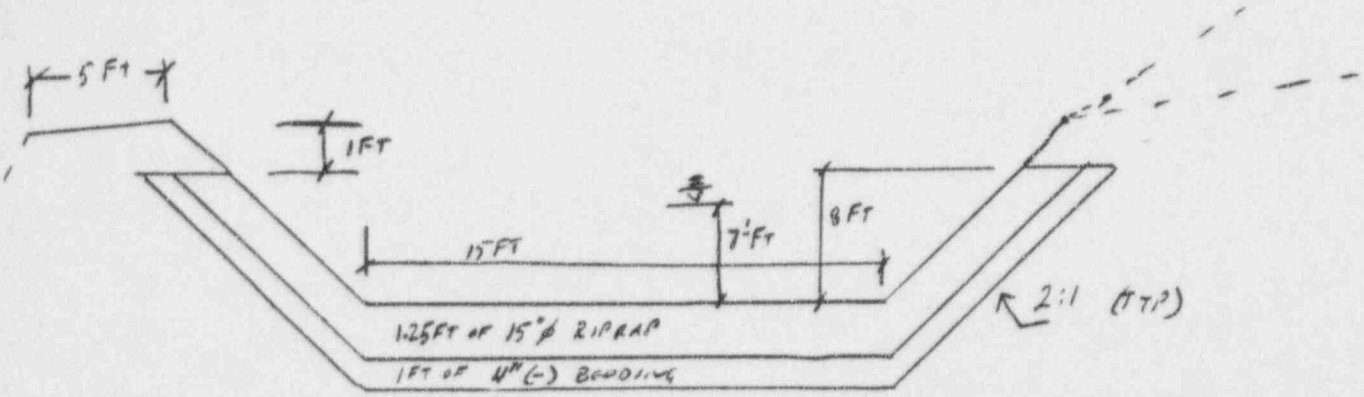
From Fig 4.11 it is determined graphically that a minimum stone size of 14" be used therefore OK

Quantity of Riprap and bedding required for the construction of the Runoff Ditch

15" Dia Riprap = (1.25 FT) * (2*SQRT(8^2+(2*8)^2)+15 * 3000 LF * 1.2/27
= 8460 CY

4" (-) Bedding = 8460 CY * (1/1.25)Ratio
= 6770 CY

Typical section of Runoff Ditch A:



- NOT TO SCALE

- FILL ALL VOIDS IN RIPRAP WITH A 4" (-) BEDDING MATERIAL.

Design of Runoff Ditch B-C.

This runoff area is on the westerly side of the tailings impoundment area . This ditch may be constructed in two to three stages as the lining of the area below the existing cross valley berm in the tailings impoundment progresses. In addition, this ditch will be used as a buffer zone to protect the tailings area from rocks falling from the bluff above. The cost of constructing this ditch would be part of operations and not included in the final reclamation cost.

Area of Drainage:	28 Acres	
Runoff Coefficient	0.95 From table 4.4 of	NUREG/CR-4620 ORNL/TM-10067 Dated June 1996

Using Equation (4.45) the Time of Concentration is determined to be 8.08 Minutes

Time of Concentration = (11.9*L^3 / H)^ 0.385
=(11.9*0.57^3 / 399)^ 0.385
= 0.13 HRS
= 8.08 Minutes

Where L = 3000/5280 = 0.57 miles
H = 4849-4450 = 399 FT

Using Table 2.1 in Section 2.1.1 The % PMP is found by interpolation using the Time of Concentration above.

%PMP =55.47%

Using Equation 2.1 the Rainfall Depth is Calculated to be 6.53 inches.

Rain Depth = (%PMP) X (PMP)
=(55.47%)X(8.5)
= 4.72 inches

Where the PMP is found in Fig. 2.1 PMP = 8.5 inches

Using Equation 2.2 the Rain Intensity "i" is Calculated to be 35.01 inches / Hour

Rain Intensity = (Rain Depth) X (60 / Time of Concentration)
= 4.72 X (60/8.08)
= 35.01 inches / Hour

Using the Rational Method

Q= CiA
Q = 0.95 X 35.01 X 28
Q = 931 CFS

Ultimately this water is to be captured in Runoff Ditch B-C and flow to the south past the Impoundment Dam.

Using Equation 4.40 a depth of flow can be found by trial and error on various configurations of ditches.

Q = 1.486/n * Area of Flow * (Area of Flow / Wetted Perimeter)^(2/3) * Slope^0.5

Note: Using Equation 4.11 the value of n can be determined by the size of Riprap used in the channel

n = 0.395 (d50) ^ (1/6)

For this Runoff Ditch use the following criteria:

Q = 931 CFS
S = 1%
Side Slope of 1.5:1
Bottom Width of 25 Feet Note: This will allow the use of a vehicle in the ditch for access.
Size of Riprap is 9" Diameter therefore n = 0.0377

By trial and error the depth of flow is found to be 3.74 Feet.

V = Q/A
V = 8.1 FT/Sec

From Fig 4.11 it is determined graphically that a minimum stone size of 9" be used therefore OK

Quantity of Riprap and bedding required for the construction of the Runoff Ditch

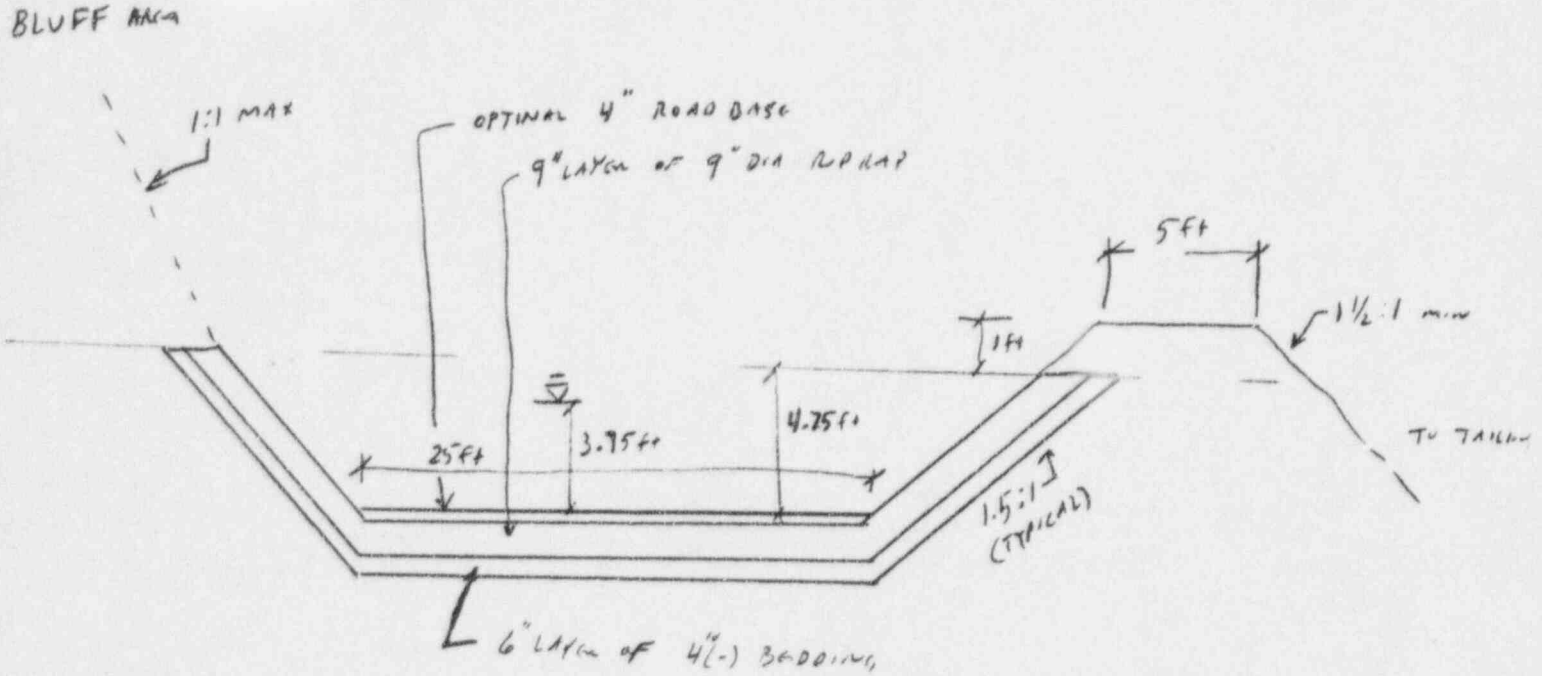
9" Dia Riprap = (0.75 FT) * (2*SQRT(4.75^2+(1.5*4.75)^2)+25 * 3000 LF * 1.2/27
= 3925 CY

4" (-) Bedding = 3925 CY * (0.5/0.75)Ratio
= 2620 CY

Road Base or pit run gravel may be used on the surface of the 9" riprap for vehicle access in the Runoff ditch. This material would not add to the erosion protection in the channel.

Road Base =(4/12)*25*3000*1.25/27
= 1160 CY

Typical section of Runoff Ditch B-C:



- NOT TO SCALE
- FILL ALL VOIDS IN RIPRAP WITH THE 4" (-) BEDDING MATERIAL

Design of Erosion Cap on Area D.

This area is on the tailings impoundment north of the existing cross valley berm and drains to the north west through the cut made in the natural topography. A rock blanket must be provided to protect the radon barrier on the tails, and for design purposes it was determined that the approximate net slope on the surface of this area will be between 0.5% and 1%.

Area of Drainage:	38 Acres	
Runoff Coefficient	0.95 From table 4.4 of	NUREG/CR-4620
		ORNL/TM-10067 Dated June 1996

Using Equation (4.45) the Time of Concentration is determined to be 7.53 Minutes

Time of Concentration = (11.9*L^3 / H)^ 0.385
=(11.9*0.322^3 / 87)^ 0.385
= 0.126 HRS
= 7.53 Minutes

Where L = 1700/5280 = 0.322 miles
H = 4538-4451 = 87 FT

Using Table 2.1 in Section 2.1.1 The % PMP is found by interpolation using the Time of Concentration above.

%PMP = 53.5%

Using Equation 2.1 the Rainfall Depth is Calculated to be 4.54 inches.

Rain Depth = (%PMP) X (PMP)
=(53.5%)X(8.5)
= 4.54 inches

Where the PMP is found in fig. 2.1 PMP = 8.5 inches

Using Equation 2.2 the Rain Intensity "i" is Calculated to be 36.24 inches / Hour

Rain Intensity = (Rain Depth) X (60 / Time of Concentration)
= 4.54 X (60/7.53)
= 23.34 inches / Hour

Using the Rational Method

Q= CiA
Q = 0.95 X 36.24 X 38
Q = 1,308 CFS

This water is to be drained through the cut made in the natural topography.

Using Equation 4.40 a depth of flow can be found by trial and error on various configurations of ditches.

Q = 1.486/n * Area of Flow * (Area of Flow / Wetted Perimeter)^(2/3) * Slope^0.5

Note: Using Equation 4.11 the value of n can be determined by the size of Riprap used in the channel

n = 0.395 (d50) ^ (1/6)

For this Runoff channel use the following criteria:

Q = 1,308 CFS
S = 1%
Side Slope of 1.5:1
Bottom Width of 30 Feet
Size of Riprap is 12" Diameter therefore n = 0.0395

By trial and error the depth of flow is found to be 4.23 Feet.

V = Q/A
V = 8.5 FT/Sec

From Fig 4.11 it is determined graphically that a minimum stone size of 11" be used therefore OK

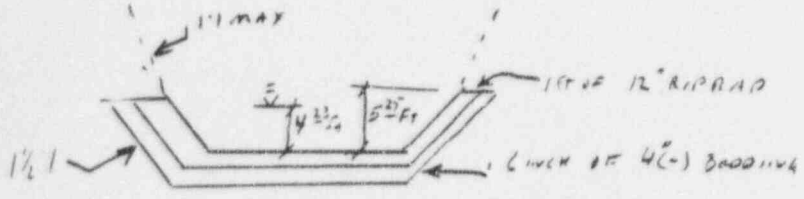
Quantity of Riprap and bedding required for the construction of the Runoff Ditch

12" Dia Riprap = (1.0 FT) * (2*SQRT(5.25^2+(1.5*5.25)^2)+30 * 240 LF * 1.2/27
= 525 CY

4" (-) Bedding = 525 CY * (0.5/1)Ratio
= 260 CY

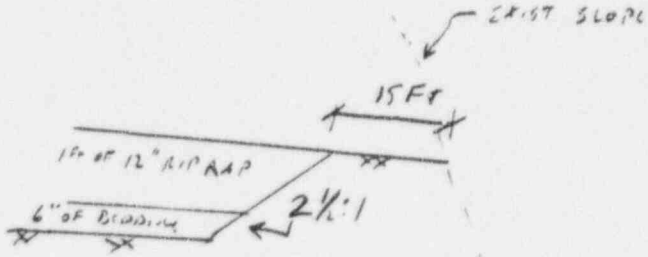
Note: If it is decided to steepen the out flow channel, larger diameter riprap must be used and extended for a distance of forty feet onto the tailings to give added protection. The end of the outlet channel as it daylights into the draw below should be cut with a step to place the riprap against. (See detail below) It should also be noted that the channel will be cut into the native bedrock, and as such, the riprap may not be required if the native material is sound and durable.

Typical section of rock cut:



- NOT TO SCALE
- FILL ALL VOIDS IN RIPRAP WITH 4"(-) BEDDING

STEP DETAIL:



- NOT TO SCALE

Protection of the tailings cap:

q=CiA
q=(0.95)*36.24*(170*1/43560)
q=1.34 CFS / FT width across the cap

Depth of flow is found from Equation (4.46)

y=(Qn/(1.486*S^0.5))^(3/5)
y=(1.34*(.0395*(3/12)^(1/6))/(1.486*(0.0075)^0.5))^(3/5)
y=0.51FT

Therefore the velocity is calculated to be
V=Q/A
V=1.34/(0.51*1)
V=2.62 FT / sec

Which is less than those found in tables 4.7, 4.8 & 4.9. Therefore OK.

For the rock blanket cap on the area above the existing cross valley berm, use an 8" layer of d50 = 3". This is larger than required, but the material is readily available at the site.

Design of Erosion Cap on Area E.

This area is on the tailing impoundment south of the existing cross valley berm and drains to the impoundment dam where precipitation is retained. A rock blanket must be provided to protect the radon barrier on the tails, and for design purposes it was determined that the approximate net slope on the surface of this area will be between 1% and 2%.

Area of Drainage:	48 Acres	
Runoff Coefficient	0.95 From table 4.4 of	NUREG/CR-4620 ORNL/TM-10067 Dated June 1996

Using Equation (4.45) the Time of Concentration is determined to be 9.16 Minutes

Time of Concentration = (11.9*L^3 / H)^ 0.385
=(11.9*0.284^3 / 31)^ 0.385
= 0.15 HRS
= 9.16 Minutes

Where L = 1500/5280 = 0.284 miles
H = 4457-4426 = 31 FT

Using Table 2.1 in Section 2.1.1 The % PMP is found by interpolation using the Time of Concentration above.

%PMP = 59.1%

Using Equation 2.1 the Rainfall Depth is Calculated to be 4.54 inches.

Rain Depth = (%PMP) X (PMP)
=(59.1%)X(8.5)
= 5.03 inches

Where the PMP is found in fig. 2.1 PMP = 8.5 inches

Using Equation 2.2 the Rain Intensity "i" is Calculated to be 36.24 inches / Hour

Rain Intensity = (Rain Depth) X (60 / Time of Concentration)
= 5.03 X (60/9.16)
= 32.93 inches / Hour

Using the Rational Method

Q= CiA
Q = 0.95 X 32.93 X 48
Q = 1,501 CFS

Note: This water will collect behind the impoundment dam. The dam will have a three foot freeboard after this PMP. When a net soil deposition as occurred to fill the area behind the dam, the water will sheet flow across the entire face of the dam. No breaching of the dam for a drainage channel is required per the decision of the NRC and Plateau Resources.

q=CiA
q=0.95*32.93*(1500*1/43560)
p=1.08 CFS / FT width

Using Equation (4.46) the depth of flow is calculated to be

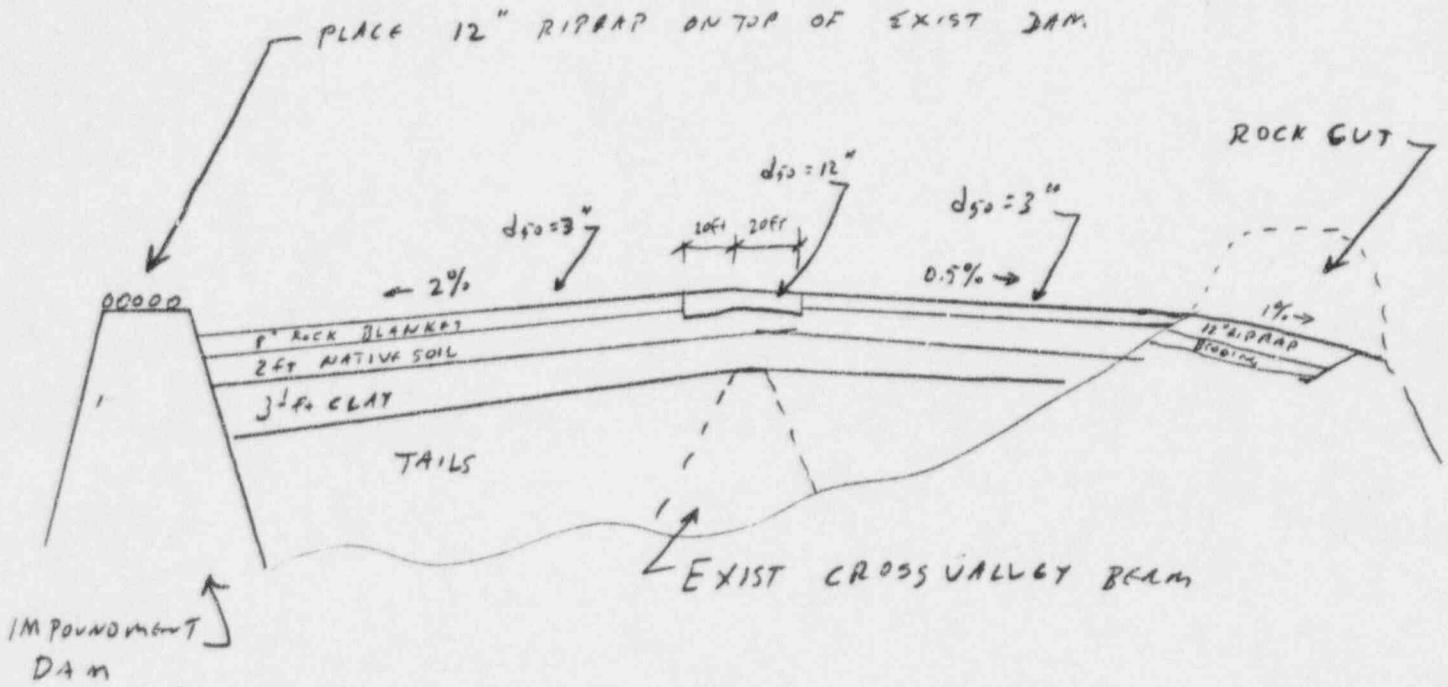
y=(Qn/(1.486*S^0.5))^(3/5)
y=0.3166 FT

Determine the velocity of the runoff

V=Q/A
V=1.08/(0.3166*1)
V=3.41 FT / Sec < 4 Therefore OK.

For the rock blanket cap on the area below the existing Cross Valley Bern use an 8" layer of d50 = 3", which matches the cover required above the cross valley berm. At the location of the cross valley berm where the ridge line on the tailings cap is, place a one foot layer of d50=6" for 20 FT each way to protect the transition area. For added protection of the impoundment dam place a 1 foot thick layer of 12" riprap on the crest of the existing dam, and fill all voids in the riprap with 4" (-) material.

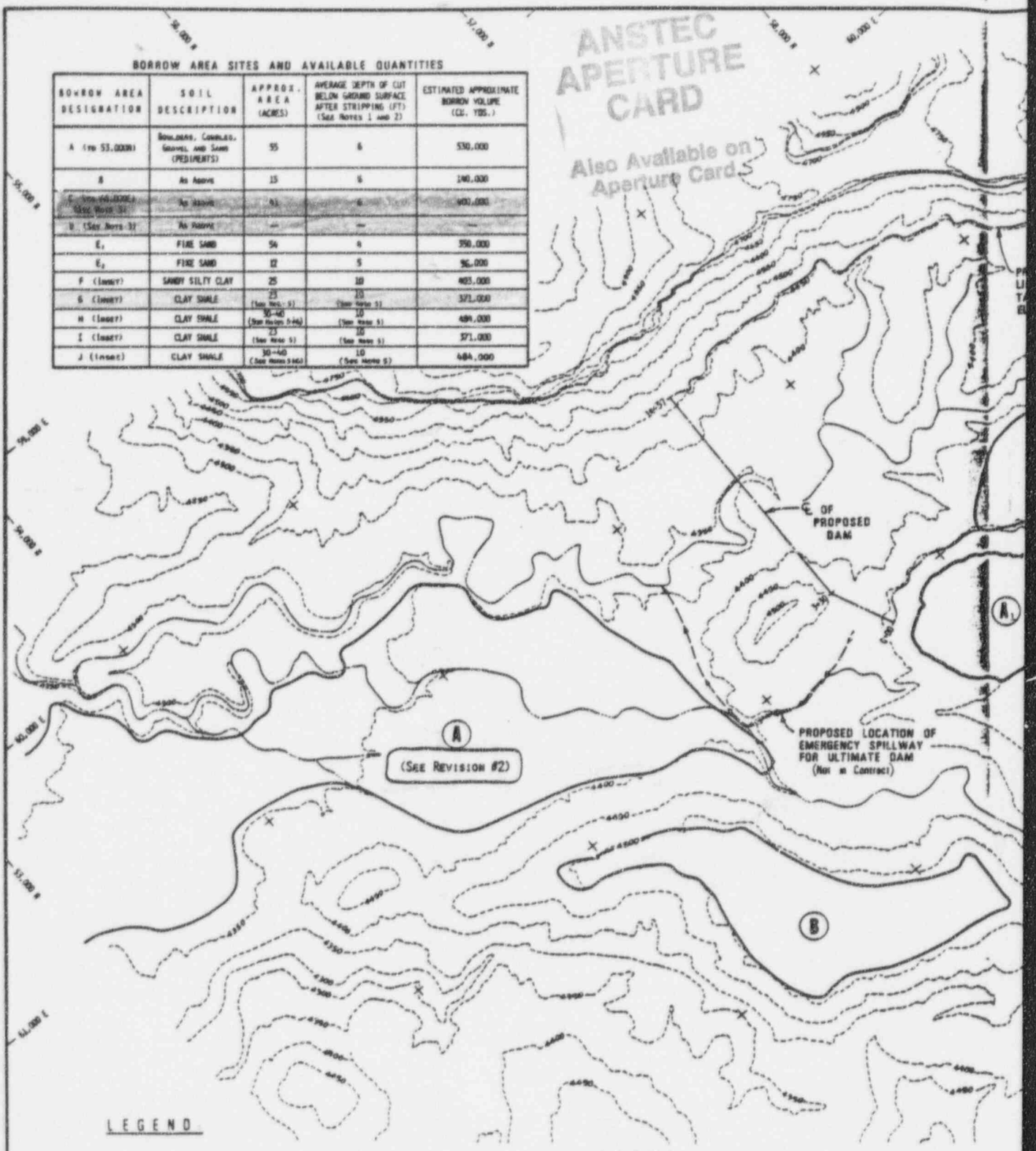
Typical Section of the tailing area:



NOT TO SCALE

BORROW AREA SITES AND AVAILABLE QUANTITIES

BORROW AREA DESIGNATION	SOIL DESCRIPTION	APPROX. AREA (ACRES)	AVERAGE DEPTH OF CUT BELOW GROUND SURFACE AFTER STRIPPING (FT) (See Notes 1 and 2)	ESTIMATED APPROXIMATE BORROW VOLUME (CU. YDS.)
A (to 53,000N)	Boulders, Cobbles, Gravel and Sand (PEDIMENTS)	55	6	530,000
B	As Above	15	6	140,000
C (see 46,000E, See Note 3)	As Above	63	6	607,000
D (See Note 3)	As Above	—	—	—
E_1	FINE SAND	54	6	350,000
E_2	FINE SAND	12	5	96,000
F (Inset)	SANDY SILTY CLAY	25	10	405,000
G (Inset)	CLAY SHALE	23 (See Note 5)	10 (See Note 5)	371,000
H (Inset)	CLAY SHALE	30-40 (See Notes 5+6)	10 (See Note 5)	484,000
I (Inset)	CLAY SHALE	23 (See Note 5)	10 (See Note 5)	371,000
J (Inset)	CLAY SHALE	30-40 (See Notes 5+6)	10 (See Note 5)	484,000

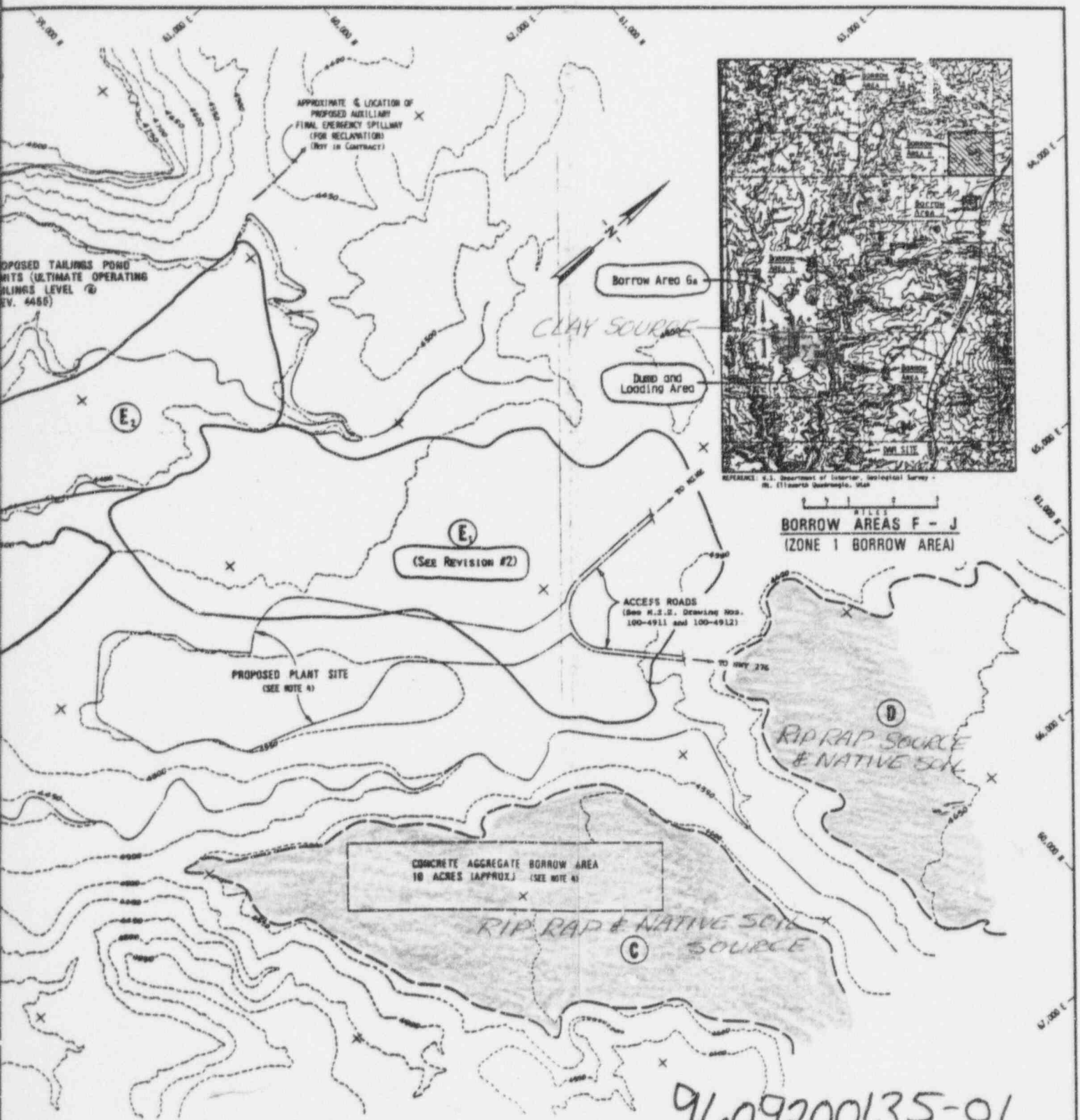


LEGEND

- (A) (B) — ZONE 2 BORROW AREA (AREA TO BE USED SHALL BE SELECTED BY THE CONTRACTOR)
- (C) (D) — ZONE 2 BORROW AREA (BACK-UP SOURCE)
- (E_1) (E_2) — ZONE 3 BORROW AREA (AREA TO BE USED SHALL BE SELECTED BY THE CONTRACTOR)
- (A_1) — ZONE 2 BORROW AREA (AREA APPROVED 1-7-81)

NOTES:

1) CONSERVATIVELY ASSUMED DEPTHS BASED ON LIMITED FIELD EXPLORATION.
2) ASSUMED STRIPPING DEPTH IS 2 FEET IN BORROW AREAS A - J.
3) BORROW AREAS C AND D TO BE USED AS BACK-UP BORROW SOURCES.
4) PROPOSED PLANT SITE AND CONCRETE AGGREGATE BORROW AREA.
5) THESE VALUES MAY VARY WITH PARTICULAR EXCAVATION METHODS. DEPTH OF BORROW MATERIAL EXCEEDS 10 FEET.
6) ESTIMATED ACREAGE DOES NOT REPRESENT THE TOTAL AREA AVAILABLE IN BORROW AREAS H AND J.



9609200135-01

REFERENCE:

TOPOGRAPHY FROM AIR PHOTO SURVEYS AND GLOBAL ENGINEERING, INC., GRAND JUNCTION, COLORADO

0 200 400 800 1200 1600

SCALE IN FEET

No.	Date	Revisions	By
2	6-23-82	Re-Note Drawing. Added Borrow Area Ga to Site Map. Area Ga was the actual source of long t. Zone (1) was taken from Area E1. Zone (2) primarily came from Area E2.	RBG
1	1-12-81	Addition of BORROW AREA A.	D.A.P.

R.E. NO. 1933

DATE: 5-24-79

APPROVED: Bernard R. Gordon

BORROW AREA PLAN

PLATEAU RESOURCES LIMITED

SHOOTERING CANYON URANIUM PROJECT

Garfield County, Utah

Project No. 60255J

Woodward-Clyde Consultants

Figure 2

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APPENDIX D

COVER ON MILLSITE AND BARROW AREAS

The tailings area will get a rock blanket as shown in Appendix C. The mill site and other disturbed areas will be recontoured so runoff from the reclaimed area will continue to flow to a permanent runoff ditch along the east side of the tailings impoundment area. The recontouring will blend with the natural surrounding topography. Natural site soils will be added where practical to help establish natural vegetation at the mill site. Fertilization, if needed, and seeding will follow seed bed preparation to promote the establishment of vegetation in accordance with the Utah Mine and Reclamation Act. Mulch will be used where necessary. Plant species to be used are likely to include: sagebrush (Artemisia spp.), Indian ricegrass (Oryzopsis hymenoides), Mormon tea (Ephedra spp.), galletta (Hilaria jamesii), Siberian or crested wheat grass (Agropyron sibiricum or A. desertorum), Salina wildrye (Elymus salinas), saltbrushes (Atriplex spp.), black brush (Coleogyne ramosissima), Apacheplume (Fallugia paradoxa), and/or desert bitterbrush (Purshia glandulosa), and rabbit brush (Chrysothamnus spp.). The actual seed mixture species and ratios will be determined at the time of actual reclamation to take advantage of the latest information on the establishment of plant growths in arid regions.

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APPENDIX F

----------! RADON !**********

Version 1.2 - MAY 22, 1989 - G.F. Birchard tel.# (301)492-7000
U.S. Nuclear Regulatory Commission Office of Research

RADON FLUX, CONCENTRATION AND TAILINGS COVER THICKNESS
ARE CALCULATED FOR MULTIPLE LAYERS

SHOOTERING CANYON URANIUM PROJECT GARFIELD COUNTY UTAH 9/5/96

CONSTANTS

RADON DECAY CONSTANT	.0000021	s^-1
RADON WATER/AIR PARTITION COEFFICIENT	.26	
SPECIFIC GRAVITY OF COVER & TAILINGS	2.65	

GENERAL INPUT PARAMETERS

LAYERS OF COVER AND TAILINGS	4	
DESIRED RADON FLUX LIMIT	20	pCi m^-2 s^-1
NO. OF THE LAYER TO BE OPTIMIZED	2	
DEFAULT SURFACE RADON CONCENTRATION	0	pCi l^-1
SURFACE FLUX PRECISION	.001	pCi m^-2 s^-1

LAYER INPUT PARAMETERS

LAYER 1 MILL TAILINGS

THICKNESS	500	cm
DEFAULT POROSITY	.4	
CALCULATED MASS DENSITY	1.59	g cm^-3
ORE GRADE PERCENTAGE	.15	%
CALCULATED RADIUM ACTIVITY	421.8	pCi g^-1
DEFAULT LAYER EMANATION COEFFICIENT	.35	
CALCULATED SOURCE TERM CONCENTRATION	1.232D-03	pCi cm^-3 s^-1
WEIGHT % MOISTURE	6	%
MOISTURE SATURATION FRACTION	.238	
CALCULATED DIFFUSION COEFFICIENT	3.131D-02	cm^2 s^-1

LAYER 2 CLAY FROM BORROW

THICKNESS	181	cm
CALCULATED POROSITY	0.294	
MEASURED MASS DENSITY	1.87	g cm^-3
ORE GRADE PERCENTAGE	0	%
CALCULATED RADIUM ACTIVITY	0	pCi g^-1
DEFAULT LAYER EMANATION COEFFICIENT	.35	
CALCULATED SOURCE TERM CONCENTRATION	0.000D+00	pCi cm^-3 s^-1
WEIGHT % MOISTURE	10	%
MOISTURE SATURATION FRACTION	.635	
CALCULATED DIFFUSION COEFFICIENT	4.542D-03	cm^2 s^-1

FROM WOODWARD-CLYDE CONSULTANTS FINAL DESIGN REPORT MAY 1979 IT WAS DETERMINED THAT THE CLAY HAD A DRY DENSITY OF $116\frac{7}{8}$ #/CF OR 1.87 g/cm^3 AND 50% OF THE MATERIAL WAS CLAY.

FROM EQ (5) OF REGULATORY GUIDE 3.64
(TASK WM 503.4)

$$\theta = 0.026 + 0.005 Z + 0.015 Y$$
$$= 0.026 + 0.005(50) + 0$$
$$= 0.276$$

EQ (6)

$$w_c = \frac{100 \theta \rho_w}{\rho_c} = \frac{100(0.276)(1)}{1.87} = 14.7\%$$

THIS IS GREATER THAN THE INPUT OF 10% so OK

LAYER 3 NATIVE SOIL COVER FROM BORROW

THICKNESS	61	cm
CALCULATED POROSITY	0.306	
MEASURED MASS DENSITY	1.84	g cm^-3
ORE GRADE PERCENTAGE	0	%
CALCULATED RADIUM ACTIVITY	0	pCi g^-1
DEFAULT LAYER EMANATION COEFFICIENT	.35	
CALCULATED SOURCE TERM CONCENTRATION	0.000D+00	pCi cm^-3 s^-1
WEIGHT % MOISTURE	2	%
MOISTURE SATURATION FRACTION	.120	
CALCULATED DIFFUSION COEFFICIENT	4.523D-02	cm^2 s^-1

LAYER 4 ROCK BLANKET / PAVING

THICKNESS	20.32	cm
DEFAULT POROSITY	.4	
CALCULATED MASS DENSITY	1.59	g cm^-3
ORE GRADE PERCENTAGE	0	%
CALCULATED RADIUM ACTIVITY	0	pCi g^-1
DEFAULT LAYER EMANATION COEFFICIENT	.35	
CALCULATED SOURCE TERM CONCENTRATION	0.000D+00	pCi cm^-3 s^-1
WEIGHT % MOISTURE	.05	%
MOISTURE SATURATION FRACTION	.002	
CALCULATED DIFFUSION COEFFICIENT	6.953D-02	cm^2 s^-1

DATA SENT TO THE FILE 'RNDATA' ON DRIVE A:

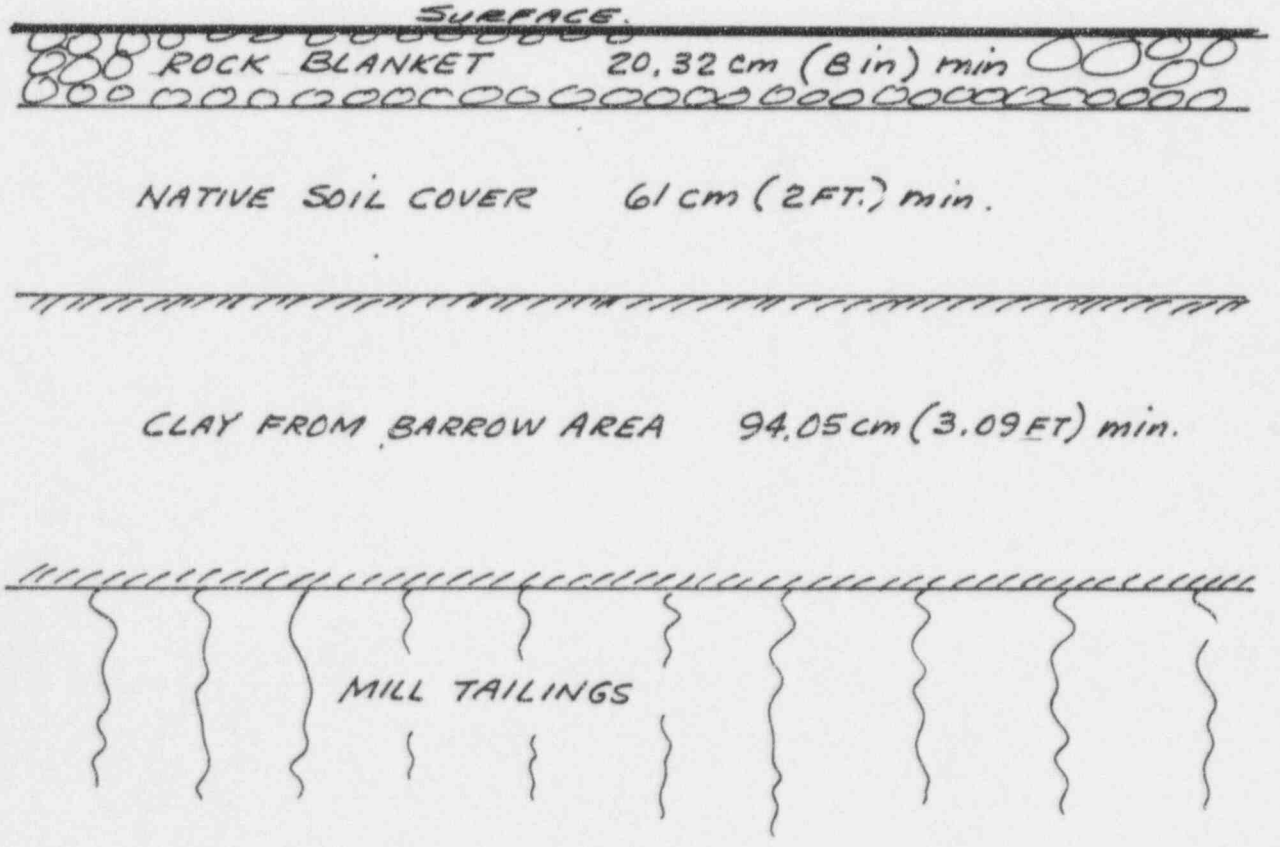
N	F01	CN1	ICOST	CRITJ	ACC
4	-1.000D+00	0.000D+00	2	2.000D+01	1.000D-03

LAYER	DX	D	P	Q	XMS	RHO
1	5.000D+02	3.131D-02	4.000D-01	1.232D-03	2.385D-01	1.590
2	1.810D+02	4.542D-03	2.943D-01	0.000D+00	6.353D-01	1.870
3	6.100D+01	4.523D-02	3.057D-01	0.000D+00	1.204D-01	1.840
4	2.032D+01	6.953D-02	4.000D-01	0.000D+00	1.987D-03	1.590

BARE SOURCE FLUX FROM LAYER 1: 5.917D+02 pCi m^-2 s^-1

RESULTS OF THE RADON DIFFUSION CALCULATIONS

LAYER	THICKNESS (cm)	EXIT FLUX (pCi m^-2 s^-1)	EXIT CONC. (pCi l^-1)
1	5.000D+02	9.276D+01	4.867D+05
2	9.405D+01	2.242D+01	6.159D+03
3	6.100D+01	2.012D+01	1.336D+03
4	2.032D+01	2.000D+01	0.000D+00



APPENDIX G

COSTS FOR DECOMISSIONING AND RECLAMATION

GRAPHICAL EVENTS FOR OPERATIONS AND RECLAMATION OF THE MILL SITE		$0.00
BEGIN OPERATION OF MILL & USE UPPER TAILINGS AREA		$0.00
RO DITCH "B & C" SEE NOTE (1)		$0.00
CONSTRUCT SECONDARY CROSS VALLEY BERM MIDWAY TO DAM		$0.00
BEGIN LINING OF TAILINGS AREA BETWEEN TWO CROSS VALLEY BERMS		$0.00
RO DITCH "A-1" SEE NOTE (2)		$0.00
UTILIZING OF TAILINGS AREA BETWEEN CROSS VALLEY BERMS		$0.00
BEGIN LINING OF TAILINGS AREA BETWEEN DAM AND SECONDARY CROSS VALLEY BERM		$0.00
UTILIZATION OF THE ENTIRE TAILING AREA BELOW THE CROSS VALLEY BERM		$0.00
DEVELOPE A EVAPORATION POND FOR FINAL DEWATERING OF TAILS		$0.00
A. RECLAMATION OF TAILINGS ABOVE CROSS VALLEY BERM		$1,778,972.00
A.1 DEWATER TAILINGS SEE NOTE (3)		$40,000.00
A.2 GRADE TAILINGS FOR CAP		$80,000.00
A.2 PLACE CLAY COVER	149,900 CY	$1,023,630.00
A.3 EXCAVATE ROCK CUT	14,000 CY	$69,600.00
A.4 PLACE NATIVE SOIL COVER	96,700 CY	$386,800.00
A.5 PLACE ROCK COVER MATERIALS	32,300 CY	$178,942.00
1.1 MILL DECOMMISSIONING & SHAPING		$1,200,600.00
1.1.1 S.A.G. MILL FEED CONVEOR DEMO.		$37,840.00
1.1.2 TRUCK SCALE DEMO.		$9,460.00
1.1.3 TRUCK DUMP POCKET AND BUCKING ROOM DEMO.		$56,760.00
1.1.4 REMOVAL OF REAGENT & STORAGE TANKS		$56,760.00
1.1.5 CCD CIRCUIT REMOVAL		$66,220.00
1.1.6 MILL BUILDING AND INSIDE REMOVAL & DEMO.		$227,040.00
1.1.7 REMOVAL OF ENVIROMENTAL LAB		$18,920.00
1.1.8 ANALYTICAL & METALLURGICAL LAB DEMO.		$56,760.00
1.1.9 GENERAL OFFICE DEMO.		$75,680.00
1.1.10 POWER PLANT & CHANGE ROOM DEMO.		$151,360.00
1.1.11 MAINTENANCE & WEREHOUSE DEMO		$75,680.00
1.1.12 REMOVAL OF CONTAMINATED SOILS AT MILL SITE		$56,760.00
1.1.13 PUMP STATION DEMO		$18,920.00
1.1.14 RAW WATER & POTABLE WATER TANK DEMO.		$37,840.00
1.1.15 SHAPING AND CONTOURING MILL SITE		$66,220.00
1.1.16 RO DITCH "A-2" SEE NOTE (4)		$160,000.00
1.1.16 REVEGETATION OF MILL SITE		$28,380.00
1.2 TAILINGS POND RECLAMATION		$3,422,479.00
1.2.1 DEWATER AND STABILIZE TAILINGS SEE NOTE (5)		$40,000.00
1.2.2 GRADE TAILS & RECIEVE MILL SITE WASTE PRODUCTS FOR BURIAL		$80,000.00
1.2.2 PLACE CLAY LAYER COVER	296,300 CY	$2,035,581.00
1.2.3 PLACE NATIVE SOIL LAYER COVER	191,000 CY	$764,000.00
1.2.4 PROCESS AND PLACE ROCK COVER	63,700 CY	$352,898.00
1.2.5 REGRADING AND SEEDING OF BORROW AREAS		$150,000.00
RADIOLOGICAL SURVEY COST		$8,720.00
SUB TOTAL OF COST		$6,410,771.00
15% CONTINGENCY OF SUBTOTAL		$961,616.00
SUB TOTAL OF COST		$7,372,387.00
LONG - TERM MAINTENANCE		$250,000.00
TOTAL COST OF RECLAIMATION		$7,622,387.00

Cost Breakdown of cover materials:

CLAY COVER:

Load, haul, place and compact to the required density and moisture content above the tailings.

Upper Tailings Area	149,000 CY	x	$ 6.87 / CY	=	$ 1,023,630.00
Lower Tailings Area	296,300 CY	x	$ 6.87 / CY	=	$ 2,035,581.00
			TOTAL COST	=	**$3,059,211.00**

CREW:	1 EA	Excavator	@	$ 75.00 / Hr / EA
	2 EA	Dozer	@	$125.00 / HR / EA
	1 EA	Loader	@	$ 75.00 / HR / EA
	2 EA	Compactor	@	$ 60.00 / HR / EA
	1 EA	Blade	@	$ 55.00 / HR / EA
	4 EA	Water Truck	@	$ 40.00 / HR / EA
	11 EA	Haul Truck	@	$ 60.00 / HR / EA
	1 EA	Disc & Tractor	@	$ 55.00 / HR / EA
	2 EA	Mechanics	@	$ 40.00 / HR / EA
	2 EA	Oilers	@	$ 20.00 / HR / EA
	2 EA	Labors	@	$ 12.00 / HR / EA
	1 LS	Misc Exp.	@	$ 50.00 / HR
		Total per hour	=	$1,644.00 / HR + -

Expect 2 rounds/HR/Truck = = 7EA x 20CY/Load x 2 Loads/HR x 8 HR/Day = 2240 CY/Day

Therefore:	(8HR x $1,644.00/HR) / 2240 CY	=	$ 5.87 / CY
Plus Royalty payment:			$ 1.00 / CY
		Total Cost =	$ 6.87 / CY

NATIVE SOIL COVER:

Load, haul, place and compact to the required density and moisture content above the Clay.

Upper Tailings Area	96,700 CY	x	$4.00 / CY	=	$ 386,800.00
Lower Tailings Area	191,000 CY	x	$4.00 / CY	=	$ 764,000.00
			TOTAL COST	=	**$1,150,800.00**

CREW:	1 EA	Excavator	@	$ 75.00 / Hr / EA
	1 EA	Dozer	@	$125.00 / HR / EA
	1 EA	Loader	@	$ 75.00 / HR / EA
	2 EA	Compactor	@	$ 60.00 / HR / EA
	1 EA	Blade	@	$ 55.00 / HR / EA
	4 EA	Water Truck	@	$ 40.00 / HR / EA
	6 EA	Haul Truck	@	$ 60.00 / HR / EA
	1 EA	Mechanics	@	$ 40.00 / HR / EA
	1 EA	Oilers	@	$ 20.00 / HR / EA
	2 EA	Labors	@	$ 12.00 / HR / EA
	1 LS	Misc Exp.	@	$ 25.00 / HR
		Total per hour	=	$1,079.00 / HR + -

Expect 3 rounds/HR/Truck = = 6EA x 20CY/Load x 3 Loads/HR x 8 HR/Day = 2880 CY/Day

Therefore:	(8HR x $1,079.00/HR) / 2880 CY	=	$ 3.00 / CY
Plus Royalty payment:			$ 1.00 / CY
		Total Cost =	$ 4.00 / CY

ROCK BLANKET COVER:

Process, load, haul and place to the required thickness above the native soil cover and on slopes.

Upper Tailings Area	32,300 CY	x	$ 5.54 / CY	=	$ 178,942.00
Lower Tailings Area	63,700 CY	x	$ 5.54 / CY	=	$ 352,898.00
			TOTAL COST	=	$531,840.00

CREW:	2 EA	Excavator	@	$ 75.00 / Hr / EA
	1 EA	Dozer	@	$125.00 / HR / EA
	2 EA	Loader	@	$ 75.00 / HR / EA
	1 EA	Screen	@	$100.00 / HR / EA
	1 EA	Blade	@	$ 55.00 / HR / EA
	1 EA	Water Truck	@	$ 40.00 / HR / EA
	6 EA	Haul Truck	@	$ 60.00 / HR / EA
	1 EA	Mechanics	@	$ 40.00 / HR / EA
	1 EA	Oilers	@	$ 20.00 / HR / EA
	2 EA	Labors	@	$ 12.00 / HR / EA
	1 LS	Misc Exp.	@	$ 25.00 / HR
		Total per hour	=	$ 1,089.00 / HR + -

Expect 2 rounds/HR/Truck = = 6EA x 20CY/Load x 2 Loads/HR x 8 HR/Day = 1920 CY/Day

Therefore:	(8HR x $1,089.00/HR) / 1920 CY =	$ 4.54 / CY
Plus Royalty payment:		$ 1.00 / CY
	Total Cost =	$ 5.54 / CY

ROCK CUT EXCAVATION FOR DRAINAGE CHANNEL:

Excavate drainage channel for drainage of area above the cross valley berm:

Upper Tailings Area	14,000 CY	x	$4.97 / CY	=	$ 69,600.00
			TOTAL COST	=	$124,000.00

CREW:	1 EA	Excavator	@	$ 75.00 / Hr / EA
	1 EA	Dozer	@	$125.00 / HR / EA
	1 EA	Loader	@	$ 75.00 / HR / EA
	2 EA	Haul Truck	@	$ 60.00 / HR / EA
	1 EA	Mechanics	@	$ 40.00 / HR / EA
	1 EA	Oilers	@	$ 20.00 / HR / EA
	1 EA	Powder man	@	$ 75.00 / HR / EA
	1 LS	Misc Exp.	@	$ 50.00 / HR
		Total per hour	=	$580.00 / HR + -

Expect 5 Weeks to do this work = = 31,000 CY / (3WK x 40 HR/WK) = 117 CY / HR

Therefore:	$580.00/HR / 117 CY/ HR =	$ 4.97 / CY
Plus Royalty payment:		$ 0.00 / CY
	Total Cost =	$ 4.97 / CY

DEMOLITION OF MILL SITE BUILDINGS AND PIPING:

Demolish and remove all buildings, piping and misc. items to tailings area for burial.

Remove Feed Conveor	2 WK x	$18,920.00 / WK	=	$ 37,840.00
Remove Truck Scale	0.5 WK x	$18,920.00 / WK	=	$ 9,460.00
Remove Truck Dump Pocket & Building	3 WK x	$18,920.00 / WK	=	$ 56,760.00
Remove Reagent & Storage Tanks	3 WK x	$18,920.00 / WK	=	$ 56,760.00
Remove CCD Circuit	3.5 WK x	$18,920.00 / WK	=	$ 66,220.00
Remove Mill Building	12 WK x	$18,920.00 / WK	=	$227,040.00
Remove Envir. Lab	1 WK x	$18,920.00 / WK	=	$ 18,920.00
Remove Metallurgical Lab	3 WK x	$18,920.00 / WK	=	$ 56,760.00
Remove Office Building	4 WK x	$18,920.00 / WK	=	$ 75,680.00
Remove Power Plant Building	8 WK x	$18,920.00 / WK	=	$151,360.00
Remove Maint. & Warehouse	4 WK x	$18,920.00 / WK	=	$ 75,680.00
Remove Containated Soils	3 WK x	$18,920.00 / WK	=	$ 56,760.00
Remove Water Tanks	1 WK x	$18,920.00 / WK	=	$ 18,920.00
Remove Pump Station	2 WK x	$18,920.00 / WK	=	$ 37,840.00
		TOTAL COST	=	**$946,000.00**

Note: This is comparable to the figure arrived at in the 1988 Reclamation Plan.

Recontouring & Shaping Mill Site	3.5 WKx	$18,920.00 / WK	=	$ 66,220.00
Reseeding Mill Site Facility	1.5 WK x	$18,920.00 / WK	=	$ 28,380.00
		TOTAL COST	=	**$ 94,600.00**

CREW: 1 EA	Excavator 3/4 Time@	$ 55.00 / Hr / EA	
1 EA	Dozer 1/2 Time @	$ 65.00 / HR	
1 EA	Loader @	$ 75.00 / HR / EA	
1 EA	Haul Truck @	$ 60.00 / HR / EA	
1 EA	Crane 3/4 Time @	$ 60.00 / HR / EA	
1 EA	Welder @	$ 40.00 / HR / EA	
1 EA	Mechanics @	$ 40.00 / HR / EA	
4 EA	Labors @	$ 12.00 / HR / EA	
1 LS	Misc Exp. @	$ 30.00 / HR	
	Total per hour =	$473.00 / HR + - Therefore $18,920.00 / WK +-	

Note: Actual machines and Crew size will very to the job requirements but this is a good estimation of the cost per hour for the mill site demolition and reclamation..

Radiological Survey:

From the 1988 Decommissioning and Reclamation Plan, prepared by Noel Savignal it was determined that this would cost: $ 8,720.00

COSTS FOR DECOMMISSIONING AND RECLAMATION

NOTES

1. RO Ditch B & C will be constructed to take the runoff water on the west side of the tailings area and transport it to the south and discharge it past the Dam. The ditch will be constructed during operations as an operational expense.

2. RO Ditch A-1 will capture the water on the upper Northeast side of the tailings area and discharge it into the area between the two cross valley berms. RO Ditch A-2 will tie into Ditch A-1 and discharge into the impoundment just before the main tailing dam. The ditch will be constructed during operations, as an operational expense.

3. Dewatering will be conducted by the use of the under drain system and spraying on the tails for dust control and pumping excess liquid back to the mill or into an impoundment between the two cross valley berms.

4. RO Ditch A-3 will tie into RO Ditch A-1 and A-2 and transport all the water from the east side of the tailings area past the dam to the south thereby eliminating any runoff on to the tailings cap.

5. Dewatering will be conducted by the use of the underdrain system and spraying the surface of the tails for dust control and evaporation. Water will also be pumped to the lined evaporation impoundment. The evaporation impoundment will be constructed during operations as an operational expense.