



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 12, 1985

Mr. Walter Mueller, Jr.
Plateau Mining Company
P.O. Drawer PMC
Price, UT 84501

Dear Mr. Mueller:

RE: Approval to Disrupt Refuse Pile Test Plots, Starpoint Mines,
ACT/007/006, Folders #3 & #4, Carbon County, Utah

Pursuant to the PMC letter of April 10, 1985, the Division acknowledges that PMC has responded to the Division letter of March 28, 1985.

Plateau Mining Company may begin disruption of the test plots as operational needs dictate. This is possible due to the PMC commitment to work closely with the Division on the details of Stipulation 817.24-1-TLP. Basically, until otherwise provided to PMC in writing, the Division considers PMC to have fully committed to the stipulation in its entirety.

The Division will entertain the possibility of revising any part of the stipulation at its discretion on the basis of a successful showing by PMC to the extent that previous commitments by PMC may be altered. Division personnel would be glad to meet with your staff next week as you suggested. It would be the Division's expectation that at that time PMC would submit all raw data and published material to substantiate any requests for revisions to Stipulation 817.24-1-TLP.

Specific to Item 1-B, PMC's May 28, 1982 submittal regarding the waste pile expansion shows that monitoring will occur every year. In view of this, PMC will need to submit a request to change this approved monitoring schedule.

Specific to the last paragraph on page 2 of the PMC letter of April 10, 1985 the Division has reevaluated its perception regarding the connection between the refuse test plots and condition # 6 and finds no reason to alter any of its written statements on the subject. In fact, PMC recognizes the "objective of the proposed study design was to satisfy the requirements of Stipulation 9-22-3 and Stipulation #6" (P.2 of PMC's June 27, 1984 response). PMC may consider this as the Division's response to its written request in the aforementioned letter.

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Mr. Walter Mueller, Jr.
ACT/007/006
April 12, 1985

PMC has a long record of commitments that were associated with the potential disruption of the test plot program. Throughout these statements is the acknowledgement of the importance of the test plots and the commitment to them by the company. Promises are made to give the DOGM 90 days prior to any actual construction related disruption and to relocate the test plots (see PMC letters of September 23, 1983, June 27, 1984 and the 1984 Reclamation Report - Appendix C). The Division appreciates the commitment and hopes this response satisfies PMC's anomalous request for test plot disruption without contradicting any previous commitments to maintenance of the test plot program.

We look forward to resolving these issues in the near future. As always, if you have any questions, please don't hesitate to call.

Sincerely,



Lowell Braxton,
Administrator, Mineral Resources
Development and Reclamation Program

Enclosures

cc: A. Klein
W. Hedberg
B. Kale
L. Kunzler
S. Linner
T. Portle
B. Grimes

0179R-27

from 720 shrubs per acre (2.48 stems/150 ft.²) to 961 shrubs per acre (3.31 stems/150 ft.²). Subsoil has significantly more shrubs which is attributed to the 10" subsoil treatment which has almost 3 times that of the other treatments at 2,198 shrubs per acre (7.57 stems/150 ft.²).

Species composition was calculated from the plant cover data. The dominant seeded species are western wheatgrass, slender wheatgrass, tall fescue, and yellow sweetclover. All topsoil treatments have a preponderance of cheatgrass and annual weedy forbs. The composition on the 20" topsoil treatment is 26.5% cheatgrass and 35.0% annual forbs while the 10" topsoil treatment has 47.7% cheatgrass and 21.4% annual forbs. Subsoil treatments have less than 0.1% cheatgrass while annual forbs make 30.5% of the 10" subsoil treatment and 14.8% of the 20" subsoil treatment. Fourwing saltbush, rabbitbrush, and green ephedra shrubs are most prevalent on the 10" topsoil and the 10" subsoil treatments where shrubs composed of 1.8% and 2.8% respectively.

Conclusion

Significant differences exist between soil material treatments. Fertilizer treatments were different for production and shrub density, but not for cover. Depth is significant only for shrub density. Slope appears to have only a slight effect on cover and shrub density, but not on production. Coal waste is significantly lower for all parameters on all treatments. It should be noted that the plants growing on coal waste are as vigorous as and in some cases more vigorous than plants growing on the topsoil and subsoil.

Subsoil material has the highest perennial plant production, cover and woody plant densities. Topsoil has the highest cheatgrass and annual weed composition. Shrub cover is the highest on 10" subsoil and 10" topsoil. Species diversity is about equal for all treatments. 20" subsoil and coal waste have the lowest number of species.

Plateau Mining Company's written response to the stipulations in the November 17, 1981 letter to the Division contained an Interim Refuse Pile Reclamation Plan. It provided for the replacement of 10 inches of topsoil, hydroseeding, and an organic wood fiber hydromulch. Selected areas would also receive the implantation of clumps of transplanted vegetation and the hand planting of nursery stock. The proposed seed mixture, which was recommended by the Utah Division of Wildlife Resources, contained 8 grasses, 5 forbs, and 4 shrub species at a rate of 20.5/lbs/acre. In a PMC letter dated May 28, 1982, a minor modification of the Refuse Pile Expansion Plan was requested. The basis for the request was an overestimation of the topsoil available for reclamation. As part of the proposed minor revision, PMC requested that the Division and PMC cooperate in implementing a number of test plots, originally proposed by the BLM, on the existing refuse pile. The purpose of the test plots was to gain insight into the methods and procedures, including topsoil depths, necessary for revegetation. The proposed reclamation plan called for a three phase program. The first step was to revegetate the site using a hydromulch system. A seed mixture consisting of 8 grasses and three forb species was proposed, to be applied at 22 lbs/acre, plus 20 lbs/acre of a cereal grain cover crop. Fertilizer (16-16-8) was to be applied at 200 lbs/acre. Secondly, depressions were to be gouged into the surface to provide for water retention and to help control surface soil erosion. The third phase consisted of excavating clumps of existing vegetation with a front-end loader and transplanting the clumps onto the site. These proposed activities were to have been completed by the fall of 1982. Subsequent vegetation monitoring was to begin in the Summer of 1983.

As a result of the request for input from the Division into the test plot design, Thomas L. Portle, Reclamation Soil Specialist, responded by letter on June 2, 1982 with recommendations for treatments and experimental design. The objective of the proposed study design was to satisfy the requirements of Stipulation 9-22-3 and Stipulation #6. Specifically, the test plots were to help determine the level of fertility amendments to be used in conjunction with topsoil and subsoil depths which would meet the revegetation success standards. The results of the study were also to be used to evaluate excess soil substitute material for reclamation needs at other sites on the mine property and the most

DIVISION CONCERN #1

PMC should address the potential impact of coal spillage from the conveyor belt onto the test plots, which will be in close proximity to the conveyor system.

PMC RESPONSE:

The conveyor system will not spill coal onto the test plots. As shown in the November 30, 1983 Minor Modification, Map 3, Proposed Surface Facilities Map, the conveyor will cross the refuse pile in an approximately 100 foot deep cut at a distance of about 150 feet away from the nearest undisturbed test plot. The conveyor will be covered with metal housing which will substantially prevent the wind from blowing coal dust onto the plots.

DIVISION CONCERN #2

PMC should identify a probable location(s) for test plots necessary to provide equivalent information lost due to conveyor belt encroachment upon the existing lots.

PMC RESPONSE:

PMC will relocate the test plots in consultation with the Division at the time when it is known that disturbance to them is imminent. Presently, it appears that at least three years of data and possibly more will be collected before disturbance. At that time, PMC will be in a better position to delineate a new test plot area if it is determined that one is still necessary. The need to reestablish a new test plot will take into account the number of years of data that has been generated, the efficacy of the data, and the value of the remaining undisturbed plots relative to their potential to yield meaningful long term data.

PLATEAU MINING COMPANY

A Subsidiary of Getty Mining Company
P.O. Drawer PMC Price, Utah 84501
Telephone (801) 637-2875

File
ACT/007/006
Folder No (2,3)
Copy to Wayne
Rick, Lynn,
Tom P.

September 23, 1983

Mr. James Smith
Division of Oil, Gas & Mining
4241 State Office Building
Salt Lake City, Utah 84114

JIM
SEP 26 1983

RE: Response to DOGM Letter of August 16, 1983

Dear Mr. Smith:

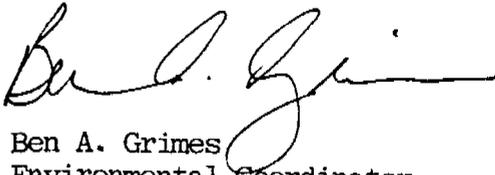
We received a letter from your office on August 17 concerning unresolved stipulations. You required a response by September 16; on the 13th, I requested an extension of one week, which Wayne Hedberg granted.

The enclosed response we hope resolves all of the outstanding issues.

If you have any questions, please call.

Respectfully,

PLATEAU MINING COMPANY



Ben A. Grimes
Environmental Coordinator

BAG:sd

Enclosures

cc: Bob Lauman

RECEIVED
SEP 23 1983

DIVISION OF
OIL, GAS & MINING

SPECIAL STIPULATION NO. 6 AND REFUSE PILE STIPULATION 9-22- 3

Response

1. A full account of test plot implementation is included as Exhibit A.
2. Germination and survival data are given on Table 3. We will provide establishment and survival data in 1984.
3. We regret the need to destroy part of the test plots with the Unit Train construction. It will be an expense to us, as well as setting back the overall intent of the test plots.

During the preliminary engineering phase of the Unit Train project, we examined approximately ten scenarios for location. The project location was chosen for its Engineering soundness, as well as economic factors.

Considering that the project is scheduled to begin earthwork in the late summer or fall of 1984, we would have considerable data on establishment and survival from the test plots.

* We are committed internally in Plateau/Getty to establish test plots in another location to replace those lost. We realize the possible benefits to us of proving that lesser amounts of topsoil can be successfully reclaimed overlying coal refuse.

* We will submit to the Division a plan to re-establish new test plots at least 90 days prior to encroachment of the existing.

Only portions of Plots A, B, C, D and G will be destroyed, which leaves approximately two thirds of the total test plots area intact. With the two years of data that will be available and with establishment of new plots, the overall intent of the test plots will not be jeopardized.

SPECIAL STIPULATION NO. 7

On July 26, 1983 we submitted proposed modifications to the Sediment Pond decant assemblies for Ponds 4, 5 and 6. These modifications will solve the leaking problems experienced this year.



STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Clean B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

June 2, 1982

Mr. Mel Coonrod
Environmental Coordinator
Plateau Mining Company
P.O. Box PMC
Price, Utah 84501

RE: Refuse Pile Test Plots
Plateau Mining Company
ACT/007/006
Carbon County, Utah

Dear Mel:

Please find the enclosed information regarding treatments and experimental design pursuant to the refuse pile test plots proposed by PMC to satisfy, in part, stipulation 9-22-3 and special stipulation #6.

Sincerely,

THOMAS L. PORTLE
RECLAMATION SOILS SPECIALIST

Enclosure

TLP/mn

REFUSE PILE RECLAMATION
TEST PLOT PROJECT

Objective:

To determine the level of fertility amendments which when used in conjunction with the optimum combinations of topsoil and subsoil depths will meet the revegetation success standards required by law. This approach will be used to simultaneously evaluate the potential that excess soil substitute materials may be available on site to satisfy future reclamation needs elsewhere on the property. This determination will be related to the most economical usage of such materials for test plot reclamation.

Experimental Design: Split - Plot with four (4) replications

Plot Dimensions: 10 feet x 10 feet with 2 foot buffer strips

SPLIT - PLOT DESIGN

Blocks

Downslope moisture and/or fertility gradient

I

II

III

IV

1				2	3	Depth treatments 1-12 (Randomized) Fertility Amendments A-D (Randomized within every Depth Treatment)
A	B	C	D			

DEPTH TREATMENTS

- 1) Straight refuse
- 2) Subsoil to a 5 inch depth
- 3) Subsoil to a 10 inch depth
- 4) Subsoil to a 20 inch depth
- 5) Topsoil to a 5 inch depth
- 6) Topsoil to a 10 inch depth
- 7) Topsoil to a 20 inch depth
- 8) Topsoil to a 5 inch depth over 5 inches of subsoil
- *9) Topsoil to a 2 inch depth over 5 inches of subsoil
- *10) Topsoil to a 2 inch depth over 10 inches of subsoil
- *11) Topsoil to a 2 inch depth over 18 inches of subsoil
- *12) Topsoil to a 5 inch depth over 15 inches of subsoil

*If the machinery employed is unable to distribute topsoil to a 2 inch layer, the minimum depth the machinery is capable of accurately distributing will be employed. It follows that in treatments 10 and 11 any excess of 2 inches should be subtracted from the subsoil portion so as not to exceed a 20 inch combination depth in any treatment.

Fertility Treatments:

- A) 16-16-8 Fertilizer @200/AC.
- B) 16-16-8 Fertilizer @100/AC.
- C) Sewage sludge @200 tons/AC.
- D) Control (no fertility amendments)

(From MAY 28, 1982
submittal)

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)