0013

CYPRUS
Plateau Mining

Cyprus Plateau Mining Corporation
P.O. Drawer PMC
Price, Utah 84501
(801) 637-2875

Keith H. Sieber
Vice President and General Manager

May 16, 1995

Utah Coal Regulatory Program
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RECEIVED
MAY 18 1995
DIV. OF OIL, GAS & MINING

Attn: Pamela Grubaugh-Littig

Re: 1994 Annual Report

ACT/007/006 #6
Routed to another file

Dear Ms. Grubaugh-Littig:

Enclosed is Cyprus Plateau Mining Corporation's Star Point Mines 1994 Annual Report.

The macroinvertebrate studies performed in 1994 will be forthcoming, once we receive the report from the U.S.Forest Service. Apparently, the gentlemen overseeing the activity has gone to another Forest and his replacement is trying to locate the report for submittal to Cyprus Plateau.

Cyprus Plateau would like to thank the Division for allowing the additional time necessary to complete their Report. If you have any questions, please do not hesitate to contact me.

Sincerely,

Johnny Pappas
Environmental Engineer

Enclosure

File: ENV 2.6.1
ENV 2.5.2.1.8
Chrono: JP950502ltr

COAL MINING AND RECLAMATION OPERATIONS FOR 1994

(Must be submitted to the Division by April 14, 1995)

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
3 Triad Center, Suite 350
355 West North Temple
Salt Lake City, Utah 84180-1203
(801) 538-5340

Permittee: Cyprus Plateau Mining Corp.

Mine Name: Star Point Mines

Mailing Address: P.O. Box PMC

Company Representative: Johnny Pappas

Resident Agent: C.T. Corporation

Permit Number: ACT/007/006

MSHA ID Number: 42-00171

Date of Initial Permanent Program Permit: Jan. 27, 1982

Date of Permit Renewal: Jan. 27, 1992

Quantity of Coal Mined (tonnage) 1994: 3,124,426

Attach Updated Mine Sequence Map(s) showing mine development through December 31, 1994. (Same as Lease Royalty Payment Map and/or MSHA Progress Map)

All monitoring activities during the report period to be submitted with this report (including, but not limited to):

A. General

1. **Discuss anomalies, missing data and monitoring changes made throughout the year.**
2. **Summarize any corrective actions and the results that may have occurred during the year.**

B. Water Monitoring Data:
Groundwater Summary

1. **Mine Discharge**
   a. **Summarize the total annual discharge from mine water discharge points and breakdown on a monthly basis for each site.**
   b. **Discuss the past five years of data comparing changes in discharge. (Include in the discussion elements encountered during the year such as mining rate, location of faults or large in-mine flows during the year.)**
   c. **Discuss trends, if existent, and exceedence in water quality parameters. A correlation with flow could provide additional information.**

CYRPUS-PLATEAU MINING CORPORATION

STAR POINT MINES

1994 ANNUAL RECLAMATION REPORT

Prepared by

IME
P.O. BOX 270
YAMPA, CO 80483

March 8, 1995

INTRODUCTION

This annual reclamation monitoring report is submitted by Cyprus-Plateau Mining Corporation, hereafter referred to as Plateau, in accordance with their approved Mining and Reclamation Plan, which requires that all previously reclaimed sites be monitored during years 1, 2, 3, 5, 9 and 10 following reclamation to determine the relative degree of revegetation success on these areas. The results and interpretation of this monitoring effort are required to be reported in an annual reclamation monitoring report which will be submitted each year to the Utah Division of Oil, Gas and Mining (UDOGM). The specific schedule relative to revegetation monitoring is found in Table 356.100a "Revegetation Monitoring Schedule" found on page 300-153 of the Permit.

This report contains the results of field data collected between August 15, and September 12, 1994, for all areas which required monitoring in 1994. These data were collected by Kent Crofts and Katie Ann Crofts of IME an ecological consulting firm located in Yampa, Colorado. The reclamation monitoring program conducted in 1994 is consistent with previously collected data and with Plateau's presently approved permit.

Plateau has collected reclamation success data on an yearly basis since 1981 from all previously reclaimed sites, the results of which have been annually submitted to the Division. Due to the voluminous nature of this information, it is not practicable to provide a complete comparison of the monitoring results for each site which was evaluated in this monitoring effort. Therefore, in order to completely understand the history and results of the previous reclamation monitoring information the reviewer is referred to these previous submittals. Whenever possible, these previously collected information are compared with the 1994 vegetation data.

SAMPLING METHODOLOGIES

The data collected during the 1994 monitoring effort utilized identical sampling methodologies, equipment, the same principal observer and methods of data collection and analysis used previously and which have been approved by the Division. The only vegetative parameter sampled in 1994 was total plant cover. Due to the similarity of sampling methodologies which have been utilized, Plateau believes that a comparison of the 1994 data with previously collected data is possible to establish trends regarding the successfulness of current and previous vegetation monitoring efforts.

Cover

Plant cover was measured using an included metal ten point frame. Along an outstretched fifty meter transect tape, the ten point frame was randomly located at different intervals using random numbers assigned to the field data forms prior to going to the field. Along each transect, 10 sample sites equaling 100 data points were evaluated. All foliar plant cover less than one meter in height was sampled. At each sample point, the observation was recorded by plant species, or whether litter, rock bare ground, or cryptograms was encountered. Plant material that had dried prior to sampling (such as annuals), but which were a product of the 1994 growing season, was counted as plant cover. Litter was defined as that plant material that had been on the ground or portions of the plant material which had been dead for approximately one year prior to sampling. The one hundred datum points were summarized into a single observation which was used for subsequent data and statistical analysis. At each site sampled, all transects were randomly located with respect to orientation and distance between transects using random numbers generated from a hand held calculator. These random numbers were used to determine orientation corresponding to the major compass headings as well as the interval between transects.

Range Condition

According to the Vegetation Guidelines, it is necessary to resample each approved Reference Area at least every five years to ensure that Range or Ecological Condition corresponds to a "fair" or higher condition class. Range condition estimates are based upon the percent composition of climax plant species growing on a particular Range or Ecological Site. The methodology used to calculate range condition is explained in the SCS National Range Handbook. On each approved Reference Area, plant composition information was evaluated using plant cover as an index of plant species composition. In this evaluation, plant composition determinations were made based upon cover sampling of each Reference Area. At each designated Reference Area, located in the field by means of the permanent steel metal fence posts, five cover transects were taken and the plant species composition of each approved reference area was determined. This sampling size is considerably larger and more quantitative than those utilized by the SCS in their original Range Condition determinations of these sites.

The plant composition data were then compared to the original SCS determinations for these sites. Since some of the SCS Range Condition determinations were originally made on new or as then poorly described range site descriptions, in this evaluation all of the range site determinations were correlated with the most recent information of this area found in the 1988 Soil Survey of the Carbon Area, Utah. This document contains excellent correlations of Range Sites with soils mapping units which was unavailable at the time the original SCS Range Site evaluations were completed in 1981. For example, many of the Range Sites named in the 1981 evaluations are no longer utilized and have been revised and many of the original Range Site names and descriptions are no longer considered valid. In this evaluation the potential climax vegetation of these sites was determined using the most recent descriptions found in the 1988 Soils Survey. Range Condition estimations were made using the allowable species composition limits found in these descriptions

and using the methodologies found in the SCS National Range Handbook. Since the most recent sampling effort conducted on these sites was in connection with the identical monitoring requirements summarized in the 1990 Annual Reclamation Report, the 1994 data where compared with the originally collected data as well as the 1990 data collected from these sites to determine range condition and trend.

Data Analysis

All of the field data were summarized using hand held calculators to determine mean values. Sample adequacy was not determined since this is not a factor used in determining Range Condition in the SCS Range Handbook. The data collected from each reference area were summarized to calculate percent total plant cover, percent species composition and frequency.

RESULTS AND DISCUSSION

Reference Area Range Condition Sampling

The existing range condition classes for each approved reference area for the Plateau Permit Area were resampled and the present range condition determined. The results of this evaluation are presented in the following narrative.

Sagebrush Reference Area

According to the soils mapping found in the 1988 "Soil Survey of Carbon Area, Utah" this site is located in soils mapping unit # 1 which corresponds to the Atrac very fine sandy loam, 1 to 6 percent slopes soil type. Soils in this mapping unit correspond to the Upland Loam (Basin Big Sagebrush) Range Sites.

The Sagebrush Reference Area 1994 sampling yielded a total plant cover of 27.60 percent. This compares with a total plant cover value of 42.1 percent from the 1981 sampling effort and 23.5 percent in 1990. Identical sampling methods and the same observer collected the 1990 and 1994 data. The range condition classes for both the 1981 and 1990 sampling efforts was found to be "fair". The ecological condition index value for 1990 was calculated to equal 27 while the value for 1994 was determined to equal 28. These monitoring data suggest that the ecological condition for this site is remaining steady with perhaps a very slight upward trend.

Mountain Shrub Reference Area

According to the descriptions found in the SCS Soils Survey of the Star Point Mine area, this reference area corresponds to the Doney family soil component of soils mapping unit 28 or Doney -Toze families complex. Soils

pertaining to the Doney family soil correspond to the Mountain Very Steep Loam (Salina Wildrye) Range Site.

Sampling of the Mountain Shrub Reference Area in 1994 resulted in an average total cover value of 36.8 percent. This compares with an average total plant cover of 38.3 percent from the 1990 sampling. The 1981 sampling using a different sampling methodology and observers, resulted in a total plant cover value of 49.1 percent.

No Ecological Condition Class was reported for the 1981 vegetation sampling. The 1990 sampling resulted in an Ecological Condition Class of "good" being assigned to this area. Plant species composition data obtained from the 1994 sampling resulted in an Ecological Condition Class of "good".

The Ecological Condition Index value obtained from the 1990 sampling was 69. The corresponding value obtained from the 1994 sampling was 52. This comparison suggests that Ecological Condition Class has remained somewhat constant although there is some evidence suggesting that there is a downward trend. Of four Mountain Shrub sites sampled by the SCS in 1981, they reported that half were in the "fair" condition class and half were in the "good" condition class. It is possible that the apparent downward trend between the 1990 and the 1994 sampling is explainable more by differences of areas sample rather than changes in precipitation of management.

Douglas Fir Reference Area

According to the SCS Soils Survey of this area, this site corresponds to Toze family soil component of soil mapping unit # 28 which correspond to the Mountain Very Steep Loam (Douglas Fir) Range Site.

Ecological Condition Class for the Douglas Fir Reference Area based

upon the 1994 sampling was found to be in the "fair" condition class with a corresponding Index of 29. The 1990 sampling yield an Index value of 28 which also corresponds to the "fair" condition class. This evaluation suggests that this site has a stable range trend.

Mountain Grassland Reference Area

According to the 1988 SCS Soils Survey of this area, this site corresponds to the Doney family soil portion of soils mapping unit # 28, Doney -Toze families complex. Soils in pertaining to the Doney family soil belong to the Mountain Very Steep Loam (Salina Wildrye) Range Site.

Sampling in 1994 revealed that the Ecological Condition Class for this site was "good" with a corresponding Index value of 51. The 1990 sampling produced data suggesting that the Ecological Condition Class was also "good" with an Index value of 61. This comparison suggests a possible downward trend in the Ecological Class of this site but this variation might be explainable by the dry precipitation year experienced during the 1994 growing season.

Pinyon-Juniper Reference Area

The soils on this reference area site correspond to Gerst soil component of soils mapping unit # 33 or the Gerst-Badland-Rubbleland complex, 15 to 50 percent slopes soil. Gerst soils belong to the Upland Shallow Clay Loam (Utah Juniper-Pinyon) Range Site.

Sampling of the Pinyon Juniper Reference Area in 1994 resulted in a calculated Ecological Index Value of 36 which corresponds to the "fair" Ecological Condition Class. The 1990 sampling of this site resulted in a calculated Ecological Index Value of 33 which also corresponds to the "fair" Ecological Condition Class. Comparison of the Ecological Index Values suggests a stable to slightly downward trend between the two monitoring

periods. This apparent change in trend might be the result of the limited precipitation received during the 1994 growing season.

Saltbush Reference Area

Soils in the vicinity of the Saltbush Reference Area belong to soils mapping unit # 3, the Badland-Rubbleland-Rock outcrop complex. This soils mapping unit per se contains no defined soils or defined Ecological Sites but does include inclusions of Travessilla and Gerst soils. The vegetation pertaining to the Saltbush Reference Area belongs to the Gerst soil type which corresponds to the Semidesert Shallow Clay (Utah Juniper) Range Site.

Vegetation sampling of the Saltbush Reference Area in 1994 resulted in a calculated Ecological Index Value of 55 which corresponds to the "good" Ecological Condition Class. Sampling of this same site in 1990 yielded an Ecological Index Value of 47 which corresponds to the same Ecological Condition Class obtained from the 1994 sampling. These data suggest an improvement in trend for the Saltbush Reference Area.

Corner Canyon Reference Area

This site is located on the Manti-La Sal National Forest and thus is outside of the area covered in the SCS Soils Survey. According to vegetation descriptions found in that document, this site corresponds to the High Mountain Loam (Aspen) Range Site.

When this site was sampled in the fall of 1994 the resulting Ecological Index Value was determined to be 32 which corresponds to the "fair" Ecological Class. When this site was sampled in the summer of 1990 it yielded an Ecological Index Value of 31 which also corresponds to the "fair" Ecological Class. These monitoring data show a stable trend range condition between the 1990 and 1994 monitoring efforts.

Little Park Canyon Reference Area

This site is also located within the boundaries of the Manti-La Sal National Forest and as such is outside of the area covered in the SCS Soils Survey. However, examination of the range site descriptions found in that document establish that this site corresponds to the Mountain Very Steep Stony Loam (Douglas Fir) Range Site.

When this site was sampled in 1991 it was found to belong to the "fair" Ecological Condition Class. The calculations for this value were not recorded on the summary sheet. In 1994 this site was found to yield an Ecological Index Value of 49 which also pertains to the "fair" Ecological Condition Class.

Gentry Mountain Shaft Site Reference Area

This site is also located within the boundaries of the Manti-La Sal National Forest and as such is outside of the area covered in the SCS Soils Survey. However, examination of the range site descriptions found in that document establish that this site corresponds to the Mountain Shallow Loam (Mountain Big Sagebrush) Range Site.

This site was originally sampled on September 11-12, 1992 and during the 1994 sampling effort was sampled on August 15, 1994. The resulting Ecological Index Value obtained from the 1992 sampling was 32 which corresponds to the "fair" Ecological Condition Class while sampling conducted in 1994 yielded and Ecological Index Value of 35 which also corresponds to the "fair" Ecological Class.

DISCUSSION

The Division's Vegetation Guidelines require that all approved reference areas be sampled in five year intervals to document that range condition corresponds to the "fair" or higher condition class. This monitoring effort was conducted to address this requirement.

The results obtained from this monitoring effort when compared with previously collected data collected from these same sites establishes that all of the vegetation reference areas located in the Star Point Mine permit area possess a range condition class of "fair" or higher and thus are still acceptable to serve as comparisons by which revegetation success can be made.

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Cyprus Plateau Mining Corporation
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January 25, 1995

Mr. Wm. J. Malencik, Reclamation Specialist
Division of Oil, Gas, & Mining
Price Field Office
c/o College of Eastern Utah
Price, UT 84501

Re: Permit ACT/007/006
Star Point Access Road Seed Mixture

Dear Mr. Malencik:

Final reclamation of the slide area of the Star Point Access Road has been completed with the following exceptions.

As pointed out by Ms. Susan White, Salina Wildrye, Lewis Flax, Oyster Salsify, and Fourwing Saltbrush, were missing from the seed mixture. Ephedra Nevadensis was substituted for Ephreda viridus. The genus and species for the Mahogany and the Rabbitbrush were not specified on the seed mix tags.

In accordance with the Division's requests: Salina Wildrye, Lewis Flax, and Fourwing Saltbush will be seeded this Fall, if commercially available. Ephedra Nevadensis was substituted for Ephreda viridus. If the seed is not commercially available, we will request that the division approve a substitute species. We will contact the seed provider to identify the genus and species of the Mahogany and Rabbitbrush. The permit will be revised as required to reflect any changes.

If you have any questions or comments, please contact myself or John Pappas at (801)637-2875.

Respectfully,

Lonnie Mills

Lonnie Mills,
Sr. Environmental Engineer

cc: J. Borla
J. Pappas

Post-it™ Fax Note 7671	Date 1-25	# of pages ▶ 1
To Bill Malencik	From Lonnie Mills	
Co./Dept.	Co.	
Phone #	Phone #	
Fax #	Fax #	

C:WP51\DOGM\MALENCIK

area range from 0 to 200 feet in height. The height and length of retained cut slopes will be compatible with existing cliffs in the area.

The retained cut slopes are similar in structural composition to the pre-existing cliffs and slopes in the surrounding area and will be compatible with visual attributes of the area. The surrounding area consists of sandstone cliffs, exposed mancos shale escarpments and talus slopes ranging from 5 percent to vertical. The retained cut slopes will blend with the natural slopes and cliffs.

The cut slopes will be compatible with the geomorphic processes in the area in that they will weather very much like the natural slopes and cliffs. The natural terrain consists of exposed sandstone cliffs formed by erosion processes and talus slopes created by the same processes.

Postmining land use requires that County Road 290 remain after final reclamation. Complete reclamation of the cut slopes would eliminate this road. In order for final reclamation to be consistent with the postmining land use cut slopes will have to be retained.

553.130. SLOPE PROTECTION AND STABILITY.

An analysis of backfilled areas was conducted by Rollins, Brown and Gunnel, Inc., Professional Engineers, to demonstrate that a 1.3 static safety factor could be achieved on reclaimed areas. This analysis is presented in Exhibit 553.130a, Static Safety Factor on Reclaimed Areas Investigation.

All areas to be reclaimed, except the refuse pile, are covered by Exhibit 553.130a. The refuse pile is constructed according to requirements as outlined in Exhibit 528.322a. The pile will be stable at final reclamation and will meet all requirements. See R614-301-528.322.

On May 2, 1994, a portion of Lion Deck portal access failed. See exhibit 553.130b for narratives and stability analysis. As additional measures for slope protection, the road will be sloped, ditched and/or bermed to prevent runoff from discharging onto the slide area. The road will be black-topped and guardrails installed.

553.140. thru 560. PERFORMANCE STANDARDS.

Reclamation is described in R614-301-540. through R614-301-553. All reclamation will conform to the performance standards specified in R615-301-510 through R614-301-553.

been the topic of considerable discussion. The contractor who removed the soil estimated based upon load counts that 269,160 total cubic yards of topsoil were removed and placed into stockpiles and 8,067 cubic yards were placed on the refuse test plot studies. The contractors estimate was countered by surveyed cross sections of the stockpiles which yielded 192,065 cubic yards. PM resolved this difference by using an engineering compaction factor of 0.30.

Published research on the compaction of stockpiled topsoils is rather extensive on this subject. Miller and Cameron (1976) reported that compaction of the topsoil stockpiles averaged 40 percent from the Indian Head Mine in North Dakota. Gee and Bauer (1976) studied 6 topsoil stockpiles at the same mine site. Although they did not collect baseline bulk densities, using the baseline data of Miller and Cameron from this same site, average compaction can be calculated to equal 28.9% with a range of between 0% and 69.5% compaction. These data are presented to show the calculations previously submitted to the Division in connection with the Unit Train Loadout Permit wherein it was estimated that 17 inches of topsoil exists for ultimate reclamation of these sites might well be a conservative estimate. Considering the fact that original estimates apparently under estimated the volume of soil materials that would be recovered from the Refuse Expansion Area and since more topsoil was removed (approximately 277,227 cubic yards) and PM estimates that 65,000 cubic yards remain to be salvaged, it is likely that reclamation can be accomplished much easier than was originally anticipated. Conservative estimates both in the amount of material available for salvage and quantities available for reapplication appear to have been made.

LION DECK PORTAL ACCESS

The reclamation and topsoiling requirements for the Lion Deck Portal Access Road were subjected to intense regulatory review as a result of ten notices of violations issued by the Division and OSM on January 9, 1979. Formal board hearings on June 27, 1979 and July 27, 1979 address the reclamation problems including topsoil removal and reapplication associated with this road. The findings of the Board were submitted to PM on August 8, 1979 and specifically approved a variance from normal topsoil removal and redistribution methods. Therefore, CPMC does not propose to respread topsoil onto any of the acreage disturbed in the construction of this road, except for the area of the disturbed by the landslide that occurred on May 2, 1994. Soil has been imported from the refuse expansion area. See Table 220.200b of the current permit for results of the soil analysis. Revegetation of this area as approved by this Board action will consist of using the resulting cut and fill slope material as a plant growth media.

GENTRY MOUNTAIN AIR SHAFT SITE

Interim reclamation of the air shaft site will take place as soon as the air shaft is completed. Interim reclamation will consist of grading the site to approximate original contour, replacing topsoil over the graded areas, and planting of the disturbed areas with the approved permanent seed mix. The preexisting reclaimed road will be ripped and seeded to restore it to the current condition as of June, 1992 as required by the

Cyprus Plateau Mining Corporation

1994 Sediment Pond Certification

I hereby certify that I am a registered professional engineer in the State of Utah. I certify that I have made an inspection of Sediment Ponds 1 through 9 at Cyprus Plateau Mining Corporation, and that all of the pond embankments appear to be stable and in good physical condition. There are no apparent structural weaknesses or other hazardous conditions at any of the ponds. I certify that I have reviewed the documentation pertaining to Attachment A, and that to the best of my knowledge the information shown thereon is accurate.

John Borla Date: 12-29-94

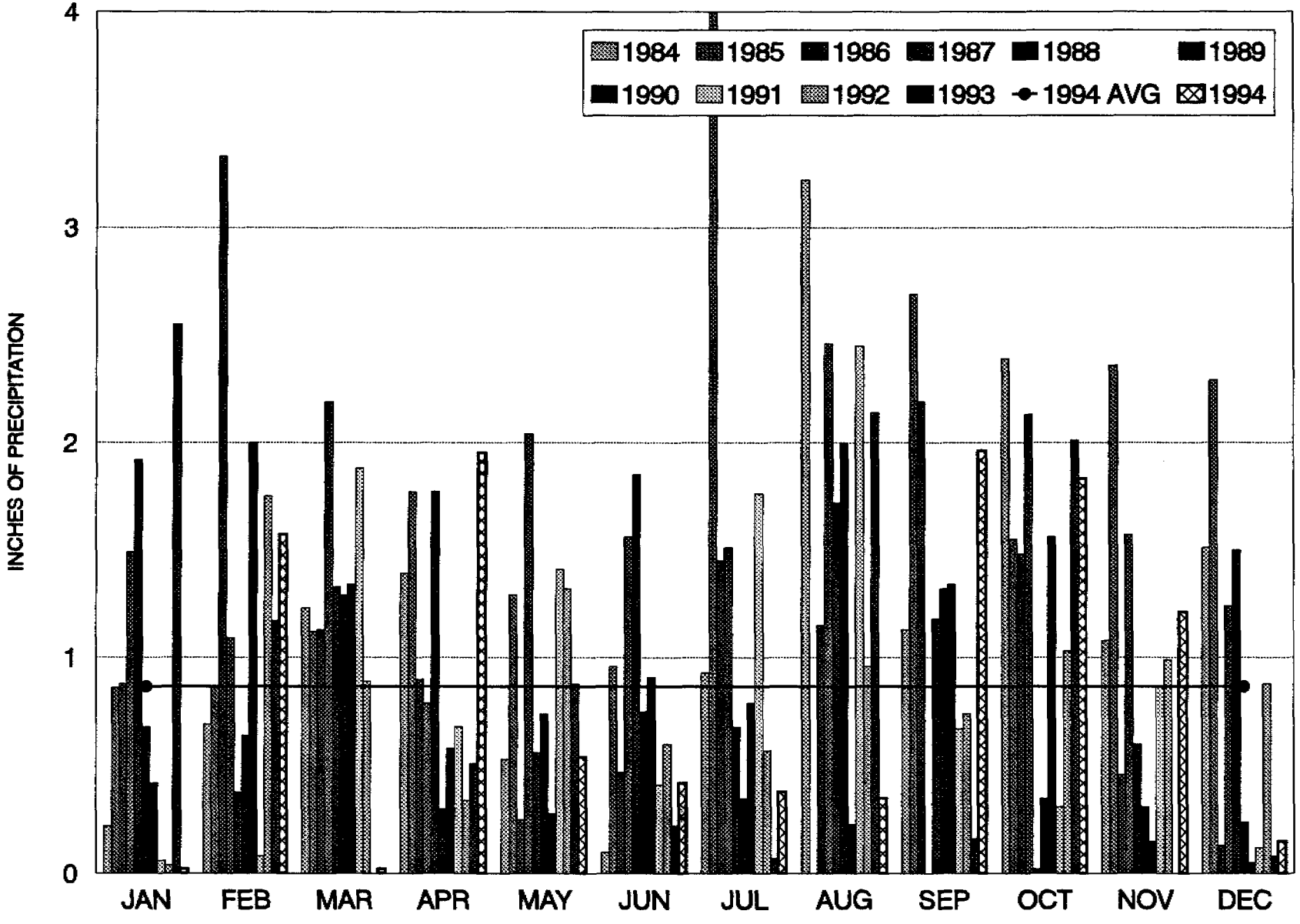
John Borla

REGISTERED PROFESSIONAL ENGINEER
W. JOHN BORLA
No. 172351
STATE OF UTAH

Attachment A
Sediment Ponds Storage Capacities

Pond	Date	Decant Elevation	Depth of Water in Feet From Decant Level	Elevation Of Water	Sediment Storage Capacity in A.F.	Sediment Storage Volume Used in %	Sediment Storage Volume Remaining in A.F.
1	12/23/94	8302.10	.5	8301.6	0.36	45	0.20
2	12/23/94	7718.75	3.0	7715.75	1.92	7	1.79
3	12/23/94	8100.85	4.0	8096.85	1.77	23	1.36
4	12/23/94	7313.00	1	7312.00	0.44	8	0.41
5	12/23/94	7393.00	Dry	DRY	2.42	29	1.72
6	12/23/94	7142.70	1.3	7141.2	0.76	31	0..52
7	12/23/94	7206.00	Dry	Dry	0.04	0	0.04
8	12/23/94	7049.90	0.6	7049.3	1.10	17	0.91
9	12/23/94	7439.30	.5	7438.8	2.02	5	1.92
Wash Plant East	12/23/94	7480.00	.5	7479.5	N/A	N/A	N/A
Wash Plant West	12/23/94	7483.00	0	7483.0	N/A	N/A	N/A
Wash Plant Clear Water	12/23/94	7468.50	1.5	7467.0	N/A	N/A	N/A

Figure 52
PRECIPITATION RECORD



Note: July 1985 Precip was 5.32 inches.