MK025PR

SECTION 30W MINE

(Old Stope Leach)

PRIOR RECLAMATION INSPECTION REPORT

QUIVIRA MINING COMPANY

Section 17, Section 19, Section 22, Section 24, Section 30, Section 30W, Section 33

Submitted in Partial Fulfillment of the New Mexico Mining Act Section 69-36-7 U, Prior Reclamation

New Mexico Energy, Minerals and Natural Resources Department
Mining and Minerals Division
Mining Act Reclamation Program

October 30, 1998

INTRODUCTION

On October 1st and 2nd of 1998, inspections were conducted at Quivira Mining Company's seven unreleased prior reclamation sites. These sites, their locations and the dates of their inspections are presented in Table 1.

MINE	LOCATION	INSPECTION DATE
Section 17	T14N R9W	October 2, 1998
Section 19	T14N R9W	October 2, 1998
Section 22	T14N R10W	October 1, 1998
Section 24	T14N R10W	October 1, 1998
Section 30	T14N R9W	October 1, 1998
Section 30W	T14N R9W	October 2, 1998
Section 33	T14N R9W	October 2, 1998

Table 1: Quivira Mining Company Prior Reclamation Sites

These sites had first been seeded in 1994. Each of these sites had been granted a variance from the September 30, 1995 deadline found in Section 510.B of the New Mexico Mining Act Rules (the Rules) for a determination of whether the site should be released. The deadlines for all seven sites had been extended to the end of 1998. The inspections described in this report are in fulfillment of the requirements of the New Mexico Mining Act (NMMA), Section 69-36-7U, and Section 510 of the Rules to determine if these sights qualify for release.

METHODS

All inspections were conducted by Holland Shepherd, Rob Pine and Sandra Maes of MMD. Peter Luthiger of Quivira was present during the inspections. For each prior reclamation site, the sampling locations were selected as follows: a uniform 100 foot grid was drawn on a map of the site, each intersection was numbered and, using a Lotus spreadsheet, a random number generator was used to randomly order the grid points and to select a random direction for each transect. This was done in the presence of Peter Luthiger prior to the actual field inspections.

Due to time constraints, sampling adequacy was not attained at any of the prior reclamation sites. It was decided that somewhere between 7 and 10 transects would be run at each site. If Quivira did not agree with the decision that was based on this number of transects for a particular site, then the site could be reevaluated and sampling adequacy could then be attained.

The Line Intercept method was used to evaluate cover. Each transect was 50 feet long with a sampling interval of one foot, thus there were 50 points per transect. The species was identified at each point where a living plant was sampled. Species was not identified in the case of litter. Each point represents 2% of the cover for a given transect.

The standard for cover for a particular site must be based on either i) a known or predicted cover value for an ecologically comparable and reasonably undisturbed area; ii) direct comparison with a minimally disturbed reference area; or iii) test plots. The area surrounding the Quivira sites has been heavily grazed for some time and so does not provide a suitable reference area. The basis for a cover standard that has been accepted by MMD at the permitted Quivira sites is the appropriate Natural Resource Conservation Service (NRCS) Range Site Description (RSD). The one that best applies to the Quivira prior reclamation sites is the Sandy (WP-2) RSD.

The cover requirements that MMD has adopted for the Quivira prior reclamation sites is that perennial cover must average at least 75% of the perennial cover in the Sandy RSD. The average perennial ground cover for a potential natural plant community in the Sandy (WP-2) RSD is 18%. 75% of this is 13.5%. Because of the small sample size, the data was not analyzed statistically (in terms of confidence limits) so the average cover was expected to equal or exceed 13.5%. The visual inspection of the site factored into the decision making process as well.

The diversity requirement was that there should be at least 4 different grass species, including both warm season and cool season, found at the site. Since shrubs were not part of the original seed mix, there was no shrub requirement.

Because past inspections involved such a small number of transects (4 or less per prior reclamation site) that were apparently not randomly selected, it s not reasonable to compare the results of prior inspections with the 1998 inspection results. In addition. 1998 was a very dry year. Thus, it is difficult to look at trends in vegetation based on previous inspections and so trend was not considered in this evaluation.

SECTION 17

Eight transects were run at Section 17. The results are summarized in Table 2 below.

COVER TYPE	TRNS 1	TRNS 2	TRNS 3	TRNS 4	TRNS 5	TRNS 6	TRNS 7	TRNS 8	AVG	STD DEV
GRASS & FORB	4	14	12	8	16	2	4	8	8.5	5.1
PERENNIAL	4	14	12	8	16	2	4	8	8.5	5.1
ANNUAL	2	2	2	2	0	4	22	0	5.3	7.2
LITTER	18	20	16	10	12	26	16	22	17.5	5.2
BARE GROUND	76	58	70	80	64	68	58	70	68.0	7.9

Table 2. Percent Cover, Section 17 Transects

The average percent perennial cover from the 8 transects in Section 17 is 8.5%. The majority of the Section 17 prior reclamation site consisted of large areas of bare ground with small amounts of grass and Kochia. The overall range condition was poor. A substantial portion of the site is sloping to the south and some erosion was evident in the form of rills and gullies.

The relative frequency of grass types sampled in all 8 transects are shown in Figure 1 below. In this graph, CWG = Crested Wheatgrass (Agropyron cristatum); WWG = Western Wheatgrass (Agropyron smithii); IRG = Indian Ricegrass (Oryzopsis hymenoides); SPOR = Sporobolus, either Sand Dropseed (S. cryptandrus) or Alkali Sacaton (S. airoides); BG = Blue Gramma (Bouteloua gracilis); and FB = Foxtail Barley (Hordeum jubatum).

Percent cover of non-grass perennials can be determined from the table by subtracting the grass percent cover from the perennial percent cover. As can be seen, there were no non-grass perennial plants sampled along the transects. However, in the southwest portion of the site, there were stands of Tamarisk and Russian Olive. Some Rubber Rabbitbrush also occurred at the southern portion of the site.

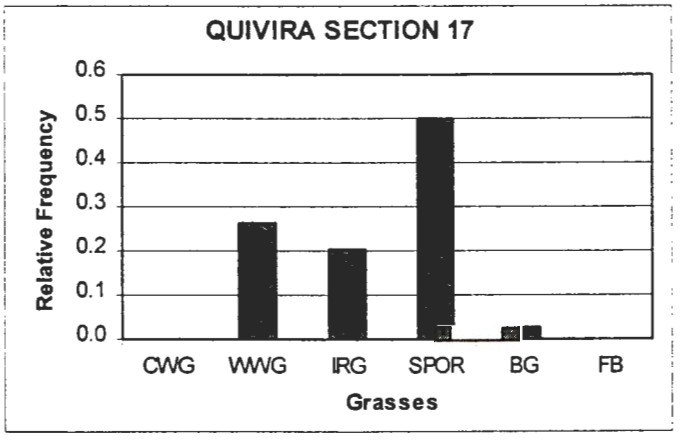


Figure 1. Relative Frequency of Grass Types, Section 17

SECTION 19

Seven transects were run at Section 19. The results are summarized in Table 3 below.

COVER TYPE	TRNS 1	TRNS 2	TRNS 3	TRNS 4	TRNS 5	TRNS 6	TRNS 7	AVG	STD DEV
GRASS & FORB	20	8	18	12	16	12	6	13.1	5.1
PERENNIAL	20	8	18	12	16	14	6	13.4	5.1
ANNUAL	0	12	0	0	0	0	0	1.7	4.5
LITTER	22	44	28	26	24	26	18	26.9	8.2
BARE GROUND	58	36	54	62	60	60	76	58.0	11.9

Table 3. Percent Cover, Section 19 Transects

The average percent perennial cover from the 7 transects in Section 19 is 13.4 % (12.9% being grasses), just at the minimum for release, with a standard deviation of 5.1%. The site overall looked good and fairly uniform in terms of cover, though there were some areas with less cover.

The relative frequency of grass types sampled in all 8 transects are shown in Figure 2 below. Five different grass species were encountered at the site with crested wheatgrass being the dominant species. Rubber rabbitbrush, four-wing saltbush and purple aster were observed at the site (rubber rabbitbrush was sampled once in Transect 6). There was a low occurrence of kochia and russian thistle at the site.

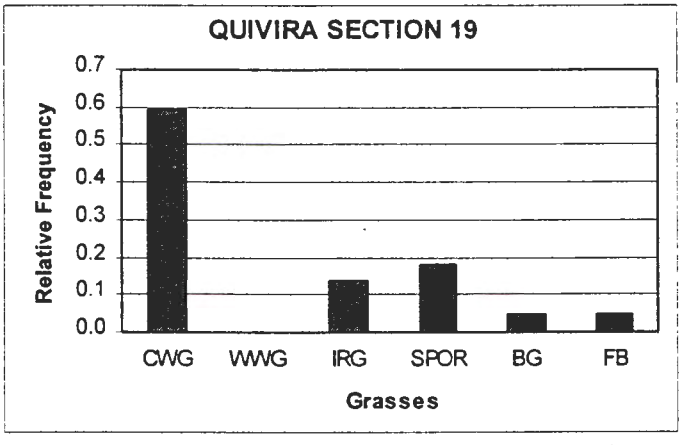


Figure 2. Relative Frequency of Grass Types, Section 19

SECTION 22

Seven transects were run at Section 22. The results are summarized below in Table 4.

COVER TYPE	TRNS 1	TRNS 2	TRNS 3	TRNS 4	TRNS 5	TRNS 6	TRNS 7	AVG	STD DEV
GRASS & FORB	6	8	8	12	14	18	14	11.4	4.3
PERENNIAL	6	8	8	12	14	34	20	14.6	9.8
ANNUAL	6	20	8	8	2	6	0	6.9	6.5
LITTER	30	34	30	34	32	14	32	29.4	7.0
BARE GROUND	58	38	54	46	52	46	48	48.9	6.5

Table 4. Percent Cover, Section 22 Transects

The relative frequency of grass types sampled in all 7 transects are shown in Figure 3 below. Five different grass species were encountered at the site fairly uniformly distributed between the species. Rubber rabbitbrush, four-wing saltbush and purple aster were observed at the site.

This average perennial cover from the 7 transects is 14.6%. However, the average was skewed to the right because Transect 6, had a perennial cover of 34% due to a large clump of four-wing saltbush, (without Transect 6, the average would be 11.3%). Based on the visual inspection of Section 22, Transect 6 was not representative of Section 22 which is generally in poor condition with some areas of good perennial growth.

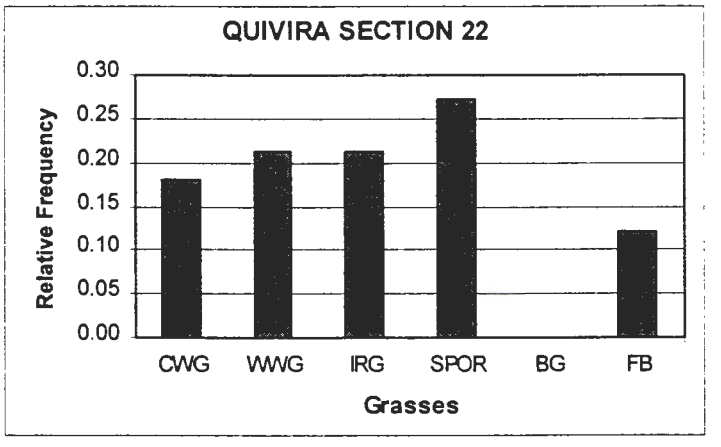


Figure 3. Relative Frequency of Grass Types, Section 22

SECTION 24

Seven transects were run at Section 24. The results are summarized below in Table 5.

COVER TYPE	TRNS 1	TRNS 2	TRNS 3	TRNS 4	TRNS 5	TRNS 6	TRNS 7	AVG	STD DEV
GRASS & FORB	12	0	6	18	0	0	2	5.4	7.1
PERENNIAL	12	0	16	18	0	0	2	6.9	8.2
ANNUAL	4	16	0	6	20	14	10	10.0	7.1
LITTER	32	20	30	12	18	48	40	28.6	12.8
BARE GROUND	52	64	54	64	62	38	48	54.6	9.6

Table 5. Percent Cover, Section 24 Transects.

The relative frequency of grass types sampled in all 7 transects are shown in Figure 4 below. Only two different grass species were encountered along the transects. Indian ricegrass and sand dropseed were encountered at the site, but crested wheatgrass was the dominant species. Four-wing saltbush and purple aster were also observed at the site.

Section 24 generally had poor perennial cover (average 6.9%) consisting primarily of crested wheatgrass. Kochia and russian thistle were the dominant plants in many areas. The overall range condition was poor.

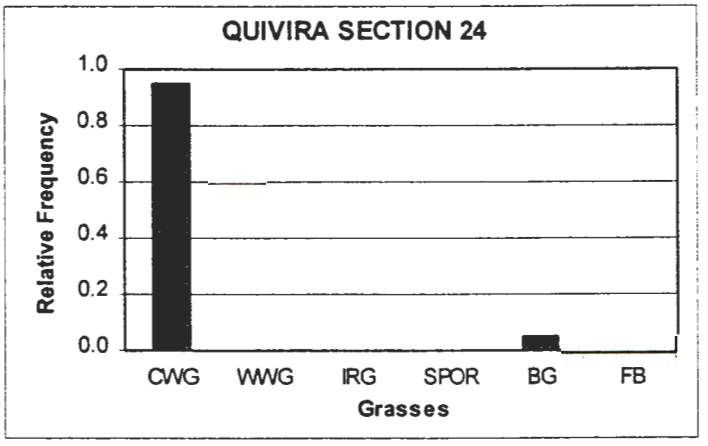


Figure 4. Relative Frequency of Grass Types, Section 24

SECTION 30

Nine transects were run at Section 30. The results are summarized below in Table 6.

COVER TYPE	TRNS 1	TRNS 2	TRNS 3	TRNS 4	TRNS 5	TRNS 6	TRNS 7	TRNS 8	TRNS 9	AVG	STD DEV
GRASS & FORB	12	14	6	8	26	18	14	18	22	15.3	6.4
PERENNIAL	16	16	6	8	30	18	14	18	30	15.4	7.8
ANNUAL	2	2	8	14	12	12	10	4	0	8.6	4.9
LITTER	10	18	8	16	14	22	24	26	20	15.7	6.4
BARE GROUND	72	64	80	62	44	48	52	52	50	60.3	13.1

Table 6. Percent Cover, Section 30 Transects

The relative frequency of grass types sampled in all 9 transects are shown in Figure 5 below. Five different grass species were encountered at the site with crested wheatgrass being the dominant species. Four-wing saltbush, sage, snakeweed and purple aster were also observed at the site.

Section 30 had an average perennial cover of 15.4%. The visual inspection showed this site to generally be in fair to good range condition with some portions in poor condition.

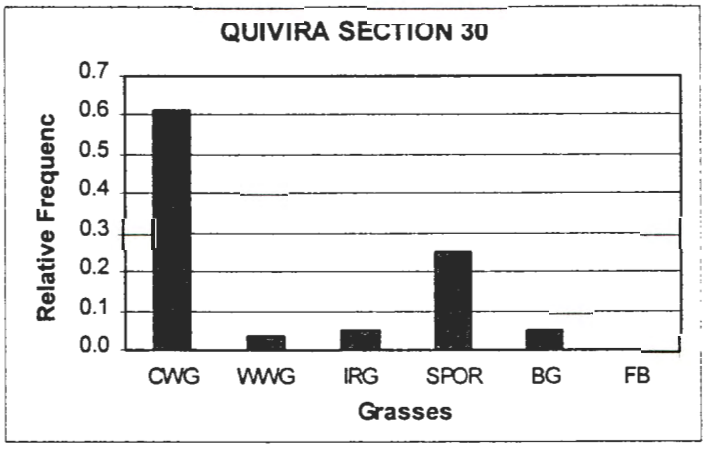


Figure 5. Relative Frequency of Grass Types, Section 30.

SECTION 30W

Seven transects were run at Section 30W. The results are summarized below in Table 7.

COVER TYPE	TRNS 1	TRNS 2	TRNS 3	TRNS 4	TRNS 5	TRNS 6	TRNS 7	AVG	STD DEV
GRASS & FORB	20	26	10	10	10	14	12	14.6	6.2
PERENNIAL	20	26	10	10	10	14	12	14.6	6.2
ANNUAL	0	0	12	14	10	22	0	8.3	8.6
LITTER	30	14	16	18	10	16	14	16.9	6.3
BARE GROUND	50	60	62	58	70	48	74	60.3	9.6

Table 7. Percent Cover, Section 30W

The relative frequency of grass types sampled in all 7 transects are shown in Figure 6 below. Five different grass species were encountered at the site with crested wheatgrass being the dominant species. Rubber rabbitbrush, salt cedar and purple aster were also observed at the site.

Section 30W had an average perennial cover of 14.6%. The visual inspection showed the range condition of this site to generally be fair to good with some portions in poor condition.

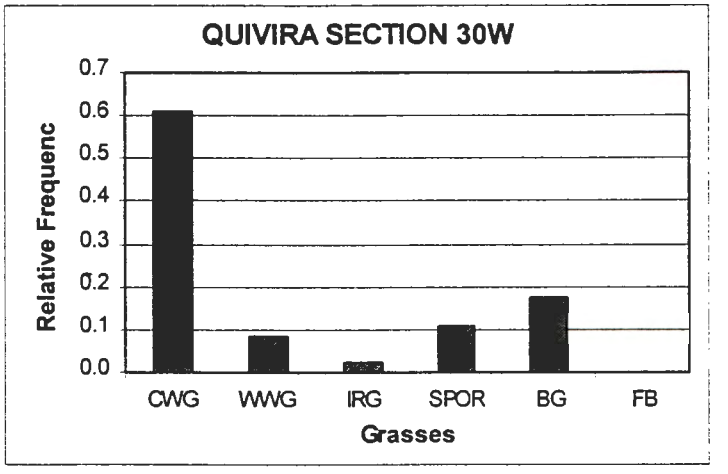


Figure 6. Relative Frequency of Grass Types, Section 30W

SECTION 33

Eight transects were run at Section 33. The results are summarized below in Table 8.

COVER TYPE	TRNS 1	TRNS 2	TRNS 3	TRNS 4	TRNS 5	TRNS 6	TRNS 7	TRNS 8	AVG	STD DEV
GRASS	0	6	10	28	0	12	34	6	12.0	12.6
PERENNIAL	0	6	10	28	0	12	34	6	12.0	12.6
ANNUAL	4	12	8	6	24	12	22	10	12.3	7.2
LITTER	6	30	20	44	24	22	18	44	26.0	13.0
BARE GROUND	90	50	62	22	52	54	26	40	49.5	21.5

Table 8. Percent Cover, Section 33

The relative frequency of grass types sampled in all 8 transects are shown in Figure 7 below. Only two different grass species, western wheatgrass and sand dropseed, were encountered along the transects, though blue grama was also observed. Four-wing saltbush and rubber rabbitbrush were also observed at the site.

The northern portion of Section 33 appeared to be in fair to good condition while the southern portion was in poor condition. The average perennial cover was 12.0% with a standard deviation of 12.6%. Those transects with good perennial cover were found in the northern portion of the site while the transects with inadequate cover were found in the southern portion.

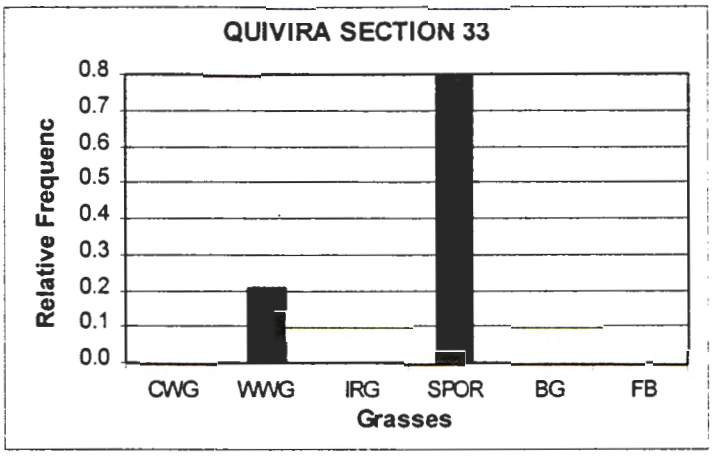


Figure 7. Relative Frequency of Grass Types, Section 33

CONCLUSIONS

None of Quivira's prior reclamation sites can be considered to be in excellent condition. However, some of the sites meet the criteria established for prior reclamation release. All the sites were interseeded by broadcast method in August of 1998 and, if moisture conditions are adequate, this should further improve the condition at all the sites.

Based on the above information, the following prior reclamation sites are recommended for release: Section 30 and Section 30W. The remaining sections, Section 19,17, Section 22, Section 24 and Section 33 are not recommended for release due to inadequate cover and, in some cases, inadequate diversity. Section 17 and the southern portion of Section 33 are in such poor condition that the sites should be reseeded by drill seeding.

RANGE SITE DESCRIPTION

Section II E, Technical Guide

A. SITE NO. D36-113-N Sandy (WP-2)

B. PHYSIOGRAPHIC FEATURES

This site usually occurs on level to gently sloping or undulating topography of upland plains. Slopes average less than 10 percent. Elevations range from about 6,000 feet to just over 7,200 feet.

C. CLIMATIC FEATURES

1. Average annual precipitation varies from about 10 inches to just over 16 inches. Fluctuations ranging from about 5 inches to 25 inches are not uncommon. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. As much as half or more of the annual precipitation can be expected to come during the period of July through September. Thus, fall conditions are often more favorable for good growth of cool-season perennial grasses, shrubs, and forbs than are those of spring.

2. The average frost-free season is about 120 days and extends from approximately mid-May to early or mid-September. Average annual air temperatures are 50° F. or lower, and summer maximums rarely exceed 100° F. Winter minimums typically approach or go below zero. Monthly mean temperatures exceed 70° F. for the period of July and August.

3. Rainfall patterns generally favor warm-season perennial vegetation, while the temperature regime tends to favor cool-season vegetation. This creates a somewhat complex community of plants on a given range site which is quite susceptible to disturbance and is at or near its productive potential only when both the natural warm- and cool-season dominants are present.

D. SOILS

1. The soils of this site are moderately deep to deep, well drained, and may or may not be calcareous throughout. Typically, the surface layer is a sandy loam, fine sandy loam, or loamy fine sand at least 5 or 6 inches thick over sandy loam to clay loam subsoils. Permeability is moderately slow to moderately rapid, and the available water capacity is moderate to high.

The soils of this site are subject to soil blowing.

2. Characteristic soils are:

Telescope loamy fine sand

3. Other soils included are:

Royosa fine sand

E. POTENTIAL NATURAL PLANT COMMUNITY

1. This site is characterized by both warm- and cool-season grasses, scattered shrubs, half-shrubs, and forbs. Blue grama and western wheatgrass are co-dominants, with Indian ricegrass and dropseed closely associated. Principal shrubs and half-shrubs include fourwing saltbush, winterfat, and sand sagebrush. Rocky Mountain beeplant is often the most noticeable forb. Broom snakeweed is most common in certain wet years and when the plant community deteriorates from its potential.

2. Composition of Potential Plant Community

Approximate percentage of total annual herbage production.

Grasses and Grasslike - 75-85%		(Shrubs, half-shrubs, vines and trees) Woody - 10-15%		Forbs - 5-10%	
Western wheatgrass	15-20	Fourwing saltbush	5-10	Perennials	3-8
Blue grama	25-30	Winterfat		Annuals	1-5
Indian ricegrass	5-10	Bigelow sagebrush	1-5		
Needleandthread	5-10	Broom snakeweed	1-3		
Bottlebrush squirreltail		Rabbitbrush			
New Mexico feathergrass		Sand sagebrush			
Sand dropseed	10-15	Spineless horsebrush			
Spike dropseed					
Galleta	1-5				
Ring muhly	3-5				
Sandhill muhly					
False buffalograss	1-5				
Threeawns spp.					
Black grama	1-5				
Spike muhly	1-3				

3. Canopy Cover

Shrubs and half-shrubs - 5%

4. Ground Cover (Average Percent of Surface Area)

Grasses, grasslike, forbs	18
Bare ground	69
Surface gravel	1
Surface cobble and stones	0
Litter - percent of area	12
av. depth in cm.	2

F. TOTAL ANNUAL HERBAGE PRODUCTION (Air-dry, lbs./ac.)

Favorable years - 850 (Average)
Unfavorable years - 325 (Average)

G. SITE INTERPRETATIONS

1. Grazing

This site is suitable for grazing by most kinds and classes of livestock in all seasons of the year but is poorly suited for continuous year-long grazing if potential natural vegetation is to be maintained. Under such use, cool-season grasses, such as western wheatgrass, Indian ricegrass, and needleandthread, may decline or even disappear. If use is heavy and prolonged, many of the more palatable warm-season species will also decline. The site in a typically deteriorated condition may be characterized by low-vigor, sod-like blue grama and possibly some galleta. Further deterioration is characterized by increasing amounts of bare ground, increases in ring muhly, sandhill muhly, threeawns and rabbitbrush, and by certain annual forbs. Production in these instances may be cut to one-third or less of the potential, and soil blowing may become severe. The site, in certain instances, is subject to invasion by woody species such as pinyon pine and juniper.

2. Wood Products

This site has no significant value for wood products.

3. Habitat for Wildlife

This range site provides habitat which supports a resident animal community that is characterized by pronghorn antelope, kit fox, badger, desert cottontail, spotted ground squirrel, Ord's kangaroo rat, white-throated woodrat, Botta's pocket gopher, plains pocket mouse, Northern grasshopper mouse, ferruginous hawk, mourning dove, meadowlark, plains spadefoot toad, Eastern fence lizard, plateau whiptail, short-horned lizard and prairie rattlesnake.

Common raven and prairie falcon hunt over the site.

4. Hydrologic Interpretations

Soil Series	Hydrologic Groups
Telescope	B
Royosa fine sand	A

Runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

5. Recreation and Natural Beauty

This site offers fair potential for hiking, horseback riding, nature observation, photography, camping, and picnicking. It offers good to excellent potential for hunting of prongnorn antelope.

In years of favorable moisture, colorful wildflowers dot the landscape.

6. Endangered Plants and Animals

To be added as reliable information becomes available.

H. OTHER PERTINENT INFORMATION

1. Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Range Condition	Ac/Aum
Excellent (100-76)	3.6-4.7
Good (75-51)	4.5-7.0
Fair (50-26)	6.8-12.0
Poor (25-0)	12.0+

2. Relative Quality of Plants for Animal Use 1/

(a) Cattle

Primary	Secondary	Low Value
Western wheatgrass	Blue grama	Broom snakeweed
Indian ricegrass	Galleta	Rabbitbrush
Needleandthread	Bigelow sagebrush	Spineless horsebrush
New Mexico feathergrass	Sand dropseed	Sandhill muhly
Winterfat	Threeawns spp.	Ring muhly
Fourwing saltbush	Most perennial forbs	False buffalograss
Black grama		
Bottlebrush squirreltail		

(b) Antelope and Sheep

Primary	Secondary	Low Value
Winterfat	Blue grama	Broom snakeweed
Bigelow sagebrush	New Mexico feathergrass	Rabbitbrush
Western wheatgrass	Needleandthread	Sand sagebrush
Indian ricegrass	Threeawns spp.	Sandhill muhly
Fourwing saltbush	Dropseeds	Spineless horsebrush
Most perennial forbs		

I. IDENTIFICATION AND AUTHORIZATION

1. USDA SCS
   Albuquerque, NM
   MLRA 36

2. Field Offices:
   Reserve
   Magdalena/Quemado

3. Field Office Sample Location

4. Approved:

D. Chester 2/15/80
State Range Conservationist Date

Durwood E. Ball 3/27/80
WTSC Range Conservationist Date

Site Name Quinera Data Sheet No. 1 of 7

Sec 30 W
Rng
Twp

Date 10.1.98 Location McKinley County

Line Length 330' Investigators RP/HS/SM-MMD PIL-Q

GRID 52 @ 322°

1 BG	21 BG	41 BG		
2 BG	22 CWG	42 L		
3 BG	23 BG	43 L		
4 BG	24 L	44 BG		
5 BG	25 CWG	45 L		
6 BG	26 CWG	46 P. Aster		
7 BG	27 L	47 BG		
8 BG	28 BG	48 BG		
9 L	29 CWG	49 BG		
10 CWG	30 L	50 BG	70	90
11 BG	31 L			
12 L	32 L			
13 BG	33 L			
14 BG	34 L			
15 BG	35 BG			
16 CWG	36 L			
17 L	37 B. Gramma			
18 CWG	38 BG			
19 L	39 I. Rcgrss			
20 BG	40 BG	60	80	100

Total Rock (Rck) %
Total Bare Ground (BG)% 50
Total Plant Cover % 20 per 0 annual 18 grass
Total Litter (L)% 30

BG 7
WWG 0
IR 1
BlueG 1
SP 0

Species on Site

- Salt Cedar
- Russian thistle
- Bottlebrush squirrel tail
- purple aster
- Crested wheat grass
- Indian Rice grass

Site Name Quinera Data Sheet No. 2 of 7

Sec 30W
Rng
Twp

Date 10.1.98 Location McKinley County

Line Length 50' Investigators

GRID 32 @ 9°

1 BG	21 L	41 BG		
2 BG	22 L	42 CWG		
3 L	23 BG	43 CWG		
4 B. GRAMMA	24 BG	44 L		
5 BG	25 CWG	45 BG		
6 BG	26 Sporobolus	46 BG		
7 BG	27 BG	47 L		
8 BG	28 BG	48 BG		
9 B. GRAMMA	29 BG	49 BG		
10 L	30 L	50 BG		
11 CWG	31 BG			
12 CWG	32 BG			
13 BG	33 B. GRAMMA			
14 B. GRAMMA	34 BG			
15 P. Aster	35 BG			
16 P. Aster	36 BG			
17 BG	37 BG			
18 BG	38 B. GRAMMA			
19 BG	39 BG			
20 BG	40 BG			

Total Rock (Rck) %
Total Bare Ground (BG)% 60
Total Plant Cover % 26 per. 0 annual 22 grass
Total Litter (L)% 14

CWG 5
WWG 0
IR 0
BlueG 5
SP 1

Site Name Quivera Data Sheet No. 3 of 7

Sec 30W
Rng
Twp

Date 10·1·98 Location McKinley County

Line Length 50' Investigators

GRID 25 @ 193°

1 BG	21 L	41 B.Gramma		
2 BG	22 L	42 BG		
3 BG	23 Kochia	43 L		
4 L	24 Kochia	44 BG		
5 Sporobolus	25 BG	45 BG		
6 Spor	26 Kochia	46 BG		
7 BG	27 L	47 BG		
8 BG	28 BG	48 BG		
9 BG	29 L	49 BG		
10 BG	30 L	50 BG		
11 BG	31 BG			
12 BG	32 BG			
13 BG	33 BG			
14 BG	34 BG			
15 BG	35 BG			
16 Kochia	36 BG			
17 BG	37 CWG			
18 BG	38 L			
19 Kochia	39 CWG			
20 Kochia	40 BG			

Total Rock (Rck) %
Total Bare Ground (BG)% 62
Total Plant Cover % 10 peren. 12 annual
Total Litter (L)% 16

CWG 2
WWG 0
IR 0
BlueG 1
SP 2

Site Name Quivera Data Sheet No. 4 of 7

Sec 30W
Rng
Twp

Date 10·1·98 Location McKinley County

Line Length 50' Investigators

GRID 15 @ 238°

1 L	21 BG	41 L		
2 L	22 BG	42 BG		
3 BG	23 BG	43 Kochia		
4 BG	24 L	44 BG		
5 BG	25 BG	45 L		
6 BG	26 L	46 BG		
7 CWG	27 CWG	47 BG		
8 BG	28 BG	48 BG		
9 B.Grama	29 L	49 BG		
10 L	30 BG	50 BG		
11 BG	31 RThistle			
12 BG	32 CWG			
13 RThistle	33 BG			
14 BG	34 BG			
15 BG	35 Kochia			
16 RThistle	36 BG			
17 CWG	37 BG			
18 RThistle	38 BG			
19 RThistle	39 BG			
20 BG	40 L			

Total Rock (Rck) %
Total Bare Ground (BG)% 58
Total Plant Cover % 10 peren. 14 annual
Total Litter (L)% 18

CWG 4
WWS 0
IP 0
Blue G 1
SP 0

Site Name Quinera Data Sheet No. 5 of 7

Sec 30W
Rng
Twp

Date 10.1.98 Location McKinley County

Line Length 50' Investigators

GRID 9 @ 246°

1. BG	21 R.Thistle	41 CWG		
2. BG	22 BG	42 CWG		
3. BG	23 BG	43 CWG		
4. Kochia	24 L	44 BG		
5. BG	25 BG	45 BG		
6. BG	26 BG	46 BG		
7. L	27 L	47 BG		
8 BG	28 BG	48 BG		
9 Kochia	29 BG	49 BG		
10 BG	30 CWG	50 BG		
11 Kochia	31 CWG			
12 BG	32 BG			
13 L	33 BG			
14 Kochia	34 BG			
15 BG	35 BG (continued)			
16 BG	36 L			
17 BG	37 BG			
18 BG	38 BG			
19 BG	39 BG			
20 BG	40 BG			

Total Rock (Rck) %
Total Bare Ground (BG)% 70
Total Plant Cover % 10 peren. 10 annual
Total Litter (L)% 10

CWG 5
WWG 0
IR 0
BWG 0
SP 0

Site Name Quinera Data Sheet No. 6 of 7

Sec 30W
Rng
Twp

Date 10.1.98 Location Mckinley County

Line Length 50' Investigators

GRID 40 @ 104°

1 BG	21 L	41 BG		
2 BG	22 BG	42 BG		
3 L	23 BG	43 BG		
4 BG	24 BG	44 BG		
5 BG	25 BG	45 CWG		
6 BG	26 BG	46 CWG		
7 WWG	27 BG	47 BG		
8 BG	28 Kochia	48 L		
9 BG	29 Kochia	49 CWG		
10 L	30 Kochia	50 L		
11 BG	31 Kochia			
12 L	32 Kochia			
13 BG	33 Kochia			
14 L	34 Kochia			
15 WWG	35 Kochia			
16 BG	36 Kochia			
17 WWG	37 Kochia			
18 BG	38 Kochia			
19 L	39 BG			
20 WWG	40 BG			

Total Rock (Rck) %
Total Bare Ground (BG)% 48
Total Plant Cover % 14 per. 22 annual
Total Litter (L)% 16

CWG 3
WWG 4
IR 0
Blue G 0
SP 0

Site Name Quinera Data Sheet No. 7 of 7

Sec 30ew
Rng
Twp

Date 10.1.98 Location Mckinley Country

Line Length 50' Investigators RF/HS/SM-MMD P.L-Q

GRID 48 @ 328°

1 BG	21 BG	41 SPOROBOLUS		
2 BG	22 BG	42 BG		
3 BG	23 BG	43 CWG		
4 CWG	24 BG	44 BG		
5 BG	25 BG	45 BG		
6 BG	26 BG	46 BG		
7 BG	27 BG	47 BG		
8 BG	28 BG	48 BG		
9 BG	29 L	49 L		
10 BG	30 BG	50 L		
11 BG	31 L			
12 BG	32 BG			
13 BG	33 BG			
14 BG	34 L			
15 L	35 BG			
16 BG	36 BG			
17 CWG	37 BG			
18 BG	38 BG			
19 L	39 Sporobolus			
20 CWG	40 BG			

Total Rock (Rck) %
Total Bare Ground (BG)% 74
Total Plant Cover % 12 per 10 annual
Total Litter (L)% 14

CWG 4
WWG 0
IR 0
BWG 0
SP 2

PRIOR RECLAMATION SITE SUMMARY

UNITED NUCLEAR CORP.

Contact: Juan Velasquez
1720 Louisiana NE
262-1800

The 3 UNC sites had a variance until the end of 1998. All that is said is that a determination will be made by MMD whether the release criteria are met.

Variance 7/11 9/98

Anna Lee Mine (T14N R9W 28): Total area addressed by Mining Act is 1/10 of an acre. Reseeded in fall, 1994. Inspected July 13, 1995. No perennials growing. Recommendations were to cover slab and reseed. Variance requested by UNC in June, 1997.

John Bill Mine and Sandstone Mine (T14N R9W 34): Total area is approximately 8 acres in two areas. Reseeded in fall, 1994. Inspected July 13, 1995. Vegetation was sparse. Steel scrap and buildings found at sites, presumably at request of leasee. Recomendations were to cover slab and submit a letter from leasee requesting that buildings and scrap be left on site. Variance requested by UNC in June, 1997.

HRI

Contact: Mark Pelizza
972-387-7777

Churchrock ISL SEC 17: Disturbed area is approximately 16 acres. HRI purchased property from UNC who did some reclamation work in 1990 or 1991 (removed head frames and most buildings, recontoured ore pads and covered shafts and vents). This is one of HRI's insitue leaching sites. Inspected on August 29, 1995. There were 5 ponds remaining up to this time. HRI agreed to reclaim these ponds in 1997.

NEWMONT GOLD (Santa Fe Pacific Gold)

Contact: Rick River
Idarado Mining Co.
P.O. Box 584
Ouray, CO 81427
(970) 325-4482
(970) 325-4853

Poison Canyon Mine (T13N R9W 19): The only SFPG prior rec site not released or that falls under the act. Site is 30 acres. MMD letter dated July 24, 1996 gives a 5 year variance from the 1995 date. The letter states that at the end of the 5 year variance "the Director will consider whether to extend this variance". Originally reclaimed in 1987 with additional work in 1993 and 1994. Not released due to lack of diversity and poor establishment of grasses and forbes. SFPG purchased by Newmont (303-837-5069). Fence surrounds site. Topsoil depth presumably 4 inches.

QUIVIRA

MMD letter dated April 21, 1997 approving the variance request indicated only that sites will be inspected in the summer of 1997 and that those sites not released would be reinspected during the summer of 1998. MMD letter dated October 31, 1997 says that they must apply for another variance. Quivira response states that this was discussed with Holland and that the existing variance is good until end of 1998. No other corespondance on the matter was found.

Section 17 (T14N R9W): 22 acres
Section 19 (T14N R9W) 19 acres
Section 22 (T14N R10W): 37 acres
Section 24 (T14N R10W): 26 acres
Section 30 (T14N R9W): 44 acres
Section 30W (T14N R9W): 26 acres
Section 33 (T14N R9W): 28 acres

Inspected by MMD in 1995, 1997 and 1998.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

MINING AND MINERALS DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-5970

Jennifer A. Salisbury
CABINET SECRETARY

Kathleen A. Garland
DIVISION DIRECTOR

October 31, 1997

Peter Luthiger
Supervisor, Radiation Safety
and Environmental Affairs
Quivira Mining Company
P.O. Box 218
Grants, NM 87020

Re: Status of Prior Reclamation Sites Sections 17, 19, 22, 23, 24, 30, 30W and 33

Dear Mr. Luthiger:

The letter addresses the current status of Quivira's prior reclamation sites identified above. Quivira's approved variance requested that the regulatory deadline of September 30, 1995, for MMD's determination, be extended to allow for further evaluation of revegetation success. The next evaluation of the prior reclamation sites was planned for the 1997 growing season. This evaluation was conducted by Robyn Tierney and Doug Romig from MMD's Coal Mine Reclamation Bureau on October 7, 1997.

We have determined that prior reclamation sites Sections 17, 19, 22, 23, 24, 30, 30W and 33 do not qualify for prior reclamation release, while Section 23 does qualify for release. I have summarized our findings and recommendations below and have attached a copy of the field data collected during the evaluation.

Findings and Recommendations:

Section 23 may be released based on the fact that this section had a diverse species composition, including several native grass species that were not in the original seed mix; shrub establishment including winterfat, sage and fourwing saltbush was excellent; and vegetation cover was 25% with no crested wheatgrass.

Grazing is a problem on Section 17. This area lacked an acceptable vegetation cover for reclamation release and also contained major rill and gully erosion. We recommend the cows be removed at this time, because of the lack of adequate cover. There is very little vegetation to support this type of use on this section. However, controlled grazing in the spring and fall may help to reduce competition from the crested wheatgrass, russian thistle and kochia.

A significantly lower species diversity from that observed in 1995, was observed on all of the mines evaluated with the exception of the Section 23 mine. Also of concern is the apparent loss

of many of the shrub seedlings such as winterfat and fourwing saltbush; and the native perennial

grasses such as blue grama, alkali sacaton, sand dropseed, sideoats grama, and galleta grass previously observed during the 1995 inspection. These species have largely been replaced by crested wheatgrass. Crested wheatgrass acts much like cheatgrass in that it aggressively competes for early spring and fall moisture. The preponderance of weeds including russian thistle and kochia poses a problem to satisfactory revegetation. One way of overcoming this problem is by burning, reseeding or interseeding when these weeds persist for more than 2-3 years on reclaimed lands.

Finally, this survey was concluded in the fall of the fourth growing season for all of the Quivira mines. In spite of the excellent precipitation received in the Grants/Milan area this year, these results are disappointing. Our conclusion is that the sites are not likely to improve over time.

Conclusion:

Since the variance has expired for the extension of MMD's determination for these sites, Quivira must apply for another variance or bring these sites under a Mining Act permit. If you choose to request another variance MMD will require a plan to address the reclamation on these sites and the establishment of another time frame to perform a follow-up evaluation. We would also advise that prior to submittal of the plan you discuss proposed approaches with staff who will be able to provide you with options for addressing the reclamation.

Please let us know how Quivira would like to approach this decision and how we can assist you in making it. I can be contacted directly at 505/827-5974.

Sincerely,

Kathleen Garland
Director
Mining and Minerals Division

attachments

cc: Holland Shepherd, MARB
Robyn Tierney, MMD
Doug Romig, MMD

Percent Relative Cover at Quivira Mines, October 1997

First hit data collected by Robyn Tierney and Douglas Romig (on October 7, 1997) from each mine, based on averages of four 15 meter point intercept transects. Numbers in parentheses are averages from the MMD surveys conducted in 1995.

Mine No.	Bareground	Litter	Kochia	Salsola	Crested Wheatgrass	Native/Other Species[1]	Rock
17	.38 (.53)	.10 (.11)	.33	.10	0	.08 (0)	.01
19	.47 (–)[2]	.17 (–)	.07	.18	.11	0 (0)	0
22	.37 (.49)	.13 (.16)	.15	.13	.07	.15 (0)	0
23[3]	.23 (.29)	.10 (0)	.42	0	0	.25 (0)	0
24	.23 (.53)	.12 (.06)	.28	.20	.16	.01 (.03)	0
30	.30 (.55)	.11 (.11)	.13	.17	.27	.02 (.06)	0
33	.40 (.35)	.13 (.08)	.31	.09	.07	0 (.03)	0
30W	.35 (.41)	.07 (.08)	.23	.09	.11	.10 (.08)	0

1 Includes both introduced and native annual, biennial, and perennial species
2 Data from 1995 inspection not available
3 Formerly, Homestake's Section 23 mine. Possible candidate for release

Codes for vegetation recorded on transects at Quivira's mines
Inspected by Robyn Tierney and Doug Romig on October 7, 1997

	Common Name	Scientific Name	Code
bg	bare ground		1
litter			2
kocr	ragweed	*Kochia scoparia* (L.) Schrad.	3
agsm	western wheatgrass	*Agropyron smithii* Rydb.	4
saka	russian thistle	*Salsola kali* (L.)	5
spai	alkali sacaton	*Sporobulus airoides* (Torr.) Torr.	6
atca	fourwing saltbush	*Atriplex canescens* (Pursh) Nutt.	7
sihy	bottlebrush squirreltail	*Sitanion hystrix* (Nutt.) J.G. Sm.	8
hija	galleta	*Hillaria jamesii* (Torr.) Benth.	9
agcr	crested wheatgrass	*Agropyron cristatum* (L.) Gaertn.	10
muhl	Muhlenbergia species	*Muhlenbergia* sp.	11
bogr	blue grama	*Bouteloua gracilis* (Willd. ex Kunth) Lag. ex Griffiths	12
mabi	purple aster	*Macaranthera bigelovii* (Gray) Greene	13
orhy	indian ricegrass	*Oryzopsis hymenoides* (Roemer & J.A. Schultes) Ricker ex Piper	14
depu	yellow mustard	*Descurainia pinnata* (Walt.) Britt.	15
yelclover	yellow clover	*Meliotus officinalis* (L.) Lam.	16
spcr	sand dropseed	*Sporobulus cryptandrus* (Torr.) Gray	17
arfr	fringed sage	*Artemisia frigida* Willd.	18
rock			19
grsq	curly cup gumweed	*Grindelia squarosa* (Pursh) Dunal	20
crpt	cryptogram		21
gusa	snakeweed	*Guttierrezia sarothrae* (Pursh) Britt. & Rusby	22

MeterNo.	MineNo.	Transect	first	firstcode	second	seccode	third	thirdcode
1	33	1	bg	1				
2	33	1	litter	2				
3	33	1	bg	1				
4	33	1	kocr	3	litter	2		
5	33	1	kocr	3	bg	1		
6	33	1	agsm	4	bg	1		
7	33	1	saka	5	bg	1		
8	33	1	bg	1				
9	33	1	litter	2				
10	33	1	kocr	3	litter	2		
11	33	1	kocr	3	litter	2		
12	33	1	bg	1				
13	33	1	agsm	4	litter	2		
14	33	1	kocr	3	agsm	4	litter	2
15	33	1	bg	1				
1	33	2	kocr	3	bg	1		
2	33	2	bg	1				
3	33	2	saka	5	bg	1		
4	33	2	kocr	3	litter	2		
5	33	2	bg	1				
6	33	2	bg	1				
7	33	2	bg	1				
8	33	2	kocr	3	bg	1		
9	33	2	bg	1				
10	33	2	saka	5	bg	1		
11	33	2	bg	1				
12	33	2	kocr	3	bg	1		
13	33	2	kocr	3	bg	1		
14	33	2	bg	1				
15	33	2	kocr	3	bg	1		
1	33	3	bg	1				
2	33	3	bg	1				
3	33	3	kocr	3	bg	1		
4	33	3	litter	2				
5	33	3	kocr	3	bg	1		
6	33	3	kocr	3	bg	1		
7	33	3	bg	1				
8	33	3	litter	2				
9	33	3	bg	1				
10	33	3	bg	1				
11	33	3	bg	1				
12	33	3	bg	1				
13	33	3	bg	1				
14	33	3	bg	1				
15	33	3	bg	1				
1	33	4	spai	6	spai	6		
2	33	4	mabi	13	bg	1		
3	33	4	mabi	13	bg	1		
4	33	4	agcr	10	agcr	10		
5	33	4	agsm	4	agsm	4		
6	33	4	agsm	4	litter	2		
7	33	4	agsm	4	litter	2		
8	33	4	litter	2				
9	33	4	agsm	4	agsm	4		
10	33	4	litter	2				

11	33	4	bg	1					
12	33	4	agsm	4	agsm	4			
13	33	4	agsm	4	litter	2			
14	33	4	agsm	4	agsm	4			
15	33	4	bg	1					
1	19	1	saka	5	litter	2			
2	19	1	bg	1					
3	19	1	sihy	8	litter	2			
4	19	1	agcr	10	bg	1			
5	19	1	bg	1					
6	19	1	litter	2					
7	19	1	kocr	3	litter	2			
8	19	1	bg	1					
9	19	1	litter	2					
10	19	1	bg	1					
11	19	1	litter	2					
12	19	1	mabi	13	litter	2			
13	19	1	bg	1					
14	19	1	litter	2					
15	19	1	bg	1					
1	19	2	spai	6	bg	1			
2	19	2	bg	1					
3	19	2	yelclover	16	bg	1			
4	19	2	bg	1					
5	19	2	bg	1					
6	19	2	bg	1					
7	19	2	agcr	10	yelclover	16	bg		1
8	19	2	spcr	17	bg	1			
9	19	2	bg	1					
10	19	2	bg	1					
11	19	2	yelclover	16	bg	1	bg		1
12	19	2	spai	6					
13	19	2	litter	2					
14	19	2	bg	1					
15	19	2	litter	2					
1	19	3	bg	1					
2	19	3	bg	1					
3	19	3	yelclover	16	bg	1			
4	19	3	bg	1					
5	19	3	saka	5	bg	1			
6	19	3	saka	5	yelclover	16	bg		1
7	19	3	bg	1					
8	19	3	bg	1					
9	19	3	bg	1					
10	19	3	saka	5	bg	1			
11	19	3	saka	5	bg	1			
12	19	3	bg	1					
13	19	3	saka	5	bg	1			
14	19	3	bg	1					
15	19	3	bg	1					
1	19	4	litter	2					
2	19	4	bg	1					
3	19	4	agcr	10	bg	1			
4	19	4	kocr	3	bg	1			
5	19	4	mabi	13	bg	1			
6	19	4	agcr	10	yelclover	16	litter		2

7	19	4	agcr	10	agcr	10
8	19	4	bg	1		
9	19	4	bg	1		
10	19	4	litter	2		
11	19	4	bg	1		
12	19	4	bg	1		
13	19	4	saka	5	bg	1
14	19	4	bg	1		
15	19	4	saka	5	bg	1
1	17	1	kocr	3	bg	1
2	17	1	bg	1		
3	17	1	bg	1		
4	17	1	saka	5	bg	1
5	17	1	rock	19		
6	17	1	kocr	3	bg	1
7	17	1	kocr	3	litter	2
8	17	1	kocr	3	litter	2
9	17	1	litter	2		
10	17	1	saka	5	bg	1
11	17	1	bg	1		
12	17	1	kocr	3	bg	1
13	17	1	bg	1		
14	17	1	bg	1		
15	17	1	bg	1		
1	17	2	litter	2		
2	17	2	bogr	12	bg	1
3	17	2	sihy	8	litter	2
4	17	2	kocr	3	litter	2
5	17	2	kocr	3	bg	1
6	17	2	bg	1		
7	17	2	kocr	3	litter	2
8	17	2	kocr	3	litter	2
9	17	2	kocr	3	litter	2
10	17	2	bg	1		
11	17	2	bg	1		
12	17	2	kocr	3	bg	1
13	17	2	saka	5	litter	2
14	17	2	bg	1		
15	17	2	agsm	4	litter	2
1	17	3	kocr	3	kocr	3
2	17	3	kocr	3	litter	2
3	17	3	bg	1		
4	17	3	bg	1		
5	17	3	kocr	3	litter	2
6	17	3	kocr	3	bg	1
7	17	3	bg	1		
8	17	3	bg	1		
9	17	3	litter	2		
10	17	3	kocr	3	litter	2
11	17	3	spai	6	litter	2
12	17	3	litter	2		
13	17	3	bg	1		
14	17	3	kocr	3	litter	2
15	17	3	litter	2		
1	17	4	kocr	3	litter	2
2	17	4	bg	1		

3	17	4	bg	1					
4	17	4	kocr	3	bg	1			
5	17	4	litter	2					
6	17	4	yelclover	16	bg	1			
7	17	4	bg	1					
8	17	4	bg	1					
9	17	4	bg	1					
10	17	4	kocr	3	bg	1			
11	17	4	bg	1					
12	17	4	bg	1					
13	17	4	bg	1					
14	17	4	yelclover	16	bg	1			
15	17	4	yelclover	16	bg	1			
1	30	1	saka	5	bg	1			
2	30	1	litter	2					
3	30	1	mabi	13	bg	1			
4	30	1	saka	5	bg	1			
5	30	1	spai	6	litter	2			
6	30	1	depu	15	litter	2			
7	30	1	kocr	3	bg	1			
8	30	1	bg	1					
9	30	1	kocr	3	litter	2			
10	30	1	bg	1					
11	30	1	depu	15	bg	1			
12	30	1	bg	1					
13	30	1	arfr	18	bg	1			
14	30	1	mabi	13	spcr	17	bg		1
15	30	1	litter	2					
1	30	2	agcr	10	bg	1			
2	30	2	agcr	10	crpt	21			
3	30	2	arfr	18	bg	1			
4	30	2	agcr	10	agcr	10			
5	30	2	spai	6	spai	6			
6	30	2	agcr	10	bg	1			
7	30	2	spcr	17	litter	2			
8	30	2	bg	1					
9	30	2	agcr	10	bg	1			
10	30	2	depu	15	litter	2			
11	30	2	depu	15	spcr	17	litter		2
12	30	2	spcr	17	spcr	17			
13	30	2	spcr	17	bg	1			
14	30	2	agcr	10	litter	2			
15	30	2	agcr	10	agcr	10			
1	30	3	bg	1					
2	30	3	bg	1					
3	30	3	bg	1					
4	30	3	bg	1					
5	30	3	bg	1					
6	30	3	litter	2					
7	30	3	bg	1					
8	30	3	bg	1					
9	30	3	mabi	13	bg	1			
10	30	3	bg	1					
11	30	3	bg	1					
12	30	3	agcr	10	litter	2			
13	30	3	bogr	12	litter	2			

14	30	3	mabi	13	litter	2	
15	30	3	agcr	10	litter	2	
1	30	4	gusa	22	bg	1	
2	30	4	agcr	10	litter	2	
3	30	4	bg	1			
4	30	4	sihy	8	litter	2	
5	30	4	bg	1			
6	30	4	litter	2			
7	30	4	bg	1			
8	30	4	agcr	10	bg	1	
9	30	4	agcr	10	litter	2	
10	30	4	saka	5	bg	1	
11	30	4	saka	5	saka	5	
12	30	4	bg	1			
13	30	4	litter	2			
14	30	4	saka	5	litter	2	
15	30	4	bg	1			
1	301	1	bogr	12	bg	1	
2	301	1	saka	5	bg	1	
3	301	1	litter	2			
4	301	1	bogr	12	bogr	12	
5	301	1	bg	1			
6	301	1	bg	1			
7	301	1	kocr	3	bg	1	
8	301	1	depu	15	litter	2	
9	301	1	agcr	10	agcr	10	
10	301	1	agcr	10	bg	1	
11	301	1	kocr	3	bg	1	
12	301	1	mabi	13	litter	2	
13	301	1	bg	1			
14	301	1	bg				
15	301	1	agcr	10	bg	1	
1	301	2	saka	5	saka	5	
2	301	2	bg	1			
3	301	2	litter	2			
4	301	2	bg	1			
5	301	2	bg	1			
6	301	2	bg	1			
7	301	2	kocr	3	litter	2	
8	301	2	kocr	3	bg	1	
9	301	2	bg	1			
10	301	2	kocr	3	litter	2	
11	301	2	sihy	8	sihy	8	
12	301	2	agcr	10			
13	301	2	bg	1			
14	301	2	bg	1			
15	301	2	kocr	3	bg	1	
1	301	3	bogr	12	bg	1	
2	301	3	kocr	3	bg	1	
3	301	3	saka	5	bg	1	
4	301	3	kocr	3	bg	1	
5	301	3	kocr	3	bg	1	
6	301	3	saka	5	litter	2	
7	301	3	bg	1			
8	301	3	bg	1			
9	301	3	bg	1			

10	301	3	agcr	10	agcr	10			
11	301	3	bogr	12	bg	1			
12	301	3	mabi	13	litter	2			
13	301	3	spcr	17	bg	1			
14	301	3	bg	1					
15	301	3	bogr	12	bg	1			
1	301	4	kocr	3	litter	2			
2	301	4	kocr	3	litter	2			
3	301	4	spai	6	bg	1			
4	301	4	bg	1					
5	301	4	kocr	3	bg	1			
6	301	4	kocr	3	litter	2			
7	301	4	kocr	3	bg	1			
8	301	4	bg	1					
9	301	4	kocr	3	bg	1			
10	301	4	kocr	3	bg	1			
11	301	4	bg	1					
12	301	4	bg	1					
13	301	4	bg	1					
14	301	4	bg	1					
15	301	4	kocr	3	litter	2			
1	24	1	litter	2					
2	24	1	bg	1					
3	24	1	saka	5	bg	1			
4	24	1	kocr	3	bg	1			
5	24	1	kocr	3	bg	1			
6	24	1	bg	1					
7	24	1	bg	1					
8	24	1	saka	5	bg	1			
9	24	1	kocr	3	bg	1			
10	24	1	agcr	10	agcr	10			
11	24	1	saka	5	bg	1			
12	24	1	kocr	3	bg	1			
13	24	1	agcr	10	bg	1			
14	24	1	bg	1					
15	24	1	spai	6	spai	6			
1	24	2	bg	1					
2	24	2	bg	1					
3	24	2	agcr	10	litter	2			
4	24	2	agcr	10	agcr	10			
5	24	2	litter	2					
6	24	2	kocr	3	bg	1			
7	24	2	agsm	4	bg	1			
8	24	2	kocr	3	bg	1			
9	24	2	bg	1					
10	24	2	bg	1					
11	24	2	saka	5	bg	1			
12	24	2	saka	5	bg	1			
13	24	2	saka	5	litter	2			
14	24	2	agcr	10	bg	1			
15	24	2	agcr	10	litter	2			
1	24	3	agsm	4	litter	2			
2	24	3	litter	2					
3	24	3	kocr	3	kocr	3			
4	24	3	kocr	3	saka	5	bg		1
5	24	3	litter	2					

6	24	3	kocr	3	bg	1			
7	24	3	bg	1					
8	24	3	kocr	3	litter	2			
9	24	3	yelclover	16	bg	1			
10	24	3	bg	1					
11	24	3	bogr	12	litter	2			
12	24	3	grsq	20	kocr	3			
13	24	3	litter	2					
14	24	3	kocr	3	litter	2			
15	24	3	litter	2					
1	24	4	bg	1					
2	24	4	bg	1					
3	24	4	depu	15	bg	1			
4	24	4	depu	15	bg	1			
5	24	4	depu	15	litter	2			
6	24	4	kocr	3	bg	1			
7	24	4	kocr	3	bg	1			
8	24	4	kocr	3	bg	1			
9	24	4	kocr	3	litter	2			
10	24	4	bg	1					
11	24	4	kocr	3	bg	1			
12	24	4	bg	1					
13	24	4	kocr	3	bg	1			
14	24	4	litter	2					
15	24	4	agcr	10	agcr	10			
1	22	1	bg	1					
2	22	1	saka	5	bg	1			
3	22	1	bg	1					
4	22	1	litter	2					
5	22	1	mabi	13	saka	5	bg		1
6	22	1	bg	1					
7	22	1	bg	1					
8	22	1	saka	5	bg	1			
9	22	1	bg	1					
10	22	1	kocr	3	litter	2			
11	22	1	litter	2					
12	22	1	orhy	14	bg	1			
13	22	1	bg	1					
14	22	1	agsm	4	bg	1			
15	22	1	orhy	14	bg	1			
1	22	2	agsm	4	bg	1			
2	22	2	agsm	4	bg	1			
3	22	2	agsm	4	agsm	4			
4	22	2	agsm	4	litter	2			
5	22	2	agsm	4	bg	1			
6	22	2	agsm	4	litter	2			
7	22	2	litter	2					
8	22	2	bg	1					
9	22	2	kocr	3	bg	1			
10	22	2	bg	1					
11	22	2	bg	1					
12	22	2	bg	1					
13	22	2	bg	1					
14	22	2	bg	1					
15	22	2	bg	1					
1	22	3	bg	1					

2	22	3	litter	2					
3	22	3	bg	1					
4	22	3	litter	2					
5	22	3	orhy	14	bg	1			
6	22	3	litter	2					
7	22	3	kocr	3					
8	22	3	bg	1					
9	22	3	bg	1					
10	22	3	bg	1					
11	22	3	bg	1					
12	22	3	saka	5	bg	1			
13	22	3	kocr	3	litter	2			
14	22	3	bg	1					
15	22	3	kocr	3	bg	1			
1	22	4	kocr	3	bg	1			
2	22	4	saka	5	bg	1			
3	22	4	saka	5	bg	1			
4	22	4	kocr	3	litter	2			
5	22	4	bg	1					
6	22	4	saka	5	bg	1			
7	22	4	bg	1					
8	22	4	kocr	3	bg	1			
9	22	4	kocr	3	litter	2			
10	22	4	sihy	8	sihy	8			
11	22	4	agcr	10	litter	2			
12	22	4	agsm	4	litter	2			
13	22	4	atca	7	agcr	10	litter		2
14	22	4	agsm	4	litter	2			
15	22	4	agsm	4	litter	2			
1	23	1	bogr	12	bogr	12			
2	23	1	muhl	11	muhl	11			
3	23	1	litter	2					
4	23	1	bogr	12	litter	2			
5	23	1	kocr	3	litter	2			
6	23	1	spai	6	litter	2			
7	23	1	kocr	3	litter	2			
8	23	1	hija	9	litter	2			
9	23	1	kocr	3	litter	2			
10	23	1	kocr	3	bg	1			
11	23	1	bg	1					
12	23	1	bg	1					
13	23	1	kocr	3	bg	1			
14	23	1	bg	1					
15	23	1	kocr	3	litter	2			
1	23	2	bg	1					
2	23	2	bg	1					
3	23	2	bg	1					
4	23	2	kocr	3	bg	1			
5	23	2	atca	7	kocr	3	bg		1
6	23	2	atca	7	litter	2			
7	23	2	kocr	3	bg	1			
8	23	2	agsm	4	agsm	4			
9	23	2	kocr	3	bg	1			
10	23	2	kocr	3	litter	2			
11	23	2	atca	7	litter	2			
12	23	2	bg	1					

13	23	2	kocr	3	bg	1
14	23	2	sihy	8	bg	1
15	23	2	litter	2		
1	23	3	kocr	3	bg	1
2	23	3	agsm	4	litter	2
3	23	3	hija	9	hija	9
4	23	3	agsm	4	bg	1
5	23	3	litter	2	kocr	3
6	23	3	kocr	3	kocr	3
7	23	3	bg	1		
8	23	3	kocr	3	bg	1
9	23	3	litter	2		
10	23	3	kocr	3	litter	2
11	23	3	agsm	4	bg	1
12	23	3	bg	1		
13	23	3	bg	1		
14	23	3	bg	1		
15	23	3	bg	1		
1	23	4	spai	6	bg	1
2	23	4	kocr	3	litter	2
3	23	4	litter	2		
4	23	4	kocr	3	bg	1
5	23	4	kocr	3	litter	2
6	23	4	kocr	3	bg	1
7	23	4	kocr	3	litter	2
8	23	4	kocr	3	bg	1
9	23	4	bg	1		
10	23	4	bg	1		
11	23	4	kocr	3	kocr	3
12	23	4	kocr	3	litter	2
13	23	4	litter	2		
14	23	4	kocr	3	litter	2
15	23	4	kocr	3	bg	1

QUIVIRA MINING COMPANY
POST OFFICE BOX 218 • GRANTS, NEW MEXICO 87020

August 18, 1997

Certified Mail
Return Receipt Requested (P 268 360 535)

Mr. Holland Shepherd, Chief
Mining Act Reclamation Bureau
Mining and Minerals Division
Energy Minerals and Natural Resources Department
2040 South Pacheco
Santa Fe, NM 87505

Re: **Quivira Mining Company**
Prior Reclamation Inspections

Dear Mr. Shepherd,

Pursuant to the April 21, 1997 letter from Ms. Kathleen Garland, Director of the Mining and Minerals Division (MMD), approving Quivira's prior reclamation varaince request; please accept this letter as Quivira's request for MMD to conduct an inspection of the revegetation success in order to obtain final release at the sites listed below:

Section 17 T14N R9W
Section 19 T14N R9W
Section 22 T14N R10W
Section 23 T14N R10W (previous Homestake mine)
Section 24 T14N R10W
Section 30 T14N R9W
Section 30W T14N R9W
Section 33 T14N R9W

Quivira requests that these inspections occur prior to the end of August 1997; or very early in September 1997.

If you have any questions, please call me at (505) 287-8851.

Regards,

Peter Luthiger
Supervisor, Radiation Safety
and Environmental Affairs

xc: T. Fletcher
M. Freeman
file

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

MINING AND MINERALS DIVISIO
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-5970

Jennifer A. Salisbury
CABINET SECRETARY

Kathleen A. Garland
DIVISION DIRECTOR

April 21, 1997

Mr. Marvin Freeman, Vice President
Quivira Mining Company
6305 Waterford Boulevard, Suite 325
Oklahoma City, OK 73118

Re: Approval of Variance Request for Prior Reclamation, Sections 17, 19, 22, 24, 30, 30W and 33, Quivira Mining Company, McKinely County, New Mexico

Dear Mr. Freeman:

This approval addresses the request for variance submitted by Quivira in a letter dated May 31, 1996; and a letter dated March 31, 1997 indicating that Quivira had completed public notice for the variance. The approval covers the following 7 mining units addressed under the requirements for prior reclamation of Section 510 of the Mining Act Reclamation Rules (Rules):

Section 17 T14N R9W
Section 19 T14N R9W
Section 22 T14N R10W
Section 24 T14N R10W
Section 30 T14N R9W
Section 30W T14N R9W
Section 33 T14N R9W

Quivira's request meets the requirements of Section 1002 of the Rules. MMD also finds that the request meets the requirements of Sections 1004.B.6 and 7 of the Rules.

The following conditions shall apply to the variance:

1. MMD will conduct an inspection of the sites, indicated above, during the late summer of 1997, to determine if conditions are present to meet revegetation criteria. If the results do not meet the release criteria, Quivira will develop and implement the appropriate program to meet the release criteria which may include reseeding and/or interseeding. Any areas that remain unreleased after the summer of 1997 will be reevaluated again during the summer of 1998.

2. If old stope leaching takes place on a prior reclamation site before or after the site is released from prior reclamation, those portions of the site redisturbed for mining will be addressed under an existing mine permit by Quivira.

Please contact me directly or Holland Shepherd of my Division if you have any questions concerning this approval letter.

Sincerely,

KATHLEEN GARLAND, Director
Mining and Minerals Division

cc: John McKay, Permit Coordinator
Fernando Martinez, Permit Manager Section 35 Mine

QUIVIRA MINING COMPANY
POST OFFICE BOX 218 • GRANTS, NEW MEXICO 87020

March 31, 1997

Mr. Holland Shepherd
Chief, Mining Act Reclamation Bureau
Energy, Minerals and Natural Resources Department
Mining and Minerals Division
2040 South Pacheco
Santa Fe, NM 87505

Re: **Quivira Mining Company**
Variance Request
Public Notice Requirements

Dear Mr. Shepherd:

Please accept the following information which demonstrates compliance with the public notice requirements of the Mining Act Rules.

Rule 9.3.A

Based on several conversations with County Assessor's Office staff in both Cibola County and McKinley County, the necessary information was obtained on all property owners within a ½ mile of areas associated with the variance request. A sample letter and notice is attached. Owners of record who were notified via certified mail on December 2, 1996 are:

Property Owner
United Nuclear Corporation
Mr. Jerry Elkins
Mr. Dave Elkins
State of New Mexico
Bureau of Land Management
Isabel Marquez

Rule 9.3.B

Based on several conversations with County Assessor's Office staff in both Cibola County and McKinley County, the necessary information was obtained on all municipalities, counties and tribal organizations within a ten mile radius of areas associated with the variance request. Entities meeting this condition and who were notified via certified mail are:

Entity
McKinley County
Cibola County
Navajo Nation

Rule 9.3.C

The public notice, approved by the Mining and Minerals Division, appeared in the *Gallup Independent* on December 12, 1996, in both english and spanish. The notice appeared in the legal section as well as within the local section of the newspaper. The pertinent sections of the December 12, 1996 edition of the *Gallup Independent* as well as the affidavit of publication are attached.

Rule 9.3.D

The public notice, in both english and spanish, was posted in four (4) publicly accessible locations in the vicinity of the proposed permit area. As a result of the entrance to the mining operation not being accessible to the public due to locked gates, posting at the entrance to the mine was not performed. Listed below are the public places where the notice was posted.

Posting Location
Post Office - Grants, NM
Post Office - Milan, NM
Post Office - Prewitt, NM
Post Office - Thoreau, NM

Rule 9.3.E

As a result of Quivira holding the mineral leases on the areas associated with the variance, no notification was necessary.

Rule 9.3.F and 9.3.G

Notice was provided via certified mail to those individuals and entities on the list provided by MMD. This list is attached.

If you have any questions regarding this information, please do not hesitate to contact me at (505) 287-8851, extension 205.

Regards,

Peter Luthiger

Attachments: As Stated

xc: file

QUIVIRA MINING COMPANY
POST OFFICE BOX 218 • GRANTS, NEW MEXICO 87020

December 2, 1996

Certified Mail
Return Receipt Requested [P 268 360 568]

Ms. Maxine Goad
P.O. Box 2503
Santa Fe, NM 87504

Dear Ms. Goad,

Pursuant to the New Mexico Mining Act [NMSA 1978, § 69-36-7.K] and Subpart 903 of the New Mexico Mining Act Rules, Quivira Mining Company is providing you with public notice that Quivira Mining Company has submitted a variance request to the Mining and Minerals Division and is requesting approval of the variance request. The public notice sheet enclosed with this letter shall be published once in the *Gallup Independent* by December 20, 1996.

Regards,

QUIVIRA MINING COMPANY

Peter Luthiger
Supervisor, Radiation Safety
and Environmental Affairs

Enclosure: As Stated

xc: file

PUBLIC NOTICE

(To be published in the Gallup Independent on or before December 20, 1996)

Pursuant to the New Mexico Mining Act Regulations [19 NMAC 10.2 Subpart 10], Quivira Mining Company, P.O. Box 218, Grants, NM, 87020, has submitted an application for a variance and requests approval of the variance for lands within mining units located on Section 17 T14N R9W, Section 19 T14N R9W, Section 22 T14N R10W, Section 24 T14N R10W, Section 30 T14N R9W, and Section 33, T14N R9W.

The purpose of Quivira Mining Company submitting a variance request is to provide two (2) additional growing seasons before the determination is made by the Mining and Minerals Division that the site meets the criteria for release from additional vegetation requirements.

Quivira's above referenced mining units were conventional underground uranium mines in the Ambrosia Lake mining district. Reclamation measures completed at these mine units have successfully satisfied all of the other requirements of the New Mexico Mining Act and the substantive requirements for reclamation pursuant to the Mining Act Regulations.

A copy of the variance request is available for public viewing during normal business hours at the address listed below. Individuals may submit written comments regarding this variance request to:

Ms. Kathleen Garland, Director
Energy, Minerals, and Natural Resources Department
Mining and Minerals Division
2040 South Pacheco
Santa Fe, NM 87505

Any interested person may request that the Director conduct a public hearing on the variance request. Such request must be made within 30 days of the date of the newspaper publication of the notice of application. If a hearing is timely requested, the Director shall set a hearing unless the request is clearly frivolous. The Director may hold a public hearing absent any request.

Affidavit of Publication

STATE OF NEW MEXICO
) SS
COUNTY OF McKINLEY

HUBBARD, Freida being duly sworn upon oath, deposes and says:

As Legal Clerk of The Independent, a newspaper published in and having a general circulation in McKinley County, New Mexico and in the City of Gallup, New Mexico and having a general circulation in Cibola County, New Mexico and in the City of Grants, New Mexico and having a general circulation in Apache County, Arizona and in the City of St. Johns and in the City of Window Rock, Arizona therein: that this affiant makes this affidavit based upon personal knowledge of the facts herein sworn to. That the publication, a copy of which is hereto attached was published in said newspaper during the period and time of publication and said notice was published in the newspaper proper, and not in a supplement thereof,

for one time, the first publication being on the 12th day of December, 19 96 the second publication being on the _____ day of _____, 19_____ the third publication on the _____ day of _____, 19_____.

and the last publication being on the _____ day of _____, 19_____.

That such newspaper, in which such notice or advertisement was published, is now and has been at all times material hereto, duly qualified for such purpose, and to publish legal notices and advertisements within the meaning of Chapter 12, of the statutes of the State of New Mexico, 1941 compilation.

Freida Hubbard
Affiant.

Sworn and subscribed to before me this 20th day of December, A.D., 19 96.

Karen Armstrong
Notary Public

My commission expires
November 27, 2000

2735 2M BUTLER'S Gallup

LEGAL NOTICE
Grants New Mexico
Cibola County

Pursuant to the New Mexico Mining Act Regulations (19 NMAC 10.2 Subpart 10), Quivira Mining Company, P.O. Box 218, Grants, NM 87020, has submitted an application for a variance and requests approval of the variance for lands within mining units located on Section 17 T14N R9W, Section 19 T14N R9W, Section 22 T14N R10W, Section 24 T14N R10W, Section 30 T14N R9W, and Section 33, T14N. R9W.

The purpose of Quivira Mining Company submitting a variance request is to provide two (2) additional growing seasons before the determination is made by the Mining and Minerals Division that the site meets the criteria for release from additional vegetation requirements.

Quivira's above reference mining units were conventional underground uranium mines in the Ambrosia Lake mining district. Reclamation measures completed at these mine units have successfully satisfied all of the other requirements of the New Mexico Mining Act and the substantive requirements for reclamation pursuant to the Mining Act Regulations.

A copy of the variance request is available for public viewing during normal business hours at the address listed below. Individuals may submit written comments regarding this variance request to:

Ms. Kathleen Garland, Director
Energy, Minerals, and
Natural Resources Department
Mining and Minerals Division
2040 South Pacheco
Santa Fe, NM 87505

An interested person may request that the Director conduct a public hearing on the variance request. Such request must be made within 30 days of the date of the newspaper publication of the notice of application. If a hearing is timely requested, the Director shall set a hearing unless the request is clearly frivolous. The Director may hold a public hearing absent any request.

AVISO PUBLICO

De acuerdo a la Acta Minera de Nuevo México (19 NMSA 10.2, Subparte 10), Quivira Mining Company, P.O. Box 218, Grants, NM, 87020 ha sometido una petición para una variación y solicita consentimiento para una varicion para los terreno mineros localizados en sección 17 T14N R9W, sección 19 T14N R9W, sección 22 T14N R10W, sección 24 T14N R10W, sección 30 T14RN R9W, sección 33 T14N R9W.

El propósito de Quivira Mining Company sometiendo esta petición para disponer dos (2) estacions de vegetación antes de que se determine por la agencia Mining and Minerals Division que el sitio cumple con los requisitos y exonera de requisitos adicionales de vegetación.

Los minas mencionados fueron minas de uranio clasicas del districto minero de Ambrosia Lake. Los recuros de restauración en las dichas minas han cumplido con todos los otros requistos de la Acta Minera de Nuevo Mexico Y los requistos substantivos de aquerdo con los relamentos de la acta minera de restauración.

Una copia de la solicituda para esta variación está disponible para que el pueblo inspeccione durante las horas de trabajo en el domicilio indicado. Los interesados pueden someter comentarios pertinentes a esta petición a:

Ms. Kathleen Garland, Director
Energy, Minerals, and
Natural Resources Department
Mining and Minerals Division
2040 South Pacheco
Santa Fe, NM 87505

Personas interesadas pueden solicitar que el Director haga una audiencia pública concerniente a esta petición. Esta solicitud debe sea se dentro de 30 días de la fecha de esta periódico en que está públicado el anunncio de esta petición. El Director fechará una audiencia pública solamente si la solicitud se hace à tiempo y es seria. El Director puede hacer una audiencia sin una solicitud.

Legal #13571 Published in The Independent December 12, 1996.

QUIVIRA MINING COMPANY

POST OFFICE BOX 218 • GRANTS, NEW MEXICO 87020

CERTIFICATE OF POSTING

This is to certify that on the date identified below, Mr. Peter Luthiger of Quivira Mining Company posted the public notice sheet for the prior reclamation variance request in the United States Post Office. The notice was provided in both English and Spanish.

Jeremiah per Burk
POSTMASTER

Milan Station
POST OFFICE BRANCH

Terri L Burk
SIGNATURE

MILAN NM 87021 NOV 26 1996 USPS
DATE

MILAN NM 87021 NOV 26 1996 USPS

QUIVIRA MINING COMPANY

POST OFFICE BOX 218 • GRANTS, NEW MEXICO 87020

CERTIFICATE OF POSTING

This is to certify that on the date identified below, Mr. Peter Luthiger of Quivira Mining Company posted the public notice sheet for the prior reclamation variance request in the United States Post Office. The notice was provided in both English and Spanish.

Barbara J Walter - Clerk
POSTMASTER

Prewitt NM 87045
POST OFFICE BRANCH

Barbara J Walter
SIGNATURE

DATE

QUIVIRA MINING COMPANY

POST OFFICE BOX 218 • GRANTS, NEW MEXICO 87020

CERTIFICATE OF POSTING

This is to certify that on the date identified below, Mr. Peter Luthiger of Quivira Mining Company posted the public notice sheet for the prior reclamation variance request in the United States Post Office. The notice was provided in both English and Spanish.

Roy Jaquez
POSTMASTER

Thoreau, N. M. 87323
POST OFFICE BRANCH

Roy Jaquez
SIGNATURE

THOREAU NM 87323
NOV 26 1996
USPS

DATE

QUIVIRA MINING COMPANY

POST OFFICE BOX 218 • GRANTS, NEW MEXICO 87020

CERTIFICATE OF POSTING

This is to certify that on the date identified below, Mr. Peter Luthiger of Quivira Mining Company posted the public notice sheet for the prior reclamation variance request in the United States Post Office. The notice was provided in both English and Spanish.

POSTMASTER

POST OFFICE BRANCH

SIGNATURE

NOV 25 1996

DATE

State of New Mexico
Mining and Minerals Division
2040 South Pacheco St.
Santa Fe, NM 87505

Fax Cover Sheet

Date: 11/15/96

To: Peter Luthiger	From: Fernando Martinez
Company:	Agency: Mining and Minerals Division
Telephone:	Telephone: (505) 827-5970
Fax #: 243-0418	Fax #: (505) 827-7195

Number of Pages: 3 (including cover sheet)

Message:

I think this list should cover the folks you need to provide notice to. If you have any questions, give me a call.

Original will be sent by mail ___ yes X no

STATE AGENCIES

Dr. Glenna Dean, Staff Archeologist
Office of Cultural Affairs
228 E. Palace Ave.
Santa Fe, NM 87503

Mrs. Maxine Goad, Mining Coordinator
Environment Department
PO Box 26110
Santa Fe, NM 87502

Mr. Toby Martinez, State Forester
State Forestry Division
PO Box 1948
Santa Fe, NM 87504-1948

Mr. Bob Rogers
State Engineer's Office
PO Box 844
Deming, NM 88031

Mr. Andrew V. Sandoval, Chief
Conservation Services Division
Villagra Building
PO Box 25112
Santa Fe, NM 87504

PERSONS REQUESTING NOTICE

Ms. Maxine Goad
PO Box 2503
Santa Fe, NM 87504

Mr. Grove Burnett/Mr. Eric Ames
Western Environmental Law Center
PO Box 1507
Taos, NM 87571

Mr. Doug Meiklejohn/Mr. Doug Wolf
N.M. Environmental Law Center
103 Cienega St.
Santa Fe, NM 87501

Mr. Paul Robinson
Research Director
Southwest Research & Information Center
PO Box 4524
Albuquerque, NM 87106

Rio Grande Chapter of the Sierra Club
945 Camino De Chelly
Santa Fe, NM 87501

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

MINING AND MINERALS DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-5970

Jennifer A. Salisbury
CABINET SECRETARY

Kathleen A. Garland
DIVISION DIRECTOR

July 1, 1996

Mr. Marvin Freeman
Rio Algom Mining Corp.
6305 Waterford Boulevard, Suite 325
Oklahoma City, OK 73118

Re: Public Notice for Prior Reclamation Variance Application

Dear Mr. Freeman:

Pursuant to my conversation with Bill Ferdinand on June 26, 1996 and your letter dated May 31, 1996, please go ahead with public notice of ~~Calvaria~~ Quivira's prior reclamation variance application. Please follow the public notice requirements as outlined in Subpart 9 of the Mining Act Rules. I have attached a list of entities that have requested notification concerning public notice type actions. Please include these names with the others that you will be notifying.

Thank you for your attention to this procedure.

Sincerely,

HOLLAND SHEPHERD, Bureau Chief
Mining Act Reclamation Bureau
Mining and Minerals Division

HS/fg

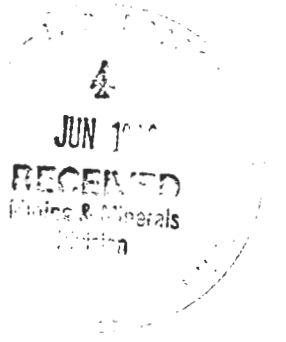
Attachment

Rio Algom Mining Corp.

Marvin D. Freeman
Vice President

May 31, 1996

Certified Mail
Return Receipt Requested P 144 785 062



Dr. Kathleen Garland, Director
Mining and Mineral Division
Energy, Minerals and Natural Resources Department
2040 South Pacheco
Santa Fe, NM 87505

Re: Application For Prior Reclamation Variance
Petition For Review

Dear Dr. Garland:

Enclosed please find Quivira Mining Company's Application for Variance. This Application is being submitted by Quivira pursuant to and in reliance upon your letters of September 29, 1995, and January 31, 1996, as clarified in later discussions and negotiations between us which are summarized in Quivira's letter of February 13, 1996, MMD's letter of March 15, 1996, Quivira's letter of May 1, 1996, and MMD's letter of May 23, 1996.

We have not had an opportunity since receiving your May 23 letter (facsimile received on May 29), to make a full review of all issues on seeking early dismissal of Quivira's Petition to Review Order relating to your September 29, 1995 letter. This review is now in progress and should be completed shortly.

Quivira has appreciated the opportunity to meet with MMD to discuss and mutually resolve the issues relating to this matter. If you have questions regarding the letter, please call myself (405) 848-1187 or Mr. Bill Ferdinand at (405) 842-1773.

Sincerely,

Marvin D. Freeman
Vice President

Attachments: As Stated

cc: B. Ferdinand
T. Fletcher
R. Luke
P. Luthiger
J. Robb
File

APPLICATION FOR VARIANCE
(19 NMAC 10.2 Subpart 10)

Applicant's Name and Address

Quivira Mining Company
P.O. Box 218
Grants, New Mexico 87020

Contact person: Mr. Terry Fletcher

Telephone (505) 287-8851 ext. 200
Facsimile (505) 287-8851 ext. 295

Date of Application

May 31, 1996

Mining Operation For Which Variance Is Sought

Quivira Mining Company
Ambrosia Lake Facility

Location of Property

Lands Within Mining Units:
Section 17 T14N R9W
Section 19 T14N R9W
Section 22 T14N R10W
Section 24 T14N R10W
Section 30 T14N R9W
Section 30W T14N R9W
Section 33 T14N R9W

Section of Part Which Variance Is Sought

19 NMAC 10.2 Subpart 5, Section 510.B

Extent To Which The Applicant Wants To Vary From Applicable Part

Pursuant to 19 NMAC 10.2 Subpart 5, Section 510.B, MMD representatives conducted inspections on previously reclaimed lands contained within the mining units described above. MMD determined by letters dated September 29, 1995 (received November 17, 1995), and as amended by letter dated January 16, 1996, that insufficient time had elapsed since re-vegetation of the reclaimed lands to determine whether these areas meet the environmental conditions for successful re-vegetation to allow for their release. All other reclamation aspects at these areas satisfactorily meet the reclamation requirements of the New Mexico Mining Act as confirmed by MMD letter dated March 15, 1996.

The conclusions of MMD's letter dated September 29, 1995, read:

"Based on oral and written communication (letter from Quivira, September 14, 1995) with the operator, and on the condition of these seven remaining reclaimed sites as documented by this inspection report, it is clear that the operator has made a good effort to complete all of the required reclamation. It is recommended that the Director of MMD give a variance to Quivira Mining Company from meeting the deadline of September 30, 1995 for prior reclamation under the New Mexico Mining Act and Rules for the Section 17, 19, 22, 24, 30, 30W, and 33 mine sites. This variance would stipulate that inspections will be conducted by MMD during the late summer of 1997 at each of the remaining sites to determine if the conditions necessary for development of a 'sustainable ecosystem' are then present on-site, and if any further actions including (but not limited to) reseeding or interseeding by the operator are necessary."; [emphasis added]

Therefore, consistent with these MMD conclusions, Quivira proposes that MMD conduct an inspection at each applicable site, during the late summer of 1997, to determine if conditions are present to meet the release criteria. If the results do not meet the release criteria, Quivira would develop and implement the appropriate program to meet the release criteria which may include reseeding and/or interseeding.

Evidence To Prove That Failure To Grant Variance Will Impose Undue Economic Burden

If the requested variance is not granted, Quivira will be forced to apply for a permit pursuant to Subpart 5. The economic burden that could potentially be imparted to Quivira as a result is estimated to be approximately $390,000. These costs are presented below.

• Permit Application/Closeout Plan	
Rule 201.A.1	$ 1,000
Rule 201.A.2	$ 2,000
Rule 201.A.4	$ 4,500
Rule 205.A	$ 338
Total Permit Costs	$ 7,838
• Annual Fee	
Rule 202.A.1	$ 1,000
Rule 202.A.2	$ 4,000
Rule 205.A	$ 225
Annual Costs	$ 5,225
Total Annual Cost for potentially 12 years	$62,700

- Associated Costs

Performance Bond - Based on re-vegetation @ $246/acre (3/1996$) at 8% of bond face amount for potentially 12 years	$70,848
Management/Oversight Costs ($5,000 per year)	$60,000
Initial Permit Preparation/Submittal Costs	$40,000
Sub-total costs	$241,386
Loss of Investment $241,386 * 0.05 (return of investment) * 12 years	$144,832
TOTAL OVERALL POTENTIAL COSTS	**$386,218**

Quivira believes these costs would be an undue economic burden on Quivira which is unnecessary given current conditions at the site which come near to meeting release criteria, the recommendations of MMD, and realizing that the expenditure would not expedite the establishment of vegetation cover.

Evidence To Prove That Granting A Variance Would Not Result In Significant Threat To Human Health, Safety or the Environment

As documented by the MMD inspection report of September 29, 1995, and MMD's letter dated March 15, 1996, all reclamation requirements other than re-vegetation, have been approved as satisfactorily meeting all reclamation requirements of the New Mexico Mining Act that include health, safety and environmental concerns. Approval of this variance application would not alter this conclusion.

Rather, the granting of the variance as requested, would continue to provide assurance that the area addresses and meets health, safety and the environment concerns through on-going MMD inspection of the re-vegetation success. Therefore, granting of this variance would not result in a significant threat to human health, safety or the environment.

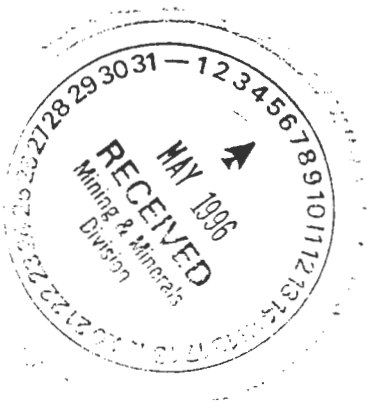
Variance Application Fee

Please find enclosed the variance application fee in accordance with 19 NMAC 10.2 Subpart 2, Sections 201.K and 205.A in the amount of $522.50.

Marvin D. Freeman
Vice President

Quivira Mining Company

Marvin D. Freeman
Vice President



May 1, 1996

Certified
Return Receipt Requested P 144 785 021

Dr. Kathleen Garland, Director
Mining and Mineral Division
Energy, Minerals and Natural Resources Department
2040 South Pacheco
Santa Fe, NM 87505

Dear Dr. Garland:

Thank you for meeting with us on April 18, 1996 to discuss the remaining concerns regarding Quivira's Ambrosia Lake Old Stope Leaching program. The purpose of this letter is to state our understanding of MMD's position regarding old stope leaching and to request that MMD confirm this understanding is correct, if that is the case.

Specifically in regards to our uranium old stope leaching program and the applicability of the MMD regulations to this program, we understand MMD's conclusion to be:

1. All of Quivira's present, past and future old stope leaching areas and its unreclaimed conventional underground mine sites can be included in a single mine permit as an existing mine.

2. Installation and operation of the old stope leaching wells are permitted under New Mexico Environmental Department (NMED) regulations and not by MMD; however, MMD is required to ensure that all surface disturbances within a MMD permit area, due to mining related activities, are properly reclaimed prior to permit release.

3. As part of MMD bonding requirements, MMD would require bonding for recontouring, if applicable, and revegetation of the disturbed surface, but not for the plugging and capping of the old stope leaching production/injection wells permitted by NMED.

4. After a MMD permit was issued, the only requirement of Quivira under the MMD permit, relative to the operation of its old stope leaching program would be the annual updating of its reclamation bond and reclamation of the related surface disturbances.

5. Areas under "prior reclamation variances" can be included within the mine permit area but would be restricted from Quivira access for old stope leaching purposes, until the prior reclamation is accepted and released by MMD. At that time, however, such released areas would be considered undisturbed areas under the MMD mine permit. These areas would be subject to the existing mine reclamation and bonding requirements if they are subsequently disturbed by mining activities

new wells

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6. Quivira could include the areas on which it controls the minerals, but which were formerly operated by Homestake, within its permit area as part of its "existing mining permit" including Homestake's "prior reclamation variances" areas and those areas approved by MMD meeting prior reclamation standards. Quivira would only be responsible for new surface disturbances caused by its mining activities. These areas would otherwise be administered under the permit in the same manner as Quivira's other existing mine properties.

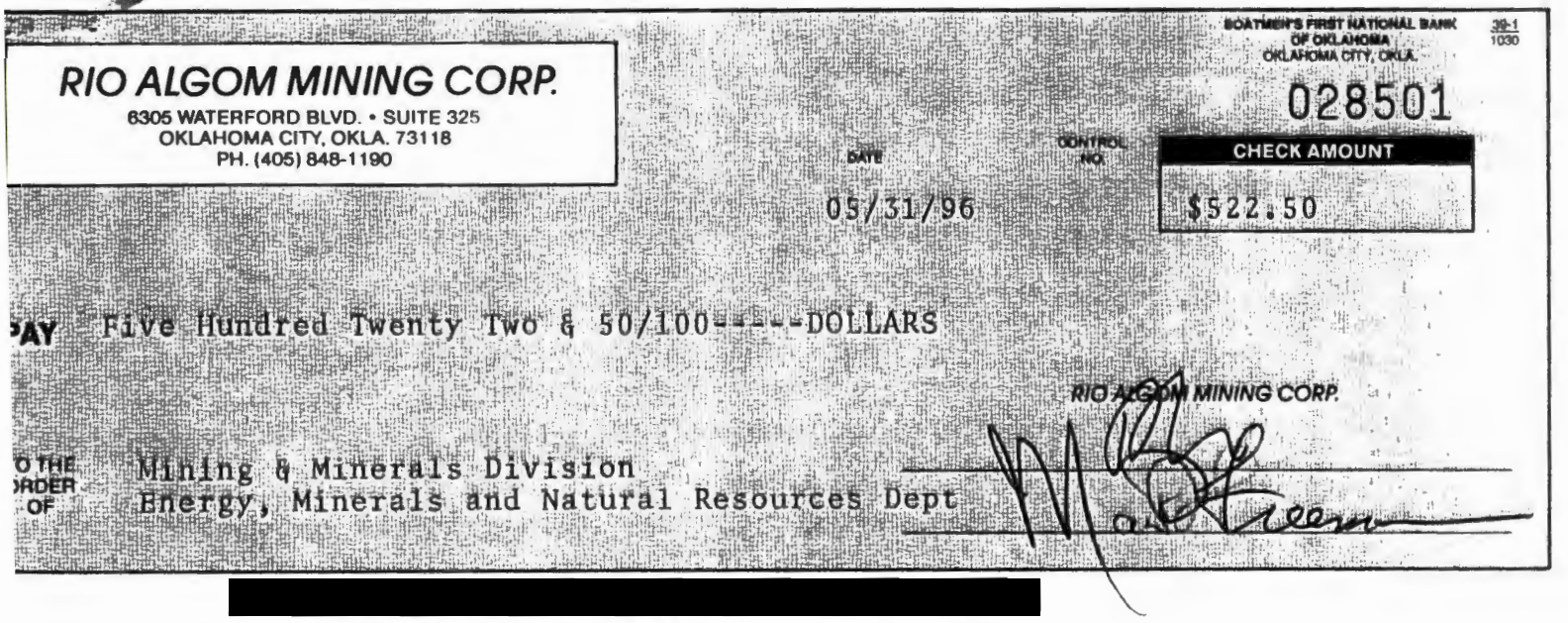
We appreciated the opportunity to meet with you and discuss how these concerns might be resolved in a mutually satisfactory manner such that Quivira might withdraw the appeals it has filed with the Mining Commission. Your response is important to us as we would incorporate these understandings as stipulations in a withdrawal of the appeals should this course be taken. We look forward to hearing from you soon.

Sincerely,

Martin D. Freeman

MDF:kb

cc: Bill Ferdinand
Terry Fletcher
Rob Luke
John Robb
File



RIO ALGOM MINING CORP.
6305 WATERFORD BLVD. • SUITE 325
OKLAHOMA CITY, OKLA. 73118
PH. (405) 848-1190

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OF OKLAHOMA
OKLAHOMA CITY, OKLA.

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DATE
05/31/96

CONTROL NO.

CHECK AMOUNT
$522.50

PAY Five Hundred Twenty Two & 50/100-----DOLLARS

TO THE ORDER OF
Mining & Minerals Division
Energy, Minerals and Natural Resources Dept

RIO ALGOM MINING CORP.

[redacted]

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OFFICE OF THE SECRETARY
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-5950

Jennifer A. Salisbury
CABINET SECRETARY

RECEIVED
MAR 2 1 [illegible]

March 15, 1996

Marvin D. Freeman, Vice President
Quivira Mining Company
6305 Waterford Boulevard, Suite 325
Oklahoma City, Oklahoma 73118

RE: **Prior Reclamation/Old Stope Leaching Permit Requirements for Quivira's Ambrosia Lake Operations**

Dear Mr. Freeman:

Thank you for your letter dated February 13, 1996. I apologize for my delay in replying, and hope we will now be able to move forward expeditiously to resolve our permitting dilemma at your Ambrosia Lake sites.

In regards to the prior reclamation, your letter accurately restates the Division's position. As stated in our prior reclamation inspection reports, were unable to determine that the plant community at these sites had achieved a viable or self-sustaining condition. I will consider a variance request to the September, 1995 deadline for completion of prior reclamation for these sites. That variance request may contain inspection schedules and mitigation plans to address plant re-establishment at these sites. MMD concurs with a 2-3 year time period to evaluate these sites, with annual inspections to be conducted by MMD personnel.

In regards to old stope leaching, the Division's position is as follows:

1. Areas disturbed by conventional mining, whether in use for old stope leaching or not, are subject to the Mining Act unless they have been reclaimed and released under the prior reclamation requirements of the Mining Act Rules.

2. Disturbances covered by an NRC license that includes a reclamation plan for the disturbances, including items such as closure of shafts, regrading, and revegetation, are excluded from the Mining Act. Well fields and portions of old stope leaching sites are excluded if they are covered by such a reclamation plan under an NRC license.

3. Quivira's disturbed areas not excluded from the Act by

virtue of NRC license requirements may be permitted as one existing mine. This permit would exclude areas under a variance for prior reclamation release.

I believe we may disagree slightly in our understanding of how well fields will be handled. If we do, please contact me at (505) 827-5974 so we can discuss and, I hope, resolve any differences. If we are in agreement, I recommend that Quivira proceed with the permitting process for the areas covered by the Act.

I sincerely appreciate Quivira's willingness to negotiate these issues with the Division, and hope you will not need to pursue your appeals.

Sincerely,

Kathleen A. Garland
Director
Mining and Minerals Division

cc: Carol Leach, General Counsel, EMNRD
Holland Shepherd, Chief, MARB

Quivira Mining Company

Marvin D. Freeman
Vice President

February 13, 1996

Certified Mail
Return Receipt Requested Z 271 353 324

Dr. Kathleen Garland, Director
Mining and Mineral Division
Energy, Minerals and Natural Resources Department
2040 South Pacheco
Santa Fe, NM 87505

Re: Prior Reclamation/Old Stope Leaching
MMD/Quivira Meeting of January 30, 1996

Dear Dr. Garland:

We recognize this is a very busy time for you and we appreciate your meeting with us on January 30 to discuss our questions on the Mining and Minerals Division (MMD) letters dated September 29 and November 9, 1995. These letters were in regards to prior reclamation and old stope leaching at Quivira's Ambrosia Lake operations.

This letter is to confirm our understanding of the issues based on the discussions with MMD regarding our Ambrosia Lake prior reclamation and old stope leaching.

Specifically, in regards to the prior reclamation, we understand MMD's conclusion to be:

1. All reclamation requirements at Quivira's mining units, specifically Section 17, 19, 22, 24, 30, 30W and 33, satisfactorily meet the reclamation requirements of the New Mexico Mining Act with the sole exception of re-vegetation.

2. It is MMD's position that although these units were re-vegetated, it was too early to make a determination on the viability of the perennial grasses. Thus, because the viability of these grasses is the only open issue, Quivira could request a variance to extend the time frame for the re-vegetation and for release under its prior reclamation request.

3. Quivira could request a two or three-year extension with annual inspections by MMD. In that case, MMD would conduct annual inspections and a site would be released as soon as an inspection shows the site meets MMD's re-vegetation criteria.

4. MMD, as part of the variance approval, would include language specifically indicating that all reclamation requirements of the New Mexico Mining Act, with the exception of re-vegetation, had been met. The variance would also specify the inspection time frames and the further actions that Quivira might have to initiate to meet the re-vegetation requirements, such as re-seeding or interseeding as indicated by MMD's letter of September 29.

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In regards to the old stope leaching issues and the letter of November 9, the following is Quivira's understanding of MMD's conclusions.

1. The letter of November 9, 1995, states "The Division has come to the conclusion that portions of the in-situ or old stope leaching facilities operated by Quivira Mining Company fall under the New Mexico Mining Act. Such portions would consist of those sections of a leaching operation developed during conventional mining and not currently addressed under a U.S. Nuclear Regulatory Commission (NRC) License."

   This language means that those areas which were developed and used for the conventional underground mining operations such as the shafts and ventholes are subject to permitting under the Act, but old stope leaching wellfields and areas not associated with the conventional mining operation are not subject to MMD permitting requirements. It was MMD's position, however, that if there were any future surface disturbances by Quivira within an area permitted under the Act, MMD would require re-vegetation of those areas.

2. All areas or disturbances that are covered by a NRC license that includes a reclamation plan for the disturbances, including items such as the closure of shafts, re-grading, and re-vegetation are excluded from the Act.

3. Quivira's conventional underground mining disturbance areas at the seven mining units not covered by a NRC license may be permitted as one existing mine should Quivira decide to do so. The permit area would need to exclude areas on which Quivira is requesting release under prior reclamation and those areas covered by the NRC license.

In closing, we sincerely appreciate the opportunity to meet with you and your staff to better understand MMD's concerns and to discuss how the issues might be resolved in a mutually satisfactory manner. Quivira's understanding of the issues is as stated above, however, we are requesting MMD's confirmation that this understanding is correct so that we may proceed in trying to properly address the items of concern.

As per our discussion, Quivira has filed appeals to the Mining Commission on both of the above items to preserve Quivira's rights under the appeal process. As I think you know, we feel strongly about our position in the appeals. We are hopeful, however, that the concerns of both Quivira and MMD can ultimately be addressed such that our appeals can be withdrawn.

Sincerely,

Marvin Freeman

MDF:kb

xc: B. Ferdinand (QMC-OKC)
T. Fletcher (QMC-Ambrosia Lake)
R. Luke (QMC-OKC)
J. Robb (Rodey, Dickason, Sloan, Akin & Robb)
File

RODEY, DICKASON, SLOAN, AKIN & ROBB, P. A.
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ALBUQUERQUE PLAZA
201 THIRD STREET NW, SUITE 2200
ALBUQUERQUE, NEW MEXICO 87102

P. O. BOX 1888
ALBUQUERQUE, NEW MEXICO 87103

TELEPHONE (505) 765-5900

FACSIMILE (505) 768-7395

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R. NELSON FRANSE
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TELEPHONE 984-0100
AREA CODE 505
FACSIMILE 982-0543

WRITER'S DIRECT NUMBER

768-7216

January 31, 1996

Dr. Kathleen A. Garland, Director
Energy Minerals and Natural
Resources Department
Mining and Minerals Division
P.O. Box 6429
Santa Fe, New Mexico 87505-6429

Re: Letters of September 29, 1995 and November 9, 1995 Re: No Release for Sections 17, 19, 22, 24, 30, 30W and 33, Quivira Mining Company, McKinley County, New Mexico and the Status of In-Situ Leaching Facilities, Ambrosia Lake

Dear Ms. Garland:

Our client, Quivira Mining Company has this date filed Petitions to Review the above letters and the determinations or "orders" contained within them. Quivira Mining Company respectfully requests the Mining and Minerals Division to enter a stay of these orders or for an extension of time to comply pending completion of that review by the Commission and if necessary, by the New Mexico Court of Appeals.

In support thereof, Quivira Mining Company states that the preparations necessary to file either a petition for a variance or for an existing mining permit will be required under the terms of those letters while the petitions are pending before the Commission; that this will require substantial effort and cost on the part of Quivira which may prove to be unnecessary should the requirements of that letter either be reversed or substantially modified on appeal; that the Mining and Minerals Division has already inspected the properties and operations involved; that no significant damage will result to the environment from the granting of stays or extension orders and that it would be unfair to require Quivira Mining Company to expend this time and effort until it has been first determined on review that the requirements of those letters are proper or valid.

Sincerely yours,

RODEY, DICKASON, SLOAN, AKIN & ROBB, P.A.

By John D. Robb

CSD:jdr

NMMB
MMD

RODEY, DICKASON, SLOAN, AKIN & ROBB, P. A.
COUNSELORS AND ATTORNEYS AT LAW
ALBUQUERQUE PLAZA
201 THIRD STREET NW, SUITE 2200
ALBUQUERQUE, NEW MEXICO 87102

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TELEPHONE 984-0100
AREA CODE 505
FACSIMILE 989-9547

WRITER'S DIRECT NUMBER

768-7216

January 31, 1996

Mr. Doug Bland, Clerk
New Mexico Mining Commission
2040 South Pacheco
Santa Fe, NM 87505

Re: Petition of Quivira Mining Company

Dear Mr. Bland:

Enclosed please find an original and 12 copies of two Petitions of Quivira Mining Company to the New Mexico Mining Commission, together with a check for $25 for each petition. We do not know whether either of the letters from the Mining and Minerals Division constitute appealable rulings, but we are filing these petitions out of an abundance of caution. Hard copies of petitions and filing fees have been placed in overnight mail. Please acknowledge receipt of same.

Sincerely yours,

RODEY, DICKASON, SLOAN, AKIN & ROBB, P.A.

By John D. Robb

John D. Robb

JDR:erl

encs.

NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
MINING AND MINERALS DIVISION

January 16, 1996

Mr. John D. Robb
Rodey, Dickason, Sloan, Akin & Robb, P.A.
P. O. Box 1888
Albuquerque, NM 87103

Re: Letters Dated September 29, 1955 and November 9, 1995 Addressed To Quivira Mining Company Regarding Prior Reclamation Release For Section 36 Mine, No Release For Sections 17, 19, 22, 24, 30, 30W and 33 And The Status Of In-situ Leaching Facilities, Ambrosia Lake, Quivira Mining Company, McKinley County, New Mexico.

Dear Mr. Robb:

This letter is addressed to you as attorney for Quivira Mining Company. The effective date of the above letters from the Director of the Mining and Minerals Division to your client, Quivira Mining Company and the Notice of the Determinations or Orders contained therein are extended to December 2, 1995 so that appeals, if any, from such determinations or Orders may be taken to the Mining Commission to and including January 31, 1996.

Acting Director
Mining and Minerals Division

EXHIBIT C

November 9, 1995

Mr. Bill Ferdinand
Manager of Regulatory Compliance
Quivira Mining Company
6305 Waterford Boulevard, Suite 325
Oklahoma City, OK 73118

Re: Status of In-situ Leaching Facilities, Ambrosia Lake, Quivira Mining Company, McKinley County, New Mexico

Dear Mr. Ferdinand:

The Division has come to the conclusion that portions of the in-situ or old stope leaching facilities operated by Quivira Mining Company fall under the New Mexico Mining Act. Such portions would consist of those sections of a leaching operation developed during conventional mining and not currently addressed under a U.S. Nuclear Regulatory Commission (NRC) License.

The site currently under license is Section 24 in Section 24, T14N, R10W. Other Quivira sites which may be brought into the in-situ leaching process include:

Section 17	Section 17, T14N, R9W
Section 19	Section 19, T14N, R9W
Section 22	Section 22, T14N, R10W
Section 30	Section 30, T14N, R9W
Section 30 West	Section 30, T14N, R9W
Section 33	Section 33, T14N, R9W

Until the sites listed above are brought under an NRC license, they have to be permitted. If the NRC license is extended, those portions of a site which it addresses can be removed from an established Mining Act permit.

Quivira sent this Division a letter dated August 28, 1995 indicating that an NRC licenses currently addresses the environmental regulation of the Section 24 mine. The Division has contacted the NRC and spoken to Mr. Ken Hooks of that agency regarding the question of the Section 24 license (#SUA-1473). According to Mr. Hooks, the Section 24 license only covers that portion of the operation impacted by the leaching solutions to be injected and circulated in the underground mine workings. The license does not require reclamation of the surface facilities associated with conventional mining. Such items as closing shafts, regrading, retopsoiling, and revegetation of those facilities are not addressed in the NRC license. The Division will exclude any portion of the mining operation covered by an NRC permit, but must require compliance with the Mining Act for the remaining disturbance.

In previous correspondence you have indicated to us that these sites should be exempt because all environmental permitting issues would be addressed under an NRC license or a UIC permit administered by the New Mexico Environment Dept. (ED). ED has indicated that ED does not have jurisdiction over surface reclamation as intended by the Mining Act. In addition, ED regards this situation as not unlike other operations which have existing environmental permits but are also in the process of obtaining Mining Act permits.

Quivira has requested that the sites listed above be considered under the prior reclamation section of the Mining Act. The Division has inspected these sites and concluded that we are not yet able to release them. We have advised Quivira that the sites can be permitted under the Mining Act or Quivira can request a variance from the September 30, 1995 deadline established by the Mining Act Rules. Areas eligible for release involve only those portions which have been reclaimed prior to the effective date of the Mining Act Rules. Areas that would not be eligible include: roads, staging areas, ponds, buildings, shafts, boreholes, etc., which have not been reclaimed, or areas reclaimed after the effective date of the Mining Act Rules.

We suggest that Quivira consider permitting the seven sites above as one site under a regular existing mining operation permit. Quivira will need to specifically exclude those areas which can be addressed under prior reclamation or an NRC license from such a permit.

Please contact us to discuss a schedule for permitting these sites.

Sincerely,

Kathleen Garland
Director
Mining and Minerals Division

cc: Holland Shepherd, Bureau Chief, Mining Act Reclamation Bureau
John McKay, Permit Coordinator, Mining Act Reclamation Bureau
Maxine Goad, New Mexico Environment Dept.
Ken Hooks, Nuclear Regulatory Commission

September 29, 1995

Mr. Peter Luthiger
Supervisor, Radiation Safety and Environmental Affairs
Quivira Mining Company
P.O. Box 218
Grants, NM 87020

RE: Prior Reclamation Release for Section 36 Mine, No Release for Sections 17, 19, 22, 24, 30, 30W and 33, Quivira Mining Company, McKinley County, New Mexico

Dear Mr. Luthiger:

The Mining and Minerals Division (MMD) has completed inspection of reclamation measures as requested by Quivira Mining Company.

Based on findings in the enclosed inspection reports, reclamation measures at the Section 36 Mine satisfy the requirements of the New Mexico Mining Act (NMMA) and the substantive requirements for reclamation pursuant to the NMMA Rules. Therefore, Quivira is hereby released from further requirements of the NMMA on the Section 36.

Based on findings in the enclosed inspection reports, reclamation measures at the following mines do not satisfy the requirements of the New Mexico Mining Act (NMMA) and the substantive requirements for reclamation pursuant to the NMMA Rules. However, since Quivira has completed most reclamation measures at the following mines, Quivira may apply for variances from the provisions of the NMMA Rules pursuant to Rule 10. Otherwise, pursuant to NMMA Rule 5.10.B Quivira must submit permit applications and closeout plans for existing mining operations within six months of receipt of this letter:

Section 17 T14N R9W
Section 19 T14N R9W
Section 22 T14N R10W
Section 24 T14N R10W
Section 30 T14N R9W
Section 30W T14N R9W
Section 33 T14N R9W

The enclosed prior reclamation inspection report details the findings of the inspection but does not include the photos/slides contained in the MMD file copy.

MMD appreciates your efforts to comply with the NMMA and commends you for your safeguarding and reclamation efforts. If you have any questions please contact Holland Shepherd of the Mining Act Bureau, (505) 827-5971.

Sincerely,

Dr. Kathleen A. Garland, Director
Mining and Minerals Division

cc: Ms. Maxine Goad, Environment Department
Mr. Mark Schmidt, New Mexico State Land Office

Enclosure

PRIOR RECLAMATION INSPECTION REPORT
AND
RECOMMENDATION FOR RELEASE OR PERMIT REQUIREMENT

Quivira Mining Company

Section 17 (T 14N, R 9W), Section 19 (T 14N, R 9W), Section 22 (T 14N, R 10W), Section 24 (T 14N, R 10W), Section 30 (T 14N, R 9W), Section 30W (T 14N, R 9W), Section 33 (T 14N, R 9W), and Section 36 (T 14N, R 9W) Mines

Submitted in Partial Fulfillment of the New Mexico Mining Act
Section 69-36-7 U., Prior Reclamation

New Mexico Energy, Minerals and Natural Resources Department
Mining and Minerals Division
Mining Act Reclamation Bureau

September 25, 1995

Introduction

The purpose of these inspections was to determine if reclamation measures at Quivira Mining Company's Section 17, Section 19, Section 22, Section 24, Section 30, Section 30W, Section 33, and Section 36 Mines satisfy the requirements of the New Mexico Mining Act (Section 69-36-7, Prior Reclamation) and other substantive requirements for prior reclamation pursuant to the New Mexico Mining Act Rules. The sites, their locations, and dates of inspections by the New Mexico Mining and Minerals Division are presented in Table 1.

Table 1. Quivira Mining Company's Prior Reclamation Sites.

Name of Mine	Location of Mine	Date of Inspection
Section 17	T 14N, R 9W	August 30, 1995
Section 19	T 14N, R 9W	August 29, 1995
Section 22	T 14N, R 10W	August 30, 1995
Section 24	T 14N, R 10W	August 30, 1995
Section 30	T 14N, R 9W	August 30, 1995
Section 30W	T 14N, R 9W	August 30, 1995
Section 33	T 14N, R 9W	August 29, 1995
Section 36	T 14N, R 9W	August 29, 1995

Inspection Procedures

Inspections by the Mining and Minerals Division of prior reclamation sites were conducted on the following mine sites: Section 17 (T 14N, R 9W), Section 19 (T 14N, R 9W), Section 22 (T 14N, R 10W), Section 24 (T 14N, R 10W), Section 30 (T 14N, R 9W), Section 30W (T 14N, R 9W), Section 33 (T 14N, R 9W), and Section 36 (T 14N, R 9W). All inspections were conducted and completed on August 29 and 30, 1995. Persons present during the August 29, 1995 inspection of the Section 36 Mine included: Mr. Peter Luthiger, representing Quivira Mining Company; Mr. Jim Nordstrom, Mr. Mark Schmidt, and Mr. Michael Landon, all of the New Mexico State Land Office; Ms. Mary Ann Menetery and Mr. Dennis Slifer of the New Mexico Environment Department; and, Ms. Robyn Tierney and Mr. Robert Young of the New Mexico Mining and Minerals Division. Mr. Peter Luthiger of Quivira Mining Company, Ms. Mary Ann Menetery and Mr. Dennis Slifer of the New Mexico Environment Department; and, Ms. Robyn Tierney and Mr. Robert Young of New Mexico Mining and Minerals Division were present during the August 29, 1995 inspections of the Section 33 and Section 19 Mines. Mr. Terry Anderson of Quivira Mining accompanied Ms. Robyn Tierney and Mr. Robert Young on the August 30, 1995 inspections of the Section 17, Section 22, Section 24, Section 30, and Section 30W Mines. The author of this inspection report was Ms. Robyn Tierney.

Inspections of each mine site consisted of a review of information submitted by the mine operator, subsequent discussion with the operator pertaining to mining and reclamation at each site, inspection of the condition of the reclaimed mine sites, line-intercept sampling for estimates of vegetative cover, compilation of plant species lists, measurement of reclaimed soil depths, and photo-documentation. Each of the mine sites were visually inspected for erosion features and hydrologic stability. During a walkover of each site, all slopes, areas of water concentration (ponds, diversions and areas where disturbed areas enter undisturbed lands) were visually inspected for stability. Topsoil placement and distribution also was evaluated at each site. Sampling for topsoil depth consisted of randomly digging a series of holes to identify the depth of topsoil and the presence or absence of potentially toxic wasterock at rooting depth. Grading of all wasterock piles and borrow areas was visually inspected. Placement and closure of portals and vent shafts was verified in the field. Structures (including concrete pads, buildings, shaft collars, and pump houses) remaining at each site were also identified during the course of the inspections.

The establishment and relative percent cover of reseeded and native plant species were evaluated in randomly placed transects. Four 50' transects were evaluated at each mine site using the line intercept method (Bonham 1989). These transects were used to estimate the relative percent cover of each plant species intercepted at 3' intervals along a transect. A total of 17 points per transect were recorded. In addition, a list of species present within a 50' X 6' belt transect adjacent to each transect was compiled. These sampling procedures, however, do not meet sample adequacy. Rather, these procedures were conducted to estimate the relative percent cover and to evaluate the diversity of species present at each of the eight mine sites. Additional resources would be needed to fully evaluate the vegetation of these prior reclamation sites to a level of sample adequacy and would require at least 24 additional man-hours of inspection time per site.

Results and Discussion

Maps of the eight mine sites were submitted by Quivira. The detail in these maps is sufficient to describe conditions and facilities that were present on each site prior to reclamation. Details of the reclamation activities at each site were further verified in discussions with Mr. Luthiger and Mr. Fletcher of Quivira Mining Company and by the on-site inspections conducted on August 29 and August 30, 1995.

Section 36, T 14N, R 9W

This section was reclaimed in 1990. At the request of the surface owner, the New Mexico State Land Office, the seed mixture used in the reclamation of the Section 36 Mine contained a large percentage of crested wheatgrass (*Agropyron cristatum*). Although this introduced species has achieved near co-dominance with the native sand dropseed (*Sporobolus cryptandrus*), portions of the mine site are still covered with ragweed (*Kochia scoparium*) and Russian thistle (*Salsola kali*). The following table (Table 2) contains a list of all species identified on the reclaimed Section 36 mine site. This list is not inclusive of all the plant species that may be present on this site at other times of the year.

Table 2. List of Species at Quivira's Section 36 Mine

COMMON NAME	*Genus & species*[1]
Alkali sacaton	*Sporobolus airoides*
Crested wheatgrass	*Agropyron cristatum*
Western wheatgrass	*Agropyron smithii*
Blue grama grass	*Bouteloua gracilis*
Indian ricegrass	*Oryzopsis hymenoides*
Bigelow's Aster	*Aster bigelovii*
Beeweed	*Cleome serrulata*
Ragweed	*Kochia scoparium*
Golden crownbeard	*Verbesina encelioides*
Annual sunflower	*Helianthus annuus*
Hairy goldenaster	*Heterotheca villosa*
Russian thistle	*Salsola kali*

COMMON NAME	*Genus & species*[1]
Winterfat	*Ceratoides lanata*
Blue Gilia	*Ipomopsis sp.*
Yellow clover	*Meliotus sp.*
Stickleaf	*Mentzelia albicaulis*
Fringed Sage	*Artemisia frigida*
Fourwing saltbush	*Atriplex canescens*
Yellow snakeweed	*Gutierrezia sarothrae*

1 Nomenclature after: Martin, W. C. and C. R. Hutchins. 1980. **A Flora of New Mexico**. J. Cramer, Vaduz, Germany. Welsh, S.L. *et al.* 1987. **A Utah Flora**. Great Basin Naturalist Memoir No. 9.

Facilities remaining on the middle portion of the site included three cased vent holes. These will remain on the site as monitoring wells. The collars and casing of these wells appear to be stable. Although there was some evidence of sheet and debris flow on the southeast corner of the mine permit area, the overall site appeared to be stable. Concerns about surface water quality have been addressed with the adequate topdressing (average depth of four test pits was 2 feet) over the tailings and wasterock pads and with extensive seeding over the entire disturbance area. Further, the entire site had been graded with slopes configured to minimize soil loss. The large depression area in the north area of the permit held some standing water, but there was no evidence of rill or gully formation on any of the slopes rimming this impoundment.

While the data presented above indicates that the Section 36 (T 14N R 9W) Mine has been revegetated with a sufficient species diversity, there was considerable evidence of grazing -- both by domestic cattle and elk. The site has been fenced from grazing and has sufficient vegetative cover (Table 3) to be stabilized. There is also a good mix of perennial plant species appearing throughout the site (Table 2) .

Table 3. Summary of Relative Cover Data at Quivira's Section 36 Mine.

Transect #1	Value (%)
Perennial Cover:	0
Litter Cover	6
Rock Cover	0
Bare Ground	55
Number of perennial species present in belt transect	0

Transect #2	Value (%)
Perennial Cover:	18
Litter Cover	12
Rock Cover	0
Bare Ground	59
Number of perennial species present in belt transect	2

Transect #3	Value (%)
Perennial Cover:	12
Litter Cover	12
Rock Cover	0
Bare Ground	41
Number of perennial species present in belt transect	1

Transect #4	Value (%)
Perennial Cover:	0
Litter Cover	35
Rock Cover	0
Bare Ground	35
Number of perennial species present in belt transect	0

Maintenance Items:

None.

Photographs of Quivira's Section 36 Mine

The following photographs were taken during the site inspection on August 29, 1995 to document the condition of the Section 36 Mine.

#1: This photograph was taken from east of the shaft area. Looking north across the topsoiled tailings pad, this photograph identifies the tie-in between the undisturbed (left and right margins of photo) and the disturbed (midground of photo) portions of the mine site. The natural vegetation and areas adjacent to the mine site remain largely undisturbed as seen at the margins of the site.

#2 #3: These photographs also were taken east of the shaft area. The photographs are panoramic views across the topsoiled tailings pad looking northwest (#2, right photograph) and west (#3, left photograph). Mr. Dennis Slifer and Mary Ann Menetery of the New Mexico Environment Department are at right in photograph #3.

#4 #6: These photographs also were taken east of the shaft area, and provide a panoramic view of the southwest (#4, right photograph) and south (#6, left photograph) quadrants of the mine permit area. The large shrub in the foreground of the photograph is saltbush (*Atriplex canescens*).

#5: This photograph is of the west-southwest quadrant of the mine permit area in the vicinity of the reclaimed ore pad.

Section 33, T 14N, R 9W

This section was reclaimed in June of 1994. The seed mixture used in the reclamation of the Section 33, the Section 30, Section 30W, Section 24, Section 22, Section 19 and Section 17 mine sites is presented in Appendix A of this report. Most of the reclaimed Section 33 mine site is covered with the annual weeds, ragweed (*Kochia scoparium*) and Russian thistle (*Salsola kali*). However, these weeds are characteristic of early succession and typically found on newly disturbed sites. The following table (Table 4) contains a list of all the species identified on the reclaimed Section 33 mine site. This list is not inclusive of all the plant species that may be present on this site at other times of the year.

Table 4. List of Species at Quivira's Section 33 Mine

COMMON NAME	*Genus & species*[1]
Western wheatgrass	*Agropyron smithii*
Crested wheatgrass	*Agropyron cristatum*
Indian ricegrass	*Oryzopsis hymenoides*
Bigelow's Aster	*Aster bigelovii*
Beeweed	*Cleome serrulata*
Ragweed	*Kochia scoparium*
Composite species	*Unknown Aster? sp.*
Russian thistle	*Salsola kali*
Conyzia	*Conyza sp.*
Evening primrose	*Oenothera caespitosa*
Pepperweed	*Lepidium sp.*
Curlycup gumweed	*Grindelia squarosa*
Fringed Sage	*Artemisia frigida*
Fourwing saltbush	*Atriplex canescens*
Threadleaf groundsel	*Senecio longilobus*
Yellow snakeweed	*Gutierrezia sarothrae*

1 Nomenclature after: Martin, W. C and C. R. Hutchins. 1980. **A Flora of New Mexico**. J. Cramer, Vaduz, Germany. Welsh, S.L. *et al.* 1987. **A Utah Flora**. Great Basin Naturalist Memoir No. 9.

Facilities remaining on the north edge of the site included a transformer unit and a shaft. The shaft had recently been reinforced with concrete (Luthiger, pers. comm.). The Department of Energy (DOE) had borrowed topsoil materials from the northern portion of the mine permit, then reseeded that area in February-March of 1994. DOE used this borrow material to topdress portions of their mill tailings site located directly north (across the road) of the Section 33 Mine. Concerns about surface water quality have been addressed with the adequate topdressing (average depth of two test pits was 6 inches) over the orebody stockpile area and the equipment storage area with extensive seeding over the entire disturbance area. Further, the entire site had been graded to minimize soil loss and is largely flat with no slopes or depressions.

The data presented in Table 5 indicates that the reclamation of the Section 33 (T 14N R 9W) Mine is beginning to develop with an average of 3% perennial vegetative cover in the disturbed areas. The species diversity of the surrounding and on-site vegetation (Table 4), and the relative isolation from grazing are indicative of the good growth potential at this site.

Table 5. Summary of Relative Cover Data at Quivira's Section 33 Mine.

Transect #1	**Value (%)**
Perennial Cover	**0**
Litter Cover	**0**
Rock Cover	**0**
Bare Ground	**29**
Number of perennial present in belt transect	**1.00**
Transect #2	**Value (%)**
Perennial Cover	**6**
Litter Cover	**6**
Rock Cover	**0**
Bare Ground	**24**
Number of perennial species present in belt transect	**0**
Transect #3	Value (%)
Perennial Cover	6
Litter Cover	12
Rock Cover	0
Bare Ground	41
Number of perennial species present in belt transect	**1**

Transect #4	Value (%)
Litter Cover	12
Rock Cover	0
Bare Ground	47
Number of perennial species present in belt transect	0

Maintenance Items:

None.

Photographs of Quivira's Section 33 Mine

The following photographs were taken during the site inspection on August 29, 1995 to document conditions at the Section 33 Mine.

#1, #2: These two photographs form a panoramic view spanning the north quadrant (#1 or right photograph) to the west-northwest quadrant (#2 or left photograph). The photographs were taken from the reclaimed pad of the wasterock pile.

#3, #4, #5: Photographs #3, #4, and #5 were taken from the same wasterock pad and span the west quadrant (#3 or right photograph), the west-southwest quadrant (#4 or middle photograph) to the south quadrant (#5 or left photograph).

#6: This photograph is of the permit area in the vicinity of the ore pad.

Section 30, T 14N, R 9W

This section also was reclaimed in June of 1994. The seed mixture used in the reclamation of the Section 30 Mine is presented in Appendix A of this document. Table 6 contains a list of other species identified on the reclaimed Section 30 mine site. The list is not inclusive of all the plant species that may be present on the site at other times of the year.

Table 6. List of Species at Quivira's Section 30 Mine

COMMON NAME	*Genus & species*[1]
Sand dropseed	*Sporobolus cryptandrus*
Indian ricegrass	*Oryzopsis hymenoides*
Bigelow's Aster	*Aster bigelovii*
Beeweed	*Cleome serrulata*
Ragweed	*Kochia scoparium*
Composite species	*Unknown (Aster? sp.)*
Russian thistle	*Salsola kali*
Scarlet globemallow	*Sphaeralcea coccinea*
Hairy goldenaster	*Heterotheca villosa*
Yellow clover	*Meliotus sp.*
Evening primrose	*Oenothera caespitosa*
Fourwing saltbush	*Atriplex canescens*
Yellow snakeweed	*Gutierrezia sarothrae*

1 Nomenclature after: Martin, W. C. and C. R. Hutchins. 1980. **A Flora of New Mexico**. J. Cramer, Vaduz, Germany. Welsh, S.L. *et al.* 1987. **A Utah Flora**. Great Basin Naturalist Memoir No. 9.

Average perennial vegetative cover at this site is 6% -- twice that of the Section 33 site (Table 7). As in the case of the Section 33 Mine, however, vegetative cover is still dominated by the annual weeds, ragweed (*Kochia scoparium*) and Russian thistle (*Salsola kali*). Permanent facilities remaining on the Section 30 site include an electrical substation, a pumping pad and a reclaimed wasterock pile. Quivira owns the both surface and mineral rights on this section.

Table 7. Summary of Relative Cover Data at Quivira's Section 30 Mine.

Transect #1	Value (%)
Perennial Cover	12
Litter Cover	0
Rock Cover	0
Bare Ground	53
Number of perennial species present in belt transect	2
Transect #\2	Value (%)
Perennial Cover	0
Litter Cover	24
Rock Cover	0
Bare Ground	47
Number of perennial species present in belt transect	0
Transect #3	Value (%)
Perennial Cover	0
Litter Cover	6
Rock Cover	0
Bare Ground	77
Number of perennial species present in belt transect	0
Transect #4	Value (%)
Perennial Cover	12
Litter Cover	12
Rock Cover	0
Bare Ground	41
Number of perennial species present in belt transect	2

Maintenance Items:

None.

Photographs of Quivira's Section 30 Mine

The following photographs were taken during the site inspection on August 29, 1995 to document the condition of the Section 30 Mine.

Section 30W, T 14N, R 9W

A single pumping pad is the only permanent facility remaining on the Section 30W mine site. Quivira Mining Company owns both surface and mineral rights. Grading and reclamation on this site was generally similar to that on the Section 30 mine. Water from recent rains has collected in small depression over portions of the wasterock pad. Although vegetative cover is dominated by the annual weeds, Russian thistle and ragweed (Table 8 and Table 9) there is good establishment of perennial species at this site. Average percent perennial vegetative cover (Table 9) was 12% -- the highest percent cover of these seven recently reclaimed sites. Part of this success may be attributed to the fenced exclosure of the entire site from grazing.

Table 8. List of Species at Quivira's Section 30W Mine

COMMON NAME	*Genus & species*[1]
Sand dropseed	*Sporobolu cryptandrus*
Crested wheatgrass	*Agropyron cristatum*
Western wheatgrass	*Agropyron smithil*
Indian ricegrass	*Oryzopsis hymenoides*
Bigelow's Aster	*Aster bigelovii*
Beeweed	*Cleome serrulata*
Ragweed	*Kochia scoparium*
Blanket flower	*Gaillardia pulchella*
Russian thistle	*Salsola kali*
Blue Gilia	*Ipomopsis sp.*
Yellow clover	*Meliotus sp.*

1 Nomenclature after: Martin, W. C. and C. R. Hutchins. 1980. **A Flora of New Mexico.** J. Cramer, Vaduz, Germany. Welsh, S.L. *et al.* 1987. **A Utah Flora.** Great Basin Naturalist Memoir No. 9.

Table 9. Summary of Relative Cover Data at Quivira's Section 30W Mine.

Transect #1	Value (%)
Perennial Cover	6
Litter Cover	6
Rock Cover	0
Bare Ground	59

Transect #1	Value (%)
Number of perennial species present in belt transect	**2**
Transect #\2	Value (%)
Perennial Cover	24
Litter Cover	6
Rock Cover	0
Bare Ground	12
Number of perennial species present in belt transect	**2**
Transect #3	Value (%)
Perennial Cover	12
Litter Cover	6
Rock Cover	0
Bare Ground	47
Number of perennial species present in belt transect	**2**
Transect #4	Value (%)
Perennial Cover	6
Litter Cover	12
Rock Cover	0
Bare Ground	47
Number of perennial species present in belt transect	**2**

Maintenance Items.

None.

Photographs of Quivira's Section 30W Mine

The following photographs were taken during the site inspection of the Section 30W Mine on August 29, 1995.

Section 24 Mine, T 14N R10W

Quivira owns the mineral rights, while Homestake Mining Company of California owns the surface rights to the Section 24 Mine. Permanent structures on the Section 24 Mine include an active mixing facility (regulated by the Nuclear Regulatory Commission), a pump substation, and approximately 1000 feet of graded dirt road to these facilities. The diversity of forbs and grasses on this site was low (Table 10). The perennial vegetative cover of 3% also was lower (Table 11) than that at the other mines. Much of this site had evidence of compacted soils. Average soil depth (based on three test pits) was 12 inches.

Table 10. List of Species at Quivira's Section 24 Mine

COMMON NAME	*Genus & species*[1]
Crested wheatgrass	*Agropyron cristatum*
Indian ricegrass	*Oryzopsis hymenoides*
Ragweed	*Kochia scoparium*
Russian thistle	*Salsola kali*
Winterfat	*Ceratoides lanata*

1 Nomenclature after: Martin, W. C. and C. R. Hutchins. 1980. A Flora of New Mexico. J. Cramer, Vaduz, Germany. Welsh, S.L. et al. 1987. A Utah Flora. Great Basin Naturalist Memoir No. 9.

Table 11. Summary of Relative Cover Data at Quivira's Section 24 Mine.

Transect #1	Value (%)
Perennial Cover	0
Litter Cover	12
Rock Cover	0
Bare Ground	65
Number of perennial species present in belt transect	0.00
Transect #\2	Value (%)
Perennial Cover	0
Litter Cover	12
Rock Cover	0
Bare Ground	65
Number of perennial species present in belt transect	0

Transect #3	Value (%)
Perennial Cover	6
Litter Cover	0
Rock Cover	0
Bare Ground	53
Number of perennial species present in belt transect	0
Transect #4	Value (%)
Perennial Cover	6
Litter Cover	12
Rock Cover	0
Bare Ground	29
Number of perennial species present in belt transect	1

Maintenance Items.

None.

Photographs of Quivira's Section 24 Mine

The following photographs were taken during the site inspection of the Section 24 Mine on August 29, 1995.

Section 22, T 14N, R 9W

Surface and minerals rights for the Section 22 mine site are owned by Quivira Mining Company. A pump house, approximately 1000 feet of graded dirt road, and a H_2SO_4 lixiviant tank remain as permanent features at this site. A small subsidence area approximately 15 feet in width and 20 feet in length was observed in the south central portion of the mine area. Average soil depth over the reclaimed ore pile and wasterock areas was 11 inches. Although some rill formation was observed on the slopes of the wasterock pile, these rills appeared to be armored with coarsely fragmented sandstone materials. There was some evidence of encroachment from the surrounding native vegetation (Table 12), but perennial vegetative cover on the reclaimed portions of this site was very low (Table 13). This site, however, is currently being grazed by approximately 13 head of cattle (Terry Fletcher, pers. comm.). The cattle appear to be feeding mainly on new vegetative growth and regrowth.

Table 12. List of Species at Quivira's Section 22 Mine

COMMON NAME	*Genus & species*[1]
Alkali sacaton	*Sporobolus airoides*
Crested wheatgrass	*Agropyron cristatum*
Foxtail barley	*Hordeum jubatum*
Indian ricegrass	*Oryzopsis hymenoides*
Western wheatgrass	*Agropyron smithii*
Beeweed	*Cleome serrulata*
Ragweed	*Kochia scoparium*
Mustard	*Brassica sp.*
Russian thistle	*Salsola kali*
Nightshade	*Solanum sp.*
Morning glory	*Convolvulus sp.*
Stickleaf	*Mentzelia albicaulis*
Fourwing saltbush	*Atriplex canescens*
Yellow snakeweed	*Gutierrezia sarothrae*

1 Nomenclature after: Martin, W. C. and C. R. Hutchins. 1980. **A Flora of New Mexico**. J. Cramer, Vaduz, Germany. Welsh, S.L. et al. 1987. **A Utah Flora**. Great Basin Naturalist Memoir No. 9.

Transect #1	Value (%)
Perennial Cover	0
Litter Cover	29
Rock Cover	0
Bare Ground	35
Number of perennial species present in belt transect	0
Transect #\2	Value (%)
Perennial Cover	0
Litter Cover	18
Rock Cover	0
Bare Ground	47
Number of perennial species present in belt transect	0
Transect #3	Value (%)
Perennial Cover	0
Litter Cover	12
Rock Cover	6
Bare Ground	35
Number of perennial species present in belt transect	1
Transect #4	Value (%)
Perennial Cover	0
Litter Cover	6
Rock Cover	0
Bare Ground	82
Number of perennial species present in belt transect	0

Maintenance Items:

None.

Photographs of Quivira's Section 22 Mine

The slides contained in the following page were taken during the site inspection on August 29, 1995.

Section 19, T 14N R 9W

The Section 19 mine site is an open flat area (approximately 50-60 acres in size). A headframe, 2 explosives magazines, 1 vent shaft, and a pumping station with a large gravelled parking area on the southwest corner of the property remain as permanent features. A large wasterock pile was topsoiled and revegetated in June 1994. Average soil depth on this site was 14 inches.

Table 14. List of Species at Quivira's Section 19 Mine

COMMON NAME	*Genus & species*[1]
Alkali sacaton	***Sporobolus airoides***
Crested wheatgrass	***Agropyron cristatum***
Blue grama grass	***Bouteloua gracilis***
Indian ricegrass	***Oryzopsis hymenoides***
Bigelow's Aster	***Aster bigelovii***
Ragweed	***Kochia scoparium***
Composite species	***Unknown (Aster? sp.)***
Russian thistle	***Salsola kali***
Rubber rabbitbrush	***Chrysothamnus nauseous***
Conyza	***Conyza sp.***
Yellow clover	***Meliotus sp.***
Stickleaf	***Mentzelia albicaulis***
Fourwing saltbush	***Atriplex canescens***
Yellow snakeweed	***Gutierrezia sarothrae***

1 Nomenclature after: Martin, W. C. and C. R. Hutchins. 1980. A Flora of New Mexico. J. Cramer, Vaduz, Germany. Welsh, S.L. et al. 1987. A Utah Flora. Great Basin Naturalist Memoir No. 9.

Table 15. Summary of Relative Cover Data at Quivira's Section 19 Mine.

Transect #1	Value (%)
Perennial Cover	12
Litter Cover	6
Rock Cover	0

Transect #1	Value (%)
Bare Ground	65
Number of perennial species present in belt transect	1
Transect #\2	Value (%)
Perennial Cover	18
Litter Cover	6
Rock Cover	0
Bare Ground	35
Number of perennial species present in belt transect	1
Transect #3	Value (%)
Perennial Cover	12
Litter Cover	0
Rock Cover	0
Bare Ground	47
Number of perennial species present in belt transect	0
Transect #4	Value (%)
Perennial Cover	6
Litter Cover	6
Rock Cover	0
Bare Ground	77
Number of perennial species present in belt transect	0

Maintenance Items:

None.

Photographs of Quivira's Section 19 Mine

The photographs contained in the following pages were taken during the site inspection on August 29, 1995 of the Section 19 Mine. The below numbered descriptions identify the current condition of the site.

Section 17, T 14N, R 9W

Table 16. List of Species at Quivira's Section 17 Mine

COMMON NAME	*Genus & species*[1]
Crested wheatgrass	*Agropyron cristatum*
Galleta	*Hilaria jamesii*
Indian ricegrass	*Oryzopsis hymenoides*
Beeweed	*Cleome serrulata*
Ragweed	*Kochia scoparium*
Scarlet globemallow	*Sphaeralcea coccinea*
Russian thistle	*Salsola kali*
Yellow clover	*Meliotus sp.*
Rubber rabbitbrush	*Chrysothamnus nauseosus*

1 Nomenclature after: Martin, W. C. and C. R. Hutchins. 1980. A Flora of New Mexico. J. Cramer, Vaduz, Germany. Welsh, S.L. et al. 1987. A Utah Flora. Great Basin Naturalist Memoir No. 9.

Table 17. Summary of Relative Cover Data at Quivira's Section 17 Mine.

Transect #1	Value (%)
Perennial Cover	0
Litter Cover	12
Rock Cover	0
Bare Ground	47
Number of perennial species present in belt transect	1
Transect #\2	Value (%)
Perennial Cover	0
Litter Cover	12
Rock Cover	0
Bare Ground	47
Number of perennial species present in belt transect	1

Transect #3	Value (%)
Perennial Cover	0
Litter Cover	6
Rock Cover	0
Bare Ground	59
Number of perennial species present in belt transect	2
Transect #4	Value (%)
Perennial Cover	0
Litter Cover	12
Rock Cover	0
Bare Ground	59
Number of perennial species present in belt transect	0

Maintenance Items:

None.

Photographs of Quivira's Section 17 Mine

The following photographs of the Section 17 Mine were taken during the site inspection on August 29, 1995.

Transect #\2	Value (%)
Bare Ground	47
Number of perennial species present in belt transect	1
Transect #3	**Value (%)**
Perennial Cover	0
Litter Cover	6
Rock Cover	0
Bare Ground	59
Number of perennial species present in belt transect	2
Transect #4	**Value (%)**
Perennial Cover	0
Litter Cover	12
Rock Cover	0
Bare Ground	59
Number of perennial species present in belt transect	0

Maintenance Items:

None.

Photographs of Quivira's Section 17 Mine

The following photographs of the Section 17 Mine were taken during the site inspection on August 29, 1995.

Summary and Conclusions

Based on the inspection of the Sections 17, 19, 22, 24, 30, 30W, 33 and 36 mine sites, review of inspection information with Mining and Minerals Division staff and MMD's resources to conduct these inspections, it is recommended that the Section 36 Mine site operated by Quivira Mining Company (Quivira) be released from further requirements of the New Mexico Mining Act. The other mine sites (*i.e.* Sections 17, 19, 22, 24, 30, 30W, and 33) were reclaimed in June-July of 1994 and cannot be released at this time. Staff has concluded that is too early to determine whether or not these sites meet the environmental conditions that allow for the development of a 'self-sustaining ecosystem' as defined in Rule 1. and put forth in Rule 5.7A of the New Mexico Mining Act. Annual weeds such as ragweed and Russian thistle predominate on these sites , while perennials are much less numerous. Such plant communities are characteristic of early succession, but do not

provide enough information to make the determination that the site will one day become self-sustaining.

Based on oral and written communication(letter from Quivira, September 14, 1995) with the operator, and on the condition of these seven remaining reclaimed sites as documented by this inspection report, it is clear that the operator has made a good effort to complete all of the required reclamation. It is recommended that the Director of MMD give a variance to Quivira Mining Company from meeting the deadline of September 30, 1995 for prior reclamation under the New Mexico Mining Act and Rules for the Section 17, 19, 22, 24, 30, 30W, and 33 mine sites. This variance would stipulate that inspections will be conducted by MMD during the late summer of 1997 at each of the remaining sites to determine if the conditions necessary for development of a 'sustainable ecosystem' are then present on-site, and if any further actions including (but not limited to) reseeding or interseeding by the operator are necessary.

Literature Cited

Bonham, C. D. 1989. Measurement of Terrestrial Vegetation. Wiley-Interscience. 338 pp.

Craft, Fred. 1995. Resident Manager, Homestake Mining Company, Personal Communication

Martin, P. C., and C. R. Hutchins. 1980. A Flora of New Mexico. J. Cramer Press, Vaduz, Germany. 2591 pp.

Welsh, S. L. et al. 1989. A Utah Flora. Great Basin Naturalist Memoir No. 9. Brigham Young University Press. 898 pp.

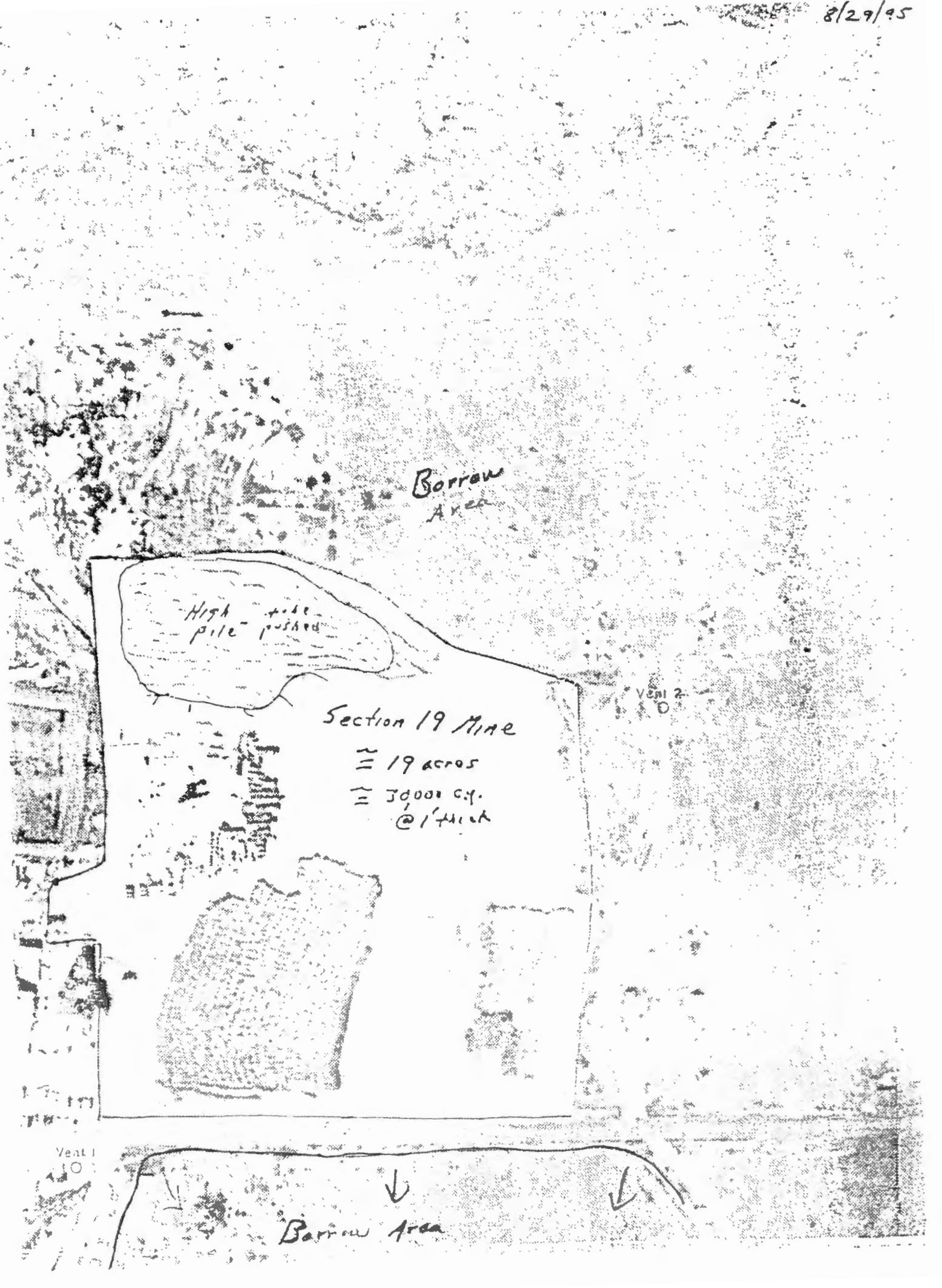
Section 17 Min
#1

12 Mine
#2

17 Mine
#3

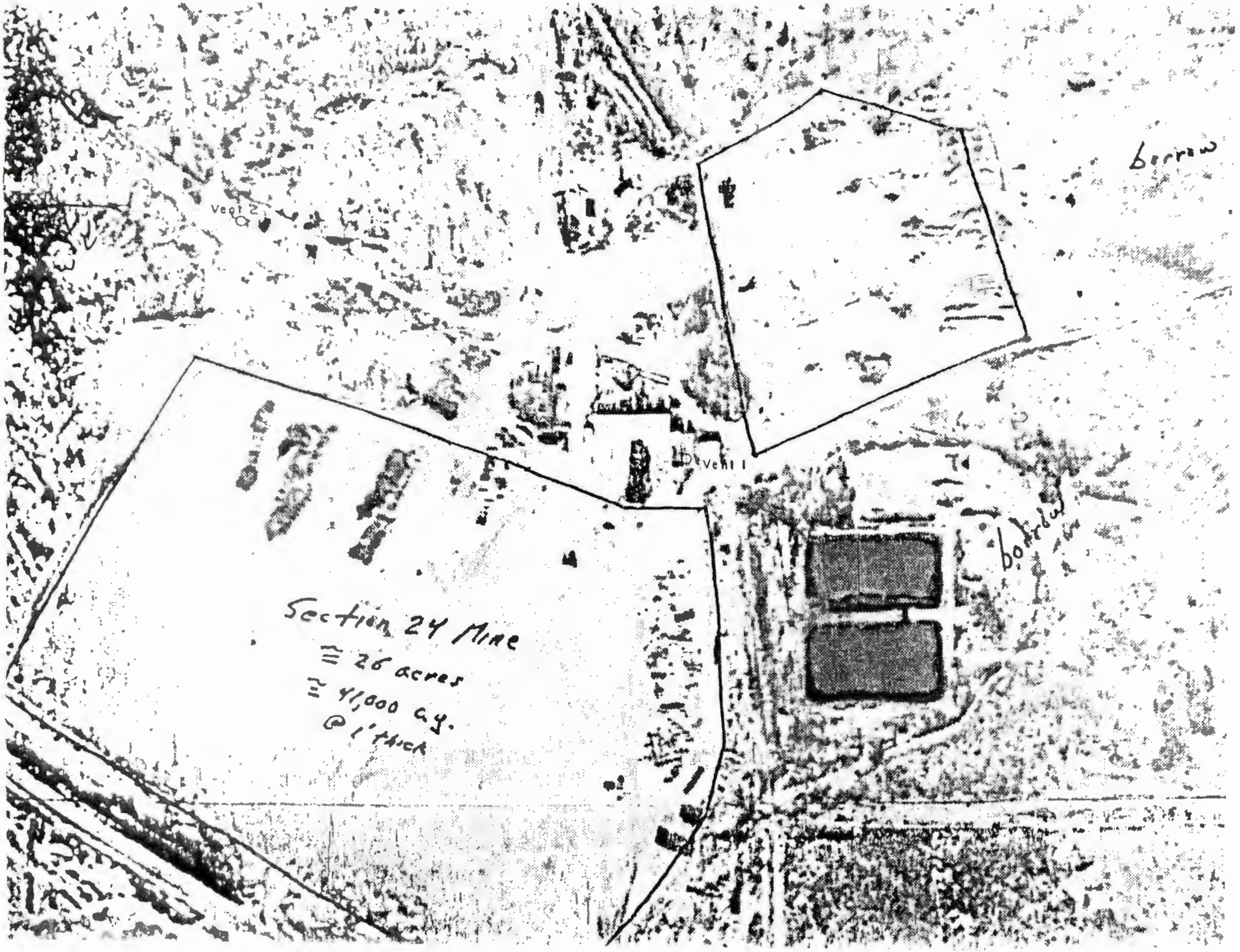
17 Mine
#4

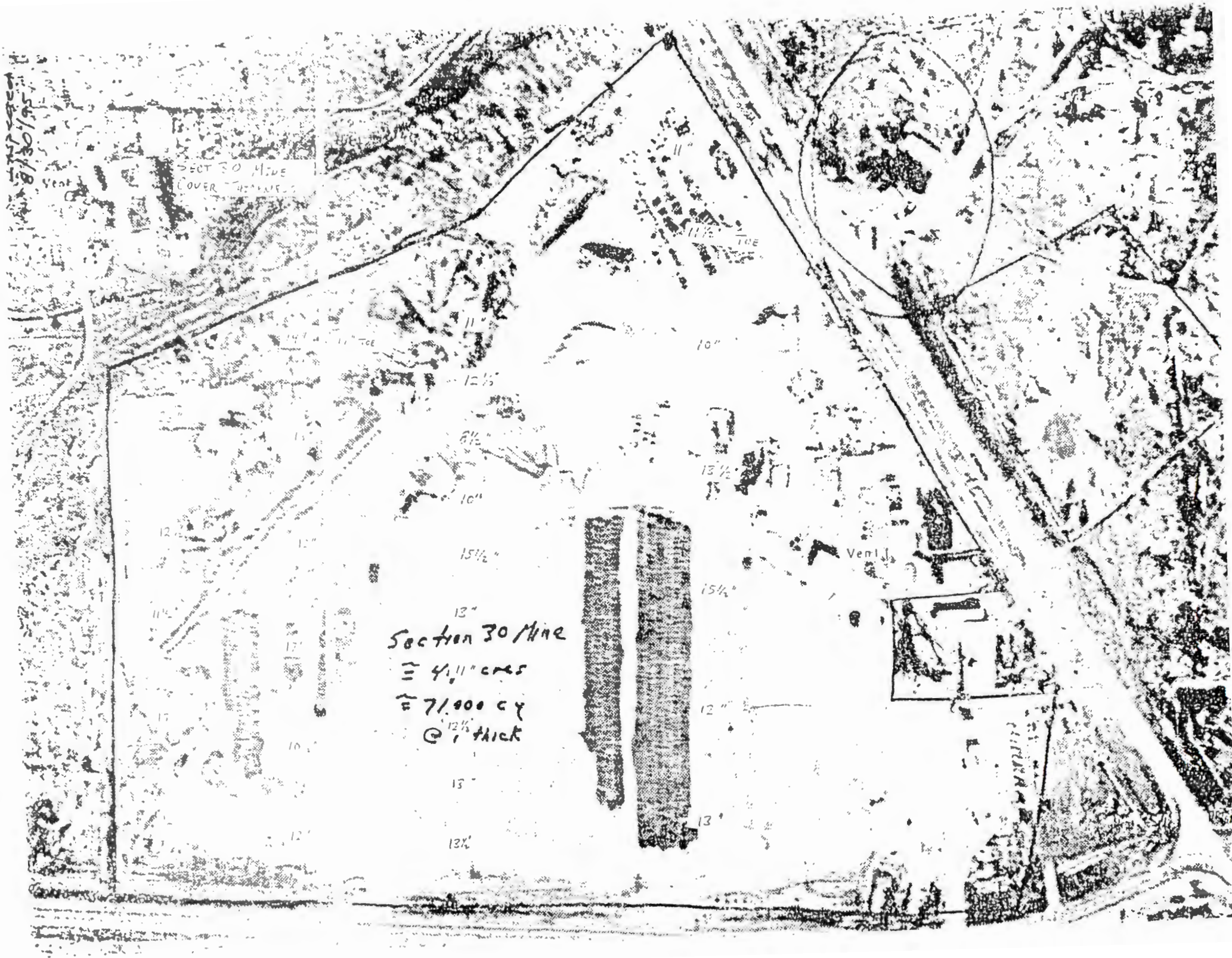
8/29/95


Borrow Area
High pile pushed
Section 19 Mine
≅ 19 acres
≅ 30000 c.y.
@ 1' thick
Vent 2
Vent 1
Borrow Area

Quivira's Seetlg
19 Mine
#4

Quivira's Section
19 Mine
#1 (R), #2 (M
#3 (L)


Vent 2
Vent 1
Borrow
Borrow
Section 24 Mine
≅ 26 acres
≅ 41,000 c.y.
@ 1' thick


Section 30 Mine
≅ 4.11 acres
≅ 71,900 cy
@ 1' thick

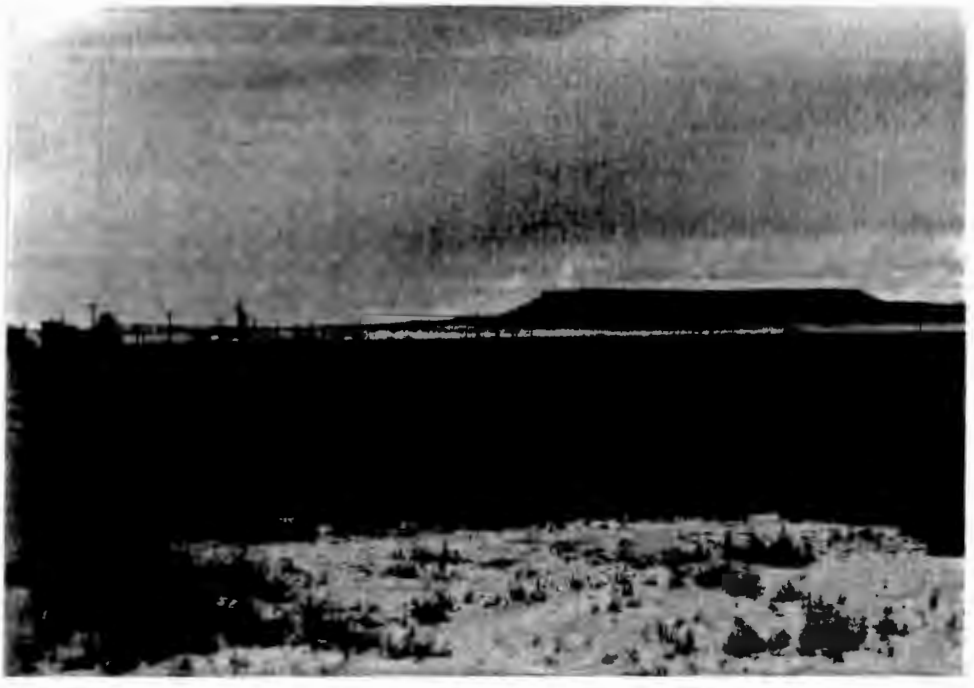
30 June

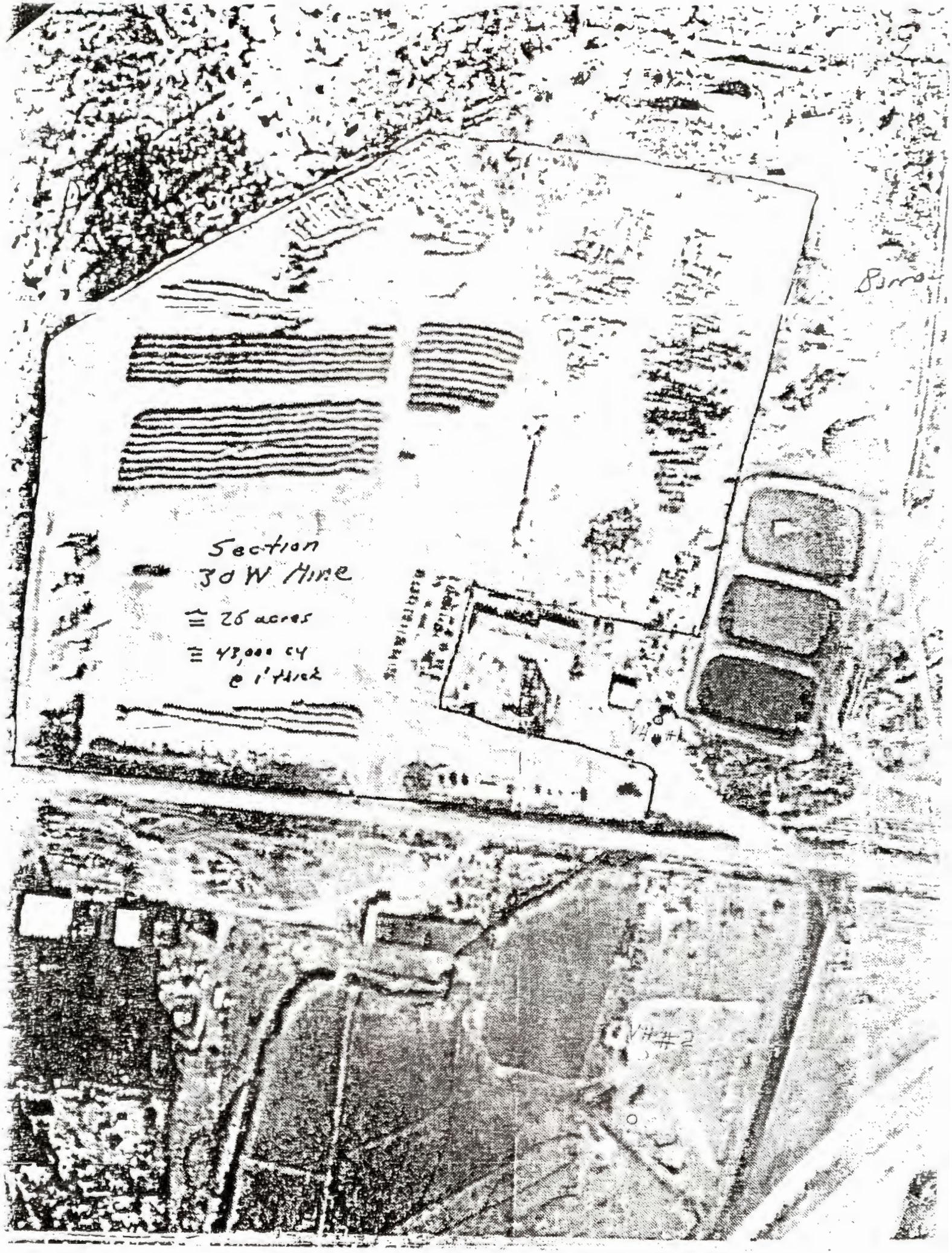
Quivira's section
30 Mine
#3

Gallatin Section
30 Mine

#4

30 Mine
#5




Section
30 W Mine
≅ 26 acres
≅ 42,000 cy
@ 1' thick
VH #1
VH #2

Whitney Canyon
30 W Mine
#1

Quivira Section
30W Mine
#2

Quarry Section
30 W Mine
#3

Gravity Section
30W Mine
#4

Quivira
Inspector
8/29/9-

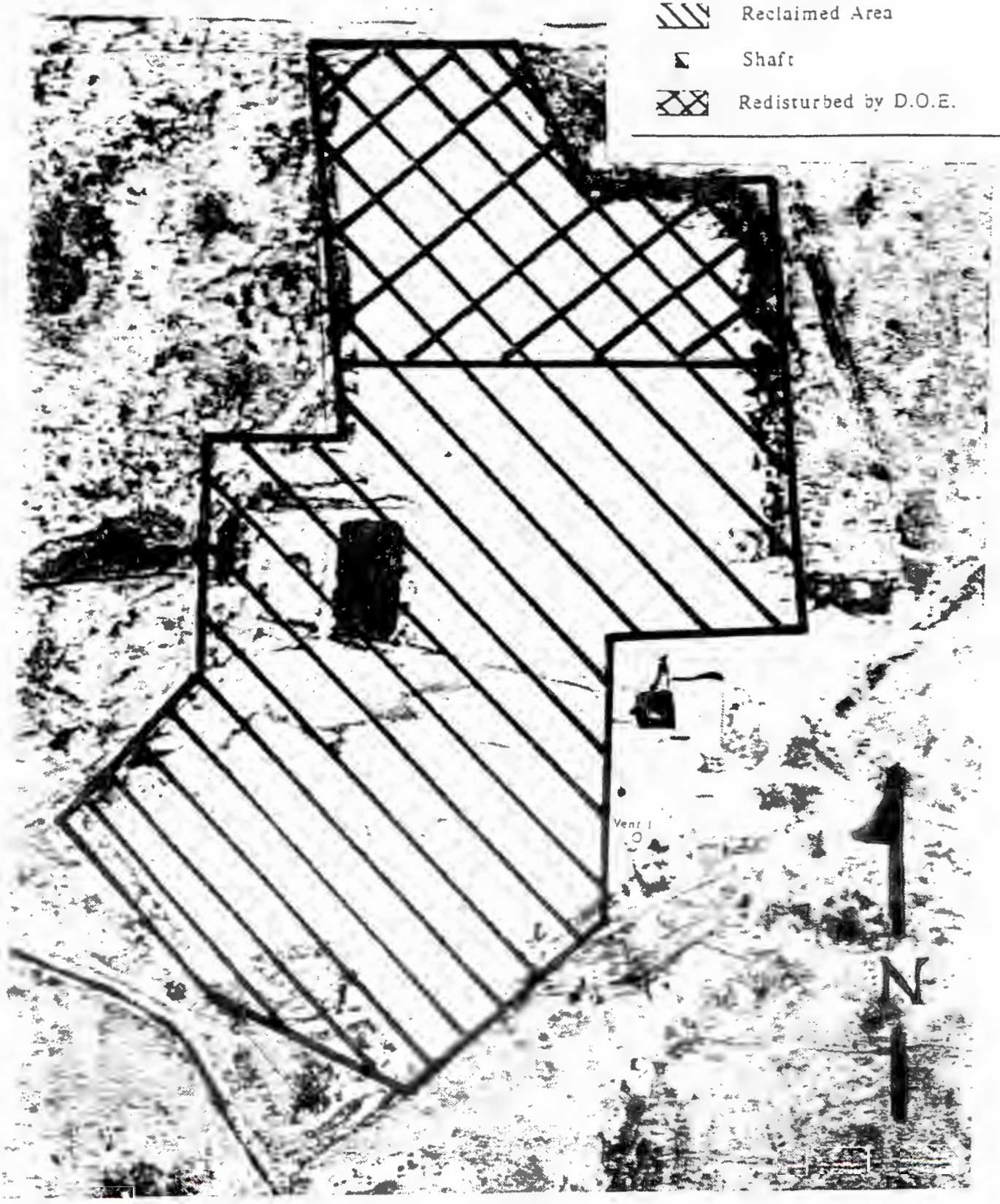
SECTION 33 MINE

Figure 6 -
LEGEND

Reclaimed Area

Shaft

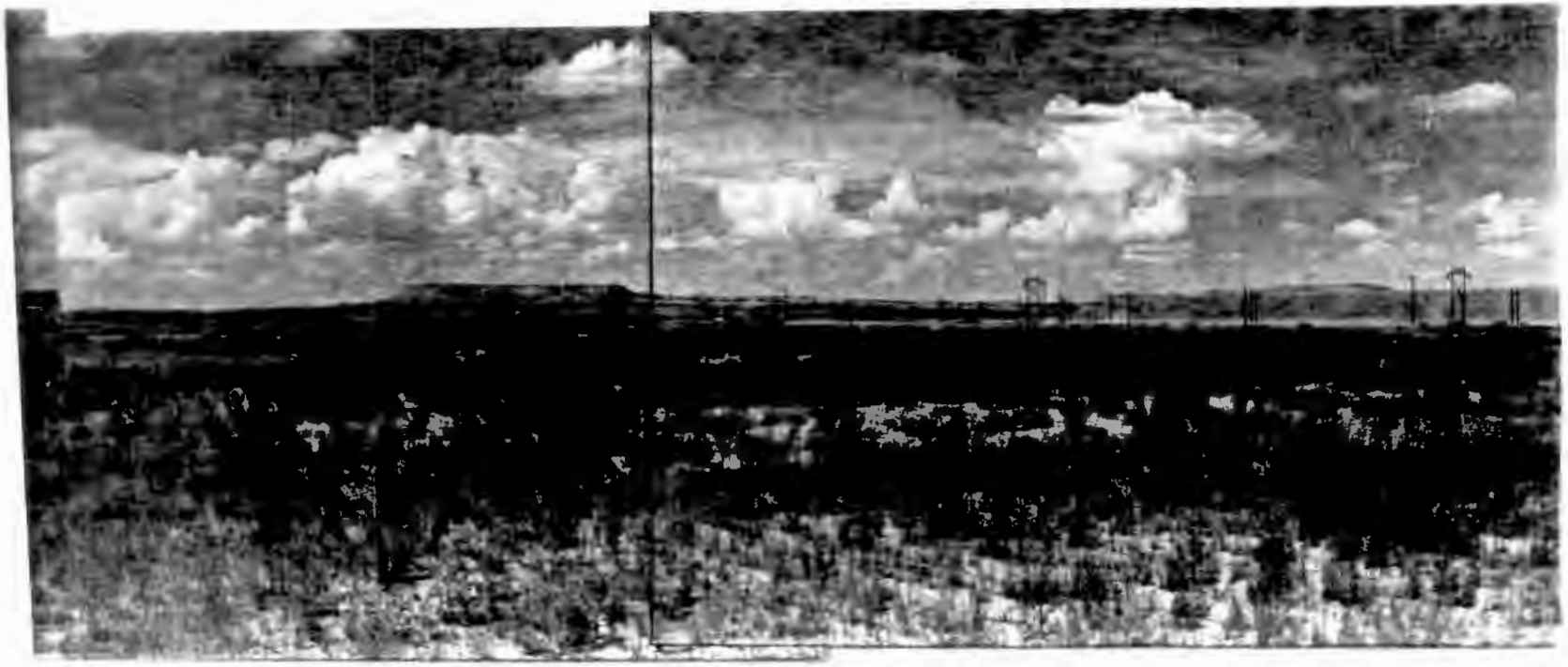
Redisturbed by D.O.E.



Ajuntas
Section 33 Mine
#1 & 2

Quivira Section 36
Plan
#283

Quinlan Section
35 Mine
#3,495

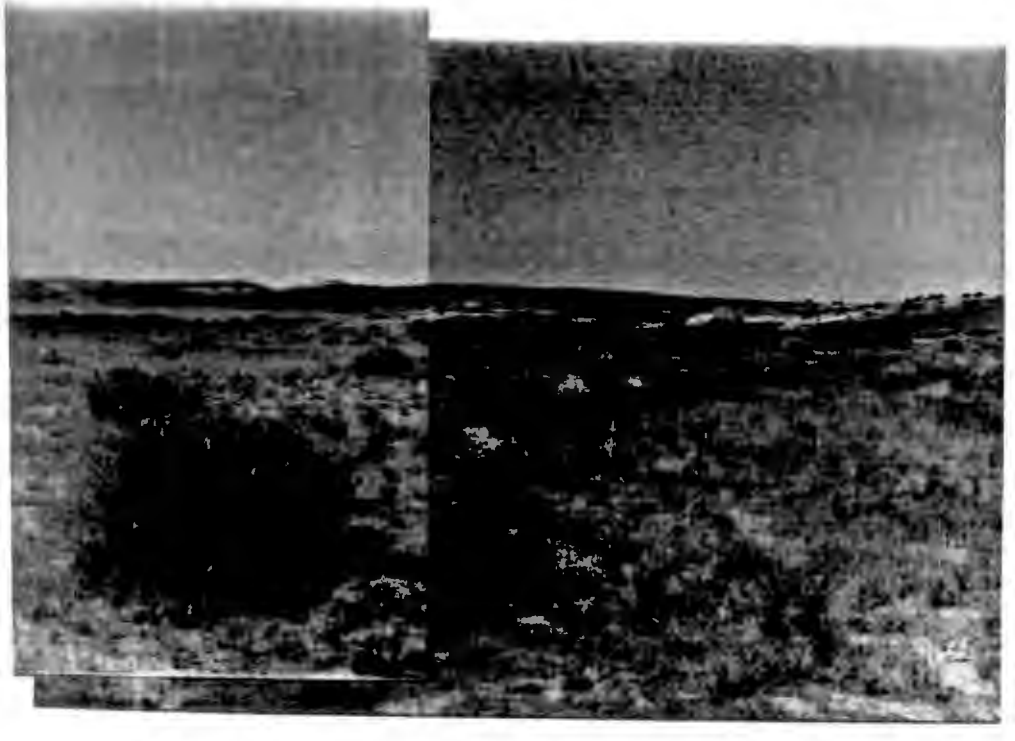


Inspected
8/29/95

SECTION 36 MINE

Quivira's Section 36 Mi
#1

Quivira's Section 36
Mine
986



Quivira Mining Company

September 14, 1995

SEP 15 1995

Certified Mail
Return Receipt Requested (P 762 964 259)

Dr. Robin Tierney
Mining and Minerals Division
Energy, Minerals and Natural Resources Department
2040 South Pacheco
Santa Fe, NM 87505

Re: **Quivira Mining Company**
Prior Reclamation Request

Dear Dr. Tierney,

This letter represents a confirmation of our telephone conversation on September 14, 1995 regarding prior reclamation at the Ambrosia Lake site. As we discussed, although the areas have been successfully reclaimed and revegetated consistent with the requirements of the Act and Rules, due to the time period that has transpired since the areas were re-vegetated, the Mining and Minerals Division (MMD) would like to subsequently re-verify the successful reclamation efforts.

Therefore, pursuant to our discussion, Quivira's prior reclamation application would be approved by MMD; and in conjunction with this approval, the area would receive a one-time field re-verification review.

The objective of this one time field review would be to re-verify that the conditions to allow for establishment of a self sustaining ecosystem consistent with the surrounding area has been met for the post mining land use of grazing. This one time review would be conducted after two (2) additional growing seasons. Upon re-verification, the area would again be acknowledged by MMD as meeting the prior reclamation requirements. If the result of this review is contrary to this, then Quivira would develop and implement a program to address the issues raised by MMD.

P.O. Box 218, Grants, New Mexico 87020 • (505) 287-8851 • FAX (505) 287-8851 Ext. 295

I would like to thank you for your effort and cooperation in this matter. If you have any questions, please do not hesitate to contact me at (505) 287-8851, extension 205.

Sincerely,

QUIVIRA MINING COMPANY

Peter Luthiger
Supervisor, Radiation Safety
and Environmental Affairs

xc: B. Ferdinand
T. Fletcher
file

Quivira Mining Company

September 14, 1995

SEP 15

Certified Mail
Return Receipt Requested (P 762 964 259)

Dr. Robin Tierney
Mining and Minerals Division
Energy, Minerals and Natural Resources Department
2040 South Pacheco
Santa Fe, NM 87505

Re: **Quivira Mining Company**
Prior Reclamation Request

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Sincerely,

QUIVIRA MINING COMPANY

Peter Luthiger
Supervisor, Radiation Safety
and Environmental Affairs

xc: B. Ferdinand
T. Fletcher
file

QUIVIRA MINING COMPANY
POST OFFICE BOX 218 • GRANTS, NEW MEXICO 87020

September 1, 1995

Dr. Robin Tierney
Mining and Minerals Division
Energy, Minerals and Natural Resources Department
2040 South Pacheco
Santa Fe, NM 87505

Re: **Prior Reclamation Request**

Dear Dr. Tierney,

Pursuant to your request, I have enclosed the remaining maps of Quivira Mining Company's prior reclamation sites that you visited on August 29-30, 1995.

If you have any questions regarding this matter, please do not hesitate to contact me at (505) 287-8851, extension 205.

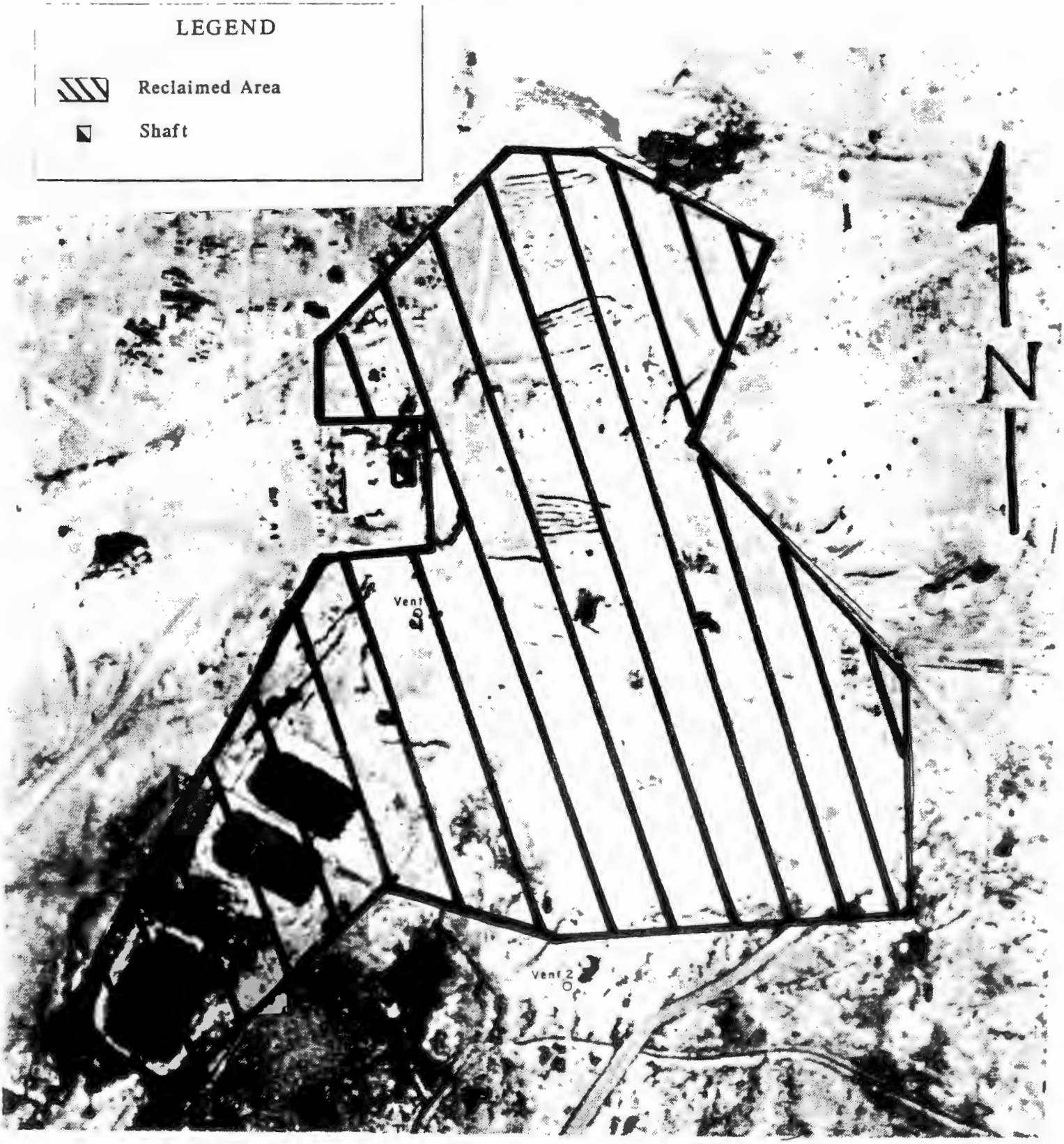
Regards,

QUIVIRA MINING COMPANY

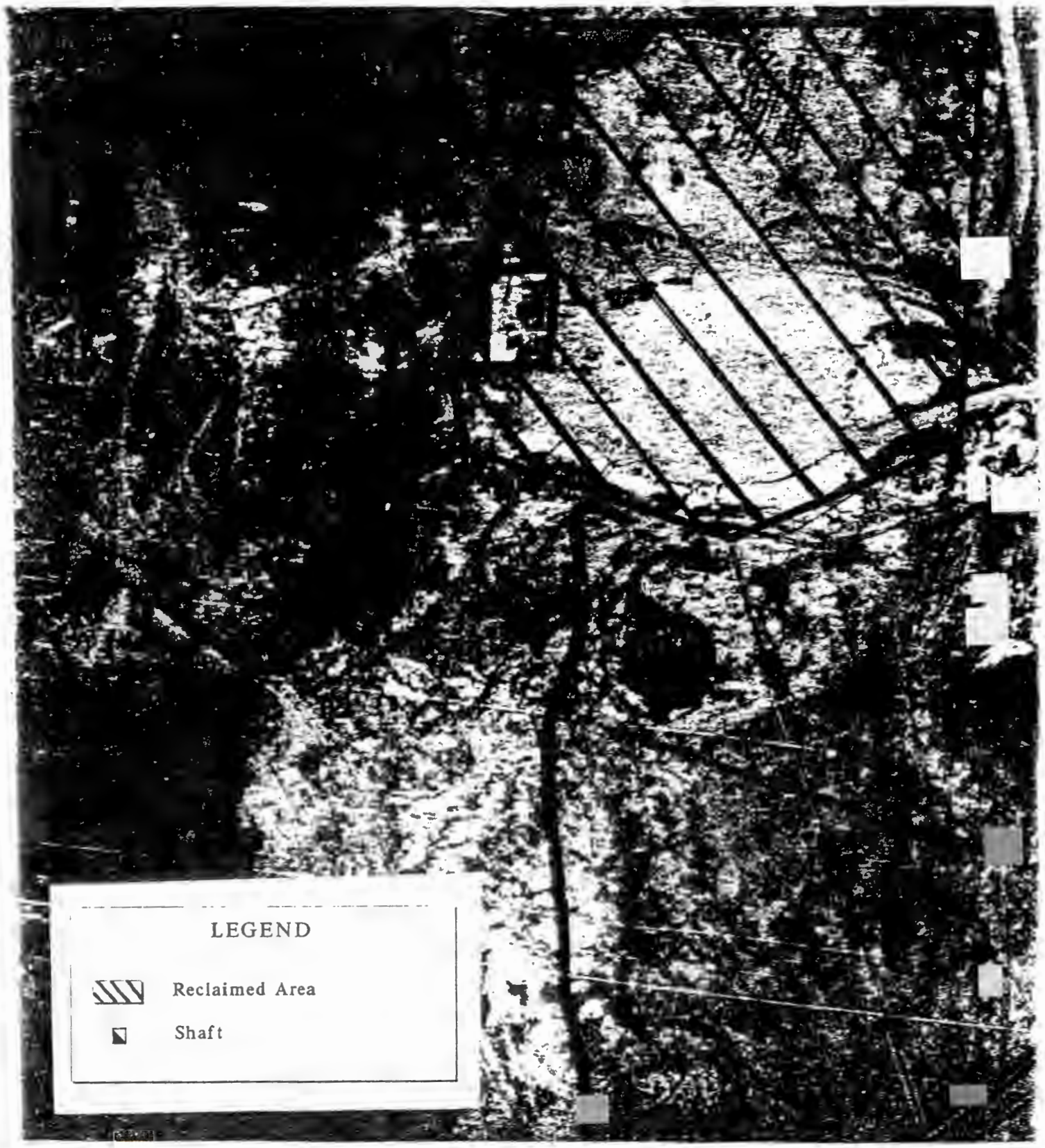
Peter Luthiger
Supervisor, Radiation Safety
and Environmental Affairs

xc: B. Ferdinand
T. Fletcher
file

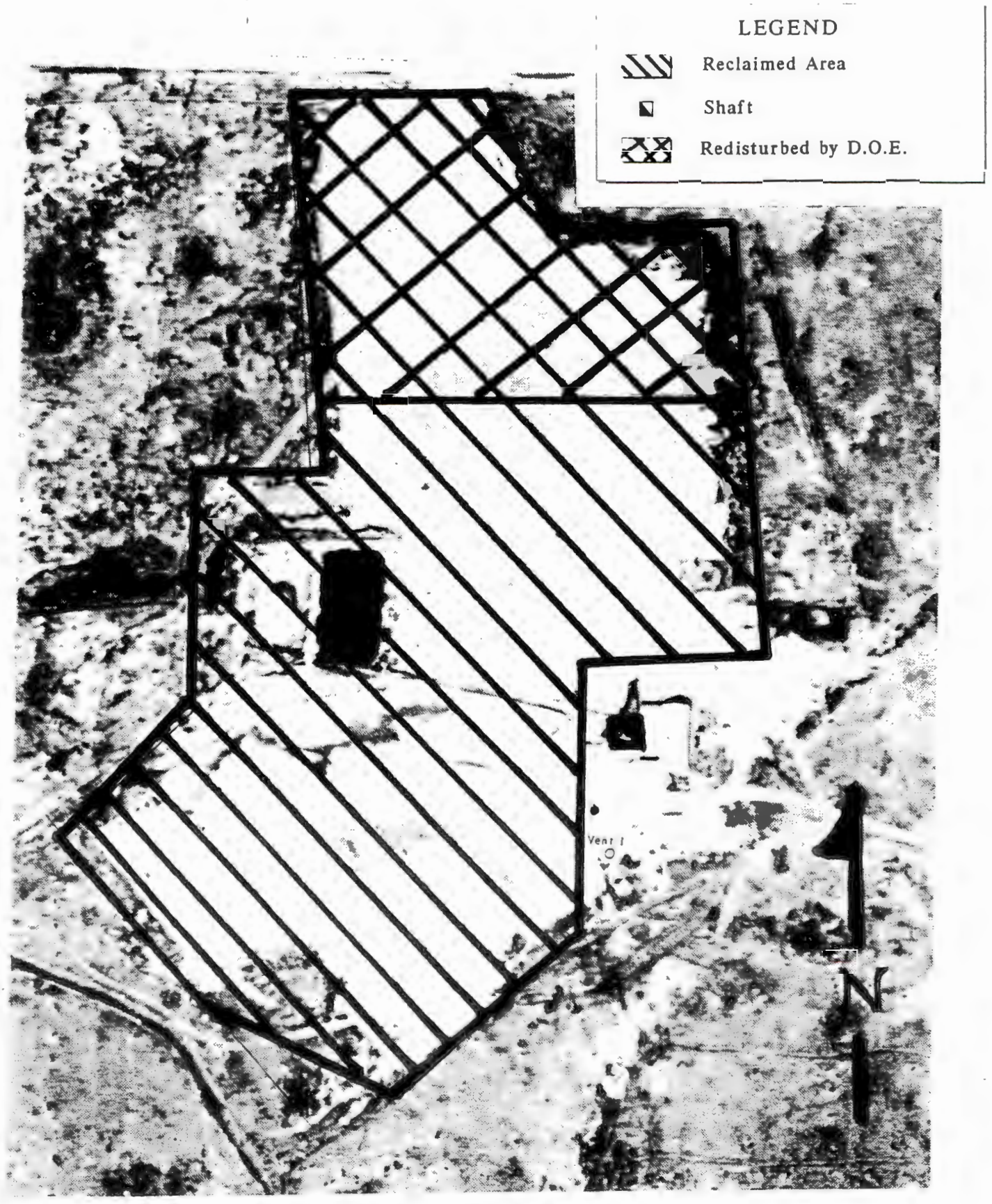
SECTION 17 MINE



SECTION 22 MINE



SECTION 33 MINE



SECTION 36 MINE

Quivira Mining Company

File under Section 17 Maps
for
Paternity Entity

February 14, 1995

Certified Mail
Return Receipt Requested (P 762 964 235)

Mr. Holland Shepherd
Chief, Mining Act Reclamation Bureau
Energy, Minerals and Natural Resources Department
Mining and Minerals Division
2040 South Pacheco
Santa Fe, NM 87505

Re: **Quivira Mining Company**
Prior Reclamation Application

Dear Mr. Shepherd:

In response to your January 22, 1995 request regarding Quivira Mining Company's prior reclamation application, please find attached a map identifying the land sections where the shafts of Quivira's various mining units are located. These units, referred to as Section 17, 19, 22, 24, 30, 30 West, 33, and 36, comprise Quivira's Ambrosia Lake mining operation included within the prior reclamation application. As clearly indicated on the map, these units are all in close proximity to each other and should be treated as a single mining entity.

The legal section, township, and range for these mining units are as follows:

Mining Unit	Specific Location
Section 17	Section 17, T14N, R9W
Section 19	Section 19, T14N, R9W
Section 22	Section 22, T14N, R10W
Section 24	Section 24, T14N, R10W
Section 30	Section 30, T14N, R9W
Section 30 West	Section 30, T14N, R9W
Section 33	Section 33, T14N, R9W
Section 36	Section 36, T14N, R9W

P.O. Box 218, Grants, New Mexico 87020 • (505) 287-8851 • FAX (505) 287-8851 Ext. 295

If you have any questions regarding this information, please do not hesitate to contact me at (505) 287-8851, extension 205.

Regards,

QUIVIRA MINING COMPANY

Peter Luthiger
Supervisor, Radiation Safety
and Environmental Affairs

Attachment: As stated

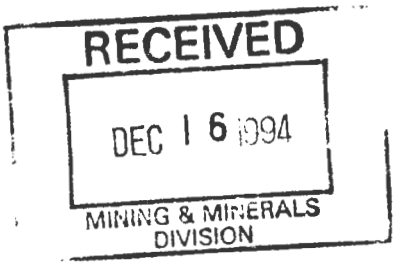
xc: B. Ferdinand
T. Fletcher
file

Quivera
DP-362 Sec. 24, et all
67 Sec. 36
71 Sec. 4 Evap. Ponds
169 Tailings (NRC)
264 Sec. 35 + 36
(mine de...

DP-362 Exp. Oct. 5, 1977
Incl. Sec. 19, 2?, ...
17, 30, 30W, 3...
...

Quivira Mining Company

December 14, 1994



Certified Mail
Return Receipt Requested (762 964 212)

Mr. Holland Shepherd
Chief, Mining Act Reclamation Bureau
Energy, Minerals, and Natural Resources Department
Mining and Minerals Division
2040 South Pacheco
Santa Fe, NM 87505

Re: **Quivira Mining Company**
Prior Reclamation Application

Dear Mr. Shepherd,

Quivira Mining Company is in receipt of the letter dated September 13, 1994 from the Mining and Minerals Division (MMD) regarding the prior reclamation application submitted by Quivira on August 30, 1994.

However, Quivira disagrees with MMDs interpretation of Rule 2.1.I of the Mining Act Regulations that the fee adopted by the New Mexico Mining Commission applies to each mine site. Rule 2.1.I states,

> *"The application fee to determine whether a mine or a portion of a mine qualifies for prior reclamation shall not exceed $250 and shall be determined by the Director based on the estimated cost for investigation and issuance."*

Quivira interprets this as each application submitted for a mine operation requires a $250 fee. Quivira believes this to be the correct interpretation considering other interrelated portions of the Mining Act regulations, specifically Rule 5.2.F. This rule states:

> *"Where physically separate but interrelated mining operations are located in close proximity to each other and are under the control of the same owner or operator, the applicant may request or the Director may determine to issue one permit for all of the operations and require only*

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one permit application and closeout plan."

Additionally, recognizing that Quivira's facilities are either adjacent to or in very close proximity to each other and were operated as a single mining unit, Quivira believes a single application fee for its operation is prudent and justified.

Quivira believes that since its properties meet the requirements as a single operation, and has in fact operated the facilities as a single operation, one fee for the mining unit is applicable. Further, although reclamation has been completed at these sites, a single permit will be sought if, for some reason, Quivira must permit any of these areas. As such, Quivira maintains its position that the proper application fee for the August 30, 1994 prior reclamation application has been submitted to MMD.

Quivira is currently compiling the additional information requested by MMD in order to assist the Director in determining release pursuant to Rule 5.10 of the Mining Act Regulations.

If you have any questions, please contact me at (505) 287-8851, extension 246.

Regards,

QUIVIRA MINING COMPANY

Peter Luthiger
Supervisor, Radiation Safety
and Environmental Affairs

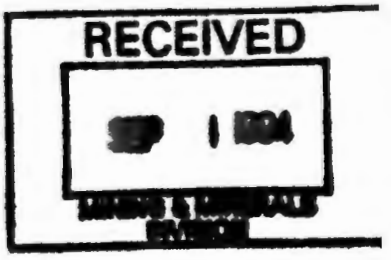
vc: B. Ferdinand
T. Fletcher
M. Freeman
file

Quivira Mining Company

August 30, 1994

Certified Mail
Return Receipt Requested (P 340 643 879)

Mr. Holland Shepherd
Chief, Mining Act Reclamation Bureau
Energy, Minerals and Natural Resources Department
Mining and Minerals Division
2040 South Pacheco
Santa Fe, NM 87505



Re: **Quivira Mining Company**
Prior Reclamation Application

Dear Mr. Shepherd:

Pursuant to Section 5 of the New Mexico Mining Act [NMSA 69-36-5.E] and Rule 5.10.A of the New Mexico Mining Act Rules dated July 12, 1994, Quivira hereby submits this application for prior reclamation and requests approval of the prior reclamation application for the Section 17, 19, 22, 24, 30, 30 West, 33, and 36 mining areas.

In addition to this, please find attached a check in the amount of $250.00 as required by Rule 2.1.I of the New Mexico Mining Act Rules dated July 12, 1994.

Pursuant to Section 7.J of the New Mexico Mining Act [NMSA 1978, 69-36-7.J] and Rule 13.3 of the New Mexico Mining Act Rules dated July 12, 1994, all areas and facilities under the jurisdiction of other federal or state regulatory entities are exempt from regulation by the Mining and Minerals Division under the New Mexico Mining Act and therefore, are not included within this prior reclamation application.

The submittal of this prior reclamation application by Quivira Mining Company does not alter Quivira's contention as presented during the May 12, 1994 New Mexico Mining Commission hearings, that uranium mines may not be subject to the New Mexico Mining Act pursuant to the definition of "Mineral" and/or "Mining" because uranium is a commodity, byproduct material or waste that is regulated by the Nuclear Regulatory Commission (NRC) and/or involves the extraction, processing or disposal of same or of

P.O. Box 218, Grants, New Mexico 87020 • (505) 287-8851 • FAX (505) 287-8851 Ext. 295

activities regulated by NRC; and also because of the extensive federal and state duplicative regulations and preemption of regulatory power over uranium and over the above listed activities. With this submittal, Quivira does not waive or prejudice its position that its operations may be excluded from the applicability of the Act.

If you have any questions, please call me at (505) 287-8851.

Regards,

QUIVIRA MINING COMPANY

Peter Luthiger
Supervisor, Radiation Safety
and Environmental Affairs

Attachment: As stated

xc: B. Ferdinand
T. Fletcher
M. Freeman
file

TO: FIRST NATIONAL BANK OF GRANTS
GRANTS, NEW MEXICO

95-220
1022

QUIVIRA MINING COMPANY
P.O. BOX 218
GRANTS, NEW MEXICO 87020

No. 2556

MO	DAY	YEAR	PAY EXACTLY	DOLLARS	CENTS
08	30	94	**********250******* DOLLARS **00** CENTS	250	00

QUIVIRA MINING COMPANY
GENERAL ACCOUNT

Terry L Fletcher
Kathy J Lovato

TO THE ORDER OF

State of New Mexico
Mining and Minerals Division

[redacted]

PRIOR RECLAMATION INSPECTION

DATE: 9/30

CONDITIONS

3:20 P.M. Waste rock pile reclaimed

SITE: Section 30 W

OPERATOR: Quivira

PRESENT: Terry Fletcher, R. Young

Visual / Belt	on waste pile SE corn. Transect #1	on waste pile/borrow transition Transect #2	ore pile w. side Transect #3	Transect #4
Ager	kosc	kosc	BG	BG
kosc	kosc	kosc	kosc	kosc
BlueGrilia	BG	kosc	Saka	BG
Spcr	kosc	kosc	Ager	LiHa
Orlig	Ager	BG	Saka	BG
on waste pile hole #1 14" to grey waste rock	kosc	kosc	kosc	kosc
Gaillardia	Litter	kosc	Saka	BG
Agsm	Agsm BG	kosc	BG	Saka
Grindellia	BG	kosc	BG	Litter
hole #2 in borrow area clay sand	BG	kosc	Litter	BG
Yel clover	BG	kosc	BG	Spcr
deome	BG	Agsm	BG	BG
hole #3 w. side of orepile 12" sandy mat. to grey	BG	BG	kosc	Saka
Macranthera	kosc	LiHa	BG	Spcr
	BG	Ager	BG	BG
	BG	Agsm	BG	BG
	BG	Agsm	yel. clover	kosc

c:\priorec.tab

roll 2 from waste pile

#10 to N

#11 to E } (roll 2)

#12 to S

#1 (roll 3) to W

#

s	Number cells	Number cells
	85	52

on 30	Section 30W		Section 33	
DIRECTION	CELL	DIRECTION	CELL	DIRECTION
10	40	104	3 ✓	17
250	63 TRANSFORMER	193	11 ✓	332
37	25	193	34 ✓	279
340	9	246	34	226
299	85 SHAFT AREA	221	34	140
333	63	151	15 ✓	12
165	52	322	8 ✓	329
29	32	9	35 ✓	127
147	52	65	X	15
223	48	328	46 ✓	10
253	85	223	39	262
347	62 TRANSFORMER	150	11	335
113	15	238	44	261
100	69	194	26	218
72	2	24	21	257
233	57	357	3	47
119	34	252	26	166
359	11	208	30	59
239	61	301	36	309
81	78	51	3	240
152	80	332	20	233
185	23	223	11	91
338	61	106	37	274
33	33	285	51	330
36	49	220	29	281
209	33	310	41	345
83	52	242	1	6
			43	121

s	Number cells	Number cells
	85	52

on 30	Section 30W	Section 33

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

MINING AND MINERALS DIVISION
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CABINET SECRETARY

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DIVISION DIRECTOR

May 6, 1999

Peter Luthiger
Quivira Mining Company
P.O. Box 218
Grants, NM 87020

Re: Determination on Prior Reclamation Sites Sections 17, 19, 22, 24, 30, 30W and 33

Dear Mr. Luthiger:

In accordance with New Mexico Mining Act (NMMA) § 69-36-7U, and § 510 of the NMMA Rules (Rules), the Mining and Minerals Division has made a decision regarding release of the above sites from further requirements of the NMMA.

In order for a site to be released from further requirements of the NMMA under prior reclamation, the standards set in the NMMA Rules § 510.B must be met. The Rule states, "The director shall release the owner or operator from further requirements of the Act and of this Part if, after an inspection of the reclaimed areas, he determines that the reclamation measures satisfy the requirements of the Act and the substantive requirements for reclamation pursuant to this Part." The substantive requirements for reclamation in Part 5 of the Rules in part can be found in § 506.J.3. which states, "the work to be done will reclaim disturbed areas within the permit area to a condition that allows for re-establishment of a self sustaining ecosystem on the permit area following closure, appropriate for the life zone of the surrounding area..."

Inspections including vegetative sampling have been conducted on 3 different occasions: August 1995, October 1997, and October 1998. A variance was granted in April of 1997 until the end of 1998, to allow more time to for the reclamation efforts to show results because the sites were not deemed releasable in 1997. Each inspection was conducted in the presence of a representative from Quivira Mining Company. A summary report of the August 1995, and October 1997 inspections were sent to your office. The summary report for the October 1998 inspection is attached.

Information from all 3 inspections was taken into account, however the results from the October 1998 inspection were more heavily weighed. The sampling technique used in October 1998 was conducted in accordance with scientifically accepted methodologies. The results were compared to the agreed upon standard that perennial cover in the sample

must average at least 75% of perennial cover from the range site description (RSD) for Sandy WP-2 (see attached). The RSD lists an 18% cover value for grasses and forbs, this would mean the average value for each site sampled must be at least 13.5% cover. The only two sites which met or exceeded this criteria for the October 1998 inspection were Section 30, with a value of 15.3 average percent cover and Section 30W with a value of 14.6 average percent cover for grasses and forbs. In both Section 30 and 30W, Crested Wheatgrass is the dominant grass, which is not necessarily desirable, however, it does provide cover and stability to the site. Four other grass species were observed as well as two shrub species. Considering both vegetative cover and diversity, MMD has determined that a self-sustaining ecosystem is likely to be achieved at both sites. In accordance with the agreed upon cover performance standards set and NMMA Rules, Section 30 and Section 30W are deemed released from further requirements of the N M MA.

The remaining Sections 17, 19, 22, 24, and 33, do not meet the criteria for release (see attached 10/98 report), and therefore will need to be permitted according to Rule 5 of the NMMA. Quivira may opt to incorporate these sections into the Old Stope Leach permit revision for a closeout plan which must be approved by August 30, 1999.

If you are not in agreement with this determination, you have the option of re-sampling Section 19. This site had an average percent cover value within 2 percentage points of meeting the RSD criteria, therefore, there is a reasonable possibility that upon re-sampling, the results may meet the criteria. Section 33 also had results within 2 percentage points of 13.5%, however, the southern portion of the site is in such poor condition that it is not eligible of re-sampling. The sampling must be conducted in accordance with approved sampling methodologies, by an experienced range scientist, and our staff must be given an opportunity to attend the sampling. Our office must be contacted at least 2 weeks prior to sampling dates. Also, proposed sampling methodologies should be provided at that time. You will have until November 1, 1999 to provide your own sampling results to our office for review. If you do not choose to exercise this option or we do not receive sampling results by November 1st, the determination that these sites are not releasable will be deemed a final order.

Your interests and efforts in voluntary reclamation are appreciated. If you have any questions regarding this decision please feel free to call Fernando Martinez at (505) 827-1173.

Sincerely,

Douglas M. Bland
Division Director