

4 of 4

DIVISION OF
OIL, GAS & MINING

RECEIVED
JUN 01 1982

REQUEST FOR MINOR MODIFICATION OF
REFUSE PILE EXPANSION PLAN

RECEIVED
JUN 01 1982

DIVISION OF
OIL, GAS & MINING

PLATEAU MINING COMPANY

A Subsidiary of Getty Mineral Resources Company

P.O. Drawer PMC

Price, Utah 84501-0904

Telephone (801) 637-2875

May 28, 1982

RECEIVED

JUN 01 1982

Ron Daniels
Division of Oil, Gas & Mining
4241 State Office Building
Salt Lake City, Utah 84114

**DIVISION OF
OIL, GAS & MINING**

Dear Ron;

Please find attached, a request for a minor modification to our approved Refuse Pile Expansion Plan.

Due to finding an error in calculations, it has become apparent to Plateau that our original estimate of usable soil in the area of the refuse expansion was grossly in error. Subsequently, the Company is confronted with a situation wherein we urgently need permission to expand the area to stockpile soil.

The bid for the contract to remove this material has been distributed with an opening date of June 4, 1982 and a start-work date of June 10, 1984.

In the event we cannot proceed with this contract expansion, the ultimate end result would be disastrous to Plateau.

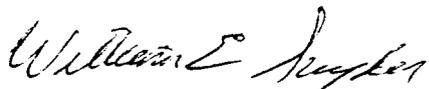
Due to market conditions, PMC is presently forced to stockpile a large portion of this year's production. This in itself is not a problem for the Company; however, the approved stockpile area further reduces an already insufficient refuse pile area.

If, for any reason, Plateau cannot expand the refuse area at this time, we could very likely be forced into a situation where production would be reduced and a substantial layoff of personnel mandated.

I am confident that I can count on your office's full support in getting this situation resolved immediately. I further assure you that we, Plateau, will aid in supplying any additional information or clarification you may request.

Sincerely,

PLATEAU MINING COMPANY



William E. Snyder
General Superintendent

BS/srd

Attachment

"REQUEST FOR MINOR MODIFICATION OF REFUSE PILE EXPANSION PLAN"

1.1 Summation of methodology of approved plan in conjunction with modification:

Phase #1. To remove approximately 20,000 cubic yards of refuse from the area at the east end of the coal pile in the tipple area (ref. Plates 1, 2, 3, & 4) and to redistribute it on the eastern end of existing refuse pile in the following prescribed manner:

To deposit said material in lifts not to exceed 2' and maintain the natural slope configuration to form an apex with corresponding slope not to exceed 2:1 ratio.

Phase #2. Upon the completion of Phase #1, to remove approximately 200,000 cubic yards of topsoil from the area designated on Plates 1, 2, 3, & 4 as refuse expansion area, and redistribute a portion of said soil on that section of refuse pile which is at final configuration to a depth of 10" to 12" (approximately five acres). The balance to be stockpiled in those areas designated on cross-sections, Plate 1 as topsoil stockpiles. These piles should be formed in 2' lifts and maintain a side slope ratio not to exceed 2:1 or in a valley fill situation said pile would coincide to the natural configuration of the opposing slopes.

During all phases of soil removal, a soils specialist representing PMC will be on site to determine to what depth usable soil is available, and on an area-by-area basis direct activities so as not remove material which is not suitable for redistribution.

In conjunction with the actual removal and redistribution, the following support activities will be required to be effected:

1. Road to stockpile area #2 as per Plates 1, 2, 3, & 4.
 - a. Provide adequate drainage as designated in crosssections, Plate 1, to include all ditches, culverts, and drops, as designed by Vaughn Hansen and Associates.
2. To maintain temporary runoff control during construction and to implement permanent measures upon completion as per cross-section, Plate 1.

- a. Catch basins
- b. Berms
3. The orderly and timely removal of all vegetation immediately ahead of advancing topsoil stockpile.
 - a. Vegetation removed can be stockpiled at the lowest portion of the drainage below the pile to act as a filter for disturbed runoff.
4. To insure adequate dust control by whatever means necessary.

Upon completion of each topsoil stockpile, that surface portion of the pile which has been compacted by the presence of equipment shall be scarified in order to enhance potential for interim revegetation. The leading edge and down slope shall be terraced to increase the stability of the pile and enhance water retention and decrease erosion.

During the course of removal, Plateau Mining Company, in cooperation with D.O.G.M., will implement a number of test plots on the existing refuse pile to gain insight on both methodology and procedures necessary to establish adequate soil depths to insure interim and finale reclamation.

1.2 Portions which constitute a variance from approved plan:

Due to an error in PMC's original calculations relative to quantity of useable soil, an alternative topsoil stockpile area has become apparent.

In order to facilitate an expeditious review, each of the following areas of potential concern will be addressed as a separate sub-heading:

- a. Revegetation
- b. Wildlife Impacts
- c. Topsoil - Stockpile Areas & Stability
- d. Road Construction and Alignment
- e. Hydrology

A. REVEGETATION:

The following procedures are designed to revegetate and control erosion. They should, to a large degree, satisfy the commitments made by Plateau Mining Company in their Mine Plan; also, satisfy D.O.G.M. regulations as pertaining to interim reclamation for those areas which will be utilized throughout mining operations. The actual area comprises approximately 5.4 acres stockpile 1 and 1.3 acres stockpile area 2.

The area in question, that will be of a permanent nature, is along and adjacent to the main road and comprises the most eastern tip of the existing refuse pile.

The actual ground involved comprises approximately 5 surface acres. The actual procedures involve a three (3) phase program:

- 1) to hydromulch the entire area to supplement revegetation and control run-off until stabilization is complete;
- 2) to prepare a site which will be stable enough for a period of time to allow vegetation to become established;
- 3) to plant clumps of vegetation to further stabilize the soil and to provide necessary wildlife, hydrological and aesthetic commitments as detailed in the Mining and Reclamation Plan (MRP).

The first phase is the hydromulching to be carried out in the fall season. Recommendations for the hydroseeding and mulching operation are as follows:

- 1) On approximately September 20, 1982, apply the seed in conjunction with a soil fertilizer. The rate and species application as indicated. (Attachment A-1) Target completion by October 30, 1982.
- 2) Then apply a wood fiber mulch with tackifier at the approximate rate of 1,500 to 2,000 pounds per acre.

A-1. SEED LIST - INTERIM RECLAMATION

A commercial fertilizer 16-16-8 at a rate of 200 lb/acre in combination with 43# of seed applied in conjunction with approximately 400 gallons of water.

The seed mix is as listed and was used on all topsoil stockpiles.

Grasses:

- | | |
|--------------------------------------|---------|
| 1. Fairway Crested Wheatgrass - | 2#/acre |
| 2. Smooth Brome (Southern Strains) - | 2#/acre |
| 3. Intermediate Wheatgrass - | 2#/acre |
| 4. Pubescent Wheatgrass - | 2#/acre |
| 5. Bluestem Wheatgrass - | 2#/acre |
| 6. Orchardgrass - | 2#/acre |
| 7. Russian Wildrye - | 2#/acre |
| 8. Sandbury bluegrass - | 2#/acre |

Forbs:

- | | |
|---------------------------|----------|
| 9, Alfalfa (Nomad) | 2#/acre |
| 10, Ladak - equal parts - | 2#/acre |
| 11, Yellow sweetclover - | 2#/acre |
| Cover crop | 20#/acre |

Oats and barley or rye will be utilized to insure stabilization.

MONITORING:

An extensive monitoring program will be inacted April-June, 1983; September, October, 1983 and continue for a three year period.

That portion of the refuse pile which will undergo permanent reclamation will be used as a test area. Method, procedures and seed list are still under advisement.

VEGETATION MONITORING FOR
FOR STARPOINT MINE #1

Areas of disturbance within the permit boundary will be reclaimed in accordance with the reclamation plan presented in the approved permit, Sec ?. After revegetation has occurred, one or more vegetation parameter i.e. cover, production, woody plant density, will be measured every year between July 1 and September 1 during the ten year liability period. Parameters to be measured each year is presented in Table 1, Yearly Vegetation Monitoring of Revegetation at Starpoint Mine #1, for a ten year liability period.

Methods

Transect locations will be determined randomly to insure that representative samples are taken from each vegetation type.

Percent cover will be measured through the use of an inclined 10-point frame placed every 5 meters along a 50 meter transect. Each transect will contain 100 points which will be used as one data point in estimating the percent cover of the population. Data collected from the inclined 10-point frame will also be used for the determination of species composition and/or species diversity.

Cover is the most important parameter for determining the trend and species dominance of a vegetation community and will be monitored every year during the ten year liability period as presented in Table 1.

Woody plant density will be measured by counting the number of stems rooted in a 1 X 50 meter plot by species, each plot will be considered one data point. An average of the data points is used to determine the density of woody plant stems per area.

The establishment of woody plant densities is a lengthy process that would not show appreciable change in yearly monitoring. Woody plant density will be monitored the 3, 6, 9, 10 years of the ten year liability period as presented in Table 1.

Production will be measured by placing 1/4 meter circular plot at three random points along a 50 m transect. Vegetation located within the plot will be clipped by life form, i.e. grass, forbs, woody plants. Woody plants under four feet in height will be clipped for annual production only.

After revegetation has been completed, production levels would not show appreciable change through yearly monitoring. Production will be measured in the 2, 3, 6, 9, 10 years of the ten year liability period as presented in Table 1.

All parameters sampled will be tested for sample adequacy.

The areas to be monitored at Starpoint Mine #1 are designated as shrub land and will be sampled at an 80% confidence level with a 10% change in the means, as outlined by DOGM Vegetation Information Guidelines.

As requested by DOGM an annual report will be submitted by December 1 of each year. This report shall include a narrative, map, and summary of data collected on revegetated sites.

Vegetation monitoring will be used to determine revegetation success by evaluating the vegetation trend in terms of percent cover, production, and dominant species. Cover and production data collected will be compared to a corresponding data collected on a reference area by evaluating the results of a two tailed T-test.

Attached is a schedule of parameters to be sampled each year, during the ten year liability period.

TABLE 1

Yearly Vegetation Monitoring of Revegetation for Starpoint Mine #1 During
The Ten Year Liability Period.

YEAR	PARAMETERS TO BE MEASURED AND REPORTED
1	Cover (Total)
2	Cover (by species) Production (Total)
3	Cover (by species) Density of woody plants Production (by life form)
4	Cover (by species)
5	Cover (by species)
6	Cover (by species) Density of woody plants Production (by life form)
7	Cover (by species)
8	Cover (by species)
9	Cover (by species) Density of woody plants Production (by life form)
10	Cover (by species) Density of woody plants Production (by life form)

B. WILDLIFE:

P.M.C. has committed to the following mitigation relative to lost mule deer winter range. A schedule of events and seed list are being prepared in cooperation with the Utah Division of Wildlife Resources and Lynn Kunzler, D.O.G.M.

The earth work aspect is complete at this time.

MITIGATION PLAN FOR WILDLIFE
ON PROPOSED REFUSE EXPANSION & UNIT TRAIN

1.1 Location and size -

SW $\frac{1}{4}$, SW $\frac{1}{4}$ of Sec. 2, Range 8E, Township 15S, SBM. Approximately 40 acres.

1.2 Scope -

To physically enhance approximately forty acres of fee property for the benefit of mule deer in a critical winter range. The proximity of the land to existing and proposed disturbance make it ideal, both in physical configuration and existing vegetation type. The area encompasses several elements essential to mule deer, including cover, preferred forage, and with enhancement, a permanent source of year around water.

1.3 Methodology -

During the summer of 1982, a small crawler tractor will be adapted with a multiple disk, the purpose to route out small P.J. which are encroaching on tall brush vegetation type. At the same time, those areas with over mature brush will be knocked down and maulled to effectively increase leader growth and promote a more available source of forage.

This effort will be followed by a fall seeding program to enhance the available forbs forage. In addition to seeding, a large number of shrubs will be hand planted in the scalps created in the removal of invading P.J.

The final portion will involve some small entrapment basins in the Serviceberry drainage to hold water during precipitation events for a permanent water supply.

1.4 Objectives -

The goal of Plateau Mining Company is to create an ideal environment which will substantially benefit our existing deer herd and increase the herds productivity and decrease winter mortality, thus bringing the number of animals up to full potential of the herd unit.

Also as an enhancement feature P.M.C., in cooperation with the Utah Division of Wildlife Resources, are stocking a number of our existing sedimentation control facilities with Fat Head minnows.

This endeavor will add yet another parameter to the diversity of wildlife on our property in both the fish and the potential forage for those species which prey on minnows.

C. TOPSOIL STOCKPILE - AREAS OF DISTURBANCE AND STABILITY

The new proposed topsoil stockpile area as indicated on Plate 1 has a capacity for approximately 296,000 cu. yards of B. & C. horizon material and comprises a total area of disturbance of 5.4 acres if fully utilized. The existing permitted stockpile due north of the eastern extreme of the refuse pile has a capacity of 35,000 cubic yards of material and will be utilized for "A" horizon material. The total available area is approximately 1.8 acres and is presently disturbed.

The methodology employed in formulating these piles will be to minimize compaction thus avoid negative regeneration capabilities of the soil. To insure stability the leading edge will be formed with a maximum slope of 2:1 and terraced from the top to bottom (ref. Plate 1 cross sections). All vegetation will be stripped prior to stockpiling and will be utilized at the toe of the slope as a vegetative filter to enhance any potential surface water which falls on the soil prior to interim revegetation establishment.

Considering the diked nature of the draw which will be utilized, the vegetative efforts PMC will implement and the terracing / slope stability should not constitute any concern with the proposed new topsoil location.

The existing topsoil pile will simply be increased and a similar method employed in expanding this pile wherein the entire pile is bermed and the height will be maintained at its present level. Small basins and catchments on the pile will increase stability and enhance the establishment of interim vegetation.

As indicated with the existing pile, stability is of no concern.

D. ROAD:

The temporary class III road lies on an approved permitted transportation corridor and all necessary permits from the Utah Railway have been granted.

The entire area of the road is presently considered disturbed and all surface water go through one of three sediment ponds.

In actuality, other than some minor loss of vegetation, the road may prove an enhancement feature in that during construction PMC will build a small catch basin and divert some disturbed run-off from an old tailing area which in turn will greatly reduce the sediment load to Sediment Pond #4 (as indicated on Plates 1 thru 4).

PLATEAU MINING COMPANY
Topsoil Stockpile Facility

SURFACE WATER HYDROLOGY

General

The Plateau Mining Company (see drawing No. 1) is developing a canyon for the stockpiling of topsoil for future use when the area is re-established into its natural condition. The canyon that is proposed to receive this topsoil is approximately 2000' north west of the present coal processing site as shown on the Project Location Plan, drawing No. 2.

Scope

This report is supplemental to Chapter 7 - Hydrology prepared by Vaughn Hansen Associates, Inc. (VHA) of the "Star Point Mines Mining and Reclamation Plan" and is for the purpose of quantifying the hydrologic factors of runoff and sediment and recommending facilities to mitigate the sediment impacts of this proposed project.

Methodology

The methodology as presented in section 7.2.2 of the above referenced report has been used for computing the hydrologic quantities presented in this report. This aforementioned report and section is made a part of this report by this reference.

Work Description

The proposed canyon to be used for this topsoil stockpile is shown on drawing No. 3. Drawing No. 4 shows cross-sections of the canyon and the extent of the fill within the canyon. It can be seen that the fill does not exceed the present canyon drainage boundaries, therefore spillover into adjoining areas cannot occur.

The runoff control facilities for the topsoil stockpile shall consist of a sediment detention pond with overflow pipe located at the base of the topsoil stockpile (see drawings No. 3). Runoff control for the haulroad from the present mine access road to the topsoil stockpile shall consist of two culverts through the road and a graded ditch between the existing railroad track and the new haul road.

The proposed construction program for the topsoil stockpile shall consist of building the sediment detention pond with its overflow culvert first. The next step is to scrape the surface brush within the fill area and push it down the slope to form a perimeter brush and earth berm along the toe of the topsoil pile. This brush and earth berm will be pervious to water but will impede the flow velocity of the runoff so that a portion of the silt load will be deposited in the berm before it reaches the detention basin thereby reducing the frequency for removing the accumulated sediment from this basin. At the same time the haul

road will be built with its associated ditches and culverts to the alignment and grades shown on drawing No. 3

The topsoil fill will start at the end of the haul road and will progress by truck-end dumping and dozer spreading. The total time required to complete the fill operation will be approximately 60 days.

Surface Drainage

The proposed haul road crosses two drainage courses adjacent to an existing stockpile. The southerly drainage is defined as diversion ditch No. 10 in the aforementioned VHA report. Ditch No. 10 is shown on Plate 7-8 and described in Table 7-10. The 25-year, 24-hour peak flow is shown as 7 cfs. Plateau Mining Company has elected to build a detention basin upstream from the road in this southerly drainage course which captures a portion of the total sediment load. At this detention basin location, accumulated sediment can be more easily disposed of than at the existing sediment control pond situated further downstream. In holding with this concept, an 18 inch culvert is proposed across the road with the inlet higher than the canyon flow line. See drawing No. 5 for a typical cross-section depicting this situation.

The flow in the northerly drainage course has been calculated and shown on Table 1. In holding with the previously stated Plateau Mining Company's concept of capturing sediment at a more

Table 1. Detention Basin and Culvert Capacity Flow Requirements.

	Stock Pile Drainage Area	Ditch Drainage Area
Disturbed Area in acres	6.1	2.2
Undisturbed Area in acres	0.9	0.0
Total Area (A) in mi ²	0.011	0.003
Weighted Curve Number	88	76
25-Year, 24-Hour Precipitation in inches	2.6	2.6
S in inches	1.364	3.16
Time of Excess Rainfall $T_{o_{25}}$	17.0	12.9
25-Year, 24-Hour Runoff (Q) in inches	1.470	0.756
Hydrograph Family Number	2	3
Hydraulic Length (L) in feet	860	640
Average Watershed Slope (Y) in percent	12.7	12.0
Time of Concentration (T_c) in hours	0.10	0.12
T_p in hours	0.067	0.08
Computed T_o/T_p	253	161
Used T_o/T_p	75	75
Revised T_p in hours	0.227	0.17
484 AQ/T_p revised	34.5	6.5
25-Year, 24-Hour Peak Inflow in cfs	2.73	0.4
10-Year, 24-Hour Runoff in inches	1.046	NA

convenient location, a new detention basin is proposed to be formed westerly of the haulroad fill and be allowed to outlet through an 18 inch deep 2:1 side slope "V" ditch between the haulroad and railroad track (see drawing No. 3).

The ditch then enters into a new 18 inch culvert that crosses under the haulroad. This culvert crossing location has been selected so that the culvert discharge can be easily controlled and the canyon wall washdown of silt can be minimized. All of the flow from these two culverts and the haulroad surface drains into an existing sediment pond located further down the canyon.

The surface flow and sediment yield calculations for the topsoil stockpile canyon are given in Tables 1 and 2. It is noted from the sediment yield table that the "Estimated Soil Loss" rate for the present undisturbed canyon is only slightly less than rate of soil loss for the completed stockpile. The reason for this is that the stockpile top has a very gentle slope and the face of the pile is step contoured. The net result is a very slow moving runoff with an associated low sediment yield even though the entire surface is disturbed.

This surface drainage then gathers into a detention basin at the foot of the stockpile and the flow is released into the natural drainage through an 18-inch culvert situated high in the new dike.

Table 2. Sediment Yield Parameters and 3-Year Accumulated Sediment Volume for Detention Basin.

Contributing Area		
Disturbed	6.1 ac	
Undisturbed	0.9 ac	
Rainfall Factor (R) foot tons/acre/hour		
Disturbed	22.0	
Undisturbed	22.0	
Soil Erodability Factor (K) tons/acre-year/unit of R		
Disturbed	0.28	
Undisturbed	0.28	
Slope Length Factor (L) ft.		
Disturbed	221	
Undisturbed	90	
Slope Gradient Factor S percent		
Disturbed	7	
Undisturbed	25	
LS		
Disturbed	1.21	
Undisturbed	5.5	
Cover Factor (C)		
Disturbed	1.0	
Undisturbed	0.2	
Erosion Control Practice Factor (P)		
Disturbed	1.0	
Undisturbed	1.0	
Estimated Soil Loss (A) tons/acre/year		
Disturbed	7.45	
Undisturbed	6.78	
Sediment Delivery Ratio		
Disturbed	0.6	
Undisturbed	0.6	
Estimated Sediment Contribution to Detention Basin		
acre/feet/acre/year	Disturbed .0028	Undisturbed .0025
acre/feet/year	Disturbed .017	Undisturbed .0023
3 year sediment volume in acre/feet		0.06

Runoff Facilities Design

Reference is made to the previously referenced VHA report for the hydraulic methodology used in sizing these proposed facilities.

The 25-year, 24-hour peak flow from the stockpile area is 2.7 cfs. An 18-inch CMP culvert and downspout is proposed (even though its capacity exceeds the hydraulic flow requirements) so as to avoid plugging and also to facilitate cleaning when necessary. A riprap pad is to be placed at the downspout outlet to control erosion.

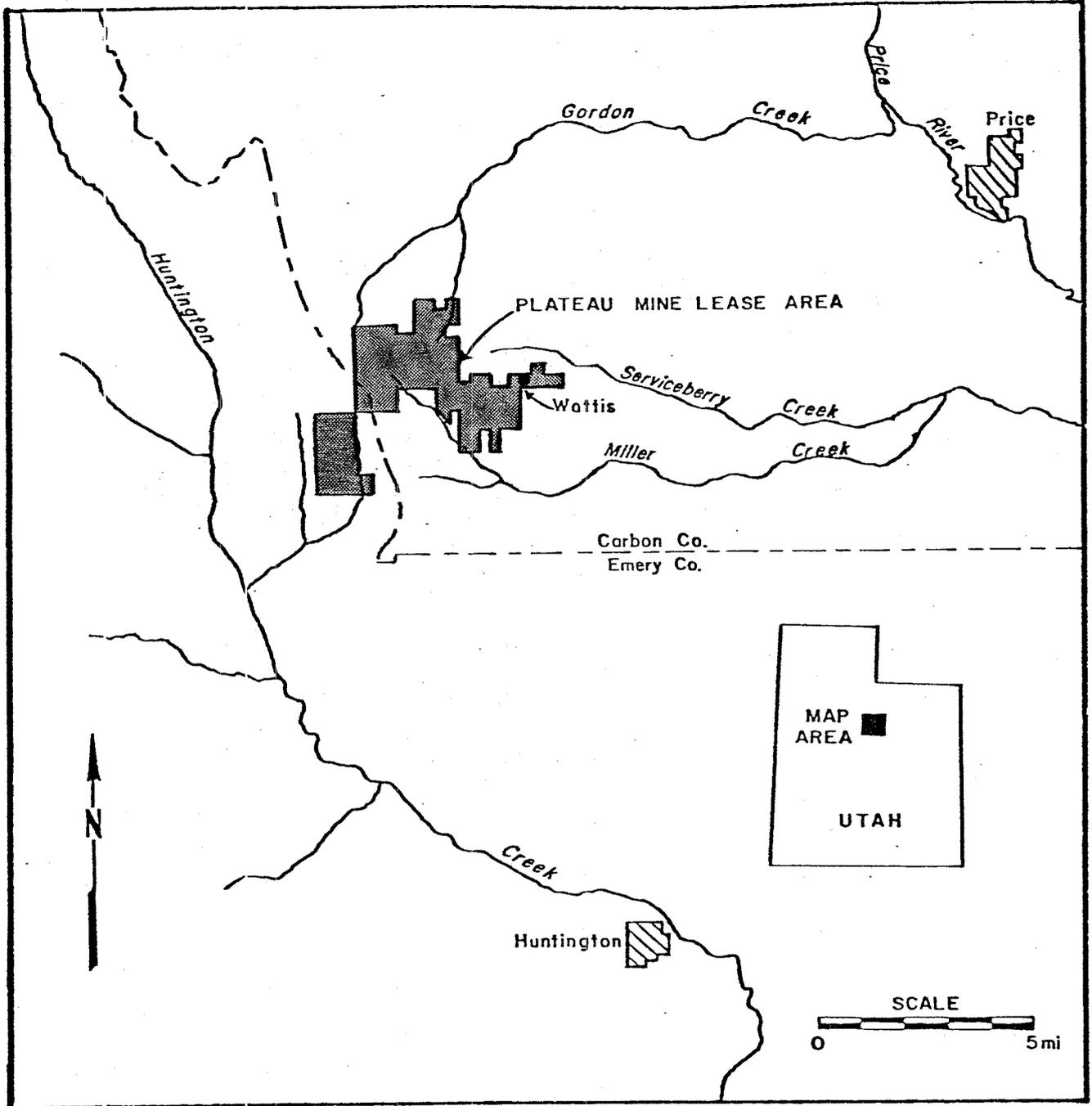
A dike with an upstream height of about 10 feet is proposed to detain about one half acre foot of runoff from the topsoil stockpile area and minimize the sediment leaving the site.

A "V" ditch 18-inches deep with a 2:1 side slope and a 0.04 bottom slope is proposed between the existing railroad and the new haulroad. The flow in this ditch is calculated to be 0.4 cfs. The selected ditch size far exceeds the hydraulic requirements for the ditch capacity but is selected to keep moisture away from and well below the haulroad surface to avoid possible roadway failures.

The 18-inch CMP culvert that the "V" ditch empties into is larger than required for hydraulic capacity but has been selected

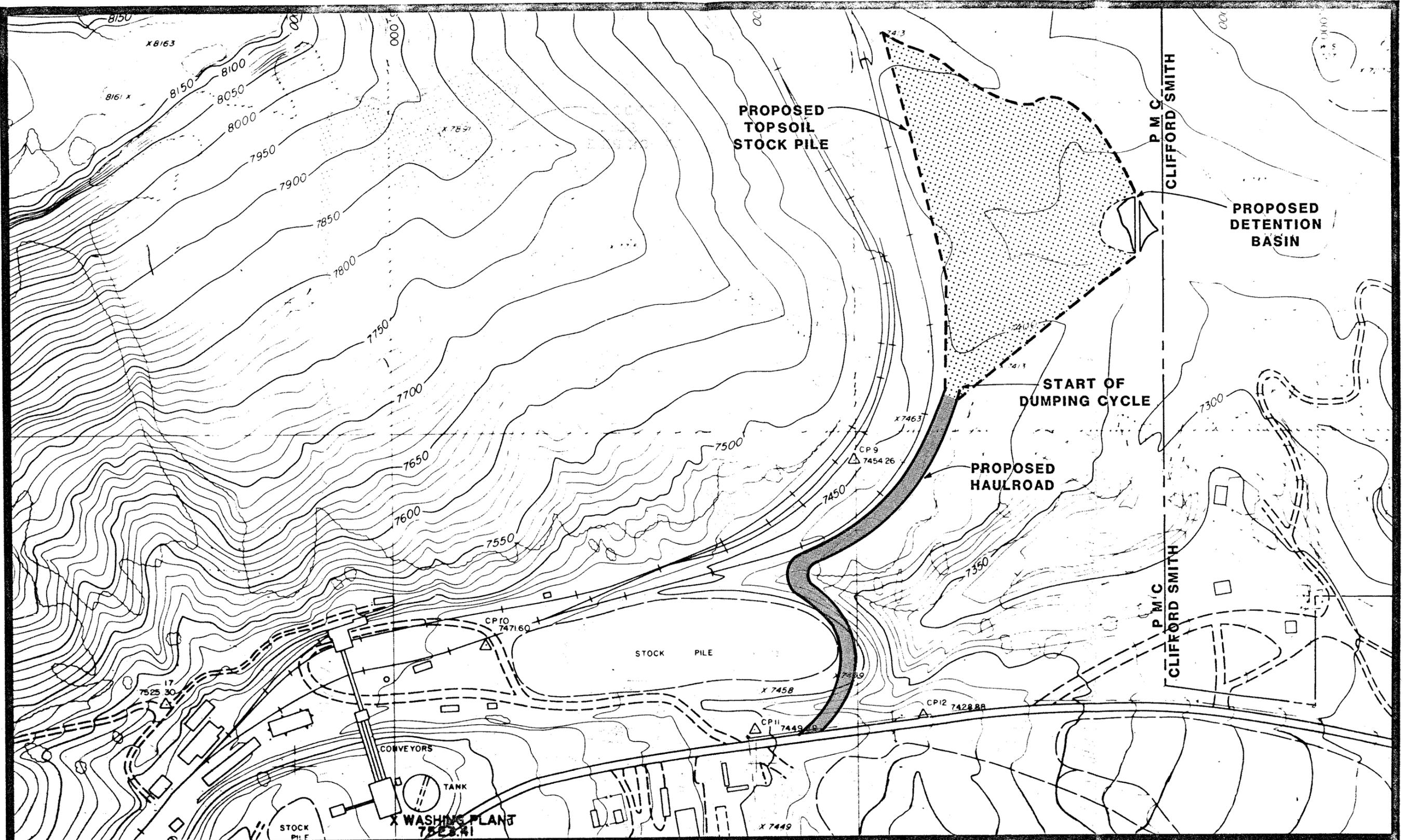
to avoid plugging and facilitate maintenance. Riprap is to be placed at the culvert outlet to control erosion.

The southernmost culvert nearest the access road is required to carry 7 cfs. (Table 7-10 of previously referenced VHA report). An 18 inch CMP will carry the required 7 cfs at a 0.008 slope and has been selected for this location. (Figure 7-7 of previously referenced VHA report). Riprap is to be placed at the culvert outlet to control erosion.



Plateau Mining Company
Topsoil Stockpile Project Location Plan

Drawing No. 1

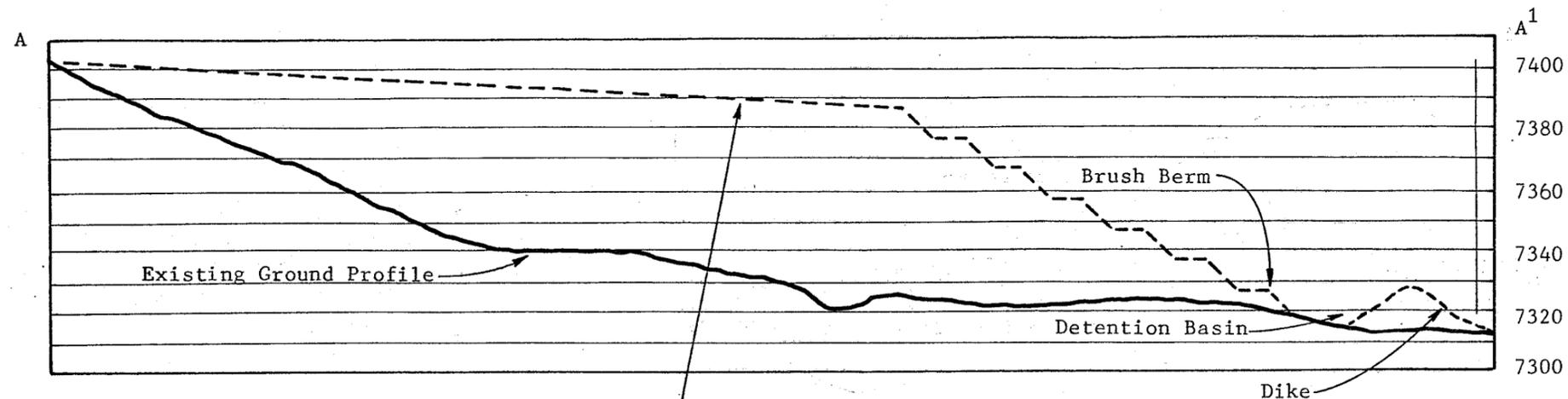


Prepared by
VAUGHN HANSEN ASSOCIATES, INC.
 Salt Lake City, Utah


SCALE: 1 inch = 200 feet

Prepared for
PLATEAU MINING COMPANY
 May, 1982

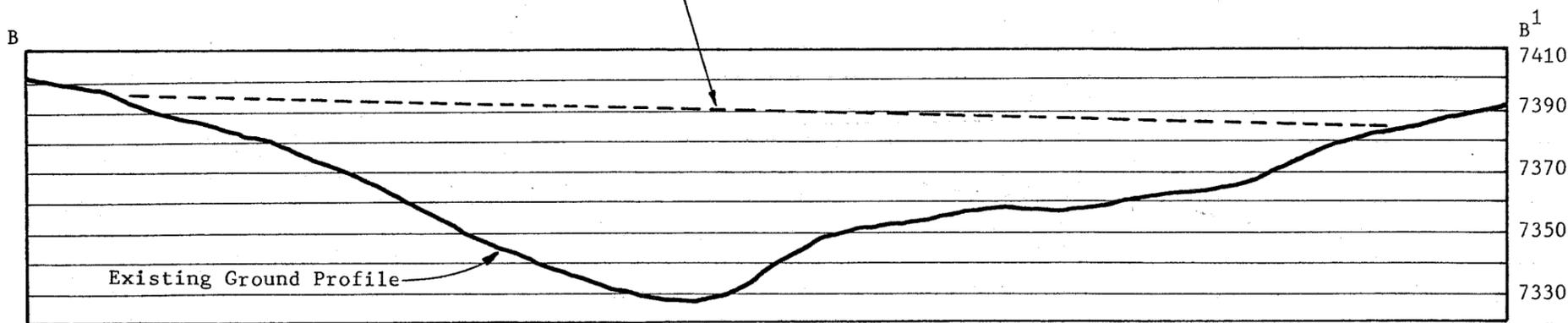
**TOPSOIL STOCK PILE
 SITE PLAN**
 DRAWING NO. 2



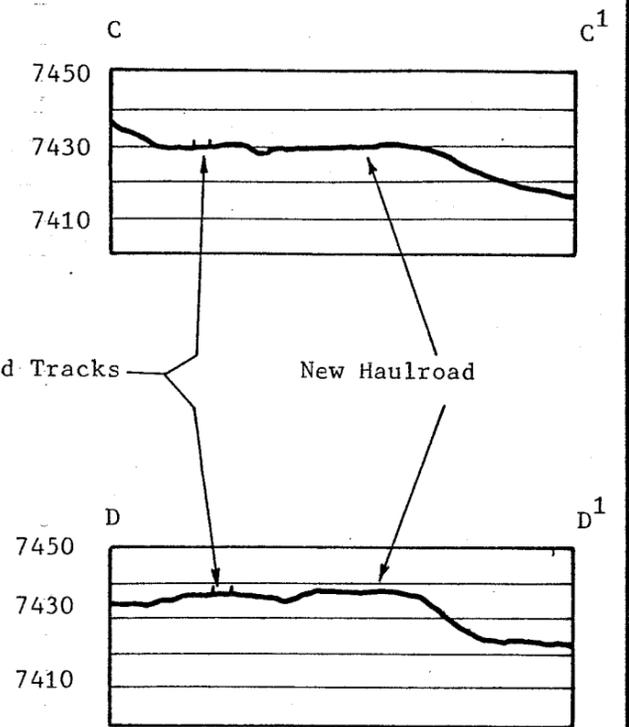
Finished Stockpile Profile

Existing Rail Road Tracks

New Haulroad



STOCKPILE SECTIONS



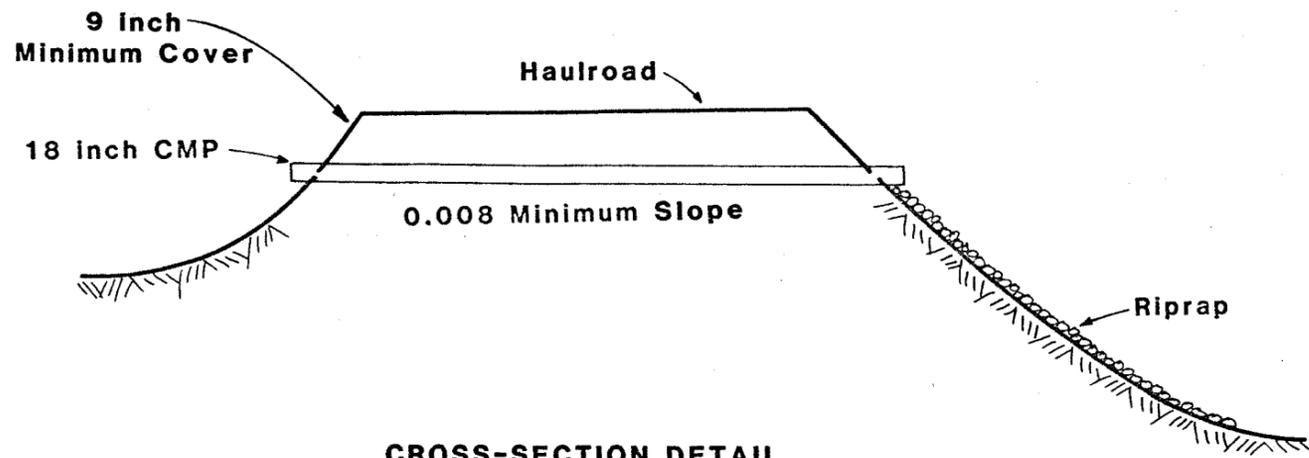
HAULROAD SECTIONS

Prepared by
VAUGHN HANSEN ASSOC., INC.
Salt Lake City, Utah

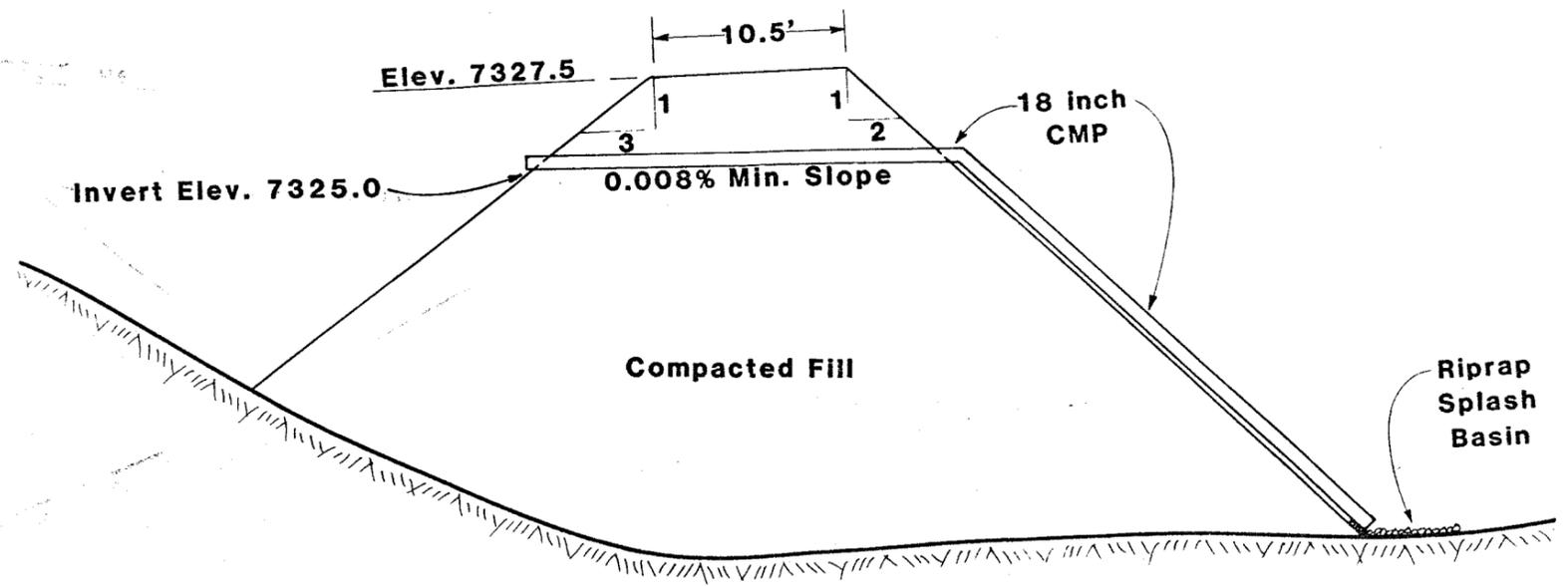
SCALE:
1 inch = 50 feet Horizontal
1 inch = 50 feet Vertical

Prepared for
PLATEAU MINING COMPANY
May, 1982

TOPSOIL STOCK PILE SECTIONS
DRAWING 4



**CROSS-SECTION DETAIL
SOUTH DETENTION BASIN AND HAULROAD**



**EMBANKMENT CROSS-SECTION DETAIL
TOPSOIL STOCK PILE DETENTION BASIN**

Prepared by
VAUGHN HANSEN ASSOCIATES, INC.
 Salt Lake City, Utah

Prepared for
PLATEAU MINING COMPANY
 May, 1982

TOPSOIL STOCK PILE DETAILS
 DRAWING NO. 5

Plateau Mining Topsoil Pile

Stability - By building the pile using terracing, this will help to insure stability and also the soil has just enough clay to hold it together with little possibility of causing slip planes. From looking at the site, I didn't see any problems with storing the topsoil in this location. If there is a failure, there would be no danger to men or buildings of any kind.

The road will follow Class F regulations and the location seemed satisfactory from my standpoint.

With the railroad tracks following along the hill - most of the drainage will be diverted from the stockpile area with the road acting as further diversion, therefore helping the stability of the pile from water erosion.