*To enter text, click in the box and type your response. If a box already contains an entry select the entry and type the replacement. You can use the **tab** key to move from one field to the next. To select a check box, click in the box or type an x.*

GENERAL INFORMATION

Permitte Name	Plateau Mining Corporation
Mine Name	Willow Creek Mine
Operator Name (If other then permittee)	
Permit Expiration Date	April 24, 2006
Permit Number	C/007/038
Authorized Representative Title	Johnny Pappas, Sr. Environmental Engineer
Phone Number	(435) 472-4741
Fax Number	(435) 472-4782
E-mail Address	jpappas@rag-american.com
Mailing Address	847 Northwest Highway 191, Helper, Utah 84526
Resident Agent	C.T. Corporation
Resident Agent Mailing Address	50 West Broadway, Salt Lake City, Utah 84101
Number of Binders Submitted	Two

IDENTIFICATION OF OTHER PERMITS

Identify other permits that are required in conjunction with mining and reclamation activities.

Permit Type	ID Number	Description	Expiration Date
MSHA Mine ID(s)	42-02113	Legal Identity	
MSHA Impoundment(s)	1211-UT-09-02113-02	Schoolhouse Canyon Sed. Pond 013	
	1211-UT-09-02113-01	Schoolhouse Canyon Refuse Pile	
NPDES/UPDES Permit(s)	UTG040012		4/30/03
PSD Permit(s) (Air)	DAQE-037-00	Approval Order	

Other

File in:
☐ Confidential
☐ Shelf
☒ Expandable
Refer to Record No 0012 Date 03192002
In C/0070038 2002 Incoming
For additional information

RECEIVED
MAR 20 2002
DIV OF OIL GAS & MINING

0012

OK

PLATEAU MINING CORPORATION

COPY

Willow Creek Mine
847 NW Hwy 191
Helper, Utah 84526
(435) 472-0482
Fax: (435) 472-0486
An affiliate of RAG

March 19, 2002

RECEIVED
MAR 20 2002
DIVISION OF
OIL, GAS AND MINING

Utah Coal Regulatory Program
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

C/007/038

Attention: Pamela Grubaugh-Littig

RE: Submittal of Annual Report for 2001, Plateau Mining Corporation, Willow Creek Mine, C/007/038, Carbon County, Utah

Dear Ms. Grubaugh-Littig:

Enclosed please find two copies of the aforementioned. If you have any questions, please do not hesitate to contact me at (435) 472-4741.

Sincerely,

Johnny Pappas
Sr. Environmental Engineer

Enclosures

File: WCENV 2.5.2.1.8
Chrono: JP020306.LTR

File in:
C0070038 2002 Incoming
Refer to:
☐ Confidential
☐ Shelf
☒ Expandable
Date: 03/19/2002
For additional information

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and udder the approved plan that must be periodically submitted t the Division. Specify whether the information is included as Appendix A to this report or currently on file with the Division.

Certified Reports:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On File	
Excess Spoil Piles	☐	☒	☐	☐	
Refuse Piles	☒	☐	☒	☐	
Impoundments	☒	☐	☒	☐	
Other					
	☐	☐	☐	☐	
	☐	☐	☐	☐	

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan, which must be periodically submitted to the Division. Specify whether the information is included as Appendix B to this report or currently on file with the Division.

Technical Data:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On file	
Climatological	☐	☒	☐	☐	
Subsidence Monitoring	☒	☐	☒	☐	
Vegetation Monitoring	☒	☐	☒	☐	Phase III release for Crandal Leach Field
Raptor Survey	☐	☒	☐	☐	No likelihood of impact due to no mining
Soils Monitoring	☐	☒	☐	☐	
Water Monitoring	☒	☐	☐	☒	On Division data base
First quarter	☒	☐	☐	☒	
Second quarter	☒	☐	☐	☒	
Third quarter	☒	☐	☐	☒	
Fourth quarter	☒	☐	☐	☒	
Geological / Geophysical	☐	☒	☐	☐	
Engineering	☐	☒	☐	☐	
Other Data					
	☐	☐	☐	☐	
	☐	☐	☐	☐	
	☐	☐	☐	☐	
	☐	☐	☐	☐	

LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

Change in administration or corporate structure can often bring about necessary changes to information found in the mining and reclamation plan. The Division is Requesting that each permittee review and update the legal, financial, compliance and related information in the plan as part of the annual report. Provide the department of Commerce, annual Report of Officers, or other equivalent information as necessary to ensure that the information provided in the plan is current. Provide any other change as necessary

regarding land ownership, lease acquisitions, legal results from appeals of violations, or other changes as necessary to update information required in the mining and reclamation plan. Include and certified financial statements, audits or worksheets which may be required to meet bonding requirements. Specify whether the information is currently on file with the Division or included as Appendix C to the report.

Legal / Financial Update	**Required**		**Included or on File with DOGM**		**Comments**
	Yes	No	Included	On file	
Department of Commerce, Annual Report Officers	☒	☐	☒	☐	
Other					
	☐	☐	☐	☐	
	☐	☐	☐	☐	
	☐	☐	☐	☐	

MINE MAPS

Copies of mine maps, current and up-to-date through at least December 31, 2001, are to be provided to the Division as Appendix D to this report in accordance with the requirements of R 645-301-525.270. These map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Upon request, the Division shall keep mine maps confidential.

Map Number(s)	**Map Title/ Description**	**Confidential** Yes	No
No new maps	Mining has not been conducted since July 31, 2000	☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

OTHER INFORMATION

Please provide any comments of further information to be included as part of the Annual Report. Any other attachments are to be provided as Appendix E to this report. If information is submitted as a group rather then by individual mine, please identify each of the mine's data in the list below.

Additional attachment to this report? **Yes** ☐ **No** ☒

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

As required under R645-301-514

Plateau Mining Corporation
Quarterly Refuse Pile Certification
Willow Creek Mine
First Quarter 2001

I hereby certify that I am a registered professional engineer in the State of Utah. I certify that I have made an inspection of the coal processing refuse pile at the Plateau Mining Corporations' Willow Creek Mine in Carbon County Utah. To the best of my knowledge the refuse pile has been constructed and maintained as designed. There are no apparent areas of instability, structural weakness or other hazardous conditions.

W. John Borla Date: 3/30/01
W. John Borla

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

Plateau Mining Corporation
Quarterly Refuse Pile Certification
Willow Creek Mine
Second Quarter 2001

I hereby certify that I am a registered professional engineer in the State of Utah. I certify that I have made an inspection of the coal processing refuse pile at the Plateau Mining Corporations' Willow Creek Mine in Carbon County Utah. To the best of my knowledge the refuse pile has been constructed and maintained as designed. There are no apparent areas of instability, structural weakness or other hazardous conditions.

W. John Borla Date: 7/9/01
W. John Borla

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

Plateau Mining Corporation
Quarterly Refuse Pile Certification
Willow Creek Mine
Third Quarter 2001

I hereby certify that I am a registered professional engineer in the State of Utah. I certify that I have made an inspection of the coal processing refuse pile at the Plateau Mining Corporations' Willow Creek Mine in Carbon County Utah. To the best of my knowledge the refuse pile has been constructed and maintained as designed. There are no apparent areas of instability, structural weakness or other hazardous conditions.

W. J. Borla Date: 10-13-01
W. John Borla

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

Plateau Mining Corporation
Quarterly Refuse Pile Certification
Fourth Quarter, 2001

I hereby certify that I am a Registered Professional Engineer in the State of Utah. I certify that I have made an inspection of the coal processing refuse pile at Plateau Mining Corporation's Willow Creek Mine in Carbon County Utah. To the best of my knowledge and belief, the refuse pile has been constructed and maintained as designed. There are no apparent areas of instability, structural weakness or other hazardous conditions. The refuse pile is currently not being use for disposal.

W. John Borla

W. John Borla

Date: 11/20/01

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

Plateau Mining Corporation

2001 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 at Plateau Mining Corporation's Willow Creek Mine. All of the pond embankments appear to be stable and in good physical condition. There are no apparent structural weaknesses or other hazardous conditions. 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.

W. John Borla

W. John Borla

Date: 12/19/01

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

Attachment A
Sediment Ponds Storage Capacities

Pond	Date	Decant Elevation	Sediment Storage Capacity in A.F.	Sediment Storage Volume Used in %	Sediment Storage Volume Remaining in A.F.
1	11/15/01	6163.7	4.6	30	3.22
2	11/15/01	6154.8	0.052	5	0.049
10*	11/15/01	94.6	0.017	20	0.014
11	11/11/01	6140.7	0.35	50	0.17
12A	11/15/01	6103.6	0.64	25	0.48
12B	11/15/01	6095.05	0.35	35	0.23
13	11/15/01	6205.0	3.14	45	1.74
14*	11/15/01	95.3	0.72	30☆	0.50
15*	11/15/01	98.2	0.45	10	0.41

*Elevation relative to open spillway elevation of 100.0.

☆Based on estimate due to water in the pond.

APPENDIX B

Reporting of Technical Data

Including monitoring data, reports, maps, and other information
As required under the approved plan or as required by the Division

In accordance with the requirement of R645-310-130 and R645-301-140

SUBSIDENCE MONITORING REPORT
2001
WILLOW CREEK MINE
C/007/038

Plateau Mining Corporation
847 NW HWY 191
Helper, Utah 84526

2001 SUBSIDENCE MONITORING REPORT
WILLOW CREEK MINE
C/007/038

INTRODUCTION

The Willow Creek Mine is owned and operated by Plateau Mining Corporation (PMC). The mine is located approximately 4 miles North of Helper, Utah, at the extreme northwest end of the Book Cliffs Coal Field. Mining commenced in the Fall of 1996 with continuous mining equipment. Longwall mining began in mid-1998 and continued until November of 1998, at which time the mine experienced a fire at its D-1 longwall panel forcing the sealing of the mine.

Longwall mining began with the D-2 panel in the Fall of 1999, and continued until July 31, 2000, when the mine experience another fire at its D-3 panel. The mine was again sealed and no mining has occurred since then. During the Fall of 2001, the mine was ventilated, but no mining occurred.

MONITORING

Subsidence monitoring was conducted in 2001 on the area overlaying the longwalled panels. The data shows no subsidence has occurred over the area due to mining. Subsequent monitoring of the control points that exhibited slight movement in prior years, show no subsidence. Control locations can be seen on Drawing 1 in the 2000 Annual Report.

Monitoring will be conducted in 2002 on the land overlaying the longwalled panels. This data will be compared to prior data to further substantiate whether or not subsidence has occurred.

Table 1

Willow Creek Subsidence Monitoring Report

Point No.	See Note	Northing 1997	Northing 1998	Northing 1999	Northing 2000	Northing 2001	Easting 1997	Easting 1998	Easting 1999	Easting 2000	Easting 2001	Elevation 1997	Elevation 1998	Elevation 1999	Elevation 2000	Elevation 2001	Difference in Subsidence 1st Year	Differenece in Subsidence 2nd Year	Differenece in Subsidence 3rd Year	Difference in Subsidence 4th Year	Difference in Northing 1st Year	Difference in Northing 2nd Year	Difference in Northing 3rd Year	Difference in Northing 4th Year	Difference in Easting 1st Year	Difference in Easting 2nd Year	Difference in Easting 3rd Year	Difference in Easting 4th Year
SS-CON-1		522,620.59	522,620.59	522,620.59			2,178,659.27	2,178,659.27	2,178,659.27			8,454.68	8,454.68	8,454.68														
MAT		535,667.74	535,667.74	535,667.74			2,181,889.15	2,181,889.15	2,181,889.15			7,454.05	7,454.05	7,454.05														
GENE		523,471.06	523,471.06	523,471.06			2,191,540.98	2,191,540.98	2,191,540.98			8,270.31	8,270.31	8,270.31														
EAST		510,457.12	510,457.12	510,457.12			2,183,503.59	2,183,503.59	2,183,503.59			6,404.55	6,404.55	6,404.55														
BC-1		510,968.15	510,968.15	510,968.15			2,176,438.10	2,176,438.10	2,176,438.10			6,164.78	6,164.78	6,164.78														
BARN		510,795.10	510,795.10	510,795.10			2,177,679.20	2,177,679.20	2,177,679.20			6,266.66	6,266.66	6,266.66														
CPSS-A1		522,745.86					2,187,566.89					8,197.40																
CPSS-A2		521,671.73					2,187,569.75					8,193.80																
CPSS-A3		520,768.74					2,187,896.03					8,066.11																
CPSS-A4		519,860.97					2,187,988.46					7,912.53																
CPSS-A5		519,011.36					2,187,610.47					7,916.46																
CPSS-A6		517,930.91					2,187,299.45					7,612.88																
CPSS-B1		522,746.92			522,746.86	522,746.92	2,183,319.13			2,183,319.73	2,183,319.56	8,436.73			8,436.26	8,436.73												
CPSS-B2		522,159.43	522,159.33		522,159.33	522,159.43	2,183,398.56	2,183,398.54		2,183,399.08	2,183,398.56	8,405.47	8,405.40		8,405.06	8,405.45												
CPSS-B3		521,609.07	521,608.90		521,608.78	521,609.07	2,183,159.40	2,183,159.36		2,183,159.87	2,183,159.40	8,333.67	8,333.55		8,333.30	8,333.64												
CPSS-B4		521,163.03	521,162.96		521,163.03	521,163.03	2,182,946.10	2,182,945.99		2,182,946.10	2,182,946.10	8,311.86	8,311.76		8,311.86	8,311.85												
CPSS-B5		520,975.93	520,975.93	520,975.71	520,975.64	520,975.93	2,183,005.23	2,183,005.23	2,183,005.32	2,183,005.30	2,183,005.23	8,241.87		8,241.83	8,241.64	8,241.24												
CPSS-B6		520,793.89	520,793.76		520,793.55	520,793.89	2,183,045.26	2,183,045.19		2,183,045.69	2,183,045.26	8,173.15	8,173.11		8,172.82	8,173.12												
CPSS-B7		520,576.29	520,576.11	520,575.99	520,575.94	520,576.18	2,183,093.01	2,183,093.02	2,183,093.09	2,183,093.01	2,183,092.89	8,155.94	8,155.90	8,155.90	8,155.77	8,155.92												
CPSS-B8		520,393.19	520,393.01	520,392.88	520,393.05	520,393.25	2,183,067.84	2,183,067.87	2,183,067.90	2,183,067.90	2,183,067.78	8,138.52	8,138.51	8,138.54	8,138.17	8,138.42												
CPSS-B9		520,193.59	520,193.46	520,193.30	520,193.24	520,193.49	2,183,013.81	2,183,013.83	2,183,013.85	2,183,013.79	2,183,013.76	8,141.51	8,141.46	8,141.48	8,141.33	8,141.50												
CPSS-B10		520,106.34	520,106.18		520,105.95	520,106.31	2,182,977.42	2,182,977.45		2,182,977.39	2,182,977.42	8,150.56	8,150.49		8,150.32	8,150.56												
CPSS-B11		520,016.74	520,016.61	520,016.51	520,016.39	520,016.72	2,182,929.89	2,182,929.88	2,182,929.95	2,182,929.87	2,182,929.88	8,149.32	8,149.24	8,149.28	8,149.06	8,149.31												
CPSS-B12		519,919.33	519,919.21		519,918.93	519,919.33	2,182,896.04	2,182,896.03		2,182,896.00	2,182,896.02	8,127.35	8,127.28		8,127.05	8,127.34												
CPSS-B13		519,838.92	519,838.82		519,838.59	519,838.91	2,182,833.93	2,182,833.92		2,182,834.43	2,182,833.93	8,131.04	8,130.86		8,130.51	8,131.04												
CPSS-B14		519,743.12	519,743.00		519,743.19	519,743.13	2,182,808.51	2,182,808.54		2,182,808.59	2,182,808.52	8,113.12	8,113.06		8,112.93	8,113.11												
CPSS-B15		519,652.71	519,652.50		519,652.22	519,472.58	2,182,779.76	2,182,779.76		2,182,779.65	2,182,779.58	8,099.64	8,099.64		8,099.35	8,099.53												
CPSS-B16	**	519,554.72	519,554.47				2,182,757.62	2,182,757.59				8,082.02	8,082.14															
CPSS-B16	**				519,593.39					2,182,737.18					8,083.48													
CPSS-B17	**	519,458.86	519,458.65				2,182,686.73	2,182,686.74				8,075.27	8,075.22															
CPSS-B17	**				519,425.02					2,182,661.43					8,076.59													
CPSS-B18		519,348.31	519,348.11		519,347.76	519,348.13	2,182,661.62	2,182,661.70		2,182,661.66	2,182,661.51	8,065.87	8,065.73		8,065.32	8,065.67												
CPSS-B19		519,244.50	519,244.26	519,244.08	519,244.00	519,244.50	2,182,643.37	2,182,643.44	2,182,643.47	2,182,643.32	2,182,643.37	8,066.37	8,066.28	8,066.22	8,065.81	8,066.25												
CPSS-B20		519,159.92		LOST			2,182,646.53		LOST			8,068.32		LOST														
CPSS-B20			519,184.61		519,184.69	519,184.80		2,182,647.64		2,182,647.65	2,182,647.51		8,069.88		8,069.55	8,069.73												
CPSS-B21		519,068.94		LOST			2,182,681.82		LOST			8,075.41		LOST														
CPSS-B21			519,064.46		519,064.07	519,064.38		2,182,649.74		2,182,649.63	2,182,649.51		8,073.55		8,073.27	8,073.44												
CPSS-B22	**	518,979.74	518,979.62				2,182,676.51	2,182,676.47				8,088.31	8,088.18															
CPSS-B22	**				519,018.17	519,018.47				2,182,671.32	2,182,670.87				8,085.65	8,086.24												
CPSS-B23	**	518,872.98	518,872.76				2,182,691.75	2,182,691.87				8,094.70	8,094.31															
CPSS-B23	**				518,807.31					2,182,676.24					8,105.25													
CPSS-B24		518,770.62	518,770.52		518,770.13	518,770.39	2,182,690.49	2,182,690.52		2,182,690.52	2,182,690.35	8,118.15	8,118.07		8,117.07	8,117.80												
CPSS-B25		518,643.00	518,642.92	518,642.68	518,642.35	518,642.74	2,182,708.90	2,182,708.88	2,182,708.90	2,182,708.92	2,182,708.80	8,147.81	8,147.73	8,147.98	8,147.21	8,147.74	-0.08	0.17	-0.60	-0.07	-0.08	-0.32	-0.65	-0.26	-0.02	0.00	0.02	-0.10

Table 1

Willow Creek Subsidence Monitoring Report

Point No.	See Note	Northing 1997	Northing 1998	Northing 1999	Northing 2000	Northing 2001	Easting 1997	Easting 1998	Easting 1999	Easting 2000	Easting 2001	Elevation 1997	Elevation 1998	Elevation 1999	Elevation 2000	Elevation 2001	Difference in Subsidence 1st Year	Differenece in Subsidence 2nd Year	Differenece in Subsidence 3rd Year	Difference in Subsidence 4th Year	Difference in Northing 1st Year	Difference in Northing 2nd Year	Difference in Northing 3rd Year	Difference in Northing 4th Year	Difference in Easting 1st Year	Difference in Easting 2nd Year	Difference in Easting 3rd Year	Difference in Easting 4th Year
CPSS-B26		518,558.36	518,558.13	518,557.69	518,557.71	518,558.08	2,182,713.22	2,182,713.22	2,182,713.43	2,182,713.49	2,182,713.05	8,161.52	8,161.24	8,161.45	8,160.56	8,161.33	-0.28	-0.07	-0.96	-0.19	-0.23	-0.67	-0.65	-0.28	0.00	0.21	0.27	-0.17
CPSS-B27		518,487.68	518,487.49		518,487.21	518,487.50	2,182,763.51	2,182,763.54		2,182,763.95	2,182,763.39	8,165.95	8,165.85		8,165.27	8,165.68	-0.10		-0.68	-0.27	-0.19		-0.47	-0.18	0.03		0.44	-0.12
CPSS-B28		518,390.47	518,390.27	518,390.06	518,389.93	518,390.25	2,182,799.71	2,182,799.85	2,182,799.68	2,182,799.59	2,182,799.59	8,174.71	8,174.68	8,174.64	8,174.29	8,174.51	-0.03	-0.07	-0.42	-0.20	-0.20	-0.41	-0.54	-0.22	0.14	-0.03	-0.12	-0.12
CPSS-B29		518,278.45	518,278.25	518,278.03	518,277.83	518,278.08	2,182,835.74	2,182,835.88	2,182,835.84	2,182,835.66	2,182,835.65	8,183.00	8,182.94	8,182.79	8,182.63	8,182.88	-0.06	-0.21	-0.37	-0.12	-0.20	-0.42	-0.62	-0.37	0.14	0.10	-0.08	-0.09
CPSS-B30		518,087.41	518,087.18	518,086.67	518,086.99	518,087.10	2,182,878.18	2,182,878.20	2,182,878.42	2,182,878.77	2,182,877.98	8,182.00	8,181.95	8,182.26	8,181.17	8,181.88	-0.05	0.26	-0.83	-0.12	-0.23	-0.74	-0.42	-0.31	0.01	0.24	0.59	-0.20
CPSS-B31		517,962.54	517,962.37	517,961.81	517,962.08	517,962.31	2,182,752.82	2,182,752.88	2,182,753.06	2,182,753.37	2,182,752.62	8,139.22	8,139.14	8,139.41	8,138.36	8,139.03	-0.08	0.19	-0.86	-0.19	-0.17	-0.73	-0.46	-0.23	-0.14	0.24	0.55	-0.20
CPSS-B32		517,780.02	517,779.87	517,780.14	517,780.02	517,779.79	2,182,683.40	2,182,683.27	2,182,683.12	2,182,683.11	2,182,683.17	8,120.42	8,120.35	8,120.15	8,120.00	8,120.29	-0.07	-0.27	-0.42	-0.13	-0.15	0.12	0.00	-0.23	-0.13	-0.28	-0.29	-0.23
CPSS-B33	**	517,608.46	517,608.39				2,182,587.51	2,182,587.46				8,119.37	8,119.35				-0.02				-0.07				-0.05			
CPSS-B33	**				517,686.32	517,686.58				2,182,629.60	2,182,629.21				8,121.97	8,122.62		0.65				0.26				-0.39		
CPSS-B34	**	517,440.39	517,440.35				2,182,472.81	2,182,472.81				8,120.68	8,120.69				0.01				-0.04				0.00			
CPSS-B34	**				517,548.53	517,548.74				2,182,558.87	2,182,558.35				8,125.65	8,126.36		0.71				0.21				-0.52		
CPSS-B35		517,243.54	517,243.54	517,242.87	517,243.57	517,243.33	2,182,385.82	2,182,385.82	2,182,385.93	2,182,385.45	2,182,385.62	8,130.64	8,130.64	8,130.49	8,130.18	8,130.56	0.00	-0.15	-0.46	-0.08	0.00	-0.67	0.03	-0.21	0.00	0.11	-0.37	-0.20
CPSS-B36		517,096.27	517,096.29	517,095.51	517,095.76		2,182,271.11	2,182,271.11	2,182,271.24	2,182,271.00		8,165.39	8,165.40	8,165.20	8,164.98		0.01	-0.19	-0.41		0.02	-0.76	-0.51		0.00	0.13	-0.11	
CPSS-B37	*	516,895.56	516,895.54				2,182,190.05	2,182,190.06				8,170.19	8,170.18				-0.01				-0.02				0.01			
CPSS-B37	*			516,906.85	516,906.79				2,182,208.01	2,182,207.96				8,163.78	8,163.71			-0.07				-0.06				-0.05		
CPSS-B38	**	516,694.75	516,832.61				2,182,170.65	2,182,121.59				8,175.99	8,176.36				0.36				137.86				-49.06			
CPSS-B38	**				516,732.72					2,182,172.78					8,185.06													
CPSS-B39		516,515.56	516,515.35	516,515.70	516,515.60	516,515.38	2,182,157.41	2,182,157.24	2,182,157.19	2,182,157.27	2,182,157.34	8,160.19	8,160.03	8,160.05	8,160.06	8,160.19	-0.16	-0.14	-0.13	0.00	-0.21	0.14	0.04	-0.18	-0.17	-0.22	-0.14	-0.07
CPSS-B40		516,426.35	516,426.20	516,426.45	516,426.33	516,426.35	2,182,131.32	2,182,131.22	2,182,131.16	2,182,131.16	2,182,131.32	8,142.62	8,142.50	8,142.47	8,142.44	8,142.62	-0.12	-0.15	-0.18	0.00	-0.15	0.10	-0.02	0.00	-0.10	-0.16	-0.16	0.00
CPSS-B41		516,330.44	516,330.40	516,330.50	516,330.43	516,330.44	2,182,107.58	2,182,107.55	2,182,107.44	2,182,107.44	2,182,107.58	8,124.84	8,124.74	8,124.67	8,124.53	8,124.83	-0.10	-0.17	-0.31	-0.01	-0.04	0.06	-0.01	0.00	-0.03	-0.14	-0.14	0.00
CPSS-B42		516,216.10	516,216.07	516,216.21	516,216.13	516,216.10	2,182,097.77	2,182,097.74	2,182,097.58	2,182,097.69	2,182,097.77	8,113.93	8,113.90	8,113.90	8,113.77	8,113.92	-0.03	-0.03	-0.16	-0.01	-0.03	0.11	0.03	0.00	-0.03	-0.19	-0.08	0.00
CPSS-B43		516,134.90	516,134.87	516,135.07	516,134.93	516,134.90	2,182,099.32	2,182,099.26	2,182,099.16	2,182,099.18	2,182,099.32	8,116.09	8,116.04	8,115.97	8,115.88	8,116.08	-0.05	-0.12	-0.21	-0.01	-0.03	0.17	0.03	0.00	-0.06	-0.14	-0.14	0.00
CPSS-B44		516,036.19	516,036.08	516,035.31	516,035.64	516,036.19	2,182,101.33	2,182,101.29	2,182,101.45	2,182,101.84	2,182,101.33	8,120.72	8,120.70	8,120.51	8,120.23	8,120.70	-0.02	-0.21	-0.49	-0.02	-0.11	-0.88	-0.55	0.00	-0.04	0.12	0.51	0.00
CPSS-B45		515,928.14	515,928.07	515,927.35	515,927.71	515,928.14	2,182,127.54	2,182,127.50	2,182,127.46	2,182,128.09	2,182,127.54	8,128.41	8,128.38	8,128.24	8,128.08	8,128.40												
CPSS-B46		515,838.21	515,838.17	515,838.10	515,838.01	515,838.21	2,182,141.47	2,182,141.40	2,182,141.33	2,182,141.38	2,182,141.47	8,141.88	8,141.75	8,141.67	8,141.61	8,141.86												
CPSS-B47		515,728.20	515,728.14		515,727.79	515,728.20	2,182,184.80	2,182,184.71		2,182,185.45	2,182,184.80	8,163.66	8,163.64		8,163.15	8,163.65												
CPSS-B48		515,647.43	515,647.40			515,647.43	2,182,171.32	2,182,171.28			2,182,171.32	8,144.15	8,144.06			8144.14												
CPSS-B49		515,533.30	515,533.22	515,533.20	515,533.18	515,533.30	2,182,160.85	2,182,160.80	2,182,160.74	2,182,160.79	2,182,160.85	8,150.65	8,150.60	8,150.38	8,150.47	8,150.63												
CPSS-B50		515,451.22	515,451.19	515,450.38	515,450.67	515,451.22	2,182,129.57	2,182,129.55	2,182,129.68	2,182,130.22	2,182,129.57	8,154.35	8,154.31	8,153.65	8,154.23	8,154.33												
CPSS-B51		515,387.79			515,387.42	515,387.79	2,182,047.28			2,182,047.91	2,182,047.28	8,159.28			8,158.81	8,159.25												
CPSS-B52		515,329.12			515,328.64	515,329.12	2,181,969.90			2,181,970.68	2,181,969.90	8,153.27			8,152.86	8,153.25												
CPSS-B53		515,229.58					2,181,931.85					8,113.66																
CPSS-B54		515,154.24					2,181,909.79					8,084.73																
CPSS-B55		515,055.67					2,181,915.75					8,049.67																
CPSS-B56		514,951.17					2,181,895.69					8,024.18																
CPSS-B57		514,863.31					2,181,846.10					8,011.35																
CPSS-B58		514,793.73					2,181,821.30					7,995.47																
CPSS-B59		514,679.96					2,181,769.76					7,959.38																
CPSS-B60		514,605.34			514,604.69		2,181,721.61			2,181,721.76		7,925.65			7,925.35													
CPSS-B61		514,514.83					2,181,694.47					7,871.72																
CPSS-B62		514,424.47			514,423.93		2,181,654.82			2,181,655.01		7,870.80			7,870.42													

Table 1

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Point No.	See Note	Northing 1997	Northing 1998	Northing 1999	Northing 2000	Northing 2001	Easting 1997	Easting 1998	Easting 1999	Easting 2000	Easting 2001	Elevation 1997	Elevation 1998	Elevation 1999	Elevation 2000	Elevation 2001	Difference in Subsidence 1st Year	Differenece in Subsidence 2nd Year	Differenece in Subsidence 3rd Year	Difference in Subsidence 4th Year	Difference in Northing 1st Year	Difference in Northing 2nd Year	Difference in Northing 3rd Year	Difference in Northing 4th Year	Difference in Easting 1st Year	Difference in Easting 2nd Year	Difference in Easting 3rd Year	Difference in Easting 4th Year
CPSS-B63		514,332.30					2,181,640.82					7,823.30																
CPSS-B64		514,143.02			514,142.66		2,181,610.85			2,181,611.09		7,809.020			7,807.98													
CPSS-B65		513,938.02					2,181,559.09					7,757.540																
CPSS-B66		513,777.42			513,776.84		2,181,459.09			2,181,459.14		7,761.960			7,761.58													
CPSS-B67		513,599.48			513,598.91		2,181,389.34			2,181,389.36		7,742.48			7,742.06													
CPSS-BA1	**	517,742.25	517,742.20	517,742.20		517,742.25	2,183,424.70	2,183,424.60	2,183,424.60		2,183,424.70	7,948.16	7,948.08	7,948.08		7948.15	-0.08	-0.08		-0.01	-0.05	-0.05		0.00	-0.10	-0.10		0.00
CPSS-BA1	**				517,679.27					2,183,471.53					7,951.02													
CPSS-BA2		517,469.18	517,469.10	517,469.10	517,469.28	517,469.18	2,183,680.19	2,183,680.12	2,183,680.12	2,183,679.69	2,183,680.19	7,864.92	7,864.88	7,864.88	7,864.67	7,864.91	-0.04	-0.04	-0.25	-0.01	-0.08	-0.08	0.10	0.00	-0.07	-0.07	-0.50	0.00
CPSS-BA3		517,261.72	517,261.68	517,261.68	517,261.72	517,261.72	2,184,339.00	2,184,339.00	2,184,339.00	2,184,339.10	2,184,339.10	7,773.45	7,773.40	7,773.40	7,773.45	7,773.44	-0.05	-0.05	0.00	-0.01	-0.04	-0.04	0.00	0.00	0.00	0.00	0.10	0.10
CPSS-BB1		515,376.24		515,376.24			2,182,172.64		2,182,172.64			8,127.61		8,127.61				0.00				0.00				0.00		
CPSS-BB2		514,561.22		514,561.22			2,183,158.51		2,183,158.51			7,860.68		7,860.68				0.00				0.00				0.00		
CPSS-BC1	*	516,770.52		516,770.52			2,182,159.96		2,182,159.96			8,184.03		8,184.03				0.00				0.00				0.00		
CPSS-BC1	*				516,750.03					2,182,098.39					8,169.09													
CPSS-BC2		516,827.72	516,827.68	516,827.72	516,827.10	516,827.72	2,182,071.50	2,182,071.54	2,182,071.50	2,182,071.62	2,182,071.50	8,161.62	8,161.56	8,161.62	8,161.38	8,161.61	-0.06	0.00	-0.24	-0.01	-0.04	0.00	-0.62	0.00	0.04	0.00	0.12	0.00
CPSS-BC3		516,909.07		516,908.46	516,908.51	516,909.07	2,182,034.90		2,182,035.27	2,182,035.10	2,182,034.90	8,113.13		8,113.13	8,112.54	8,113.11		0.00	-0.59	-0.02		-0.61	-0.56	0.00		0.37	0.20	0.00
CPSS-BC4		516,983.12		516,982.56	516,982.53	516,983.12	2,181,975.52		2,181,975.87	2,181,975.75	2,181,975.52	8,072.21		8,071.69	8,071.35	8,072.20		-0.52	-0.86	-0.01		-0.56	-0.59	0.00		0.35	0.23	0.00
CPSS-BC5		517,061.70		517,061.22	517,060.99	517,061.70	2,181,947.55		2,181,947.91	2,181,947.41	2,181,947.55	8,031.56		8,031.42	8,031.00	8,031.55		-0.14	-0.56	-0.01		-0.48	-0.71	0.00		0.36	-0.14	0.00
CPSS-BC6		517,152.39		517,152.36	517,151.81	517,152.40	2,181,883.81		2,181,883.93	2,181,883.83	2,181,883.81	7,997.15		7,997.43	7,996.04	7,997.15		0.28	-1.11	0.00		-0.03	-0.56	0.01		0.12	0.02	0.00
CPSS-BC7		517,225.09		517,224.84	517,224.67	517,225.10	2,181,866.02		2,181,866.63	2,181,866.05	2,181,866.05	7,963.27		7,963.28	7,962.54	7,963.26		0.01	-0.73	-0.01		-0.25	-0.42	0.01		0.61	0.03	0.03
CPSS-BC8		517,305.17		517,304.79	517,304.72	517,305.20	2,181,777.09		2,181,777.49	2,181,777.20	2,181,777.10	7,907.35		7,907.10	7,906.65	7,907.36		-0.25	-0.70	0.01		-0.38	-0.45	0.03		0.40	0.11	0.01
CPSS-BC9		517,370.98		517,370.98	517,370.46	517,371.00	2,181,731.41		2,181,731.41	2,181,731.55	2,181,731.40	7,881.650		7,881.04	7,880.53	7,881.65		-0.61	-1.12	0.00		0.00	-0.52	0.02		0.00	0.14	-0.01
CPSS-BC10		517,422.49			517,420.77	517,422.50	2,181,630.03			2,181,628.20	2,181,630.00	7,820.10		7,820.10	7,819.25	7,820.09		0.00	-0.85	-0.01			-1.72	0.01			-1.83	-0.03
CPSS-BC11	**	517,504.11		517,504.11		517,504.10	2,181,571.76		2,181,571.76		2,181,571.80	7,785.26		7,785.26		7785.24		0.00		-0.02		0.00		-0.01		0.00		0.04
CPSS-BC11	**				517,556.07					2,181,539.62					7,769.93													
CPSS-BC12		517,577.67			517,575.99	517,577.70	2,181,507.80			2,181,506.01	2,181,507.82	7,763.65		7,763.66	7,763.21	7,763.64		0.01	-0.44	-0.01	0.00		-1.68	0.03			-1.79	0.02
CPSS-BC13		517,653.52			517,653.47	517,653.53	2,181,444.02			2,181,443.66	2,181,444.03	7,745.51		7,745.54	7,744.03	7,745.50		0.03	-1.48	-0.01	0.00		-0.05	0.01			-0.36	0.01
CPSS-BC14		517,735.14			517,733.21	517,735.15	2,181,375.18			2,181,373.12	2,181,375.20	7,727.34		7,727.41	7,726.92	7,727.33		0.07	-0.42	-0.01	0.00		-1.93	0.01			-2.06	0.02
CPSS-BC15		517,799.76		517,798.92	517,798.02	517,799.77	2,181,317.63		2,181,317.63	2,181,315.84	2,181,317.64	7,698.37		7,698.14	7,697.85	7,698.36		-0.23	-0.52	-0.01	0.00	-0.84	-1.74	0.01		0.00	-1.79	0.01
CPSS-BC16		517,896.97		517,896.45	517,895.21	517,896.98	2,181,247.92		2,181,248.04	2,181,246.04	2,181,247.93	7,654.490		7,648.42	7,654.07	7,654.50		-6.07	-0.42	0.01	-0.52	-0.52	-1.76	0.01		0.12	-1.88	0.01
CPSS-BC17		517,958.68			517,958.87	517,958.68	2,181,206.38			2,181,204.50	2,181,206.39	7,617.70			7,617.42	7,617.71			-0.28	0.01			-1.81	0.00			-1.88	0.01
CPSS-BC18		518,036.90		518,036.30	518,035.38	518,036.90	2,181,125.80		2,181,126.08	2,181,124.22	2,181,125.80	7,591.810		7,591.88	7,591.27	7,591.82		0.07	-0.54	0.01	-0.60	-0.60	-1.52	0.00		0.28	-1.58	0.00
CPSS-BC19		518,080.98		518,080.98	518,079.53	518,080.97	2,181,056.88		2,181,056.88	2,181,055.24	2,181,056.88	7,572.010		7,572.01	7,571.56	7,572.01		0.00	-0.45	0.00	-0.45	0.00	-1.45	-0.01		0.00	-1.64	0.00
CPSS-BC20		518,128.78	518,125.04		518,127.41	518,128.77	2,180,978.42	2,180,977.79		2,180,976.88	2,180,978.42	7,547.74	7,547.66	7,547.81	7,547.36	7,547.75		0.07	-0.38	0.01	-3.74		-1.37	-0.01	-0.63		-1.54	0.00
CPSS-BC21		518,143.08		518,141.74	518,141.90	518,143.08	2,180,825.18		2,180,823.70	2,180,823.61	2,180,825.20	7,491.15		7,490.78	7,490.46	7,491.15		-0.37	-0.69	0.00	-1.34	-1.34	-1.18	0.00		-1.48	-1.57	0.02
CPSS-BC22		518,208.65	518,208.57	518,207.38	518,207.45	518,208.66	2,180,769.93	2,180,769.97	2,180,768.46	2,180,768.37	2,180,769.94	7,419.08	7,418.91	7,418.56	7,418.59	7,419.09		-0.52	-0.49	0.01	-0.08	-1.27	-1.20	0.01	0.04	-1.47	-1.56	0.01
CPSS-BC23		518,272.14	518,272.07	518,270.96	518,270.96	518,272.15	2,180,701.87	2,180,701.86	2,180,700.41	2,180,700.27	2,180,701.88	7,361.71	7,361.56	7,361.17	7,361.10	7,361.70		-0.54	-0.61	-0.01	-0.07	-1.18	-1.18	0.01	-0.01	-1.46	-1.60	0.01
CPSS-BC24		518,365.85		518,364.65	518,364.71	518,365.84	2,180,637.47		2,180,636.00	2,180,635.91	2,180,637.46	7,314.95		7,314.51	7,314.56	7,314.94		-0.44	-0.39	-0.01	-1.20	-1.20	-1.14	-0.01		-1.47	-1.56	-0.01
CPSS-C1		512,938.57					2,177,940.73					6,285.47																
CPSS-C2		513,041.29					2,177,983.90					6,289.67																
CPSS-C3		513,125.82					2,178,036.86					6,303.85																
CPSS-C4		513,191.42					2,178,090.36					6,310.41																
CPSS-C5		513,305.34					2,178,126.29					6,327.47																

Table 1

Willow Creek Subsidence Monitoring Report

Point No.	See Note	Northing 1997	Northing 1998	Northing 1999	Northing 2000	Northing 2001	Easting 1997	Easting 1998	Easting 1999	Easting 2000	Easting 2001	Elevation 1997	Elevation 1998	Elevation 1999	Elevation 2000	Elevation 2001	Difference in Subsidence 1st Year	Differenece in Subsidence 2nd Year	Differenece in Subsidence 3rd Year	Difference in Subsidence 4th Year	Difference in Northing 1st Year	Difference in Northing 2nd Year	Difference in Northing 3rd Year	Difference in Northing 4th Year	Difference in Easting 1st Year	Difference in Easting 2nd Year	Difference in Easting 3rd Year	Difference in Easting 4th Year
CPSS-C6		513,367.03					2,178,147.59					6,336.01																
CPSS-C7		513,471.77					2,178,210.70					6,324.86																
CPSS-C8		513,563.30					2,178,239.97					6,333.04																
CPSS-C9		513,629.57					2,178,330.54					6,338.72																
CPSS-C10		513,751.84					2,178,381.02					6,350.18																
CPSS-C11		513,841.80					2,178,346.77					6,349.55																
CPSS-C12		513,941.89					2,178,395.60					6,353.91																
CPSS-C13		514,029.11					2,178,339.10					6,370.76																
CPSS-C14		514,116.46					2,178,463.79					6,387.41																
CPSS-C15		514,248.17					2,178,393.05					6,370.04																
CPSS-C16		514,315.87					2,178,358.85					6,375.13																
CPSS-C17		514,398.37					2,178,293.36					6,396.86																
CPSS-C18		514,490.99					2,178,255.39					6,399.80																
CPSS-C19		514,710.47					2,178,250.48					6,424.25																
CPSS-C20		514,872.11					2,178,280.61					6,420.51																
CPSS-C21		515,100.60					2,178,308.09					6,461.67																
CPSS-C22		515,262.10					2,178,286.25					6,455.81																
CPSS-C23		515,447.90					2,178,306.46					6,475.56																
CPSS-C24		515,643.53					2,178,268.94					6,483.13																
CPSS-C25		515,859.17					2,178,297.78					6,512.82																
CPSS-C26		515,995.70					2,178,423.16					6,519.89																
CPSS-C27		516,205.96					2,178,540.96					6,538.93																
CPSS-C28		516,393.77					2,178,566.14					6,553.64																
CPSS-C29		516,599.37					2,178,651.09					6,580.62																
CPSS-C30		516,651.40					2,178,799.44					6,596.78																
CPSS-C31		516,756.89					2,178,782.88					6,574.39																
CPSS-C32		516,818.45					2,178,778.67					6,579.77																
CPSS-C33		516,878.56					2,178,865.19					6,625.05																
CPSS-C34		516,968.52					2,178,909.54					6,626.10																
CPSS-C35		517,104.90					2,178,915.54					6,626.92																
CPSS-C36		517,183.81					2,178,974.21					6,636.39																
CPSS-C37		517,246.97					2,179,026.80					6,637.36																
CPSS-C38		517,319.03					2,179,086.06					6,659.84																
CPSS-C39		517,445.06					2,179,095.08					6,672.66																
CPSS-C40		517,556.28					2,179,095.55					6,674.98																
CPSS-C41		517,642.35					2,179,152.34					6,675.69																
CPSS-C42		517,713.40					2,179,125.98					6,691.45																
CPSS-C43		517,789.04					2,179,188.84					6,700.90																
CPSS-C44		517,868.31					2,179,220.33					6,715.09																
CPSS-C45		517,967.19					2,179,250.51					6,726.46																
CPSS-C46		518,121.30					2,179,215.39					6,729.80																
CPSS-C47		518,179.88					2,179,221.39					6,742.32																
CPSS-C48		518,307.24					2,179,297.24					6,751.54																
CPSS-C49		518,420.34					2,179,217.38					6,780.50																
CPSS-C50		518,483.99					2,179,359.70					6,790.03																

Table 1

Willow Creek Subsidence Monitoring Report

Point No.	See Note	Northing 1997	Northing 1998	Northing 1999	Northing 2000	Northing 2001	Easting 1997	Easting 1998	Easting 1999	Easting 2000	Easting 2001	Elevation 1997	Elevation 1998	Elevation 1999	Elevation 2000	Elevation 2001	Difference in Subsidence 1st Year	Differeneca in Subsidence 2nd Year	Differenece in Subsidence 3rd Year	Difference in Subsidence 4th Year	Difference in Northing 1st Year	Difference in Northing 2nd Year	Difference in Northing 3rd Year	Difference in Northing 4th Year	Difference in Easting 1st Year	Difference in Easting 2nd Year	Difference in Easting 3rd Year	Difference in Easting 4th Year
CPSS-C51		518,602.71					2,179,371.95					6,790.20																
CPSS-C52		518,689.26					2,179,409.28					6,810.51																
CPSS-C53		518,744.45					2,179,509.36					6,817.79																
CPSS-C54		518,849.78					2,179,559.70					6,835.59																
CPSS-C55		518,942.98					2,179,515.97					6,846.68																
CPSS-C56		519,094.28					2,179,658.65					6,869.91																

LOST - Marker lost during well drilling

Control over or adjacent to Longwall Mining

** Point Reestablished in 2000

* Point Reestablished in 1999

VEGETATION MONITORING FOR PHASE III BOND RELEASE FOR THE LEACH FIELD AREA IN CRANDALL CANYON

YEAR 1 STUDY
2001

FOR THE
PLATEAU MINING CORPORATION

Prepared by

MT. NEBO SCIENTIFIC, INC.
330 East 400 South, Suite 6
P.O. Box 337
Springville, Utah 84663
(801) 489-6937

Patrick Collins, Ph.D.

for

PLATEAU MINING CORPORATION
847 Northwest Highway 191
Helper, Utah 84526

Fieldwork: August 2001
Report: January 2002

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VEGETATION MONITORING FOR PHASE III BOND RELEASE FOR THE LEACH FIELD AREA IN CRANDALL CANYON

INTRODUCTION

Objectives for Monitoring

The Crandall Canyon area, located in Carbon County, Utah, has a history of coal mining and reclamation activities. Several areas previously disturbed by these mining activities have been reclaimed and reseeded with the 'final' and 'contemporaneous' plant seed mixtures. One such area is called the "Leach Field Area". It is located near the end of a dirt road that begins from State Hwy. 6, runs through the property and will remain for recreation and occupational uses. The Leach Field was seeded with the contemporaneous seed mixture. There are special circumstances that have precluded Plateau Mining Corp. from seeding it with the final seed mix. The following statement taken from the Crandall Canyon Mining and Reclamation Plan explains these circumstances.

> *The approved premining land use designation for Crandall Canyon is undeveloped land. However, pursuant to negotiations for relocating the Barn Canyon powerline across private land, the landowner (C-Canyon, L.C.) requested and was given the opportunity to acquire the land shown on Map 1 for his authorization to install the powerline across his property. The new landowner is requesting a higher and better use of the land which requires portions of the M&RP be amended to facilitate his needs for unrestricted access to his land during the operational, reclamation and post reclamation phases of the Mining and Reclamation Plan (Appendix 3.7V). The land owned by C-Canyon, L.C., falling within the disturbed area boundary (as shown on Map 1) will be reclaimed to a recreational postmining use. All other land with the disturbed area boundary will be reclaimed to its premining land use of undeveloped land. The primary road will remain for C-Canyon, L.C., to access its lands.*

Therefore, at the request of the new landowner, the Leach Field Area in Crandall Canyon will be left in its present condition and an application for Final Bond Release will be sought. In doing so, approval was necessary to adjust the final reclamation standards of this area through the State of Utah, Division of Oil, Gas & Mining (DOGM). During the approval process, it was necessary for DOGM to obtain an allowance from the State of Utah, Division of Wildlife Resource (DWR) to have standards with no woody species density requirements. These approvals were obtained. This report will be used for Year 1 (of two years required) to provide quantitative vegetation data for a Phase III Bond Release application.

Vegetation in the Leach Field Area was sampled in the growing season of 2001 as a means to monitor the success of revegetation activities by the Plateau Mining Corp. A certain degree of success could determine whether or not Phase III Bond Release would be possible. As stated above, Phase III Bond Release applications are sought through DOGM.

A Reference Area, or an area previously chosen to represent a standard of success for the revegetation in Crandall Canyon, has also been sampled for comparisons. This area was located near Plateau Mining Corp.'s current coal yard.

METHODS

Quantitative and qualitative data were taken from the vegetation of the Leach Field Area in Crandall Canyon and the Reference Area. Sampling was conducted in July 2001. Methodologies

used for sampling were performed in accordance with the guidelines supplied by DOGM.

Transect and Quadrat Placement

Random/regular placement of sample quadrats were designed as an attempt to provide unbiased accuracy of the data compiled. This was accomplished by establishing one long transect line along the entire length of the Leach Field Area. At regular intervals along the transect line, random numbers were generated and used to measure distances at right angles from the line to determine sample locations. Whether these random numbers were odd or even determined which side of the transect line a given quadrat was placed. The random number selected would be high enough to place quadrats to the lateral limits of the Leach Field Area and all areas in-between. This insured that the sample quadrats were placed randomly over the entire study area in an attempt to adequately represent the site as a whole.

Cover, Frequency and Composition

Cover estimates were made using ocular methods with meter square quadrats. Species composition and relative frequencies were also assessed from the quadrats. Additional information recorded on the raw data sheets were: estimated precipitation, slope, exposure, grazing use, animal disturbance and other appropriate notes. Plant nomenclature follows "A Utah Flora", (Welsh et al. 1993).

Sample Size & Adequacy

Sampling adequacy was calculated using the formula given below.

$$nMIN = \frac{t^2 s^2}{(dx)^2}$$

where,

nMIN	= minimum adequate sample
t	= appropriate confidence t-value
s	= standard deviation
x	= sample mean
d	= desired change from mean

The values used for "t" and "d" insured that sample adequacy was met with 90% confidence within a 10% deviation from the true mean.

Diversity & Similarity Indices

There are several well-documented methods to measure diversity and similarities in plant communities. The "Motyka Index" is a modified form of the "Sorenson Index", both similarity indices. This index was used on the data and the equation is shown below:

$$IS_{MO} = \left(\frac{2MW}{MA+MB}\right) x100$$

where,

MW = $\sum$ of the smaller quantitative values of species of two communities,
MA = $\sum$ of the quantitative values of all species in one community,
MB = $\sum$ of the quantitative values of all species in another community.

Two diversity indices have been reported in this document for the Reclaimed and Reference Areas. MacArthur's Diversity Index is an effective diversity measurement and is computed using the following equation:

$$1/\sum pi^2$$

where,

pi is the proportion of sum frequency contributed by the *i*th species in the sample area of concern.

The proportional contribution of each species is then squared and the values for all species in the sample areas are summed. This index integrates the number of species and the degree to which frequency of occurrence was equitably distributed among those species.

Another diversity measurement was provided that shows the average number of species encountered at each quadrat, providing a value for species diversity.

Photographs

Color photographs of each sample area were taken at the time of sampling and submitted with this report.

Raw Data

The raw data for total cover, cover by species, frequency and composition were also submitted in the Appendix of this report which should facilitate future scrutiny of the data and further statistical testing if desired.

RESULTS

Reclaimed Leach Field Area

Sampling the reclaimed Leach Field Area revealed that the total living cover was 66.63%. Grasses were the dominant lifeform of this site comprising 72.15% of the total living cover followed by forbs at 27.43%, and shrubs at only 0.42% (Table 1). Even though most of the cover was comprised of grass species, one forb was the most common single species according to cover measurements. This species was alfalfa (*Medicago sativa*). A grass species, mountain brome (*Bromus carinatus*), was the next most common taxon by cover. This species, however, was present in more sample quadrats than any other species or in other words, it had the highest frequency at 62.50% (Table 2). Other important species included Gt. Basin wildrye (*Elymus cinereus*), bluebunch wheatgrass (*Elymus spicatus*), western wheatgrass (*Elymus smithii*), crested wheatgrass (*Agropyron cristatum*), and Sandberg's bluegrass *(Poa secunda*). For a list of all species present in the sample quadrats, refer to Table 2.

Reference Area

The Reference Area for the Crandall Canyon Leach Field Area was located near the Willow Creek coal yard in Price Canyon. The total living cover of the Reference Area was estimated at 48.00% (Table 3). Like the Leach Field Area data reported above, grasses were the most important lifeform comprising 79.44% of the total living cover. Forb and shrub lifeform composition proportions were nearly equal at just over 10% (Table 3).

The most common species in the Reference Area by quite a large margin was the native grass, Salina wildrye (*Elymus salinus*). This species had a mean cover of 26.02% and was present in 94.00% of the sample quadrats (Table 4). Species also common by cover and frequency were cheatgrass (*Bromus tectorum*), Louisiana sagewort (*Artemisia ludoviciana*), and big sagebrush (*Artemisia tridentata*).

Data Set Comparisons

FIG. 1. STUDENT'S T TEST - A Comparison Between the Leach Field Area at Crandall Canyon and its Reference Area.

Reclaimed Area: $\bar{x}$=66.63; s=7.36; n=40

Reference Area: $\bar{x}$=48.00; s=11.96; n=40

t = 8.390; df = 788; SL = p<.005

Comparisons were made between the data of the revegetated Leach Field Area in Crandall Canyon and its Reference Area in Price Canyon. To begin, statistical tests were implemented comparing the total living plant cover of the two areas. A "Student's t-test" analysis suggested *that the vegetation of the Leach Field had a*

statistically significant greater amount of total living cover than that of the Reference Area (Fig. 1).

Next, although the specific procedures to monitor final diversity standards were not explicitly outlined in Willow Creek's Mining & Reclamation Plan (MRP) for the Leach Field Area in Crandall Canyon, the State of Utah requires final revegetation to be restored to cover that is "diverse, effective, and permanent". Community or species diversity is therefore necessary to be achieved for Phase III Bond Release. The Motyka Index has been recommended in Plateau Mining Corp. plans to be used to compare species diversity. Although this index is more of a 'similarity index' than a 'diversity index', it has been employed here to compare the data sets. The following parameters were assigned as categories to be used for comparisons with the Motyka Index:

Non-Weedy Shrub Cover,
Weedy Shrub Cover,
Native Perennial Grass Cover,
Introduced Perennial Grass Cover,
Non-Weedy Forb & Grass Cover,
Weedy Forb & Grass Cover.

When using the above categories and employing the Motyka Index, the similarity value between the two communities was determined to be 65.38% (Fig. 2).

FIG. 2. MOTYKA INDEX - A Comparison Between the Leach Field Area at Crandall Canyon and its Reference Area.

$$IS_{MO}=\left(\frac{2MW}{MA+MB}\right)x100=65.384$$

MacArthur's Diversity Index, a well-documented index to show community diversity, was also employed to the data sets of the

FIG. 3. MacARTHUR'S INDEX - A Comparison Between the Leach Field Area at Crandall Canyon and its Reference Area.

$1/\sum pi^2 =$

Reclaimed Area: 10.446

Reference Area: 4.755

revegetated Leach Field Area and the natural Reference Area. This comparison suggested that the total diversity of the Leach Field Area was greater than that of the Reference Area by quite a wide margin (Fig. 3).

Still another method of comparing species diversity of the two areas is to simply calculate the mean number of species present in the sample quadrats. Results from this method also suggested that the Leach Field Area was more diverse with respect to the number of species when compared to the Reference Area (Fig. 4).

FIG. 4. AVERAGE NUMBER OF SPECIES PER SQUARE METER- A Comparison Between the Leach Field Area at Crandall Canyon and its Reference Area.

$\bar{x}$ NO. SPP/M^2 =

Reclaimed Area: 3.93

Reference Area: 3.03

DISCUSSION

Approval by the State of Utah for Phase III Bond Release is dependent on several factors. The results of quantitative sampling the vegetation in the Leach Field Area and the Reference Area chosen to represent revegetation standards enables investigators to compare several parameters of these two areas. For example, total ground cover, lifeform composition, cover by species, and frequency have been reported in the tables. Statistical tests and other community analyses have been employed on the data sets as a means to define and clarify the findings.

One community similarity index, Motyka's Index, established a value to represent the similarity of the two communities with respect to specific parameters (non-weedy shrub cover, weedy shrub cover, native perennial grass cover, etc). Using these parameters the Motyka's Index suggested that these two areas are only marginally similar. This, however, is not surprising because the reclaimed Leach Field Area was seeded with a mixture of plant species not meant to duplicate the communities of the native undisturbed plant communities in the. Furthermore, woody plant species were not seeded in this area as they may have compromised the functional aspects of the Leach Field Area. The established vegetation does, however, represent the desires of the new landowner who wishes to use the property "to facilitate his needs for unrestricted access to his land during the operational, reclamation and post reclamation phases of the Mining and Reclamation Plan" (see INTRODUCTION above). In other words, this landowner wants the Leach Field Area to retain the plant species that currently exist there.

To continue the discussion of the comparison between the Leach Field Area and the Reference Area, two diversity indices suggested that the Leach Field Area had greater diversity than the Reference Area (MacArthur's Diversity Index and Average Number of Species Present) .

The data analyses presented in this report suggest that the Leach Field Area had excellent cover and diversity when compared to the native, undisturbed Reference Area. Although the species present in the Leach Field Area do not duplicate exactly the undisturbed Reference Area, they represent the preference of the current landowner and therefore the data sets in this report could be used for Year 1 of the Phase III Bond Release application through the State of Utah.

TABLE 1: Total cover and composition summary of the revegetated areas in the Leach Field Area in Crandall Canyon.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	66.63	7.36	40
Litter	25.53	7.27	40
Bareground	5.08	4.01	40
Rock	2.78	3.84	40
COMPOSITION			
Shrubs	0.42	2.60	40
Forbs	27.43	25.08	40
Grasses	72.15	24.75	40

TABLE 2: Species cover and frequency summary of the revegetated areas in the Leach Field Area in Crandall Canyon.

SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
SHRUBS				
Rosa woodsii	0.25	1.56	40	2.50
FORBS				
Artemisia ludoviciana	0.13	0.78	40	2.50
Aster foliaceus	0.13	0.78	40	2.50
Cirsium sp.	0.63	2.00	40	10.00
Cleome serrulata	0.13	0.78	40	2.50
Cynoglossum officinale	0.13	0.78	40	2.50
Iva axillaris	0.75	2.11	40	12.50
Lappula occidentalis	0.13	0.78	40	2.50
Medicago sativa	16.25	20.12	40	52.50
Sisymbrium altissimum	0.38	1.32	40	7.50
Tragopogon dubius	0.13	0.78	40	2.50
Verbascum thapsus	0.38	1.32	40	7.50
GRASSES				
Agropyron cristatum	5.50	13.31	40	27.50
Bromus carinatus	12.63	15.17	40	62.50
Elymus cinereus	9.00	17.90	40	30.00
Elymus junceus	0.13	0.78	40	2.50
Elymus lanceolatus	2.25	4.87	40	25.00
Elymus smithii	6.13	8.62	40	47.50
Elymus spicatus	6.25	12.69	40	22.50
Poa fendleriana	0.63	2.00	40	10.00
Poa secunda	4.50	6.96	40	35.00
Stipa comata	0.13	0.78	40	2.50
Stipa hymenoides	0.13	0.78	40	2.50

TABLE 3: Total cover and composition summary of the Reference Area for Crandall Canyon (located in Price Canyon).

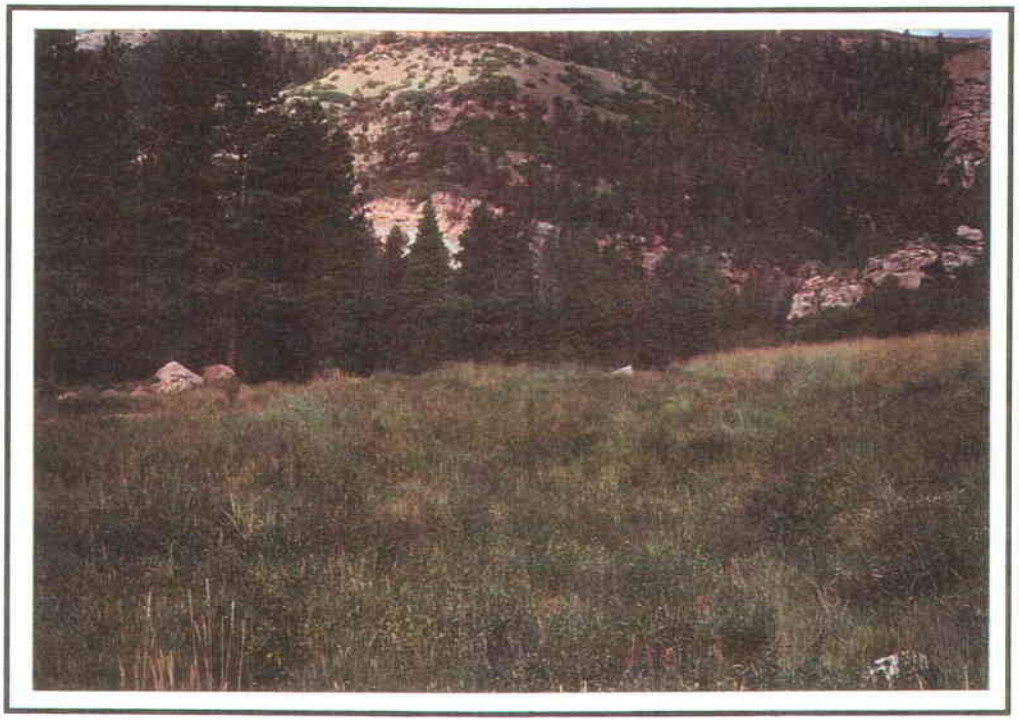
TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	48.00	11.96	50
Litter	7.72	3.72	50
Bareground	8.02	6.77	50
Rock	36.26	13.21	50
COMPOSITION			
Shrubs	10.37	21.48	50
Forbs	10.19	12.29	50
Grasses	79.44	22.73	50

TABLE 4: Species cover and frequency summary of the Reference Area for Crandall Canyon (located in Price Canyon).

SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
SHRUBS				
Artemisia tridentata	3.30	8.34	50	20.00
Atriplex canescens	1.10	5.22	50	6.00
Ephedra viridis	0.30	1.55	50	4.00
Gutierrezia sarothrae	0.40	2.20	50	4.00
Opuntia polyacantha	0.10	0.70	50	2.00
FORBS				
Artemisia ludoviciana	4.44	5.36	50	50.00
Chenopodium sp.	0.10	0.70	50	2.00
Penstemon sp.	0.20	0.98	50	4.00
GRASSES				
Bromus tectorum	8.50	8.08	50	66.00
Elymus salinus	26.02	13.51	50	94.00
Elymus spicatus	0.60	4.20	50	2.00
Hilaria jamesii	1.34	3.63	50	14.00
Poa secunda	0.40	2.80	50	2.00
Stipa comata	1.20	4.19	50	10.00

COLOR PHOTOGRAPHS

Revegetated Areas of the Leach Field in Crandall Canyon



Reference Area for Crandall Canyon

PLATEAU MINING CORP
Crandall Canyon
Reclaimed Leach Field
Exposure: E
Slope: 12 deg
Sample Date: 25 July 01

	1.00	2.00	3.00	4.00	5.00	6.00
TREES & SHRUBS						
Rosa woodsii	0.00	0.00	0.00	0.00	0.00	0.00
FORBS						
Artemisia ludiviciana	0.00	0.00	0.00	0.00	0.00	0.00
Aster foliaceus	0.00	0.00	0.00	0.00	0.00	0.00
Cirsium	0.00	0.00	0.00	0.00	0.00	0.00
Cleome serrulata	0.00	0.00	0.00	0.00	0.00	0.00
Cynoglossum officinale	0.00	0.00	0.00	5.00	0.00	0.00
Iva axillaris	5.00	5.00	0.00	10.00	0.00	0.00
Lappula occidentalis	0.00	0.00	0.00	0.00	0.00	0.00
Medicago sativa	40.00	65.00	55.00	0.00	30.00	20.00
Sisymbrium altissimum	0.00	0.00	0.00	0.00	0.00	0.00
Tragopogon dubius	0.00	0.00	0.00	0.00	0.00	0.00
Verbascum thapsus	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES						
Agropyron cristatum	0.00	0.00	0.00	0.00	0.00	5.00
Bromus carinatus	15.00	10.00	20.00	5.00	40.00	15.00
Elymus cinereus	5.00	0.00	0.00	0.00	0.00	0.00
Elymus junceus	0.00	0.00	0.00	0.00	0.00	0.00
Elymus lanceolatus	5.00	0.00	5.00	0.00	0.00	0.00
Elymus smithii	0.00	5.00	0.00	35.00	5.00	25.00
Elymus spicatus	0.00	0.00	0.00	0.00	0.00	0.00
Poa fendleriana	0.00	0.00	5.00	10.00	0.00	0.00
Poa secunda	0.00	0.00	0.00	0.00	0.00	0.00
Stipa comata	0.00	0.00	0.00	5.00	0.00	0.00
Stipa hymenoides	0.00	0.00	0.00	0.00	0.00	0.00
COVER						
Total Living Cover	70.00	85.00	85.00	70.00	75.00	65.00
Litter	25.00	10.00	10.00	10.00	20.00	30.00
Bareground	4.00	4.00	4.00	5.00	4.00	4.00
Rock	1.00	1.00	1.00	15.00	1.00	1.00
% COMPOSITION						
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	64.29	82.35	64.71	21.43	40.00	30.77
Grasses	35.71	17.65	35.29	78.57	60.00	69.23

7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35.00	15.00	55.00	55.00	0.00	10.00	15.00	40.00	15.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	25.00	0.00	5.00	15.00	55.00	35.00	20.00	35.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	10.00	0.00	10.00	0.00	0.00	5.00	10.00
5.00	10.00	0.00	15.00	25.00	0.00	5.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	5.00	0.00	5.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65.00	55.00	70.00	75.00	60.00	65.00	65.00	65.00	60.00
30.00	40.00	25.00	20.00	30.00	33.00	35.00	30.00	35.00
5.00	5.00	5.00	5.00	10.00	2.00	0.00	1.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53.85	27.27	78.57	73.33	8.33	15.38	30.77	61.54	25.00
46.15	72.73	21.43	26.67	91.67	84.62	69.23	38.46	75.00

16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00
0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
45.00	30.00	0.00	0.00	10.00	30.00	50.00	20.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	35.00	10.00	35.00	0.00
10.00	30.00	50.00	15.00	40.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	5.00	10.00	0.00	0.00	0.00	0.00
15.00	10.00	15.00	5.00	0.00	0.00	10.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	25.00	0.00	0.00	0.00	10.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75.00	70.00	65.00	60.00	60.00	65.00	70.00	65.00	55.00
25.00	28.00	30.00	30.00	20.00	20.00	30.00	30.00	30.00
0.00	2.00	5.00	9.00	10.00	10.00	0.00	5.00	10.00
0.00	0.00	0.00	1.00	10.00	5.00	0.00	0.00	5.00
0.00	0.00	0.00	16.67	0.00	0.00	0.00	0.00	0.00
60.00	42.86	0.00	0.00	16.67	46.15	71.43	30.77	9.09
40.00	57.14	100.00	83.33	83.33	53.85	28.57	69.23	90.91

25.00	26.00	27.00	28.00	29.00	30.00	31.00	32.00	33.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
5.00	10.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00
5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
0.00	0.00	0.00	0.00	65.00	0.00	5.00	0.00	0.00
5.00	0.00	5.00	0.00	0.00	5.00	20.00	0.00	0.00
0.00	5.00	0.00	10.00	5.00	60.00	0.00	50.00	25.00
0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	20.00	0.00	0.00	0.00	5.00	0.00	0.00
45.00	30.00	0.00	25.00	0.00	10.00	0.00	20.00	20.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
0.00	15.00	20.00	20.00	0.00	0.00	15.00	0.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65.00	60.00	60.00	60.00	70.00	75.00	60.00	80.00	60.00
25.00	25.00	20.00	25.00	20.00	25.00	35.00	20.00	35.00
5.00	10.00	10.00	10.00	5.00	0.00	4.00	0.00	4.00
5.00	5.00	10.00	5.00	5.00	0.00	1.00	0.00	1.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23.08	16.67	16.67	8.33	0.00	0.00	25.00	6.25	8.33
76.92	83.33	83.33	91.67	100.00	100.00	75.00	93.75	91.67

34.00	35.00	36.00	37.00	38.00	39.00	40.00	Mean	SDev
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	1.56
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.78
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.78
0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.63	2.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.78
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.78
0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.75	2.11
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.78
0.00	5.00	0.00	0.00	0.00	0.00	0.00	16.25	20.12
0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.38	1.32
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.78
0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.38	1.32
0.00	10.00	10.00	35.00	0.00	0.00	0.00	5.50	13.31
0.00	0.00	0.00	5.00	0.00	0.00	5.00	12.63	15.17
15.00	0.00	35.00	0.00	40.00	0.00	60.00	9.00	17.90
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.78
0.00	0.00	0.00	0.00	0.00	25.00	0.00	2.25	4.87
5.00	0.00	15.00	0.00	15.00	0.00	0.00	6.13	8.62
45.00	30.00	0.00	0.00	0.00	25.00	0.00	6.25	12.69
0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.63	2.00
0.00	15.00	10.00	10.00	10.00	10.00	0.00	4.50	6.96
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.78
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.78
65.00	65.00	70.00	55.00	70.00	60.00	75.00	66.63	7.36
25.00	35.00	25.00	25.00	20.00	10.00	25.00	25.53	7.27
5.00	0.00	3.00	8.00	5.00	20.00	0.00	5.08	4.01
5.00	0.00	2.00	12.00	5.00	10.00	0.00	2.78	3.84
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	2.60
0.00	15.38	0.00	9.09	7.14	0.00	6.67	27.43	25.08
100.00	84.62	100.00	90.91	92.86	100.00	93.33	72.15	24.75

PLATEAU MINING CORP
Crandall Canyon
Reclaimed Leach Field
Exposure: E
Slope: 12 deg
Sample Date: 25 July 01

Freq	
	TREES & SHRUBS
2.50	*Rosa woodsii*
	FORBS
2.50	*Artemisia ludiviciana*
2.50	*Aster foliaceus*
10.00	*Cirsium*
2.50	*Cleome serrulata*
2.50	*Cynoglossum officinale*
12.50	*Iva axillaris*
2.50	*Lappula occidentalis*
52.50	*Medicago sativa*
7.50	*Sisymbrium altissimum*
2.50	*Tragopogon dubius*
7.50	*Verbascum thapsus*
	GRASSES
27.50	*Agropyron cristatum*
62.50	*Bromus carinatus*
30.00	*Elymus cinereus*
2.50	*Elymus junceus*
25.00	*Elymus lanceolatus*
47.50	*Elymus smithii*
22.50	*Elymus spicatus*
10.00	*Poa fendleriana*
35.00	*Poa secunda*
2.50	*Stipa comata*
2.50	*Stipa hymenoides*
	COVER
	Total Living Cover
	Litter
	Bareground
	Rock
	% COMPOSITION
	Shrubs
	Forbs
	Grasses

PLATEAU MINING CORP
Crandall Canyon
Reference Area (Near Coal Yard)
Exposure: SW
Slope: 33 deg
Sample Date: 26 July 01

	1.00	2.00	3.00	4.00	5.00	6.00
TREES & SHRUBS						
Atriplex canescens	0.00	0.00	0.00	0.00	0.00	0.00
Artemisia tridentata	0.00	0.00	0.00	0.00	0.00	0.00
Ephedra viridis	0.00	0.00	0.00	0.00	0.00	0.00
Gutierrezia sarothrae	0.00	0.00	0.00	0.00	0.00	0.00
Opuntia polyacantha	0.00	0.00	0.00	0.00	0.00	0.00
FORBS						
Artemisia ludiviciana	10.00	0.00	0.00	7.00	10.00	10.00
Penstemon sp.	0.00	0.00	0.00	0.00	0.00	0.00
Chenopodium sp.	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES						
Bromus tectorum	10.00	10.00	5.00	0.00	15.00	5.00
Elymus salinus	30.00	30.00	40.00	28.00	15.00	40.00
Elymus spicatus	0.00	0.00	0.00	0.00	0.00	0.00
Hilaria jamesii	0.00	0.00	0.00	0.00	0.00	0.00
Poa secunda	0.00	0.00	0.00	0.00	0.00	0.00
Stipa comata	0.00	0.00	0.00	0.00	10.00	0.00
COVER						
Total Living Cover	50.00	40.00	45.00	35.00	50.00	55.00
Litter	10.00	10.00	5.00	5.00	15.00	5.00
Bareground	5.00	15.00	5.00	10.00	5.00	5.00
Rock	35.00	35.00	45.00	50.00	30.00	35.00
% COMPOSITION						
Shrubs	0.00	0.00	0.00	0.00	0.00	0.00
Forbs	20.00	0.00	0.00	20.00	20.00	18.18
Grasses	80.00	100.00	100.00	80.00	80.00	81.82

7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	35.00
0.00	0.00	5.00	40.00	0.00	0.00	0.00	0.00	20.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	15.00	0.00	0.00	10.00	0.00	5.00	0.00	0.00
5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.00	15.00	10.00	0.00	15.00	0.00	20.00	10.00	5.00
15.00	5.00	35.00	5.00	30.00	25.00	0.00	15.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	5.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00
0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
35.00	40.00	60.00	45.00	55.00	25.00	60.00	35.00	70.00
5.00	10.00	10.00	1.00	5.00	2.00	5.00	9.00	4.00
20.00	15.00	15.00	4.00	1.00	3.00	20.00	1.00	1.00
40.00	35.00	15.00	50.00	39.00	70.00	15.00	55.00	25.00
0.00	0.00	8.33	88.89	0.00	0.00	0.00	28.57	78.57
28.57	37.50	8.33	0.00	18.18	0.00	8.33	0.00	0.00
71.43	62.50	83.33	11.11	81.82	100.00	91.67	71.43	21.43

16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	5.00	5.00	5.00	0.00	0.00	0.00	5.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.00	10.00	0.00	25.00	20.00	30.00	20.00	15.00	10.00
10.00	50.00	25.00	15.00	40.00	20.00	20.00	40.00	30.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	10.00	0.00	10.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.00	65.00	30.00	55.00	60.00	70.00	40.00	60.00	40.00
5.00	9.00	5.00	10.00	10.00	10.00	5.00	5.00	5.00
10.00	1.00	5.00	5.00	10.00	5.00	5.00	10.00	10.00
35.00	25.00	60.00	30.00	20.00	15.00	50.00	25.00	45.00
50.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	0.00
0.00	7.69	16.67	9.09	0.00	0.00	0.00	8.33	0.00
50.00	92.31	83.33	90.91	100.00	85.71	100.00	91.67	100.00

25.00	26.00	27.00	28.00	29.00	30.00	31.00	32.00	33.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	30.00	0.00	10.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	20.00	0.00	20.00	20.00	5.00	0.00	15.00
25.00	35.00	20.00	25.00	35.00	0.00	45.00	5.00	25.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	15.00	5.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.00	35.00	40.00	25.00	70.00	55.00	50.00	35.00	50.00
15.00	5.00	5.00	10.00	10.00	5.00	5.00	5.00	10.00
30.00	25.00	5.00	15.00	5.00	20.00	5.00	5.00	5.00
25.00	35.00	50.00	50.00	15.00	20.00	40.00	55.00	35.00
0.00	0.00	0.00	0.00	0.00	54.55	0.00	28.57	0.00
16.67	0.00	0.00	0.00	0.00	0.00	0.00	57.14	20.00
83.33	100.00	100.00	100.00	100.00	45.45	100.00	14.29	80.00

34.00	35.00	36.00	37.00	38.00	39.00	40.00	41.00	42.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	5.00	0.00	10.00	5.00	0.00	15.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
0.00	0.00	0.00	5.00	0.00	0.00	0.00	15.00	0.00
0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
5.00	0.00	5.00	5.00	0.00	0.00	0.00	0.00	5.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.00	20.00	0.00	5.00	10.00	0.00	0.00	0.00	0.00
55.00	25.00	30.00	8.00	35.00	35.00	35.00	15.00	25.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00
0.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65.00	50.00	40.00	35.00	55.00	40.00	35.00	50.00	60.00
19.00	10.00	10.00	5.00	15.00	5.00	5.00	5.00	5.00
1.00	5.00	10.00	20.00	10.00	5.00	5.00	15.00	5.00
15.00	35.00	40.00	40.00	20.00	50.00	55.00	30.00	30.00
0.00	0.00	12.50	28.57	18.18	12.50	0.00	70.00	0.00
7.69	0.00	12.50	14.29	0.00	0.00	0.00	0.00	8.33
92.31	100.00	75.00	57.14	81.82	87.50	100.00	30.00	91.67

43.00	44.00	45.00	46.00	47.00	48.00	49.00	50.00	Mean
0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	1.10
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
15.00	10.00	0.00	5.00	15.00	10.00	10.00	15.00	4.44
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
0.00	5.00	5.00	10.00	10.00	0.00	0.00	0.00	8.50
35.00	40.00	30.00	45.00	40.00	0.00	20.00	40.00	26.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40
0.00	0.00	0.00	0.00	0.00	20.00	20.00	0.00	1.20
50.00	55.00	35.00	60.00	65.00	40.00	50.00	55.00	48.00
4.00	5.00	10.00	15.00	9.00	9.00	10.00	10.00	7.72
1.00	1.00	5.00	5.00	1.00	1.00	5.00	5.00	8.02
45.00	39.00	50.00	20.00	25.00	50.00	35.00	30.00	36.26
0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	10.37
30.00	18.18	0.00	8.33	23.08	25.00	20.00	27.27	10.19
70.00	81.82	100.00	91.67	76.92	50.00	80.00	72.73	79.44

PLATEAU MINING CORP
Crandall Canyon
Reference Area (Near Coal Yard)
Exposure: SW
Slope: 33 deg
Sample Date: 26 July 01

SDev	Freq	
		TREES & SHRUBS
5.22	6.00	*Atriplex canescens*
8.34	20.00	*Artemisia tridentata*
1.55	4.00	*Ephedra viridis*
2.20	4.00	*Gutierrezia sarothrae*
0.70	2.00	*Opuntia polyacantha*
		FORBS
5.36	50.00	*Artemisia ludiviciana*
0.98	4.00	*Penstemon sp.*
0.70	2.00	*Chenopodium sp.*
		GRASSES
8.08	66.00	*Bromus tectorum*
13.51	94.00	*Elymus salinus*
4.20	2.00	*Elymus spicatus*
3.63	14.00	*Hilaria jamesii*
2.80	2.00	*Poa secunda*
4.19	10.00	*Stipa comata*
		COVER
11.96		Total Living Cover
3.72		Litter
6.77		Bareground
13.21		Rock
		% COMPOSITION
21.48		Shrubs
12.29		Forbs
22.73		Grasses

APPENDIX C

Legal Financial, Compliance and Related Information

Annual Report of Officers
As submitted to the Utah Department of Commerce

Other change in ownership and control information
As required under R645-301-110

Entity Number	Type	PROCESSING FEE TO RENEW BEFORE DATE	LATE DATE & FEE	Expiration Date
812494-0143	Corporation - Foreign - Profit	$10.00	09/13/2001 $20.00	11/17/2001

DO NOT WRITE ON, FOLD, OR STAPLE COUPON.
SUBMIT SEPARATE PAYMENTS FOR MULTIPLE RENEWALS

DO NOT SUBMIT CHANGE FORM OR MISCELLANEOUS DOCUMENTS WITH THIS RENEWAL

C T CORPORATION SYSTEM
PLATEAU MINING CORPORATION
50 W BROADWAY 8TH FLOOR
SALT LAKE CITY UT 84101-2006

RECEIVED
AUG 30 2001
Utah Div. Of Corp. & Comm. Code

00000041158 9C0R00008124940143000000000000000001000

(Detach carefully along this perforation)

PLEASE READ THE INSTRUCTIONS CAREFULLY

INSTRUCTIONS FOR APPLICATION FOR RENEWAL

TIMELY RENEWAL: Pursuant to Utah Law, all renewals must be filed within their legally prescribed time. Failure to do so may result in the loss of all protection and privileges in the State of Utah.

RENEWAL FEES: Application fees are subject to change by the Legislature each July 1st. The fees quoted above are current at the time this renewal form was printed.

RENEWAL: Please submit original form only. Carefully detach and submit with the enclosed return envelope along with the appropriate fee. **For multiple renewals please submit separate payments.** Payments are accepted by check or money order and should be payable to "State of Utah" **DO NOT SEND CASH.** Please indicate registration number or business name on check.

CHANGES: The Registration Information Change Form can be used to make changes to your filing.
Download: http://www.commerce.state.ut.us
Orders: orders@br.state.ut.us or (801) 530-4849, toll free in-state (877) 526-3994

If you have questions concerning this renewal or would like to check the status of your record please contact the Corporations Information Center at: (801) 530-4849 or toll free in-state (877) 526-3994 or go to http://www.state.ut.us/serv/bes. Forms may be downloaded from our Web site: http://www.commerce.state.ut.us

REQUIREMENTS:

Submit changes with processing fee to: Utah Division of Corporations & Commercial Code
Box 146705
Salt Lake City UT 84114-6705

Registered Agent with Utah address
Corporation – Domestic – Profit: ONE (1) corporate officer with address, THREE (3) directors with addresses,
Exceptions of less than 3 directors or "none" as stated in section 16-10A-803 (1)(B)(I) or (II)
To amend business name must submit amended articles
Corporation – Foreign – Profit: What the home state law requires
To amend business name must submit Certificate to Amend
Professional Corporation: ONE (1) director with address and ONE (1) corporate officer with address
To amend business name must submit amended articles.

REGISTERED PRINCIPAL INFORMATION

To view principal information go to http://www.state.ut.us/commerce/abr
You will need to enter the following information on the internet:
ENTITY NUMBER: 812494-0143
RENEWAL ID: 411589

JBB

08-30-01P04:03 RCVD

Date: 08/31/2001
Receipt Number: 403460
Amount Paid: $245.00

March 4, 2002

RAG AMERICAN COAL HOLDING, INC.

(Formerly Ruhrkohle-Stinnes Corporation; name change to Ruhr-American Coal Corporation 10/1/75; name change to RAG American Coal Corporation 2/22/98; name change to RAG American Coal Holding, Inc. 6/18/99)

Principal Operating Office:	999 Corporate Blvd. Linthicum Heights, MD 21090
Telephone:	410/689-7500
Incorporation:	
State	Delaware The Corporation Trust Company, 1209 Orange Street, Wilmington, DE 19801
Date	October 31, 1974
Existence	Perpetual
Qualified to Do Business In:	West Virginia, Colorado and Maryland
Ownership – Percentage:	RAG Coal International Aktiengesellschaft (5/30/2000) – 100% Rellinghauser Strasse 1-11, 45128 Essen, Germany
IRS Identification Number:	13-2793319

Officers:

Title	Name	Social Security #	Date Assumed Office
President and Chief Executive Officer	James F. Roberts	187-40-9345	March 1, 1999
Senior Vice President, Western Operations	Thomas J. Lien	474-46-3032	September 14, 2001
Senior Vice President, Eastern Operations	Randy L. McMillion	235-90-8345	September 14, 2001
Senior Vice President, General Counsel and Secretary	Greg A. Walker	262-82-8649	August 24, 1999
Senior Vice President, Planning and Engineering	Klaus-Dieter Beck	German	September 14, 2001
Senior Vice President, Development and Information Technology	James A. Olsen	030-36-0783	September 14, 2001
Senior Vice President, Safety and Human Resources	M. R. Peelish	235-72-2473	September 14, 2001
Senior Vice President, Sales and Marketing	John R. Tellmann	315-54-6211	February 21, 2002
Senior Vice President, Finance and Controller	Frank J. Wood	230-74-0342	September 14, 2001/March 1, 2000
Treasurer	Gary G. Pearson	512-36-0698	March 27, 2001

Directors:

Chairman	Jürgen W. Stadelhofer	German	September 9, 1997
	Christoph Danzer-Vanotti	German	September 18, 2000
	Karl F. Jakob	German	July 1, 1999
	Heribert Protzek	German	September 18, 2000
	Joel Richards III	534-44-7083	June 7, 2001
	James F. Roberts	187-40-9345	March 1, 1999
	Manfred Warda	German	September 18, 2000
	Anthony Williams	Withheld	March 22, 2000
	Fritz Ziegler	German	September 18, 2000

March 4, 2002

RAG AMERICAN COAL HOLDING, INC.

Resignations since June 30, 1999:

Title	Name	Social Security No.	Date Resigned
Secretary and Treasurer	Roy West	235-88-5799	August 24, 1999
Vice President, Finance and Treasurer	J. Alan Link	232-92-6300	April 1, 2000
Director	Rainer Benning	German	September 30, 2000
Vice President, Development	James A. Olsen	030-36-0783	March 27, 2001
Vice President, Human Resources	Michael R. Peelish	235-72-2473	March 27, 2001
Treasurer	Frank J. Wood	230-74-0342	March 27, 2001
Assistant Treasurer	Gary G. Pearson	512-36-0698	March 27, 2001
Executive Vice President	John M. DeMichiei	208-40-1828	September 13, 2001
Vice President, West Virginia Operations	Randy Hansford	232-92-7183	September 14, 2001
Vice President, Planning and Engineering	Klaus-Dieter Beck	German	September 14, 2001
Vice President, Development and Information Technology	James A. Olsen	030-36-0783	September 14, 2001
Vice President, Safety and Human Resources	Michael R. Peelish	235-72-2473	September 14, 2001
Vice President	Frank J. Wood	230-74-0342	September 14, 2001
Senior Vice President	John R. Tellmann	315-54-6211	February 21, 2002

September 27, 2001

RAG AMERICAN COAL COMPANY

Principal Operating Office:	999 Corporate Blvd. Linthicum Heights, MD 21090
Telephone:	410/689-7500
Incorporation:	
State	The Corporation Trust Company, 1209 Orange Street, Wilmington, DE 19801
Date	June 18, 1999
Existence	Perpetual
Qualified to Do Business In:	Maryland
Ownership - Percentage:	RAG American Coal Holding, Inc. (6/30/99) – 100% 999 Corporate Blvd., Linthicum Heights, MD 21090
IRS Identification Number:	54-1947356

OFFICERS:

Title	Name	Social Security #	Date Assumed Office
President and Chief Executive Officer	James F. Roberts	187-40-9345	June 24, 1999
Senior Vice President, General Counsel and Secretary	Greg A. Walker	262-82-8649	June 30, 1999
Vice President	James A. Olsen	030-36-0783	September 18, 2000
Vice President and Controller	Darrell H. Roland	233-86-6633	March 1, 2000
Vice President	Frank J. Wood	230-74-0342	June 30, 1999
Vice President, Safety and Human Resources	Michael R. Peelish	235-72-2473	March 27, 2001
Treasurer	Gary G. Pearson	512-36-0698	March 27, 2001

DIRECTORS:

Karl F. Jakob	German	September 30, 2000
James F. Roberts	187-40-9345	June 18, 1999
Jurgen W. Stadelhofer	German	July 20, 1999

September 27, 2001

RAG AMERICAN COAL COMPANY

Resignations (since incorporation):

Title	Name	Social Security No.	Date Resigned
Assistant Secretary	J. Alan Link	232-92-6300	June 30, 1999
Secretary, Treasurer	Roy West	235-88-5799	June 30, 1999
Senior Vice President, Sales and Marketing	Nicholas P. Moros	042-40-2347	August 11, 1999
Assistant Secretary	Susan E. Chetlin	210-46-8811	December 31, 1999
Controller	Frank J. Wood	230-74-0342	March 1, 2000
Senior Vice President, Development	Richard D. Mills	306-44-2951	March 31, 2000
Director, Vice President and Treasurer	J. Alan Link	232-92-6300	April 1, 2000
Senior Vice President, Western Operations	George E. Vajda	303-46-6591	May 16, 2000
Vice President, Process Management	Randall J. Scott	522-82-2279	June 30, 2000
Director	Rainer Benning	German	September 30, 2000
Treasurer	Frank J. Wood	230-74-0342	March 27, 2001
Vice President, Planning	Klaus-Dieter Beck	German	March 27, 2001
Vice President, Human Resources	Michael R. Peelish	235-72-2473	March 27, 2001
Assistant Treasurer	Gary G. Pearson	512-36-0698	March 27, 2001
Executive Vice President, Chief Operating Officer	John M. DeMichiei	208-40-1828	September 13, 2001

December 10, 2001

PLATEAU MINING CORPORATION

(Formerly Cyprus Plateau Mining Corporation, name change 6/30/99; formerly Plateau Mining Company; name changed effective June 8, 1987)

Principal Operating Office: 847 Northwest Highway 191
Helper, UT 84526

Telephone: 435/472-0475

Incorporation:

State	Delaware, The Corporation Trust Company, 1209 Orange Street, Wilmington, DE 19801
Date	August 26, 1982
Existence	Perpetual

Qualified to Do Business In: Utah

Ownership - Percentage: RAG American Coal Company –100% (12% acquired from Mitsubishi Development Pty Ltd. and 3% acquired from Mitsubishi International Corp. 12/10/01)
999 Corporate Blvd., Linthicum Heights, MD 21090

IRS Identification Number: 95-3761213

OFFICERS:

Title	Name	Social Security #	Date Assumed Office
President	Thomas J. Lien	474-46-3032	September 14, 2001
Senior Vice President, General Counsel and Secretary	Greg A. Walker	262-82-8649	June 30, 1999
Vice President and Treasurer	Frank J. Wood	230-74-0342	December 20, 1993/March 1, 2000
Vice President and Controller	Darrell H. Roland	233-86-6633	March 1, 2000
Vice President, Regional Sales (West)	Larry M. Deal	420-72-8611	March 1, 2000
Assistant Treasurer	Gary G. Pearson	512-36-0698	March 1, 2000

DIRECTORS:

James F. Roberts	187-40-9345	June 30, 1999
Frank J. Wood	230-74-0342	June 30, 1999

December 10, 2001

PLATEAU MINING CORPORATION

Resignations (since January 1, 1997):

Title	Name	Social Security No.	Date Resigned
President	Randall J. Scott	522-82-2279	February 3, 1997
Vice President and General Manager	Allen P. Childs	528-78-9126	February 3, 1997
Director	Garold R. Spindler	233-74-2870	Sept. 30, 1997
Vice President	Keith H. Sieber	173-40-5087	October 17, 1997
Vice President and Treasurer	Francis J. Kane	088-52-4169	December 31, 1997
Assistant Treasurer	Farokh S. Hakimi	093-42-6402	December 31, 1997
Assistant Secretary	Morris W. Kegley	306-52-2454	July 15, 1998
Director	K. Itadani	Japanese	June 22, 1998
Director	K. Kinoshita	Japanese	July 15, 1998
Director	Masayuki Maekita	Japanese	October 1, 1998
Director	Gerald J. Malys	165-36-0198	June 30, 1999
Director	Philip C. Wolf	317-50-5623	June 30, 1999
Assistant Secretary	Greg A. Walker	262-82-8649	June 30, 1999
Vice President and Treasurer	Farokh S. Hakimi	093-42-6402	June 30, 1999
Senior Vice President	Gerald J. Malys	165-36-0198	June 30, 1999
Senior Vice President, General Counsel, and Secretary	Philip C. Wolf	317-50-5623	June 30, 1999
Director of Tax	J. David Flemming	301-48-5865	June 30, 1999
Assistant Secretary	Sharon J. Fetherhuff	503-50-3540	June 30, 1999
Assistant Secretary	Dale E. Huffman	557-86-5790	June 30, 1999
Assistant Treasurer	J. M. Coyner	227-60-6113	June 30, 1999
Senior Vice President, Sales and Marketing	Nicholas P. Moros	042-40-2347	August 11, 1999
Director	N. P. Moros	042-40-2347	August 11, 1999
Director	Satoki Shimazaki	Japanese	November 5, 1999
Assistant Secretary	Susan E. Chetlin	210-46-8811	December 8, 1999
Vice President, Sales and Marketing	Patrick J. Panzarino	134-38-7821	December 8, 1999
Controller	Frank J. Wood	230-74-0342	March 1, 2000
Vice President and Treasurer	J. Alan Link	232-92-6300	April 1, 2000
Vice President, Operations	George A. Vajda	303-46-6591	May 16, 2000
Director	Kazuma Ishikawa	Japanese	July 13, 2000
Vice President, International Sales	Tracy V. Bunderson	529-72-3300	December 11, 2000
President and Director	John M. DeMichiei	208-40-1828	September 13, 2001
Director	Thomas J. Lien	474-46-3032	December 7, 2001
	John R. Tellman	315-54-6211	December 7, 2001
	Soichi Komaya	Japanese	December 10, 2001
	Michael Henry	Australian	December 10, 2001

APPENDIX D

Mine Maps

As required under R645-302-525-270

APPENDIX E

Other Information

In accordance with the requirements of R645-301 and R645-302