

0019

# PLATEAU MINING COMPANY

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

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Copy to Wayne  
Rick, ~~Lauman~~,  
C. P.*

September 23, 1983

**JIM**

SEP 26 1983

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

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

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4241 State Office Building  
Salt Lake City, Utah 84114

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Dear Mr. Smith:

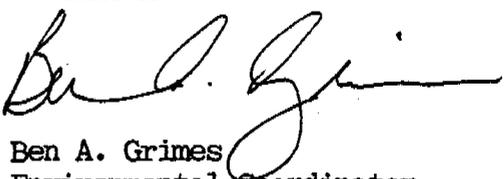
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SEP 23 1983

DIVISION OF  
OIL, GAS & MINING

SPECIAL STIPULATION NO. 6 AND REFUSE PILE STIPULATION 9-22-83

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 re-claimed 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.

SPECIAL STIPULATION NO. 10

Response

A. A revised seed list for the Douglas Fir type is proposed as follows:

	<u>Pounds PLS/Acre</u>
<u>Grasses</u>	
Mountain Brome ( <u>Bromus marginatus</u> )	2.00
Slender Wheatgrass ( <u>Agropyron trachycaulum</u> )	2.00
Sherman Big Bluegrass ( <u>Poa ampla</u> )	2.00
Regar Meadow Brome ( <u>Bromus biebersteinii</u> )	2.00
	<hr/> 8.00
<u>Forbs</u>	
Utah Sweetvetch	1.00
Pea Vine	1.00
Alsike Clover ( <u>Trifolium hybridum</u> )	0.50
Blue Flax ( <u>Linum lewisii</u> )	0.25
Rocky Mtn. Penstamon ( <u>Penstemon strictus</u> )	0.25
Western Yarrow ( <u>Achillea millefolium</u> )	0.25
Alfalfa Burnet ( <u>Sanguisorba minor</u> )	1.00
Sweet Anise ( <u>Osmorhiza occidentalis</u> )	0.25
	<hr/> 2.25
<u>Shrubs</u>	
Douglas Fir ( <u>Pseudotsuga menziesii</u> )	7.00
Golden Currant ( <u>Ribes aureum</u> )	1.00
Woods Rose ( <u>Rosa woodsii</u> )	1.00
Blue Elderberry ( <u>Sambucus cerulea</u> )	1.00
	<hr/> 10.00

B. PMC proposes the following reclamation performance standard for woody plant density. The target density is 900 stems per acre on all south and west facing slopes and 2,200 stems per acre on north and east facing slopes.

Special Stipulation No. 10 - Response B. (Cont.)

This standard is based on the woody plant densities found on the Topsoil Reference Area which was established under the field supervision of DOGM in order to determine the reclamation success standards for the refuse pile expansion area. The location of the reference area is shown as the Pinyon-Juniper reference area on the attached vegetation map2. A summary of the data is included in the current submission of the attached PMC response to Special Stipulation No. 6-14-82-4-LK.

Spatial distribution of the woody plants will be random across the landscape with the exception of clump planting of seedlings and mature shrubs and trees in the central area of the refuse pile. Mature transplants, composed of serviceberry and young pinyon pine and Utah juniper, will be transplanted using a front-end loader. The hand planted seedlings will be composed of serviceberry, curlleaf mountain mahogany, Utah juniper, golden currant, and mountain big sagebrush. Clumps will occupy approximately 225 square feet and will be arranged randomly about 150 feet apart and placed no further than 400 feet from the upper slope of the refuse pile. The purpose of the clumps and their position relative to the outslopes is to provide security and escape cover for large game animals that use the area.

Seedlings of reclaimed sites will be accomplished using both drill and broadcast methods. Where shrub seeds are to be drilled, they will be planted in a separate application in drill rows that diverge with those of the grasses. By planting the shrubs in the interspaces between grass rows, competition between grasses and shrubs will be reduced and shrub establishment enhanced. At the estimated establishment rate of one shrub per 1,000 PLS (personal communication with DOGM), the approved seed mixture presented in Attachment 4 of the August 18, 1982 PMC submission to DOGM of responses to Special Stipulations relative to Permit ACT/007/006, Star Point Mines Mining and Reclamation Plan, should produce approximately 1,291 shrubs per acre. This figure should significantly be increased where shrubs are seeded separately from grasses or where all seeds are broadcasted.

If, during the monitoring of the revegetated sites, a deficiency in the woody plant performance standard is observed, PMC will confer with DOGM in implementing corrective action.

SPECIAL STIPULATION 6-14-82-4-LK

Response

1.

INTRODUCTION

The Topsoil Reference Area was inspected and flagged under the supervision of Division personnel on June 8, 1982. It was subsequently sampled on July 7, 1982 and the report submitted to the Division on August 18, 1982 as required under Stipulation 6-14-82-4(LK). The following description, methodology, and results for the Topsoil Reference Area is designed to clarify the information submitted on August 18, 1982.

METHODS

The Topsoil Reference Area is representative of the pinyon-juniper plant community found in the area of the mining operation. It was divided into east and west aspects for sampling purposes. Field data was collected on plant cover and woody plant density from randomly placed 50 meter transects. Cover data was estimated from a 10 point frame positioned every 5 meters along the transect. A total of 100 hits were recorded for each transect. Woody plant density was determined by counting the total number of woody plant for each species occurring within one meter of the 50 meter tape thus resulting in a 2 x 50 meter belt transect. The average plant cover per transect and the total number of woody plants rooted within the 2 x 50 meter belt transect were used as a one datum for determining sampling adequacy. Sampling for both cover and density was performed to within 10% of the true mean with an 80% statistical confidence. The statistical level of sampling was verified by applying the following formula as presented on page 5 of the Vegetation Information Guidelines prepared by the Division.

$$Nm = \left( \frac{(\text{Std. Dev.} \times t\text{-tab})}{(.10 \times \text{Mean})} \right)^2$$

## RESULTS

A review of the field and summary sheets presented in the August 18, 1982 submission revealed discrepancies between them and the results presented in the narrative. Corrections were made by recalculating all of the data beginning with the field sheets and generating new summaries and statistical analysis. The results are presented in the attached Tables 1 through 4. A new species list is presented in Table 5.

A vegetation map is attached showing the locations of established reference areas. (Map 2)

A summary of the vegetation data and the statistical analysis is as follows:

<u>PARAMETER</u>	<u>EAST ASPECT</u>	<u>WEST ASPECT</u>
<u>Cover (%)</u>		
Mean	32.53	12.83
Std. Dev.	9.152	3.521
Nmin	14	13
N	17	23
<u>Woody Plant Density (St/100m<sup>2</sup>)</u>		
Mean	60.00	24.36
Std. Dev.	15.519	5.692
Nmin	11	9
N	20	14
\$/acre	2.428	986

TABLE 1  
 PERCENT COVER  
 TOPSOIL REFERENCE AREA, EAST ASPECT

	Transects														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<u>Grasses</u>															
Agtr	1	0	1	0	4	1	0	5	3	4	5	0	5	0	6
Elsa	3	13	2	0	10	1	22	25	3	20	20	23	14	11	15
Kocr	0	1	0	15	0	6	0	0	0	1	1	0	0	0	0
Orhy	1	0	0	2	0	4	0	0	2	0	0	0	0	0	0
SUB-TOTAL	5	14	3	17	14	12	22	30	8	25	26	23	19	11	21
<u>Forbs</u>															
Asco	0	3	0	3	3	0	3	0	2	4	15	6	0	2	6
Eriog	1	0	5	0	0	0	0	0	0	3	0	1	0	0	0
Grsq	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
SUB-TOTAL	1	3	5	3	3	0	3	0	2	8	15	7	0	2	6
<u>Shrubs</u>															
Amal	5	12	0	0	0	0	1	5	0	0	0	0	0	2	0
Artr	0	2	0	9	7	4	3	0	0	0	0	9	2	4	3
Cemo	4	0	9	1	0	0	0	0	3	0	0	0	0	7	0
Chvi	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0
Pied	8	3	6	2	0	0	2	2	7	0	0	0	0	5	0
Phru	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syor	0	7	0	1	0	0	15	9	0	0	0	0	0	0	5
Yuwh	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
SUB-TOTAL	18	24	15	13	7	10	21	16	10	1	0	9	2	18	8
TOTAL	24	41	23	33	24	22	46	46	20	34	41	39	21	31	35

Mean = 32.52941

N min = 14

Std. Dev. = 9.152306

N = 17

TABLE 1  
 PERCENT COVER  
 TOPSOIL REFERENCE AREA, EAST ASPECT

	Transects				
	(16)	(17)	TOTAL	AVERAGE	COMP.
<u>Grasses</u>					
Agtr	12	7	54	3.18	9.76
Elsa	20	10	212	12.47	38.35
Kocr	2	2	28	1.65	5.06
Orhy	1	0	10	.59	1.81
SUB-TOTAL	35	19	304	17.88	54.97
<u>Forbs</u>					
Asco	3	5	55	3.24	9.95
Eriog	0	0	10	.59	1.81
Grsq	0	0	1	.06	.18
SUB-TOTAL	3	5	66	3.88	11.93
<u>Shrubs</u>					
Amal	0	0	25	1.47	4.52
Artr	2	4	49	2.88	8.86
Cemo	2	0	26	1.53	4.70
Chvi	1	0	4	.24	.72
Pied	1	0	36	2.12	6.51
Phru	0	1	2	.12	.36
Syor	0	0	37	2.18	6.69
Yuwh	0	0	4	.24	.72
SUB-TOTAL	6	5	183	10.76	33.09
TOTAL	44	29	553	32.53	100.00

TABLE 2  
 WOODY PLANT DENSITY  
 TOPSOIL REFERENCE AREA, EAST ASPECT  
 July 7, 1982

	Transects (stems/100m <sup>2</sup> )														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Amal	1	13	5	4	4	2	8	2	10	8	3	4	10	4	4
Arno	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Artr	9	50	47	46	33	17	33	21	17	12	31	37	50	31	40
Ceno	8	12	0	2	0	7	1	11	1	2	2	7	3	15	5
Chvi	0	3	6	15	1	5	2	0	1	6	0	1	1	0	1
Eriog	16	2	0	0	0	1	0	4	0	6	3	3	0	2	2
Pied	0	2	5	12	4	2	4	8	0	2	3	1	4	3	25
Syor	0	0	0	3	0	8	38	0	27	6	13	8	1	5	1
Juos	0	0	0	0	0	0	1	0	1	0	0	1	1	1	0
Chna	0	0	0	0	0	0	2	0	0	0	7	0	0	0	1
Prvi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>39</b>	<b>82</b>	<b>63</b>	<b>82</b>	<b>42</b>	<b>42</b>	<b>59</b>	<b>46</b>	<b>57</b>	<b>42</b>	<b>62</b>	<b>62</b>	<b>70</b>	<b>61</b>	<b>79</b>

Mean = 60

Std. Dev. = 15.51909

Nmin = 11

N = 20

TABLE 2  
 WOODY PLANT DENSITY  
 TOPSOIL REFERENCE AREA, EAST ASPECT  
 July 7, 1982

	Transects (stems/100m <sup>2</sup> )							
	(16)	(17)	(18)	(19)	(20)	TOTAL	AVERAGE	COMP.
Amal	4	6	1	8	0	101	5.05	8.42
Arno	0	0	1	0	0	6	.30	.50
Artr	42	18	0	35	23	592	29.60	49.33
Cemo	4	12	12	0	0	104	5.20	8.67
Chvi	1	1	1	2	2	49	2.45	4.08
Erigo	2	18	1	3	0	80	4.00	6.67
Pied	1	4	4	4	5	93	4.65	7.75
Syor	14	1	1	8	20	154	7.70	12.83
Juos	2	0	0	2	1	10	.50	.83
Chna	0	0	0	0	0	10	.50	.83
Prvi	0	1	0	0	0	1	.05	.08
<b>TOTAL</b>	<b>70</b>	<b>61</b>	<b>38</b>	<b>62</b>	<b>51</b>	<b>1,200</b>	<b>60.00</b>	<b>100.00</b>

TABLE 3  
 PERCENT COVER  
 TOPSOIL REFERENCE AREA, WEST ASPECT

	Transects														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<u>Grasses</u>															
Agtr	6	2	4	6	0	1	2	2	1	0	0	1	1	3	0
Elsa	1	4	6	5	7	5	6	8	2	6	7	0	4	11	3
Kocr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orhy	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0
<b>SUB-TOTAL</b>	<b>7</b>	<b>6</b>	<b>10</b>	<b>11</b>	<b>7</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>3</b>	<b>8</b>	<b>7</b>	<b>1</b>	<b>7</b>	<b>14</b>	<b>3</b>
<u>Forbs</u>															
Astra	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asco	4	0	0	0	1	4	0	0	0	0	0	0	0	0	0
Amal	0	7	0	0	4	0	0	0	0	0	4	0	0	0	0
<b>SUB-TOTAL</b>	<b>4</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>Shrubs</u>															
Artr	0	1	2	0	0	5	6	5	0	0	0	3	0	0	6
Cemo	6	0	0	0	0	1	0	0	6	0	0	3	9	0	2
Eriog	0	0	4	4	2	0	0	0	0	0	0	0	2	0	0
Pied	0	0	0	2	0	0	0	3	4	5	0	0	0	0	0
Syor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yuwh	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
<b>SUB-TOTAL</b>	<b>6</b>	<b>2</b>	<b>6</b>	<b>6</b>	<b>2</b>	<b>6</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>5</b>	<b>0</b>	<b>7</b>	<b>11</b>	<b>0</b>	<b>8</b>
<b>TOTAL</b>	<b>17</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>14</b>	<b>16</b>	<b>14</b>	<b>18</b>	<b>13</b>	<b>13</b>	<b>11</b>	<b>8</b>	<b>18</b>	<b>14</b>	<b>11</b>

Mean = 12.82609

Std. Dev. = 3.524617

Nmin = 13

N = 23

TABLE 3  
 PERCENT COVER  
 TOPSOIL REFERENCE AREA, WEST ASPECT

	Transects								TOTAL	AVERAGE	COMP.
	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)			
<u>Grasses</u>											
Agtr	0	2	0	2	2	0	1	0	36	1.57	12.20
Elsa	2	5	3	2	6	10	5	0	108	4.70	36.61
Kocr	0	0	0	2	0	0	0	1	3	.13	1.02
Orhy	0	0	0	0	0	0	0	3	7	.30	2.37
<b>SUB-TOTAL</b>	<b>2</b>	<b>7</b>	<b>3</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>6</b>	<b>4</b>	<b>154</b>	<b>6.70</b>	<b>52.20</b>
<u>Forbs</u>											
Astra	0	0	0	1	0	0	0	0	1	.04	.34
Asco	0	4	0	0	0	0	0	0	13	.57	4.41
Amal	0	0	0	0	0	0	2	5	22	.96	7.46
<b>SUB-TOTAL</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>36</b>	<b>1.57</b>	<b>12.20</b>
<u>Shrubs</u>											
Artr	0	4	0	5	0	0	0	0	37	1.61	12.54
Cemo	3	0	3	0	0	0	4	0	37	1.61	12.54
Eriog	1	0	0	0	0	0	0	1	14	.61	4.75
Pied	1	0	0	0	0	0	0	0	15	.65	5.08
Syor	0	0	0	0	0	0	0	0	0	.00	.00
Yuwh	0	0	0	0	0	0	0	0	2	.09	.68
<b>SUB-TOTAL</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>105</b>	<b>4.57</b>	<b>35.59</b>
<b>TOTAL</b>	<b>7</b>	<b>15</b>	<b>6</b>	<b>12</b>	<b>8</b>	<b>10</b>	<b>12</b>	<b>10</b>	<b>295</b>	<b>12.83</b>	<b>100.00</b>

TABLE 4

WOODY PLANT DENSITY  
 TOPSOIL REFERENCE AREA, WEST ASPECT

July 7, 1982

	Transects (stems/100m <sup>2</sup> )													
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Amal	2	1	0	0	8	2	4	1	3	1	1	0	3	0
Artr	8	6	1	0	3	11	2	10	8	1	2	21	1	7
Cemo	12	10	7	1	6	6	2	10	5	3	3	4	12	5
Chna	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Eriog	4	0	4	21	4	4	6	8	4	12	9	3	3	4
Juos	0	0	1	0	1	0	0	0	0	0	0	5	0	0
Pied	3	4	3	2	5	3	5	4	4	2	3	1	7	2
Syor	1	1	0	0	2	1	0	0	0	0	1	0	0	0
TOTAL	30	22	16	24	29	27	19	33	24	19	19	34	26	19

Mean = 24.35714

Std. Dev. = 5.692196

Nmin = 9

N = 14

TABLE 4  
 WOODY PLANT DENSITY  
 TOPSOIL REFERENCE AREA, WEST ASPECT  
 July 7, 1982

	Transects (stems/100m <sup>2</sup> )		
	TOTAL	AVERAGE	COMP.
Amal	26	1.86	7.62
Artr	81	5.79	23.75
Cemo	86	6.14	25.22
Chna	1	.07	.29
Eriog	86	6.14	25.22
Juos	7	.50	2.05
Pied	48	3.43	14.08
Syor	6	.43	1.76
TOTAL	341	24.36	100.00

TABLE 5

## PLANT SPECIES IDENTIFIED ON TOPSOIL REFERENCE AREA

<u>PLANT SYMBOL</u>	<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>
<u>Grasses</u>		
Agtr	Agropyron trachycaulum	slender wheatgrass
Elsa	Elymus salina	salina wildrye
Kocr	Koaleria cristata	Junegrass
Orhy	Oryzopsis hymenoides	Indian ricegrass
<u>Forbs</u>		
Asco	Astragalus convallarius	narrowleaf vetch
Astra	Astragalus spp.	locoweed
Eriog	Eriogonum spp.	buckwheat
Grsq	Grindelia squarrosa	gunweed
<u>Shrubs</u>		
Amal	Amelanchier alnifolia	serviceberry
Arno	Artemisia nova	black sagebrush
Artr	Artemisia tridentata	sagebrush
Cemo	Cercocarpus montanus	true mountain mahogany
Chna	Chrysothamnus nauseosus	rubber rabbitbrush
Chvi	Chrysothamnus viscidiflorus	green rabbitbrush
Eriog	Eriogonum sp.	buckwheat
Juos	Juniperus osteosperma	Utah juniper
Pied	Pinus edulis	pinyon pine
Prvi	Prunus virginiana	chokecherry
Syor	Symphoricarpos oreophilus	snowberry
Yuwh	Yucca harrimaniae	yucca

SPECIAL STIPULATION 6-14-82-4LK

Response

2. Field data was collected and originally analyzed under the supervision of Dave McMIndes, Range Scientist with Getty Oil Company, Environmental Services Group, Coal Department. The field crew was made up of temporary staff members employed for the summer field season by Getty Oil Company. Their names and professional status are as follows:

<u>NAME</u>	<u>TITLE</u>	<u>DEGREE</u>	<u>YEARS FIELD EXPERIENCE</u>
Dave McMIndes	Range Scientist	BS Range Science	5
Claire Semmer	Range Technician	BS Botany	4
Carol Taylor	Range Technician	BS Range Science	2
Connie Roberts	Range Technician	Senior, Range Science	1
Brenda Becker	Range Technician	Senior, Wildlife Mgmt.	1
Sue Kalso	Range Technician	BS Wildlife Management	2
Kenneth Carlson	Range Technician	MS Soil Science	3
Larry Germain	Range Technician	MS Range Science	4
Tod Zechiel	Range Technician	Junior, Range Science	3
Steve Price	Range Technician	BS Biology	1
Becky Gillan	Range Technician	Senior, Range Science	2

3. A map showing the reference area is included as Map 2.
4. Plant species identified on the Topsoil Reference Area are listed on Table 5.
5. The Soil Conservation Service (SCS) has provided a new letter giving productivity for east and southwest facing slopes; this letter is included as Exhibit B.

**EXHIBIT "A"**

VEGETATION-TOPSOIL TEST PLOTS

REFUSE PILE

SYNOPSIS OF IMPLEMENTATION

1. Topsoil and subsoil were dumped at the top of the slope and spread downward by a crawler tractor. The surface was left with cleat marks from the crawler tracks - horizontal direction approximately 2.5 inches deep. This aids in seed penetration and moisture retention. Refer to Map 1 for plot layout.
2. The seed mix shown on Table 1 (attached) was applied to the surface by hydromulch sprayer.
3. Mulch (Conwed 2000), Tackifier (Terratack) and 16-16-8 fertilizer were applied at the rates shown on Table 2.

EXHIBIT A

TABLE 1

VEGETATION-TOPSOIL TEST PLOTS

REFUSE PILE

SEED MIX

POUNDS PLS/ACRE

GRASSES

Slender Wheatgrass - <u>Agropyron trachycaulum</u>	3
Western Wheatgrass - <u>A. Smithii</u>	3
Tall Fescue - <u>Festuca Arundinaceae</u>	2
Great Basin Wildrye - <u>Elymus cinereus</u>	3
Blue Bunch Wheatgrass - <u>A. spicatum</u>	3

FORBS

Scarlet Globemallow - <u>Sphaeralcea grossulariaefolia</u>	0.5
Palmer Penstemon - <u>Penstemon palmeri</u>	0.5
Cicer Milkvetch - <u>Astragalus Cicer</u>	1
Yellow Sweetclover - <u>Melilotus officinalis</u>	1

SHRUBS

Whitestem Rubber Rabbitbrush - <u>Chrysothamnus nauseosus</u>	0.5
<u>SSP. alibicaulis</u>	
Basin Big Sagebrush - <u>Artemisia tridentata var.</u>	0.1
<u>tridentata</u>	
Green Ephedra - <u>Ephedra viridis</u>	2
Four-wing Saltbush - <u>Atriplex canescens</u>	1

EXHIBIT A

TABLE 2

VEGETATION-TOPSOIL TEST PLOTS

REFUSE PILE

APPLICATION RATES

<u>PLOT</u>	<u>SOIL DEPTH INCHES</u>	<u>FERTILIZER LBS/ACRE</u>
A1	No Soil	100
A2	No Soil	200
B1	20 Subsoil	200
B2	20 Subsoil	100
C1	10 Topsoil - 10 Subsoil	100
C2	10 Topsoil - 10 Subsoil	200
D1	10 Subsoil	200
D2	10 Subsoil	100
E1	20 Topsoil	100
E2	20 Topsoil	200
F1	10 Topsoil	200
F2	10 Topsoil	100
G	10 Subsoil	100

EXHIBIT A  
 TABLE 3  
 SEEDLINGS/1/4M<sup>2</sup>,  
 1983 GERMINATION AND SURVIVAL,  
 VEGETATION-TOPSOIL TEST PLOTS,  
 REFUSE PILE

<u>PLOT</u>	<u>TREATMENT</u>	<u>FERTILIZER</u>	
		<u>100/ACRE</u>	<u>200/ACRE</u>
A	No soil	1.92	---
B	20" subsoil	9.62	11.46
C	10" top/10" sub	5.42	6.89
D	10" subsoil	7.56	8.63
E	20" topsoil	3.01	4.59
F	10" topsoil	2.44	3.13
G*	10" topsoil	6.78	---

\* All plots are north aspect except #G, which is south aspect.

**EXHIBIT "B"**



United States  
Department of  
Agriculture

Soil  
Conservation  
Service

September 22, 1983

Ben Grimes  
Plateau Mining Company  
P.O. Drawer PMC  
Price, Utah 84501

Dear Mr. Grimes:

The topsoil storage reference area will have two different sites and productions. The southwest facing slopes will be the Upland Shallow Clay D-34 range site with some P.J. The production is between 200 and 500 pounds per acre depending on condition and precipitation that year. This site is producing about 300 pounds per acre. The conditions of this site is fair.

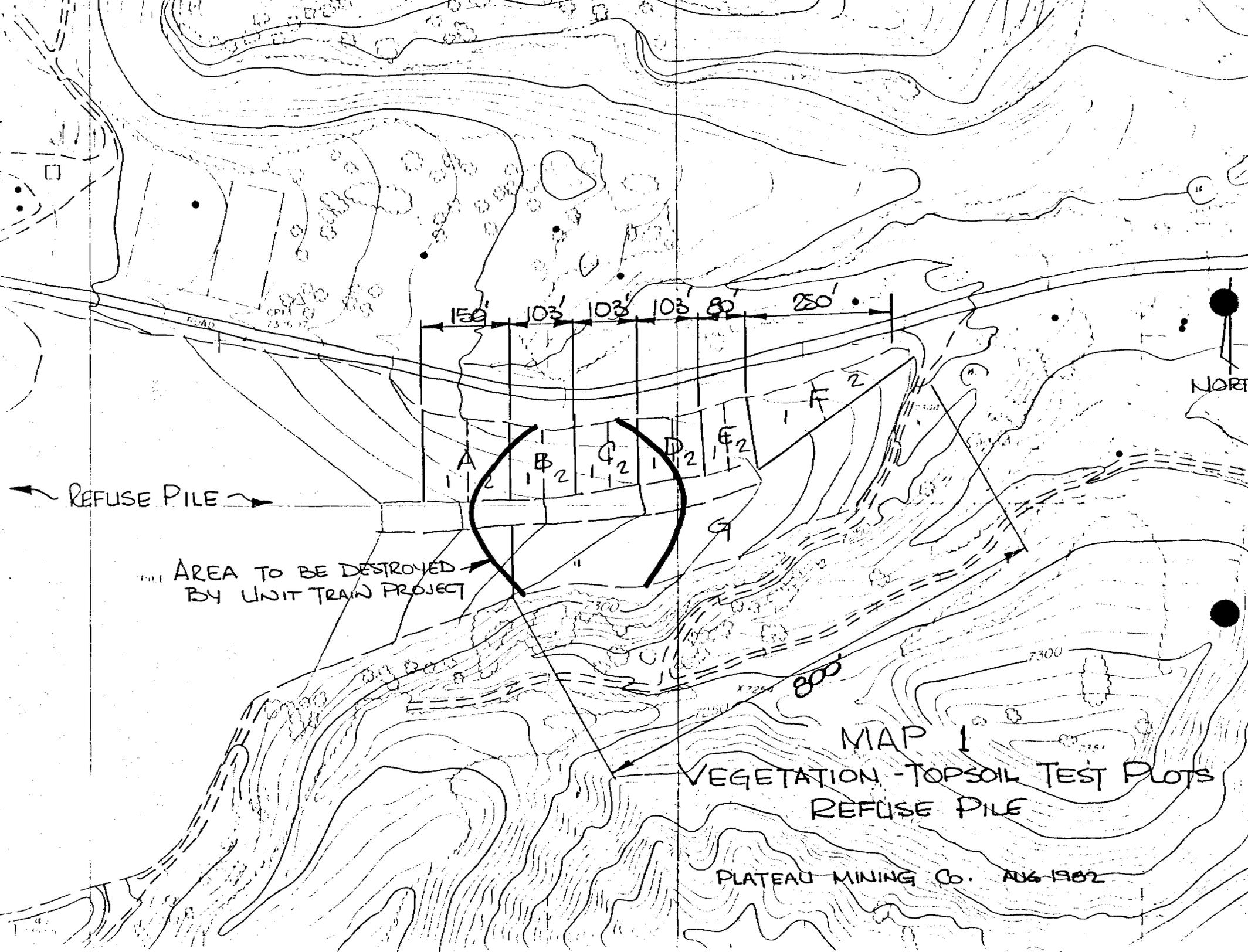
The east slope is an Upland Stony Loam (Pinyon Juniper) D-34 range site. The production ranges from 550 to 1,500 pounds per acre depending on conditions and yearly precipitation. The production on this site is about 800 pounds per acre. The condition of the site is fair.

George S. Cook  
Range Conservationist

GCS/lm



MAPS



REFUSE PILE

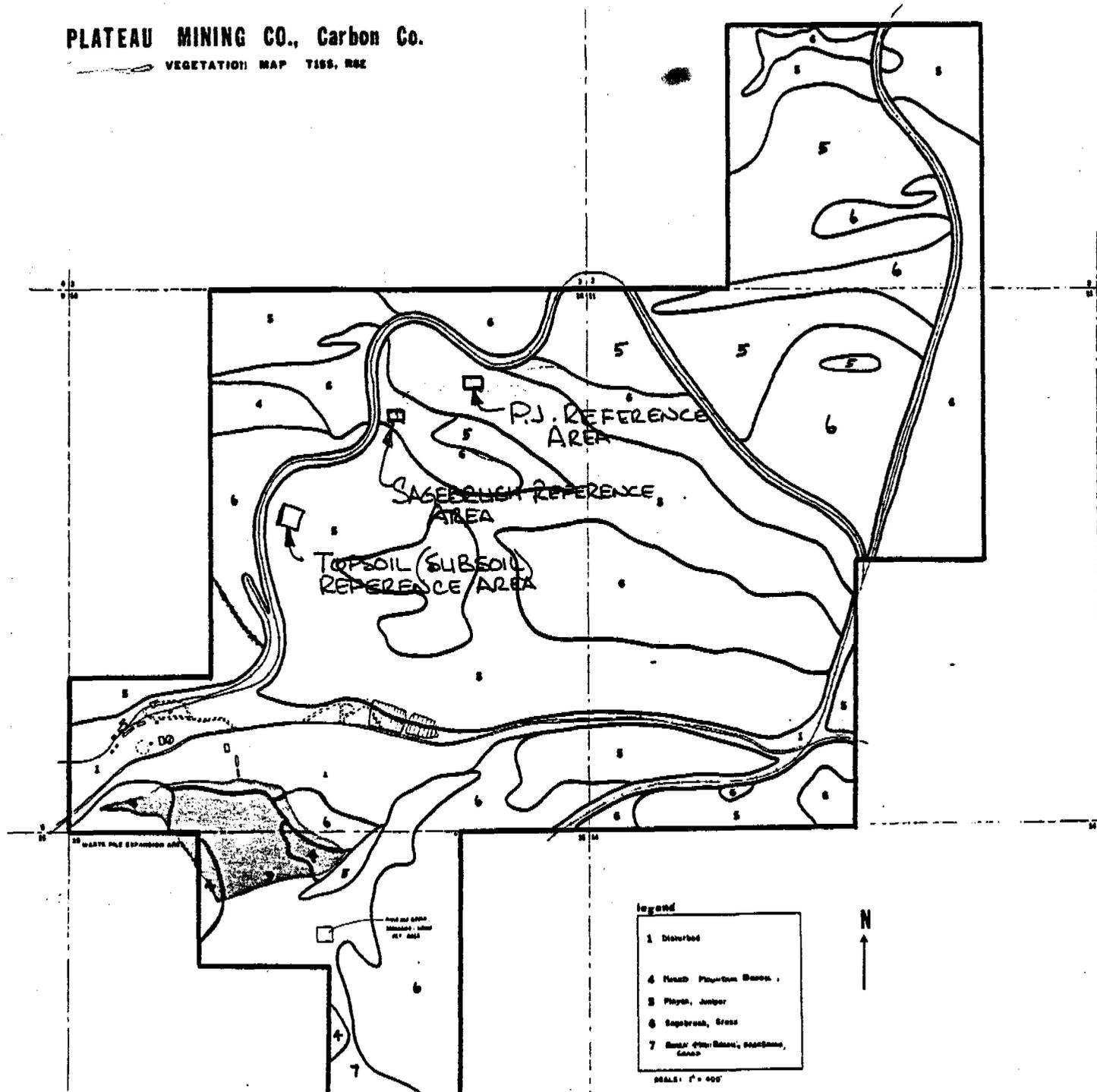
AREA TO BE DESTROYED BY UNIT TRAIN PROJECT

MAP 1  
VEGETATION - TOPSOIL TEST PLOTS  
REFUSE PILE

PLATEAU MINING Co. AUG 1982

PLATEAU MINING CO., Carbon Co.

VEGETATION: MAP TISS, R02



**NOT TO SCALE**

MAP 2

