COAL MINING AND RECLAMATION OPERATIONS FOR 1995

(Must be submitted to the Division by April 2, 1996)

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

RECEIVED
APR - 2 1996
DIV OF OIL, GAS & MINING

Permittee: MOUNTAIN COAL COMPANY

Mine Name: GORDON CREEK No. 3/6 MINES

Mailing Address: P.O. Box 591, SOMERSET, COLO. 81434

Company Representative: PAIGE B. BEVILLE

Resident Agent: THE CORP. TRUST CO., 1209 ORANGE ST. WILMINGTON, DE 19801

Permit Number: INA/007/017

MSHA ID Number: N/A

Date of Initial Permanent Program Permit: 05/11/78

Date of Permit Renewal: 11/12/91

Quantity of Coal Mined (tonnage) 1995: N/A

Attach Updated Mine Sequence Map(s) showing mine development through December 31, 1995.
(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.

2. Springs

a. Are there seasonal trends/or changes in water quality for each quarter? Stiff diagrams provide a good aid in this determination.

b. Provide an analysis of changes in quantity of flow. Discuss any significant changes or trends. (An accumulation of long-term data, especially in graph form, is helpful for this discussion.)

3. Surface Water

a. Include (discuss or tabulate) comparisons of upstream and downstream water quality and quantity for monitoring sites for each quarter. Include tributary quantity and quality information. Compare with mine water discharge, where applicable.

b. Discuss any subsidence occurring over underlying tributaries and streams (perennial or ephemeral), and results from monitoring of subsided areas.

C. Summarized Water Monitoring Data

1. List of monitoring points and their locations and respective frequencies of monitoring (monthly, quarterly, etc.) as approved in the PAP;
2. UPDES permit number, UPDES discharge points, and their locations (based on UTM coordinates, if possible).
3. Summary of findings based on water monitoring during 1995; and
4. Submit water monitoring as DOS-based files. Be specific about the format, submit data in one of the following formats only, i.e: Quattro Pro, Lotus, or ASCII.

D. Precipitation or Other Climatological Data (please submit as DOS-based files: ASCII, Lotus, Quattro Pro, FoxPro, etc. -- Contact Ken Wyatt, if you have any questions).

E. Subsidence Monitoring Report:

1. Brief description of monitoring system (monuments or aerial surveys, how monitoring is done, how frequently monitoring is done);
2. List of all monitoring points (if any) and their locations and amount of displacement of each;
3. Map showing either monitoring points (if any) or a representation of subsidence which has occurred; and
4. Any owners and/or occupants of surface property and structures above the underground workings who were or will be mailed notification six months prior to mining (R645-301-525.300).
5. Discussion of any proposed mining sequence changes and how that may affect the area of monitoring for the following year.

F. Vegetation Data (test plots) or Revegetation Success Monitoring (includes interim and final):

1. Test plot monitoring data or implementation;
2. Quantitative results from interim or final seeding efforts;
3. If quantitative monitoring was not required, then at minimum, a qualitative description of the interim or final vegetation; and
4. Describe any seeding done on site during the current year.

G. Annual Impoundment Certification, (R645-301-514.312) which includes the following information:

1. Any appearances of instability;
2. Structural weakness or other hazardous conditions;
3. Depth and elevation of any impounded waters;
4. Existing storage capacity;
5. Any existing or required monitoring procedures and instrumentation; and
6. Any other aspects of the structure affecting stability.

Suggested Form Enclosed

H. Annual Overburden, Spoil, Refuse, Roof, Floor, and Mid-Seam Data. For Consistency and completeness, please submit data for this reporting requirement in the following manner:

1. Location of sample site, sample interval, and sample matrix (if roof or floor, then include lithologic unit and if coal, then thickness of seam at sample site);
2. Sampling technique employed in the field (i.e., grab sample, composite, depth segregated or specific procedure outlined in the permit by chapter and page) and preparation prior to analysis (i.e., sieved sample, ground sample, air dried, oven dried, etc.);
3. Laboratory analysis report sheet which includes:
   i. Sample time and date;
   ii. Date and time of lab analysis; and
   iii. Analytical method(s) employed and references. Include the soil/spoil: water ratio.
4. Summary of findings based on monitoring.

I. A current copy of the annual report of officers submitted to the Department of Commerce and any changes in the ownership and control information required under R645-301-110.

J. Any Other Information Required to be Submitted as Specified in your Permit Application Package and Permit.

PERMIT

NON-FEDERAL

PERMIT
ACT/007/017

November 12, 1991

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
(801) 538-5340

This permit, ACT/007/017, is issued for the State of Utah by the Utah Division of Oil, Gas and Mining (Division) to:

Mountain Coal Company
P.O. Box 1378
Price, Utah 84501
(801) 637-5050

for the Gordon Creek #3 and #6 Mine. A Surety Bond is filed with the Division in the amount of $138,400, payable to the State of Utah, Division of Oil, Gas and Mining. The Division must receive a copy of this permit signed and dated by the permittee.

Sec. 1 **STATUTES AND REGULATIONS** - This permit is issued pursuant to the Utah Coal Mining and Reclamation Act of 1979, Utah Code Annotated (UCA) 40-10-1 et seq, hereafter referred to as the Act.

Sec. 2 **PERMIT AREA** - The permittee is authorized to conduct underground coal mining activities on the following described lands within the permit area at the Gordon Creek #3 and #6 Mine, situated in the state of Utah, Carbon County, and located:

Township 13 South, Range 8 East, SLBM

Section 8:	SE1/4 SE1/4
Section 9:	S1/2 SW1/4, SW1/4 SE1/4
Section 16:	SE1/4 NW1/4, SW1/4 NE1/4, N1/2 NW1/4, SW1/4, SW1/4 NW1/4, Portions of SW1/4 SE1/4, Portions of NW1/4 SE1/4
Section 17:	NE1/4 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
Section 21:	Portions of W1/2 NE1/4, Portions of SE1/4 NW1/4

This legal description is for the permit area of the Gordon Creek #3 and #6 Mine. The permittee is authorized to conduct underground coal mining activities and related surface activities on the foregoing described property subject to all applicable conditions, laws and regulations.

Sec. 3 **COMPLIANCE** - The permittee will comply with the terms and conditions of the permit, all applicable performance standards and requirements of the State Program.

Sec. 4 **PERMIT TERM** - This permit is renewed, effective November 12, 1991, and will expire on September 19, 1996.

Sec. 5 **ASSIGNMENT OF PERMIT RIGHTS** - The permit rights may not be transferred, assigned or sold without the prior written approval of the Division Director. Transfer, assignment or sale of permit rights must be done in accordance with applicable regulations, including but not limited to 30 CFR 740.13{e} and R614-303-300.

Sec. 6 **RIGHT OF ENTRY** - The permittee shall allow the authorized representative of the Division, including but not limited to inspectors, and representatives of the Office of Surface Mining Reclamation and Enforcement (OSM), without advance notice or a search warrant, upon presentation of appropriate credentials, and without delay to:

(a) have the rights of entry provided for in 30 CFR 840.12, R614-400-220, 30 CFR 842.13 and R614-400-110;

(b) be accompanied by private persons for the purpose of conducting an inspection in accordance with R614-400-100 and R614-400-200 when the inspection is in response to an alleged violation reported to the Division by the private person.

Sec. 7 **SCOPE OF OPERATIONS** - The permittee shall conduct underground coal mining activities only on those lands specifically designated as within the permit area on the maps submitted in the approved plan and approved for the term of the permit and which are subject to the performance bond.

Sec. 8 **ENVIRONMENTAL IMPACTS** - The permittee shall take all possible steps to minimize any adverse impact to the environment or public health and safety resulting from noncompliance with any term or condition of the permit, including, but not limited to:

(a) Any accelerated or additional monitoring necessary to determine the nature and extent of noncompliance and the results of the noncompliance;

(b) immediate implementation of measures necessary to comply; and

(c) warning, as soon as possible after learning of such noncompliance, any person whose health and safety is in imminent danger due to the noncompliance.

Sec. 9 CONDUCT OF OPERATIONS - The permittee shall conduct its operations:

(a) in accordance with the terms of the permit to prevent significant, imminent environmental harm to the health and safety of the public; and

(b) utilizing methods specified as conditions of the permit by the Division in approving alternative methods of compliance with the performance standards of the Act, the approved Utah State Program and the Federal Lands Program.

Sec. 10 EXISTING STRUCTURES - As applicable, the permittee will comply with R614-301 and R614-302 for compliance, modification, or abandonment of existing structures.

Sec. 11 RECLAMATION FEE PAYMENTS - The operator shall pay all reclamation fees required by 30 CFR Part 870 for coal produced under the permit, for sale, transfer or use.

Sec. 12 AUTHORIZED AGENT - The permittee shall provide the names, addresses and telephone numbers of persons responsible for operations under the permit to whom notices and orders are to be delivered.

Sec. 13 COMPLIANCE WITH OTHER LAWS - The permittee shall comply with the provisions of the Water Pollution Control Act (33 USC 1151 et seq,) and the Clean Air Act (42 USC 7401 et seq), UCA 26-11-1 et seq, and UCA 26-13-1 et seq.

Sec. 14 PERMIT RENEWAL - Upon expiration, this permit may be renewed for areas within the boundaries of the existing permit in accordance with the Act, the approved Utah State Program and the Federal Lands Program.

Sec. 15 CULTURAL RESOURCES - If during the course of mining operations, previously unidentified cultural resources are discovered, the permittee shall ensure that the site(s) is not disturbed and shall notify the Division. The Division, after coordination with OSM, shall inform the permittee of necessary actions required. The permittee shall implement the mitigation measures required by Division within the time frame specified by Division.

Sec. 16 APPEALS - The permittee shall have the right to appeal as provided for under R614-300-200.

Sec. 17 SPECIAL CONDITIONS - There are special conditions associated with this permitting action, as described in Attachment A.

The above conditions (Secs. 1-17) are also imposed upon the permittee's agents and employees. The failure or refusal of any of these persons to comply with these conditions shall be deemed a failure of the permittee to comply with the terms of this permit and the lease. The permittee shall require his agents, contractors and subcontractors involved in activities concerning this permit to include these conditions in the contracts between and among them. These conditions may be revised or amended, in writing, by the mutual consent of the Division and the permittee at any time to adjust to changed conditions or to correct an oversight. The Division may amend these conditions at any time without the consent of the permittee in order to make them consistent with any federal or state statutes and any regulations.

THE STATE OF UTAH

By: Dave R Nelson

Date: 11-12-91

I certify that I have read, understand and accept the requirements of this permit and any special conditions attached.

Richard L Rich

Authorized Representative of the Permittee

Date: 11-26-91

A:\PERMIT.GC3

Attachment A

SPECIAL CONDITIONS

PERMIT RENEWAL

GORDON CREEK #3 AND #6 RECLAIMED MINE

Condition #1: R614-301-300 Biology (SW)

Within 30 days of permit renewal, the operator must submit clarifying information regarding the reclamation success standards for final bond release.

1) The Gordon Creek #3 and #6 permit states that reclamation success will be based on cover and production. However, the postmining land uses of livestock grazing, hunting, and deer forage, etc. require that tree and shrub stocking rates must also be a success standards. If tree and shrub stocking rates are used as a success standards, then shrub density measurements must be taken in the reference areas and on the site. Specific commitments must also be included in the permit as to stocking rates.

2) Two reference areas, sagebrush-grass and oak shrubland areas are used as the success standards. Map 9-1 is not of sufficient scale to determine which reclaimed areas are to be compared to the grass or the oak reference area. Additionally, the vegetation types on the road from the gate to the facilities area are not shown on the map. Details of the success standards for each reclaimed areas must be included in the permit in writing, or a map with those designations must be provided.

3) The success standards for cover, production and shrub density must be met for two consecutive years at a 90 percent statistical confidence interval. Please include this commitment in the permit.

Condition #2: R614-301-400 Land Use (SW)

Within 30 days of permit renewal, the operator must submit consent letters from all the landowners of the reclaimed area.

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AMENDMENTS

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

November 6, 1995

Paige B. Beville, Manager
Environmental, Health & Safety
Mountain Coal Company
ARCO Coal Company
555 17th Street, Room 2170
Denver, CO 80202

Re: Water Monitoring Amendment, Gordon Creek #3 & #6 Mines, Mountain Coal Company, ACT/007/017-95A, Folder #2, Emery County, Utah

Dear Ms. Beville:

The above-noted amendment is approved, effective November 6, 1995. Enclosed is a copy of the amendment for incorporation into the permit. The amendment changes the water sampling frequency to a bi-annual sampling. The permittee must make every reasonable effort to schedule water sampling when flows are expected at the water monitoring points.

Sincerely,

Susan M. White

Susan M. White
Sr. Reclamation Biologist

Enclosure
cc: James Fulton, OSM, WRCC, Denver
Mark Page, Water Rights, Price
Dave Ariotti, DEQ, Price
Bill Bates, DWR, Price
PFO (w/enclosure)
Dan W. Guy
GC36MINE.95A

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

October 11, 1995

FIELD(001)

Re: Water Monitoring Amendment, Gordon Creek #3 & #6 Mines, Mountain Coal Company, ACT/007/017-95A, Folder #2, Emery County, Utah

Dear Mr. **FIELD(002)**:

Enclosed is a copy of Mountain Coal Company's permit modification (Amendment 95A) to change the water monitoring Station 3-3-W from a UPDES Discharge Point to a regular monitoring station.

The Division anticipates approving this permit change on October 31, 1995. If you have any questions or need additional information, please contact me or Joseph C. Helfrich, Permit Supervisor, at your earliest convenience.

Sincerely,

Susan M. White

Susan M. White
Sr. Reclamation Biologist

Enclosure
cc: Dan W. Guy
Paige Beville
TRANLTR.95A

James Fulton, Chief
Denver Field Division
Office of Surface Mining
Reclamation and Enforcement
Western Regional Coordinating Center
1999 Broadway, Ste. 3320
Denver, CO 80202-5733

Mark Page, Regional Engineer
Utah Division of Water Rights
Southeastern Regional Office
453 S. Carbon Avenue
P. O. Box 718
Price, UT 84501-0718

Dave Ariotti, District Engineer
Southeastern Utah Health Dept.
28 South 100 East
P. O. Box 800
Price, UT 84501

Bill Bates, Habitat Manager
Utah Division of Wildlife Resources
455 West Railroad Avenue
Price, UT 84501

Price Field Office (1 official copy)
Division of Oil, Gas and Mining
451 East 400 North
Price, UT 84501-2699

Division/ SLO - (1 official copy)

Permittee (1 official copy)

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* Distributed only for new areas (surface or subsurface) involved in permitting actions, otherwise the "new" copies are review copies.

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

October 2, 1995

Susan White
Reclamation Specialist
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: Water Monitoring Amendment
Gordon Creek No. 3-6 Mines
INA/007/017
Carbon County, Utah

Dear Susan:

Enclosed are 8 copies of a proposed water monitoring amendment for the Gordon Creek No 3-6 Mines. The proposal is to change Station 3-3-W from a UPDES Discharge Point to a regular monitoring station.

The minesite has received Phase II Bond Release, and the UPDES permit has been cancelled effective August 30, 1995. A copy of the letter cancelling the permit is also enclosed.

If you have any questions or need any further information, please let me know.

Respectfully,

Dan W. Guy
for
Paige B. Beville

cc: Scot Anderson
Paige Beville
File

APPLICATION FOR PERMIT CHANGE

Title of Change: WATER MONITORING AMENDMENT

Permit Number: INA/007/017

Mine: GORDON CREEK 3/6

Permittee: Mountain Coal Co.

Description, include reason for change and timing required to implement:
Elimination of UPDES Discharge.

☐ Yes	☑ No	1. Change in the size of the Permit Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☑ No	2. Change in the size of the Disturbed Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☑ No	3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?
☐ Yes	☑ No	4. Will permit change include operations in hydrologic basins other than currently approved?
☐ Yes	☑ No	5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes	☑ No	6. Does permit change require or include public notice publication?
☐ Yes	☑ No	7. Permit change as a result of a Violation? Violation #
☐ Yes	☑ No	8. Permit change as a result of a Division Order? D.O.#
☑ Yes	☐ No	9. Permit change as a result of other laws or regulations? Explain: Cancelled UPDES Permit.
☐ Yes	☑ No	10. Does permit change require or include ownership, control, right-of-entry, or compliance information?
☐ Yes	☑ No	11. Does the permit change affect the surface landowner or change the post mining land use?
☐ Yes	☑ No	12. Does permit change require or include collection and reporting of any baseline information?
☐ Yes	☑ No	13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?
☐ Yes	☑ No	14. Does permit change require or include soil removal, storage or placement?
☐ Yes	☑ No	15. Does permit change require or include vegetation monitoring, removal or revegetation activities?
☐ Yes	☑ No	16. Does permit change require or include construction, modification, or removal of surface facilities?
☑ Yes	☐ No	17. Does permit change require or include water monitoring, sediment or drainage control measures?
☐ Yes	☑ No	18. Does permit change require or include certified designs, maps, or calculations?
☐ Yes	☑ No	19. Does permit change require or include underground design or mine sequence and timing?
☐ Yes	☑ No	20. Does permit change require or include subsidence control or monitoring?
☐ Yes	☑ No	21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?
☐ Yes	☑ No	22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?
☐ Yes	☑ No	23. Is this permit change coal exploration activity ☐ inside ☐ outside of the permit area?

☒ Attach 8 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Dan N. Guy for Paige B. Deville 10/2/95
Signed - Name - Position - Date

Subscribed and sworn to before me this 2 day of OCT, 19 95

Dana Ballard
Notary Public

My Commission Expires: 9-27-, 19 97

Attest: STATE OF Ut.
COUNTY OF Carbon

DANA BALLARD
NOTARY PUBLIC - STATE of UTAH
865 EAST 2800 SOUTH
PRICE, UTAH 84501
COMM. EXP. 9-27-97

Received by Oil, Gas & Mining

ASSIGNED PERMIT CHANGE NUMBER

Application for Permit Change
Detailed Schedule of Changes to the Permit

Title of Change: WATER MONITORING AMENDMENT

Permit Number: INA/007/017

Mine: Gordon Creek 3/6

Permittee: Mountain Coal Co.

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	☒ REPLACE	☐ REMOVE	Page 7-33
☐ ADD	☒ REPLACE	☐ REMOVE	Page 7-35
☐ ADD	☐ REPLACE	☐ REMOVE	
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Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

PERMIT CHANGE CHRONOLOGY

Title of Proposal: WATER MONITORING AMENDMENT	PERMIT NUMBER: INA/007/017
Description:	PERMIT CHANGE #:
	PERMITTEE: Mountain Coal Co.
	MINE NAME: Gordon Creek 3/6 Mines

DATE		DOCUMENT ALL ACTIVITIES ASSOCIATED WITH THIS PERMIT CHANGE
	☐Sent ☒Recv'd.	Initial Application for Permit Change Received from Permittee
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☐ ADDITIONAL SHEET

- original to file
copy to Dan G.
- MCC - Utah file

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

Michael O. Leavitt
Governor

Dianne R. Nielson, Ph.D.
Executive Director

Don A. Ostler, P.E.
Director

288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870
(801) 538-6146 Voice
(801) 538-6016 Fax
(801) 536-4414 T.D.D.

Water Quality Board
Keith W. Welch
Chairman
Lynn F. Pett
Vice Chairman
R. Rex Ausburn, P.E.
David S. Bowles
Patricia S. Briggs
Nan Bunker
Leonard Ferguson
Dianne R. Nielson, Ph.D.
Joe C. Nielson
K.C. Shaw
Leroy H. Wullstein, Ph.D.
Don A. Ostler, P.E.
Executive Secretary

August 30, 1995

Dan W. Guy
Mountain Coal Company
P.O. Box 591
Somerset, CO 81434

Dear Mr. Guy:

Subject: UPDES Permits No. UTG040014 - Gordon Creek and UTG040015 - Huntington Canyon

Your recent letter states that you have discontinued two of your discharges into waters of the State and that the above referenced permits to discharge are no longer needed. Therefore, on the basis of your request, your discharge permits will be removed from our active files and will be considered as no longer in effect.

If you plan to have any future discharge into waters of the State, please submit an application for a permit to our office at least 180 days before the date the discharge is to begin. If you have any questions, please contact Steven McNeal at (801) 538-6075.

Sincerely,

Donald A. Hilden, Ph.D., Manager
Permits and Compliance Section

KC/kc

cc: Judy Kobus-Fisk, U.S. EPA Region VIII
Claron D. Bjork, Southeastern Utah District Health Dept.
Dave Ariotti, District Engineer

Printed on recycled paper

OTHER PERMITS

- original to Paige
copy to Dan G.
- MCC - Utah File

Michael O. Leavitt
Governor

Dianne R. Nielson, Ph.D.
Executive Director

Don A. Ostler, P.E.
Director

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

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August 30, 1995

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If you plan to have any future discharge into waters of the State, please submit an application for a permit to our office at least 180 days before the date the discharge is to begin. If you have any questions, please contact Steven McNeal at (801) 538-6075.

Sincerely,

Donald A. Hilden, Ph.D., Manager
Permits and Compliance Section

KC/kc

cc: Judy Kobus-Fisk, U.S. EPA Region VIII
Claron D. Bjork, Southeastern Utah District Health Dept.
Dave Ariotti, District Engineer

Printed on recycled paper

BOND

cc: D. Ilay
P. Page
K. West

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

February 17, 1995

Paige Beville
Manager, Environmental, Health, and Safety
ARCO Coal Company
555 Seventeenth Street
Denver, CO 80202

Re: Acceptance of Rider to Decrease Bond #U629895, Phase II Bond Release, Gordon Creek #3 and #6 Mines, Mountain Coal Company, ACT/007/017, Folders #3 and #4, Carbon County, Utah

Dear Ms. Beville:

Enclosed please find a copy of the rider to the above-noted bond which acknowledges acceptance of the decrease in the bond due to the Phase II Bond Release, effective February 13, 1995.

If you have any questions, please call me.

Sincerely,

Pamela Grubaugh-Littig
Permit Coordinator

Enclosure
cc: Susan White

Reliance

RELIANCE SURETY COMPANY
Philadelphia, Pennsylvania
RELIANCE INSURANCE COMPANY
Philadelphia, Pennsylvania

UNITED PACIFIC INSURANCE COMPANY
Philadelphia, Pennsylvania
RELIANCE NATIONAL INDEMNITY COMPANY
Philadelphia, Pennsylvania

RIDER

To be attached to and form a part of

Type of Bond: MINED LAND RECLAMATION ACT BOND

Bond No. U629895

executed by MOUNTAIN COAL COMPANY, as Principal,

and by UNITED PACIFIC INSURANCE COMPANY, as Surety,

in favor of STATE OF UTAH, DIVISION OF OIL, GAS AND MINING

and dated September 5, 1991.

In consideration of the premium charged for the attached bond, it is hereby agreed to change:

THE AMOUNT OF THE BOND IS REDUCED:

From: $138,400.00

(One Hundred Thirty-Eight Thousand Four Hundred and no/100---dollars)

To: $52,971.00

(Fifty-Two Thousand, Nine Hundred Seventy-One and no/100 -- dollars)

The attached bond shall be subject to all its agreements, limitations and conditions except as herein expressly modified.

This rider is effective January 16, 1995

Signed and Sealed January 16, 1995

Principal MOUNTAIN COAL COMPANY

By: Richard O'Rich Vice-President
Title

UNITED PACIFIC INSURANCE COMPANY

By: Cassie J. Berrisford
Cassie J. Berrisford Attorney-in-Fact

RIDER ACCEPTED (Please sign duplicate of this Rider and return to Surety)

By:

Date 2/13/95

BD-1468 4/94

CALIFORNIA CIVIL CODE - CERTIFICATE OF ACKNOWLEDGMENT

STATE OF CALIFORNIA)
)
County of Los Angeles)

On January 16, 1995, before me, CORA R. GALINATO, NOTARY PUBLIC,

personally appeared CASSIE J. BERRISFORD

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature Cora R. Galinato (Seal)

CORA R. GALINATO
COMM. #987492
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My Commission Exp. March 24, 1997

UNITED PACIFIC INSURANCE COMPANY

HEAD OFFICE, PHILADELPHIA, PENNSYLVANIA

POWER OF ATTORNEY

NOW ALL MEN BY THESE PRESENTS, That the UNITED PACIFIC INSURANCE COMPANY, a corporation duly organized under the laws of the State of Pennsylvania, does hereby make, constitute and appoint **Cassie J. Berrisford, individually, of Los Angeles, California**, its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver for and on its behalf, and as its act and deed any and all bonds and undertakings of suretyship and to bind the UNITED PACIFIC INSURANCE COMPANY thereby as fully and to the same extent as if such bonds and undertakings and other writings obligatory in the nature thereof were signed by an Executive Officer of the UNITED PACIFIC INSURANCE COMPANY and sealed and attested by one other of such officers, and hereby ratifies and confirms all that its said Attorney(s)-in-Fact may do in pursuance hereof.

This Power of Attorney is granted under and by authority of Article VII of the By-Laws of UNITED PACIFIC INSURANCE COMPANY which became effective September 7, 1978, which provisions are now in full force and effect, reading as follows:

ARTICLE VII - EXECUTION OF BONDS AND UNDERTAKING

1. The Board of Directors, the President, the Chairman of the Board, any Senior Vice President, any Vice President or Assistant Vice President or other officer designated by the Board of Directors shall have power and authority to (a) appoint Attorney(s)-in-Fact and to authorize them to execute on behalf of the Company, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof, and (b) to remove any such Attorney(s)-in-Fact at any time and revoke the power and authority given to them.

2. Attorney(s)-in-Fact shall have power and authority, subject to the terms and limitations of the Power of Attorney issued to them, to execute and deliver on behalf of the Company, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof. The corporate seal is not necessary for the validity of any bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof.

3. Attorney(s)-in-Fact shall have power and authority to execute affidavits required to be attached to bonds, recognizances, contracts of indemnity or other conditional or obligatory undertakings and they shall also have power and authority to certify the financial statement of the Company and to copies of the By-Laws of the Company or any article or section thereof.

This Power of Attorney is signed and sealed by facsimile under and by authority of the following Resolution adopted by the Board of Directors of UNITED PACIFIC INSURANCE COMPANY at a meeting held on the 5th day of June, 1979, at which a quorum was present, and said Resolution has not been amended or repealed:

> "Resolved that the signatures of such directors and officers and the seal of the Company may be affixed to any such Power of Attorney or any certificates relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company and any such Power so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company, in the future with respect to any bond or undertaking to which it is attached."

IN WITNESS WHEREOF, the UNITED PACIFIC INSURANCE COMPANY has caused these presents to be signed by its **Vice President** and its corporate seal to be hereto affixed, this **8 day of October, 1993**

UNITED PACIFIC INSURANCE COMPANY

Vice President

STATE OF Washington }
COUNTY OF King }ss.

On this **8 day of October, 1993** personally appeared **Lawrence W. Carlstrom** to me known to be the **Vice President** of the UNITED PACIFIC INSURANCE COMPANY, and acknowledged that he executed and attested the foregoing instrument and affixed the seal of said corporation thereto, and that Article VII, Section 1, 2, and 3 of the By-Laws of said Company, and the Resolution, set forth therein, are still in full force.

NOTARY PUBLIC 8-16-97 STATE OF WASHINGTON

Notary Public in and for State of Washington
Residing at Sumner

I, **Robyn Layng, Assistant Secretary** of the UNITED PACIFIC INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney executed by said UNITED PACIFIC INSURANCE COMPANY, which is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Company this 16th day of January 19 95

Assistant Secretary

BDU-1431 Ed. 3/93

STATE OF COLORADO)
) ss.
CITY & COUNTY OF DENVER)

I hereby certify that on this day before me, an officer duly authorized in the State, City and County aforesaid, to take acknowledgments, personally appeared **Richard D. Pick**, known to me to be the Vice President of Mountain Coal Company, a Delaware corporation, and to me known to be the person described in the foregoing instrument, and acknowledged before me that he executed the same.

Witness my hand and official seal in the City and County and State last aforesaid as of this thirty-first day of January, 1995.

PAMELA J. POPE
NOTARY PUBLIC
STATE OF COLORADO

Notary Public

Address: Denver, Colorado

My commission expires: June 21, 1995

CERTIFICATE

I, **Thomas F. Linn**, a duly appointed Assistant Secretary of **Mountain Coal Company** (the "Company"), a corporation organized under the laws of the State of Delaware, do hereby certify that:

1. Richard D. Pick was duly appointed Vice President of Mountain Coal Company, a wholly-owned subsidiary of Atlantic Richfield Company, pursuant to and in accordance with a Resolution of Mountain Coal Company's Board of Directors, and that said Vice President is currently a qualified and acting Vice President of Mountain Coal Company.

2. Said Vice President in his capacity as Vice President of Mountain Coal Company is empowered to execute and deliver various documents and instruments in accordance with the following resolution adopted by the Board of Directors of Atlantic Richfield Company at its meeting on September 19, 1994:

   RESOLVED, That the Chairman, the President, any Vice President and the Treasurer be and they are hereby severally empowered to execute all contracts, documents, assignments, releases, proxies, powers of attorney with full and general or limited authority, with power of substitution, or any other instrument similar or dissimilar to the preceding, and other papers requiring execution in the name of the Company; and the Secretary and any Assistant Secretary are hereby authorized to affix the seal of the Company to such papers as require the seal. Each of such officers is hereby empowered to acknowledge and deliver any such instruments or papers as fully as if special authority had been granted in each particular case.

I further certify that the foregoing Resolution is still in full force and effect and has not been amended or rescinded.

WITNESS my hand and seal of this Company this thirty-first day of January, 1995.

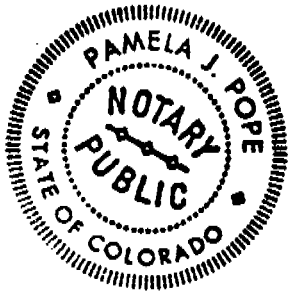
[SEAL]

Thomas F. Linn
Assistant Secretary

STATE OF COLORADO)
) ss.
CITY & COUNTY OF DENVER)

I hereby certify that on this day before me, an officer duly authorized in the State, City and County aforesaid, to take acknowledgments, personally appeared **Thomas F. Linn**, known to me to be the Assistant Secretary of Mountain Coal Company, a Delaware corporation, and to me known to be the person described in the foregoing instrument, and acknowledged before me that he executed the same.

Witness my hand and official seal in the City and County and State last aforesaid as of this thirty-first day of January, 1995.



Notary Public

Address: Denver, Colorado

My commission expires: June 21, 1995

ARCO Coal Company **Internal Correspondence**

Date: January 12, 1995

Subject: **Gordon Creek Mines 3 and 6 - Bond Reduction Request Bond U-629895. Utah Permit ACT/007/017**

From/Location: Paige B. Beville

To/Location: Julia E. Fisher, Insurance - AP 4951

Attached is a copy of the Decision Document from the Utah Department of Oil, Gas and Mining authorizing Phase II Bond release and the reduction of the Reclamation Bond covering Gordon Creek Mines 3 and 6 in Utah. We are therefore requesting a reduction in Bond U-629895 from $138,400 to $52,971, a difference of $85,429.

Please let me know if you need any additional information.

Attachment

cc: S. W. Anderson w/attachment
P. G. Schmidt w/attachment
D. W. Guy w/attachment
R. D. Pick w/o attachment

Pursuant to the October 24, 1994 site visit, OSM-Washington reversed the AFO decision of August 18, 1994.

On August 22, 1994 Lowell Braxton sent a letter to Thomas Ehmett requesting comments on any other outstanding issued at the Gordon Creek #3 and #6 Mines. No comments on any technical issues related to the Phase II bond release have been received to date.

Decision for Phase II Bond Release

Based on the documented findings that: 1) vegetation has been established pursuant to R645-301-880.320, and 2) no reclaimed lands at the Gordon Creek #3 and #6 Mines are contributing additional suspended solids to streamflow or runoff outside the permit area in excess of the requirement set by UCA 40-10-17 (j) of the Act and by R645-301-751, the Division proposes to release $85,429.

The remaining $52,971 represents the amount of bond retained for the revegetated area which would be sufficient to cover the cost of reestablishing revegetation if completed by a third party.

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

January 9, 1995

Paige Beville
Manager, Environmental, Health and Safety
ARCO Coal Company
555 Seventeenth Street
Denver, Colorado 80202

Re: Phase II Bond Release, Gordon Creek #3 and #6 Mines, Mountain Coal Company, ACT/007/017, Folder #3 and #4, Carbon County, Utah

Dear Ms. Beville:
Paige

Enclosed please find the Decision Document and Findings for the Phase II Bond Release for Gordon Creek #3 and #6 Mines. Pursuant to these findings, the Division will release $85,429 (Phase II) for the Gordon Creek #3 and #6 Mines. The remaining $52,971 represents the amount of bond retained for the revegetated area which would be sufficient to cover the cost of reestablishing revegetation if completed by a third party.

If you have any questions, please call me or Pamela Grubaugh-Littig.

Sincerely,

Lowell P. Braxton
Associate Director, Mining

Enclosure
cc: Pamela Grubaugh-Littig
Daron Haddock
Joe Helfrich

DECISION DOCUMENT
PHASE II BOND RELEASE
GORDON CREEK #3 AND #6 MINES
ACT/007/017

SUMMARY OF THE REVIEW PROCESS

The Gordon Creek #3 and #6 Mines is a reclaimed underground coal mine located in Coal Canyon, approximately 20 road miles northwest of Price, Utah . The permit area is located on the Jump Creek Utah, U.S. Geological Survey 15 minutes quadrangle map. The Gordon Creek #3 and #6 Mines shared common surface facilities, except conveyors and stockpiles. The Gordon Creek # 3 Mine was opened in 1969 and was continuously operated until September 1983. Three underground operations were located within a short distance of the Gordon Creek #3 Mine , - Sweets, National and Consumers Mine which were active in the 1940's, but are now closed. The Gordon Creek #6 Mine, located 160 feet above the #3 Mine was opened in 1978, although the construction and disturbance was created in 1969 (the same time as the #3 opened), and was operated until November 1980, when it closed due to economic and safety factors. Portals were sealed for both mines in September 1983.

The permit area is located on the eastern edge of the Wasatch Plateau and is characterized by a steep, narrow canyon containing conspicuous sandstone cliffs. The elevation of the area lies between 7,550 and 7,850 feet above sea level. Vegetation types adjacent to the mine area were oak-shrubland and sagebrush-grassland communities. The permit area cover 668 acres with the bonded area of about 28 acres. The mine permit area is located on mostly privately-owned land, with some state lands. Coal was mined from fee, state, county and federal leases.

Mine site reclamation included portal seals, structural removal, coal waste removal, backfilling, grading and revegetation. The Gordon Creek #3 and #6 Mines completed Phase I reclamation during the period of September 15, 1985 through November 30, 1986. The original bond posted for this property was $346,000. The Division approved a 60% bond release ($216,062) on June 26, 1987.

The Mountain Coal Company submitted a Phase II bond release application to the Division for the Gordon Creek #3 and #6 Mines on December 13, 1993 including a SEDCAD analysis and vegetative information. Mountain Coal Company requested release of an additional 30% of the original bond, or $103,800 for the Phase II bond release.

The Phase II bond release inspection was conducted on May 18, 1994 with personnel from the Division, OSM-Albuquerque Field Office, OSM- Western Support Center, and Mountain Coal Company in attendance.

FINDINGS FOR PHASE II BOND RELEASE
GORDON CREEK #3 AND #6 MINES
ACT/007/017

In accordance with R645-301-880.120 and 200, the Mountain Coal Company published the newspaper advertisement for the Phase II bond release in the Sun Advocate on September 21, 28 and October 5 and 12, 1993. The Division scheduled the Phase II bond release inspection for May 18, 1994 by sending letters on April 22, 1994. This inspection was scheduled when weather permitted for inspection and evaluation of the reclamation work involved.

The Phase II bond release inspection was conducted on May 18, 1994 with the following attendees:

DOGM:	Susan White, Tom Munson, Henry Sauer, Pamela Grubaugh-Littig
OSM-AFO:	Edzel Pugh and Russ Porter
OSM-WSC:	Daylan Figgs and Phil Reinholtz
Mountain Coal Company:	Dan Guy and Dana Ballard (Blackhawk Engineering)

Vegetation Data for Phase II Bond Release

Mountain Coal Company notified the Division of its intent to conduct vegetation sampling on July 29 through July 31, 1993 for Phase II bond release. The Division subsequently notified OSM and invited them to conduct their own sampling. Division vegetation sampling was completed on August 6 and 10, 1993.

Mountain Coal Company sampled for vegetative cover and woody species density. Vegetative cover and woody species density met the Division's requirement for sample adequacy while production measurements were only taken to provide guidance to Mountain Coal Company for final bond release. Mountain Coal Company summarizes the statistical differences in the data in Table 33 of the vegetation report for bond release. The report finds that the reclaimed area is either significantly greater than or equal to the vegetation reference area for vegetative cover and woody plan density.

The Division sampled only for vegetative cover on the reclaimed mine site and the reference area. Vegetation composition and diversity data were obtained from

the cover data. The Division also found that the reclaimed area was either significantly greater than or equal to the vegetation reference area.

Statgraphics, Version 6 (1992) was used for all of the statistical analysis. The Division found no significant difference between the vegetation on the lower pad area and the reference area. Data from the Division and Mountain coal Company indicate the same statistical conclusion. According to the Division's definition of successful revegetation establishment, Gordon Creek #3 and #6 Mines have met the minimum qualification for the vegetation cover portion of Phase II bond release. R645-301-356.120 states that the reclaimed area only has to meet 90 percent of the success standard. All of the statistical conclusions used in this analysis were based on 100 percent of the standard. This fact provides greater confidence for Phase II bond release at this site. All of this information was forwarded to OSM-AFO on May 5, 1994, prior to the bond release inspection.

A final report by Division Biologist, Susan White, was done July 7, 1994 subsequent to the Phase II bond release field inspection and recommended Phase II bond release pursuant to R645-301-880.320.

Contribution of Additional Suspended Solids

An analysis related to past and present erosion rates from reclaimed mine sites were submitted by Mountain Coal Company using a Sediment Production Comparison generated by the Civil Software Design SEDCAD + Program, Version 3 (1992). The runoff volume, peak flow and sediment concentration were compared between past and present activities. Initial results of this computer analysis indicated that the sediment loads from the reclamation activities are no different than the pre-mining conditions. This information was forwarded to OSM-AFO on May 5, 1994.

The Universal Soil Loss Equation used in SEDCAD does not allow for gully erosion and an on-site assessment was made to ascertain any significant rill or gully erosion. This field assessment was made May 18, 1994. Based on visual observation by the Division Hydrologist, Tom Munson, he concluded the site was stable. A Phase II bond release was recommended based on the outcome of the site visit observation and the Sediment Production Comparison for pre- and postmining pursuant to R645-301-880.320, as well as reviewing past inspection report to document overall stability. The site has sustained several severe storm events successfully.

This Phase II bond release encompasses the entire surface disturbance for the Gordon Creek #3 and #6 MInes.

Remaining Reclamation

Reclamation was completed in 1986 and the ten year bond liability period is completed in 1996. Mountain Coal Company started collecting the requisite vegetative information for two years for final bond release in 1994.

Other Actions Surrounding Bond Release Inspection

On June 20, 1994 TDN X94-020-179-002 TV3 was received at the Division for 1) "Failed to demonstrate in writing to the Division that there was insufficient spoil to backfill face-up at #6 MIne", 2) "Failed to use all reasonably available spoil to backfill the face-up at #6 Mine", and 3) "Failed to eliminate all highwalls at face-up at #3 MIne", as a result of the May 18, 1994 Phase II Bond Release inspection. The Division submitted a response to OSM-AFO for this TDN on June 30, 1994. On July 18, 1994, TDN #94-020-179-002 TV1 was issued as a result of TDN X94-020-179-001TV3 being withdrawn and read: "Failed to eliminate all highwalls at Mine #3 and #6". The Division responded on July 28, 1994, but this response was found inappropriate by OSM-AFO on August 18, 1994.

On August 29, 1994, the Division responded to the August 18, 1994 OSM-AFO finding by letter to Ed Kay, Deputy Directory of OSM in Washington requesting and informal review of the TDN, i.e. review of the documentation surrounding the TDN issue. On September 9, 1994 the Division requests a stay of the Informal Appeal based on pending acquisition of field data and submittal of additional informal regarding availability of excess spoil at the mine. Verbal concurrence from OSM-Washington is granted on September 23, 1994 to this request. On September 27, 1994, the Division requested a second extension to October 5, 1994 to formalize the Division's position on the availability of spoil at this site. By letter dated October 3, 1994 to Ed Kay, OSM-Washington from Lowell Braxton, Associate Director, Mining, Division, a request is made to put the TDN informal appeal on hold until the October 1994 site visit by OSM-Washington is completed.

A site visit by OSM-Washington, OSM-AFO, OSM-WSC, and the Division to the Gordon Creek #3 and #6 Mines on October 24, 1994 with the following attendees:

OSM: Ed Kay and Vermal Davis (Washington), Charles Sandberg (OSM-WSC), Thomas Ehmett and Edzel Pugh (OSM-AFO)
Division: Lowell Braxton, Pete Hess, and Joe Helfrich
Mountain Coal Company: Paige Beville and Dan Guy

LIABILITY INSURANCE

ACORD. CERTIFICATE OF INSURANCE

DATE (MM/DD/YY) 12/11/95

PRODUCER
Johnson & Higgins of California
Casualty Department
2029 Century Park East
[illegible]ngeles, CA 90067
[illegible](310) 551-4667
0659A-GL 500H

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A: INDEMNITY INSURANCE COMPANY OF NORTH AMERICA

COMPANY B:

COMPANY C:

COMPANY D:

INSURED
ATLANTIC RICHFIELD COMPANY, ITS
SUBSIDIARIES AND SUBSIDIARIES
THEREOF AS NOW OR HEREINAFTER
CONSTITUTED
515 SOUTH FLOWER STREET
LOS ANGELES, CALIFORNIA 90071

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY	ISL G1 432156-0	01-01-96	01-01-99	BODILY INJURY OCC	$ N/A
	X COMPREHENSIVE FORM				BODILY INJURY AGG	$ N/A
	X PREMISES/OPERATIONS				PROPERTY DAMAGE OCC	$ N/A
	X UNDERGROUND EXPLOSION & COLLAPSE HAZARD				PROPERTY DAMAGE AGG	$ N/A
	X PRODUCTS/COMPLETED OPER				BI & PD COMBINED OCC	$ 500,000
	X CONTRACTUAL				BI & PD COMBINED AGG	$ *500,000
	X INDEPENDENT CONTRACTORS				PERSONAL INJURY AGG	$ N/A
	X BROAD FORM PROPERTY DAMAGE					
	X PERSONAL INJURY					
	AUTOMOBILE LIABILITY				BODILY INJURY (Per person)	$
	ANY AUTO					
	ALL OWNED AUTOS (Private Pass)				BODILY INJURY (Per accident)	$
	ALL OWNED AUTOS (Other than Private Passenger)					
	HIRED AUTOS				PROPERTY DAMAGE	$
	NON-OWNED AUTOS					
	GARAGE LIABILITY				BODILY INJURY & PROPERTY DAMAGE COMBINED	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	UMBRELLA FORM				AGGREGATE	$
	OTHER THAN UMBRELLA FORM					$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY LIMITS	
	THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: INCL / EXCL				EACH ACCIDENT	$
					DISEASE - POLICY LIMIT	$
					DISEASE - EACH EMPLOYEE	$
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS (LIMITS MAY HAVE BEEN REDUCED BY PAID CLAIMS AND MAY HAVE DEDUCTIBLES OR RETENTIONS)

*PRODUCTS COMPLETED OPERATIONS. NAMED INSURED INCLUDES MOUNTAIN COAL COMPANY AND ARCO COAL COMPANY.
INCLUDES "XCU" COVERAGE. *GORDON CREEK #3 AND #6 MINES INA/007/017.

CERTIFICATE HOLDER

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
[illegible]55 WEST NORTH TEMPLE
[illegible] TRIAD CCENTER, SUITE 350
SALT LAKE CITY, UTAH 84180-1203

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 45 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

WATER MONITORING

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

January 29, 1996

Ms. Pamela Grubaugh-Littig
Permit Supervisor
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Ms. Littig:

Enclosed are the results of the Mountain Coal Company Water Monitoring for the Fourth Quarter of 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
Paige B. Beville, MCC

DWG/db2

Enclosures

cc: Paige B. Beville, MCC
File
WTRMON

E.I.S. Hydrology
Field Measurements Form

Date 11/20/95 Station # 3-14

Company Mt. Leal

Time 13:40

Flow/Depth D

pH

Specific Conductivity

Water Temperature

Air Temperature

Dissolved Oxygen

Type: Spring___ Stream___ Well___ Discharge___ NPDES___

Collection Point

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No ✓

Pump Reading

Comments

Field Monitor

When Sample or Measurements Not Taken:

Reason: Dry

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

WATER MONITORING REPORT

Property: BCCC #3 Mine
Station: 3-1W
Location: Coal Canyon Above Pond
Type: E. Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/14/95	05/17/95	09/25/95	11/20/95	Mean
Flow [gpm]	N/A	DRY	DRY	DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [C]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
TDS					
TSS					
O & G					
Al CaCO3					
Hd CaCO3					
Ac CaCO3					
HCO3					
CO3					
Cl					
SO4					
Ca					
Mg					
K					
Na					
Cat/An					
Fe					
Mn					

E.I.S. Hydrology
Field Measurements Form

Date 10/21/95 Station # (3-26)

Company M.H. Leal

Time 8:20

Flow/Depth D

pH

Specific Conductivity

Water Temperature

Air Temperature

Dissolved Oxygen

Type: Spring___ Stream___ Well___ Discharge___ NPDES___

Collection Point

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No___

Pump Reading

Comments

Field Monitor M.H. Leal

When Sample or Measurements Not Taken:

Reason: D

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

E.I.S. Hydrology
Field Measurements Form

Date 11/20/95 Station # 3-DW

Company [illegible]

Time 11:10

Flow/Depth Ø

pH

Specific Conductivity

Water Temperature

Air Temperature

Dissolved Oxygen

Type: Spring___ Stream___ Well___ Discharge___ NPDES___

Collection Point

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No___

Pump Reading

Comments

Field Monitor [illegible]

When Sample or Measurements Not Taken:

Reason: Ø

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

E.I.S. Hydrology
Field Measurements Form

Date 12/6/95 Station # 3-2W

Company Mt. Coal

Time 11:00

Flow/Depth D

pH

Specific Conductivity

Water Temperature

Air Temperature

Dissolved Oxygen

Type: Spring___ Stream___ Well___ Discharge___ NPDES___

Collection Point

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No___

Pump Reading

Comments

Field Monitor [illegible]

When Sample or Measurements Not Taken:

Reason: D

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

WATER MONITORING REPORT

Property: BCCC #3 Mine
Station: 3-2W
Location: Sed. Pond Discharge
Type: NPDES
Frequency: Monthly

Field Measurements	Date Sampled 01/10/95	02/10/95	03/14/95	04/19/95	05/17/95	06/14/95	07/21/95	08/23/95	09/25/95	10/21/95	11/20/95
Flow [gpm]	N/A	N/A	N/A	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
PH											
Sp.Con. [ohms]											
Temp [C]											
Diss. O. [ppm]											
Lab. Meas. [mg/l]											
TDS											
TSS											
O & G											
Al CaCO3											
Hd CaCO3											
Ac CaCO3											
HCO3											
CO3											
Cl											
SO4											
Ca											
Mg											
K											
Na											
Cat/An											
Fe											

12/06/95	MEAN
DRY	DRY

E.I.S. Hydrology
Field Measurements Form

Date 11/20/95 Station # 3-44

Company MV. Eal

Time 16:40

Flow/Depth Ø

pH

Specific Conductivity

Water Temperature

Air Temperature

Dissolved Oxygen

Type: Spring___ Stream ✓ Well___ Discharge___ NPDES ✓

Collection Point Stream Flow

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No ✓

Pump Reading

Comments

Field Monitor M. O'Connor

When Sample or Measurements Not Taken:

Reason: Ø

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

WATER MONITORING REPORT

Property: BCCC #3 Mine
Station: 3-4W
Location: Coal Canyon
Type: E. Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/14/95	05/17/95	08/23/95	11/20/95	Mean
Flow [gpm]	N/A	DRY	DRY	DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [C]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
TDS					
TSS					
Al CaCO3					
Hd CaCO3					
HCO3					
CO3					
Cl					
SO4					
Ca					
Mg					
K					
Na					
Cat/An					
Fe					
Mn					

U.P.D.E.S. DISCHARGE DATA

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

September 28, 1995

Ms. Donna Franklin
U.S.E.P.A., Region VIII
999 18th Street
Denver Place - Suite 500 WM-C
Denver, Colorado 80202-2405

Dear Ms. Franklin:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of August, 1995. Permit numbers UTG040014 and UTG040015 have been cancelled effective August 30, 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
Paige B. Beville, MCC

Enclosures

DWG/db

cc: Pamela Grubaugh-Littig, UDOGM
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

September 28, 1995

Mr. Donald A Hilden, PH.D., Chief
Permits and Compliance Section
Department of Environmental Quality
Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

Dear Mr. Hilden:

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Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

August 28, 1995

Mr. Donald A Hilden, PH.D., Chief
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Department of Environmental Quality
Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

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Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

August 28, 1995

Ms. Pamela Grubaugh-Littig
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Ms. Littig:

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Enclosures

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Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

PERMITTEE NAME AND ADDRESS (Include Facility Name/Location if different)

NAME MOUNTAIN COAL COMPANY

ADDRESS P.O. BOX 591

SOMERSET CO 81434

FACILITY 3/6 MINES

LOCATION GORDON CREEK

ATTN: KATHLEEN WELT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16) UT0040014 PERMIT NUMBER

(17-19) 001 A DISCHARGE NUMBER

MINOR

F - FINAL

Form Approved. OMB No. 2040-0004 Approval expires 10-31-94

OUTFALL FROM SED. POND

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	95	07	01	TO	95	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

*** NO DISCHARGE |X| ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
FLOW RATE	SAMPLE MEASUREMENT			(07)	******	******	******				
00056 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	GPD	******	******	******	*****		ONCE/MONTH	
PH	SAMPLE MEASUREMENT	******	******			******		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	*****	6.5 DAILY MN	******	9.0 DAILY MX	SU		TWICE/MONTH	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	******	******		******			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	*****	******	25 30DA AVG	70 DAILY MX	MG/L		ONCE/MONTH	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	******	******		******	******		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	*****	******	******	0.5 DAILY MX	ML/L		ONCE/MONTH	GRAB
OIL AND GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	******	******		******	******		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	*****	******	******	10 DAILY MX	MG/L		ONCE/MONTH	GRAB
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	******	******		******	******		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	*****	******	******	2.0 DAILY MX	MG/L		ONCE/MONTH	GRAB
SOLIDS, TOTAL DISSOLVED	SAMPLE MEASUREMENT	******		(26)	******	******		(19)			
70295 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	2000 DAILY MX	LBS/DY	******	******	REPORT DAILY MX	MG/L		ONCE/MONTH	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Kathleen Welt
Environmental Supervisor

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 801 NUMBER 637-2422

DATE: YEAR 95 MO 08 DAY 28

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

TDS IS LIMITED TO ONE TON PER DAY FROM ALL OUTFALLS. DURING PRECIPITATION EVENTS SETTLEABLE SOLIDS SHALL BE LIMITED INSTEAD OF TSS. REPORT "DOES NOT APPLY" IN APPROPRIATE ROW.

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

July 28, 1995

Mr. Donald A Hilden, PH.D., Chief
Permits and Compliance Section
Department of Environmental Quality
Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

Dear Mr. Hilden:

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This letter will also serve as a request to deactivate Permit Numbers UTG040014 and UTG040015 for the Gordon Creek 3/6 Mines and Huntington Canyon No. 4 Mine, respectively. The Gordon Creek No. 3/6 Mine has been granted Phase II Bond Release by the Utah Division of Oil Gas and Mining, and although the ponds will remain, they will be used strictly for stock and wildlife watering and no longer used as sediment control. The Huntington Canyon No. 4 Mine has also been granted Phase II Bond Release contingent upon removal of the ponds. The ponds are expected to be totally removed by the end of August. Mr. Steve McNiel of the Utah Division of Water Quality suggested this request be made with the submittal of the June 1995 reports.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
Paige B. Beville, MCC

Enclosures

cc: Donna Franklin, E.P.A.
Pamela Grubaugh-Littig, UDOGM
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

July 28, 1995

Ms. Pamela Grubaugh-Littig
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Ms. Littig:

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Enclosures

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Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

September 28, 1995

Ms. Pamela Grubaugh-Littig
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Ms. Littig:

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Enclosures

DWG/db

cc: Donna Franklin, E.P.A.
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

PERMITTEE NAME AND ADDRESS (Include Facility Name/Location if different)
NAME MOUNTAIN COAL COMPANY
ADDRESS P.O. BOX 591
SOMERSET CO 81434

FACILITY 3/6 MINES
LOCATION GORDON CREEK

ATTN: KATHLEEN WELT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

(2-16) PERMIT NUMBER: UTG040014
(17-19) DISCHARGE NUMBER: 001 A

MINOR
F - FINAL
OUTFALL FROM SED. POND

Form Approved.
OMB No. 2040-0004
Approval expires 10-31-94

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	95	08	01	TO	95	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

*** NO DISCHARGE [X] ***
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FLOW RATE	SAMPLE MEASUREMENT			(07)	******	******	******				
00056 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	GPD	******	******	******	**** ****		ONCE/ MEASRD MONTH	
PH	SAMPLE MEASUREMENT	******	******			******		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	6.5 DAILY MN	******	9.0 DAILY MX	SU		TWICE/ GRAB MONTH	
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	******	******		******			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	25 30DA AVG	70 DAILY MX	MG/L		ONCE/ GRAB MONTH	
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	******	******		******	******		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	0.5 DAILY MX	ML/L		ONCE/ GRAB MONTH	
OIL AND GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	******	******		******	******		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	10 DAILY MX	MG/L		ONCE/ GRAB MONTH	
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	******	******		******	******		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	2.0 DAILY MX	MG/L		ONCE/ GRAB MONTH	
SOLIDS, TOTAL DISSOLVED	SAMPLE MEASUREMENT	******		(26)	******	******		(19)			
70295 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	2000 DAILY MX	LBS/DY	******	******	REPORT DAILY MX	MG/L		ONCE/ GRAB MONTH	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Kathleen Welt
Environmental Supervisor
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC § 1001 AND 33 USC § 1319. (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 801 NUMBER 637-2422

DATE: YEAR 95 MO 09 DAY 28

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

TDS IS LIMITED TO ONE TON PER DAY FROM ALL OUTFALLS. DURING PRECIPITATION EVENTS SETTLEABLE SOLIDS SHALL BE LIMITED INSTEAD OF TSS. REPORT "DOES NOT APPLY" IN APPROPRIATE ROW.

EPA Form 3320-1 (Rev. 9-88) Previous editions may be used. (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED) 00388/030910-1315

PERMITTEE NAME AND ADDRESS (Include Facility Name/Location if different)

NAME MOUNTAIN COAL COMPANY

ADDRESS P.O. BOX 591

SOMERSET CO 81434

FACILITY GORDON CREEK 3/6

LOCATION

ATTN: KATHLEEN WELT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

(2-16) UTG040014 PERMIT NUMBER

(17-19) 001 A DISCHARGE NUMBER

MINOR

F - FINAL

OUTFALL FROM SED. POND

Form Approved.
OMB No. 2040-0004
Approval expires 10-31-94

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
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Kathleen Welt
Environemental Supervisor

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TELEPHONE: AREA CODE 801 NUMBER 637-2422

DATE: YEAR 95 MO 07 DAY 28

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Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

July 28, 1995

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U.S.E.P.A., Region VIII
999 18th Street
Denver Place - Suite 500 WM-C
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Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

June 28, 1995

Mr. Donald A Hilden, PH.D., Chief
Permits and Compliance Section
Department of Environmental Quality
Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

Dear Mr. Hilden:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of May, 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy

Dan W. Guy for
Paige B. Beville, MCC

Enclosures

DWG/db

cc: Donna Franklin, E.P.A.
Pamela Grubaugh-Littig, UDOGM
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

June 28, 1995

Ms. Pamela Grubaugh-Littig
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Ms. Littig:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of May, 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
Paige B. Beville, MCC

Enclosures

DWG/db

cc: Donna Franklin, E.P.A.
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

June 28, 1995

Ms. Donna Franklin
U.S.E.P.A., Region VIII
999 18th Street
Denver Place - Suite 500 WM-C
Denver, Colorado 80202-2405

Dear Ms. Franklin:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of May, 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
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Enclosures

DWG/db

cc: Pamela Grubaugh-Littig, UDOGM
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

PERMITTEE NAME AND ADDRESS (Include Facility Name/Location if different)

NAME MOUNTAIN COAL COMPANY

ADDRESS P.O. BOX 591

SOMERSET CO 81434

FACILITY 3/6 MINES

LOCATION GORDON CREEK

ATTN: KATHLEEN WELT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16) UTG040014 PERMIT NUMBER

(17-19) 001 A DISCHARGE NUMBER

MINOR

F - FINAL

OUTFALL FROM SED. POND

Form Approved. OMB No. 2040-0004 Approval expires 10-31-94

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	95	05	01	TO	95	05	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

*** NO DISCHARGE |X| ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
FLOW RATE	SAMPLE MEASUREMENT			(07)	******	******	******				
00056 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	GPD	******	******	******	**** ****		ONCE/ MONTH	MEASRD
PH	SAMPLE MEASUREMENT	******	******			******		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	6.5 DAILY MN	******	9.0 DAILY MX	SU		TWICE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	******	******		******			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	25 30DA AVG	70 DAILY MX	MG/L		ONCE/ MONTH	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	******	******		******	******		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	0.5 DAILY MX	ML/L		ONCE/ MONTH	GRAB
OIL AND GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	******	******		******	******		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	10 DAILY MX	MG/L		ONCE/ MONTH	GRAB
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	******	******		******	******		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	2.0 DAILY MX	MG/L		ONCE/ MONTH	GRAB
SOLIDS, TOTAL DISSOLVED	SAMPLE MEASUREMENT	******		(26)	******	******		(19)			
70295 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	2000 DAILY MX	LBS/DY	******	******	REPORT DAILY MX	MG/L		ONCE/ MONTH	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Kathleen Welt
Environmental Supervisor

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

Dan N. Lang

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 801 NUMBER 637-2422

DATE: YEAR 95 MO 06 DAY 28

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

TDS IS LIMITED TO ONE TON PER DAY FROM ALL OUTFALLS. DURING PRECIPITATION EVENTS SETTLEABLE SOLIDS SHALL BE LIMITED INSTEAD OF TSS. REPORT "DOES NOT APPLY" IN APPROPRIATE ROW.

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

May 28, 1995

Mr. Donald A Hilden, PH.D., Chief
Permits and Compliance Section
Department of Environmental Quality
Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

Dear Mr. Hilden:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of April 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
Paige B. Beville, MCC

Enclosures

DWG/db

cc: Donna Franklin, E.P.A.
Pamela Grubaugh-Littig, UDOGM
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

May 28, 1995

Ms. Pamela Grubaugh-Littig
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Ms. Littig:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of April 1995.

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Paige B. Beville, MCC

Enclosures

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cc: Donna Franklin, E.P.A.
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

May 28, 1995

Ms. Donna Franklin
U.S.E.P.A., Region VIII
999 18th Street
Denver Place - Suite 500 WM-C
Denver, Colorado 80202-2405

Dear Ms. Franklin:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of April 1995.

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Enclosures

DWG/db

cc: Pamela Grubaugh-Littig, UDOGM
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

PERMITTEE NAME AND ADDRESS (Include Facility Name/Location if different)

NAME MOUNTAIN COAL COMPANY

ADDRESS P.O. BOX 591

SOMERSET CO 81434

FACILITY 3/6 MINES

LOCATION GORDON CREEK

ATTN: KATHLEEN WELT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16) UTG040014 PERMIT NUMBER

(17-19) 001 A DISCHARGE NUMBER

MINOR

F - FINAL

OUTFALL FROM SED. POND

Form Approved. OMB No. 2040-0004 Approval expires 10-31-94

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	95	04	01	TO	95	04	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

*** NO DISCHARGE |X| ***

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PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
FLOW RATE	SAMPLE MEASUREMENT			(07)	******	******	******				
00056 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	GPD	******	******	******	**** ****		ONCE/ MONTH	MEASRD
PH	SAMPLE MEASUREMENT	******	******			******		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	6.5 DAILY MN	******	9.0 DAILY MX	SU		TWICE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	******	******		******			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	25 30DA AVG	70 DAILY MX	MG/L		ONCE/ MONTH	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	******	******		******	******		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	0.5 DAILY MX	ML/L		ONCE/ MONTH	GRAB
OIL AND GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	******	******		******	******		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	10 DAILY MX	MG/L		ONCE/ MONTH	GRAB
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	******	******		******	******		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	3.0 DAILY MX	MG/L		ONCE/ MONTH	GRAB
SOLIDS, TOTAL DISSOLVED	SAMPLE MEASUREMENT	******		(26)	******	******		(19)			
70295 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	2000 DAILY MX	LBS/DY	******	******	REPORT DAILY MX	MG/L		ONCE/ MONTH	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Kathleen Welt
Environmental Supervisor

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 801, NUMBER 637-2422

DATE: YEAR 95, MO 05, DAY 28

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

TDS IS LIMITED TO ONE TON PER DAY FROM ALL OUTFALLS. DURING PRECIPITATION EVENTS SETTLEABLE SOLIDS SHALL BE LIMITED INSTEAD OF TSS. REPORT "DOES NOT APPLY" IN APPROPRIATE ROW.

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

April 28, 1995

Mr. Donald A Hilden, PH.D., Chief
Permits and Compliance Section
Department of Environmental Quality
Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

Dear Mr. Hilden:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of March 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
Paige B. Beville, MCC

Enclosures

DWG/db

cc: Donna Franklin, E.P.A.
Pamela Grubaugh-Littig, UDOGM
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

April 28, 1995

Ms. Pamela Grubaugh-Littig
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Ms. Littig:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of March 1995.

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Dan W. Guy for
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Enclosures

DWG/db

cc: Donna Franklin, E.P.A.
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

April 28, 1995

Ms. Donna Franklin
U.S.E.P.A., Region VIII
999 18th Street
Denver Place - Suite 500 WM-C
Denver, Colorado 80202-2405

Dear Ms. Franklin:

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Paige B. Beville, MCC

Enclosures

DWG/db

cc: Pamela Grubaugh-Littig, UDOGM
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

PERMITTEE NAME AND ADDRESS (Include Facility Name/Location if different)
NAME MOUNTAIN COAL COMPANY
ADDRESS P.O. BOX 591
SOMERSET CO 81434

FACILITY
LOCATION Gordon Creek 3/6 Mines
ATTN: KATHLEEN WELT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

(2-16)	(17-19)
UTG040014	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MINOR

F - FINAL

OUTFALL FROM SED. POND

Form Approved.
OMB No. 2040-0004
Approval expires 10-31-94

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	95	01	01	TO	95	03	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

*** NO DISCHARGE [X] ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
FLOW RATE	SAMPLE MEASUREMENT			(07)	******	******	******				
00056 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	GPD	******	******	******	********		ONCE/ MONTH	MEASRD
PH	SAMPLE MEASUREMENT	******	******			******		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	********	6.5 DAILY MN	******	9.0 DAILY MX	SU		TWICE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	******	******		******			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	********	******	25 30DA AVG	70 DAILY MX	MG/L		ONCE/ MONTH	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	******	******		******	******		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	********	******	******	0.5 DAILY MX	ML/L		ONCE/ MONTH	GRAB
OIL AND GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	******	******		******	******		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	********	******	******	10 DAILY MX	MG/L		ONCE/ MONTH	GRAB
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	******	******		******	******		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	********	******	******	1.0 DAILY MX	MG/L		ONCE/ MONTH	GRAB
SOLIDS, TOTAL DISSOLVED	SAMPLE MEASUREMENT	******		(26)	******	******		(19)			
70295 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	2000 DAILY MX	LBS/DY	******	******	REPORT DAILY MX	MG/L		ONCE/ MONTH	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Kathleen Welt Environmental Supervisor	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*	Dan W. Guy SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	801	637-2422	95	04	28
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

TDS IS LIMITED TO ONE TON PER DAY FROM ALL OUTFALLS. DURING PRECIPITATION EVENTS SETTLEABLE SOLIDS SHALL BE LIMITED INSTEAD OF TSS. REPORT "DOES NOT APPLY" IN APPROPRIATE ROW.

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

March 28, 1995

Ms. Donna Franklin
U.S.E.P.A., Region VIII
999 18th Street
Denver Place - Suite 500 WM-C
Denver, Colorado 80202-2405

Dear Ms. Franklin:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of February 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
Paige B. Beville, MCC

Enclosures

DWG/db

cc: Pamela Grubaugh-Littig, UDOGM
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

March 28, 1995

Ms. Pamela Grubaugh-Littig
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Ms. Littig:

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cc: Donna Franklin, E.P.A.
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Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

March 28, 1995

Mr. Donald A Hilden, PH.D., Chief
Permits and Compliance Section
Department of Environmental Quality
Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

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PERMITTEE NAME AND ADDRESS (Include Facility Name/Location if different)

NAME MOUNTAIN COAL COMPANY

ADDRESS P.O. BOX 591

SOMERSET CO 81434

FACILITY 3/6 MINES

LOCATION GORDON CREEK

ATTN: KATHLEEN WELT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

(2-16) UTG040014 PERMIT NUMBER

(17-19) 001 A DISCHARGE NUMBER

MINOR

F - FINAL

OUTFALL FROM SED. POND

Form Approved. OMB No. 2040-0004 Approval expires 10-31-94

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	95	02	01	TO	95	02	28
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

*** NO DISCHARGE |X| ***

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PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
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00056 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	GPD	******	******	******	**** ****		ONCE/ MONTH	MEASRD
PH	SAMPLE MEASUREMENT	******	******			******		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	6.5 DAILY MN	******	9.0 DAILY MX	SU		TWICE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	******	******		******			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	25 30DA AVG	70 DAILY MX	MG/L		ONCE/ MONTH	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	******	******		******	******		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	0.5 DAILY MX	ML/L		ONCE/ MONTH	GRAB
OIL AND GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	******	******		******	******		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	10 DAILY MX	MG/L		ONCE/ MONTH	GRAB
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	******	******		******	******		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	2.0 DAILY MX	MG/L		ONCE/ MONTH	GRAB
SOLIDS, TOTAL DISSOLVED	SAMPLE MEASUREMENT	******		(26)	******	******		(19)			
70295 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	2000 DAILY MX	LBS/DT	******	******	REPORT DAILY MX	MG/L		ONCE/ MONTH	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Kathleen Welt
Environmental Supervisor

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 USC § 1001 AND 33 USC § 1319 (Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 801 NUMBER 637-2422

DATE: YEAR 95 MO 03 DAY 28

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

TDS IS LIMITED TO ONE TON PER DAY FROM ALL OUTFALLS. DURING PRECIPITATION EVENTS SETTLEABLE SOLIDS SHALL BE LIMITED INSTEAD OF TSS. REPORT "DOES NOT APPLY" IN APPROPRIATE ROW.

PLACE FEA FORM 1320 WHICH MAY NOT BE USED!

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

February 28, 1995

Mr. Donald A Hilden, PH.D., Chief
Permits and Compliance Section
Department of Environmental Quality
Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

Dear Mr. Hilden:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of January 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
Paige B. Beville, MCC

Enclosures

DWG/db

cc: Donna Franklin, E.P.A.
Pamela Grubaugh-Littig, UDOGM
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

February 28, 1995

Ms. Pamela Grubaugh-Littig
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Ms. Littig:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of January 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy

Dan W. Guy for
Paige B. Beville, MCC

Enclosures

DWG/db

cc: Donna Franklin, E.P.A.
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

Mountain Coal Company
West Elk Mine
Post Office Box 591
Somerset, Colorado 81434
Telephone 303 929-5015

February 28, 1995

Ms. Donna Franklin
U.S.E.P.A., Region VIII
999 18th Street
Denver Place - Suite 500 WM-C
Denver, Colorado 80202-2405

Dear Ms. Franklin:

Enclosed please find Quarterly Discharge Monitoring Reports for Mountain Coal Company's UPDES Permit Numbers UTG040004, UTG040005, UTG040014, and UTG040015. These reports cover the month of January 1995.

If you have any questions or need any additional information, please contact me.

Respectfully,

Dan W. Guy for
Paige B. Bevillle, MCC

Enclosures

DWG/db

cc: Pamela Grubaugh-Littig, UDOGM
Donald Hilden, D.E.Q.
Paige B. Beville, Mountain Coal Co.
File

PERMITTEE NAME AND ADDRESS (Include Facility Name/Location if different)
NAME MOUNTAIN COAL COMPANY
ADDRESS P.O. BOX 591
SOMERSET CO 81434

FACILITY 3/6 MINES
LOCATION GORDON CREEK
ATTN: KATHLEEN WELT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

(2-16) UTG040014 PERMIT NUMBER
(17-19) 001 A DISCHARGE NUMBER

MINOR
F - FINAL
OUTFALL FROM SED. POND

Form Approved.
OMB No. 2040-0004
Approval expires 10-31-94

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	95	01	01	TO	95	01	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

*** NO DISCHARGE [X] ***
NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) (46-53) QUANTITY OR LOADING (54-61) AVERAGE	MAXIMUM	UNITS	(4 Card Only) (38-45) QUALITY OR CONCENTRATION (46-53) MINIMUM	AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
FLOW RATE	SAMPLE MEASUREMENT			(07)	******	******	******				
00056 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	GPD	******	******	******	**** ****		ONCE/ MEASRD MONTH	
PH	SAMPLE MEASUREMENT	******	******			******		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	6.5 DAILY MN	******	9.0 DAILY MX	SU		TWICE/GRAB MONTH	
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	******	******		******			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	25 30DA AVG	70 DAILY MX	MG/L		ONCE/ GRAB MONTH	
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	******	******		******	******		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	0.5 DAILY MX	ML/L		ONCE/ GRAB MONTH	
OIL AND GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	******	******		******	******		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	10 DAILY MX	MG/L		ONCE/ GRAB MONTH	
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	******	******		******	******		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	**** ****	******	******	2.0 DAILY MX	MG/L		ONCE/ GRAB MONTH	
SOLIDS, TOTAL DISSOLVED	SAMPLE MEASUREMENT	******		(26)	******	******		(19)			
70295 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	2000 DAILY MX	LBS/DY	******	******	REPORT DAILY MX	MG/L		ONCE/ GRAB MONTH	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Kathleen Welt
Environmental Supervisor
TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 801, NUMBER 637-2422

DATE: YEAR 95, MO 02, DAY 28

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

TDS IS LIMITED TO ONE TON PER DAY FROM ALL OUTFALLS. DURING PRECIPITATION EVENTS SETTLEABLE SOLIDS SHALL BE LIMITED INSTEAD OF TSS. REPORT "DOES NOT APPLY" IN APPROPRIATE ROW.

E.I.S Hydrology
Pond Inspection Report

POND: 3c6 LOCATION: Coal Creek

ITEM	REMARKS
(1) Potential Safety Hazards	Not Observable
(2) Slope Stability	
(3) Erosion	
(4) Construction and Maintenance Performance Standards	
(5) Recommendations/Comments	

I have performed the above inspection on this pond and do hereby certify it to be a true and accurate representation of the pond at this time.

Inspector

Date 3/14/95

E.I.S Hydrology
Pond Inspection Report

POND: 003 LOCATION: Coal Creek

ITEM	REMARKS
(1) Potential Safety Hazards	None
(2) Slope Stability	Stable
(3) Erosion	None
(4) Construction and Maintenance Performance Standards	Good Upper cell - 1 - Wet Area
(5) Recommendations/Comments	No Recharge

I have performed the above inspection on this pond and do hereby certify it to be a true and accurate representation of the pond at this time.

Inspector

Date 6/27/95

E.I.S Hydrology
Pond Inspection Report

POND: 3-2 6

LOCATION: Coal Canyon

ITEM	REMARKS
(1) Potential Safety Hazards	None
(2) Slope Stability	Stable
(3) Erosion	None
(4) Construction and Maintenance Performance Standards	Good
(5) Recommendations/Comments	No Discharge

I have performed the above inspection on this pond and do hereby certify it to be a true and accurate representation of the pond at this time.

Inspector

Date 9/11/95

E.I.S Hydrology
Pond Inspection Report

POND: 3-6 LOCATION: Coal Creek

ITEM	REMARKS
(1) Potential Safety Hazards	None
(2) Slope Stability	Stable
(3) Erosion	None
(4) Construction and Maintenance Performance Standards	Good
(5) Recommendations/Comments	Mud & Manure see in upper cell

I have performed the above inspection on this pond and do hereby certify it to be a true and accurate representation of the pond at this time.

Inspector

Date 11/20/90

VEGETATION MONITORING

UNITED STATES DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

PRICE FIELD OFFICE
350 NORTH 400 EAST
PRICE, UTAH 84501

October 25, 1995

Dan Guy
Blackhawk Engineering Co.
Rt. #1 Box 146-H5
Helper, Utah 84526

Dear Dan:

This letter is in reference to the vegetation reference areas I visited on October 13, 1995 and October 16, 1995 to determine production and condition.

The method used to determine herbage production and site condition was an ocular estimate.

MINE SITE	REFERENCE AREA	PRODUCTION	SITE CONDITION
Swisher Mine	Douglas Fir	2000	good (late seral)
Mine 3 and 6	Sage Grass	1400	good (late seral)
Mine 3 and 6	Oak	1800	good (late seral)
Mill Fork Canyon	Pinyon, Juniper & Curl Leaf Mt. Mahogany	800	good (late seral)

The production figures are based on air dry herbage per acre.

George S. Cook

George S. Cook
Range Conservationist

VEGETATION MONITORING: RECLAIMED AREAS OF THE GORDON CREEK NO. 3 & 6 MINES

1995

Prepared by

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

Patrick D. Collins, Ph.D.

for
BLACKHAWK ENGINEERING
Route 1, Box 146-H5
Helper, Utah 84526

March 1996

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VEGETATION MONITORING:

RECLAIMED AREAS OF THE GORDON CREEK NO. 3 & 6 MINES

1995

SCOPE

The following report has been prepared to assess the current condition of the vegetation of the reclaimed areas at the Gordon Creek No. 3 & 6 Mines. The reclaimed areas were compared with an undisturbed reference area that was used as a standard for revegetation success.

INTRODUCTION

General Site Description

The Gordon Creek No. 3 & 6 Mines are located in the Gordon Creek area of Carbon County, Utah. The elevation of the area lies between 7,550 ft and 7,850 ft above sea level. Vegetation types adjacent to the mine area were oak-shrubland and

sagebrush-grassland communities. The reclaimed areas of the mine site lie on a variety of slopes and exposures which are discussed further in the METHODS section of this report.

Sample History

MT. NEBO SCIENTIFIC has been involved with sampling the area in recent years. In 1989 qualitative and quantitative sampling was conducted on the reclaimed areas of the mine sites. Also surveyed in 1989 was species survival of containerized transplants. Woody plant species density sampling was conducted in 1991, whereas, no vegetation sampling was done in 1992. In 1993 quantitative and qualitative sampling was conducted on the reclaimed areas and comparisons were made with the reference area.

METHODS

Methodologies used herein were performed in accordance with the guidelines supplied by the State of Utah, Division of Oil, Gas and Mining (DOGM). Similar methods were used this year to facilitate data comparisons between other years.

Quantitative and qualitative data were taken on the vegetation of the reclaimed and reference areas. Sampling was

conducted August 21-28, 1995. The reclaimed areas were divided into sample areas (see Sample Map). Each of those areas consisted of several disturbance types (i.e. roads, pads, portals, regraded slopes, etc.).

Transect and Quadrat Placement

Transect lines for sampling were placed randomly throughout the reclaimed areas resulting in several sample sites (see Sample Map).

Random/regular placement of sampling quadrats were designed to decrease bias, yet encompass as much of the area as practical. Once the transect lines were placed, regular points were then marked on them. From these marks, a random number dictated the direction and distance to place the quadrats at right angles from the transect lines.

All reclaimed areas were seeded with the same seed mix on a variety of slopes, exposures, soil conditions, and water relationships, etc. Data summaries are presented separately and combined due to heterogeneity of this area. Reporting the data in this manner was an attempt to provide information of small, localized areas, yet also provide the average success of the entire mine site. The reference area was also sampled using the same methods and reports the data combined.

Cover 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 Welsh et al. (1987).

Woody Plant Species Density

Density of woody plant species of the reclaimed and reference areas were made using belt transects. These 5 ft by 50 ft belts were placed randomly throughout the study areas. Total number of individuals by species were counted in each of the belt transects. The average number was then calculated followed by the number of individuals per acre.

Production

Total annual biomass production was estimated by clipping, drying and weighing current annual growth. "Double sampling" using four quadrats estimated around the clipped and weighed plot was implemented.

Sample Adequacy & Statistical Comparisons

Sampling adequacy was attempted using formulas from Snedocor and Cochran (1980), with the goal that 80% of the samples were within 10% of the true mean for the shrub communities of the area. The formula used is given below.

$$nmin = \left[\frac{1.28\ (s)}{x\ (.1)}\right]^2$$

where,

nmin = minimum adequate sample
s = standard deviation
x = sample mean
.1 = confidence interval

Almost without exception, enough samples were taken to achieve sample adequacy for the standard set above. Mention should be made, however, that the very nature of the sample design for this study increases variability in the results for each parameter -- hence, increases sample size. That is, because transect locations in the reclaimed areas were selected often for their *differences* (i.e. exposure, species composition, slope, disturbance types, etc.) and later "lumped" (or combined) with other data to provide *average success of the site as a whole*.

Student's t-tests were also employed to compare the reclaimed and reference areas of all sites for cover and productivity. All sample means, standard deviations, and sample sizes were included in this report to enable the reviewers to

apply further statistical tests if desired.

Photographs

Color photographs of the sample areas were taken at the time of sampling and have been submitted with this report.

Raw Data

The raw data for cover, composition and frequency have been summarized on a spreadsheet and are included in this report in Appendix A.

RESULTS

Reclaimed Areas (Areas A-H, separately)

Vegetation sample areas A-H (see Sample Map) were first summarized separately. Tables 1 through 21 summarize the results of the sampling for these areas. The tables include total cover, lifeform composition, cover by species, species frequency, sample sizes, woody plant species density, and productivity.

Cover of each of the reclaimed areas (A-H, separately) ranged from 45.00% to 61.00%, each statistically greater than or equal to the cover of the Reference Area (Table 21).

Grass was the most important lifeform by *composition* in each of the reclaimed areas by a wide margin. Forbs and woody plant species were nearly equally represented, but forbs were somewhat more important by composition.

Woody plant species *density* of each of the areas when summarized separately ranged from 523 to 5,057 individuals per acre. The standard for the reclaimed areas that was determined previously for woody plant species density was 1,000 individuals per acre. Three of the eight areas fell somewhat below this standard, but as will be shown later, the average was well above that.

Production of each area sampled in the reclaimed areas ranged between 616.24 to 1648.46 lbs. per acre. All of these values were significantly greater than the reference area.

<u>Reclaimed Areas</u> (Areas A-H, combined)

When the data of the reclaimed areas were combined to show the success of the revegetation of the mine site as a whole, the following patterns existed.

Cover of the combined areas was estimated as 50.75% (Table 17-A). Cover for the reference area was 42.83% (Table 19-A). The differences were statistically significant with the reclaimed

area represented by greater cover than the reference area (Table 21).

As one would expect by the results described above for each area separately, grasses were by far the most important lifeform in the combined results, followed distantly by forbs and woody species. Forbs and woody species were nearly equally represented (Tables 17-B). In the reference area, however, woody species dominated the site for composition, followed closely by grasses. Forbs were also an important component of the reference area, but were much less in terms of composition (Table 19-B).

Density of the woody plant species of the combined reclaimed areas was 1,945 individuals per acre (Table 18-A). This value is also greater than the standard of 1,000 individuals per acre previously determined by DOGM and the operator.

Productivity of the combined areas and the reference area was estimated at 1,100.15 (Table 18-B) and 408.09 lbs. per acre (Table 20-B), respectively. These differences were also significant (Table 21).

DISCUSSION

The results and conclusions of this report suggest that the Gordon Creek reclaimed mine site area met or exceeded standards

predetermined for revegetation success. The reclaimed mine site will be sampled again in 1996 using similar methods. Subsequent to the sampling the results will be compared to the data in this report. A more comprehensive document will then be written showing similarities and differences between sample years, standards for reclamation success, and the reference area.

TABLE 1: Summary of total cover, composition and cover by species for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "A", see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	61.00	9.95	10
Litter	9.00	4.90	10
Bareground	15.00	10.95	10
Rock	15.00	8.94	10

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	7.00	11.40	10
Forbs	14.56	21.50	10
Grasses	78.44	19.71	10

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Ceratoides lanata	1.00	3.00	10	10.00
Rosa woodsii	2.00	6.00	10	10.00
Symphoricarpos oreophilus	1.00	3.00	10	10.00
Forbs				
Aster foliaceus	4.50	7.89	10	30.00
Machaeranthera grindelioides	0.50	1.50	10	10.00
Salsola pestifer	2.50	7.50	10	10.00
Grasses				
Elymus spicatus	11.00	13.93	10	40.00
Elymus hispidus	0.50	1.50	10	10.00
Elymus cinereus	28.50	28.81	10	80.00
Elymus lanceolatus	9.50	10.83	10	60.00

TABLE 2: Summary for woody species density and annual production for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "A", see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia tridentata	87.12
Ceratoides lanata	261.36
Pseudotsuga menziesii	21.78
Quercus gambelii	65.34
Rosa woodsii	87.12
Symphoricarpos oreophilus	457.38
TOTAL	980.10

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	1307.55	534.54	5(25)
Woody Spp.	144.49	203.99	5(25)
TOTAL	1452.04	504.14	5(25)

* Number in parentheses include estimates made by "double sampling".

TABLE 3: Summary of total cover, composition and cover by species for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "B", see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	50.00	5.48	10
Litter	15.00	4.47	10
Bareground	13.00	7.48	10
Rock	22.00	5.57	10

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	8.11	14.72	10
Forbs	20.76	16.35	10
Grasses	71.13	21.61	10

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Artemisia tridentata	0.50	1.50	10	10.00
Chrysothamnus nauseosus	3.50	7.43	10	30.00
Forbs				
Aster foliaceus	1.50	3.20	10	20.00
Cynoglossum officinale	1.00	2.00	10	20.00
Epilobium brachycarpum	1.00	2.00	10	20.00
Eriogonum sp.	0.50	1.50	10	10.00
Grindelia squarrosa	0.50	1.50	10	10.00
Machaeranthera canescens	2.50	3.35	10	40.00
Medicago sativa	1.50	3.20	10	20.00
Melilotus officinalis	2.00	3.32	10	30.00
Grasses				
Bromus carinatus	0.50	1.50	10	10.00
Bromus tectorum	0.50	1.50	10	10.00
Elymus spicatus	14.00	15.13	10	60.00
Elymus cinereus	11.50	15.82	10	40.00
Elymus lanceolatus	9.00	12.41	10	50.00

TABLE 4: Summary for woody species density and annual production for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "B", see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia tridentata	457.38
Cercocarpus montanus	21.78
Chrysothamnus nauseosus	544.50
TOTAL	1023.66

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	1636.47	745.59	5(25)
Woody Spp.	11.99	23.99	5(25)
TOTAL	1648.46	756.23	5(25)

* Number in parentheses include estimates made by "double sampling".

TABLE 5: Summary of total cover, composition and cover by species for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "C", see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	49.50	11.72	10
Litter	8.00	4.58	10
Bareground	16.00	12.81	10
Rock	26.50	10.50	10

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	15.73	25.86	10
Forbs	27.63	10.62	10
Grasses	56.64	26.06	10

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Artemisia tridentata	6.50	13.43	10	20.00
Chrysothamnus nauseosus	3.00	5.10	10	30.00
Forbs				
Aster foliaceus	3.00	9.00	10	10.00
Machaeranthera canescens	2.50	4.61	10	30.00
Medicago sativa	7.50	7.83	10	70.00
Melilotus officinalis	1.00	3.00	10	10.00
Grasses				
Elymus spicatus	15.50	9.86	10	90.00
Elymus cinereus	8.50	9.23	10	60.00
Poa segunda	2.00	3.32	10	30.00

TABLE 6: Summary for woody species density and annual production for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "C", see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia tridentata	370.26
Chrysothamnus nauseosus	435.60
Rosa woodsii	21.28
TOTAL	827.64

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	797.96	201.96	5(25)
Woody Spp.	134.92	269.84	5(25)
TOTAL	932.88	335.67	5(25)

* Number in parentheses include estimates made by "double sampling".

TABLE 7: Summary of total cover, composition and cover by species for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "D", see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	50.50	8.79	10
Litter	9.00	4.36	10
Bareground	17.50	5.59	10
Rock	23.00	9.54	10

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	15.68	15.12	10
Forbs	32.46	15.81	10
Grasses	51.85	16.62	10

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Chrysothamnus nauseosus	7.50	8.44	10	70.00
Kochia prostrata	0.50	1.50	10	10.00
Forbs				
Hedysarum boreale	1.00	3.00	10	10.00
Machaeranthera canescens	1.50	3.20	10	20.00
Medicago sativa	11.50	7.09	10	100.00
Melilotus officinalis	2.00	2.45	10	40.00
Grasses				
Elymus spicatus	6.50	8.38	10	40.00
Elymus cinereus	10.50	17.95	10	60.00
Elymus lanceolatus	8.50	11.41	10	40.00
Poa secunda	1.00	2.00	10	20.00

TABLE 8: Summary for woody species density and annual production for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "D", see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia tridentata	609.84
Ceratoides lanata	43.56
Chrysothamnus nauseosus	936.54
Kochia prostrata	43.56
TOTAL	1633.50

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	648.33	201.89	5(25)
Woody Spp.	111.72	137.67	5(25)
TOTAL	760.05	302.66	5(25)

* Number in parentheses include estimates made by "double sampling".

TABLE 9: Summary of total cover, composition and cover by species for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "E", see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	52.00	7.48	10
Litter	18.00	7.81	10
Bareground	16.00	8.89	10
Rock	14.00	9.43	10

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	25.11	13.68	10
Forbs	7.56	8.19	10
Grasses	67.33	16.66	10

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Artemisia nova	1.00	3.00	10	10.00
Atriplex canescens	1.00	3.00	10	10.00
Chrysothamnus nauseosus	1.00	3.00	10	10.00
Kochia prostrata	10.00	8.94	10	50.00
Forbs				
Aster foliaceus	1.00	3.00	10	10.00
Machaeranthera canescens	0.50	1.50	10	10.00
Medicago sativa	2.50	3.35	10	40.00
Grasses				
Agropyron cristatum	0.50	1.50	10	10.00
Elymus cinereus	19.50	8.20	10	100.00
Elymus lanceolatus	3.00	4.58	10	40.00
Elymus spicatus	9.00	7.00	10	80.00
Poa pratensis	3.00	4.58	10	30.00

TABLE 10: Summary for woody species density and annual production for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "E", see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia tridentata	196.02
Chrysothamnus nauseosus	631.62
Gutierrezia sarothrae	21.02
Kochia prostrata	1001.88
TOTAL	1851.30

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	1081.94	295.55	5(25)
Woody Spp.	160.06	109.91	5(25)
TOTAL	1241.99	326.14	5(25)

* Number in parentheses include estimates made by "double sampling".

TABLE 11: Summary of total cover, composition and cover by species for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "F", see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	46.50	4.50	10
Litter	8.50	4.50	10
Bareground	24.00	7.35	10
Rock	21.00	6.24	10

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	5.33	11.08	10
Forbs	27.24	12.31	10
Grasses	67.42	20.97	10

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Artemisia tridentata	2.00	4.00	10	20.00
Chrysothamnus nauseosus	0.50	1.50	10	10.00
Forbs				
Epilobium halleanum	1.00	2.00	10	20.00
Machaeranthera canescens	2.00	2.45	10	40.00
Medicago sativa	9.50	6.10	10	90.00
Grasses				
Elymus spicatus	6.50	8.08	10	50.00
Elymus cinereus	9.00	5.39	10	100.00
Elymus lanceolatus	10.00	9.22	10	80.00
Poa pratensis	6.00	7.68	10	50.00

TABLE 12: Summary for woody species density and annual production for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "F", see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia tridentata	3615.48
Chrysothamnus nauseosus	108.90
Gutierrezia sarothrae	21.78
Pinus ponderosa	21.78
TOTAL	3767.94

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	571.09	207.46	5(25)
Woody Spp.	45.14	90.30	5(25)
TOTAL	616.24	165.60	5(25)

* Number in parentheses include estimates made by "double sampling".

TABLE 13: Summary of total cover, composition and cover by species for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "G", see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	52.50	7.83	10
Litter	10.00	4.47	10
Bareground	20.00	7.42	10
Rock	17.50	5.12	10

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	6.32	8.70	10
Forbs	4.84	4.97	10
Grasses	88.84	12.44	10

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Artemisia tridentata	1.50	3.20	10	20.00
Chrysothamnus nauseosus	0.50	1.50	10	10.00
Gutierrezia sarothrae	1.00	3.00	10	10.00
Forbs				
Medicago sativa	2.50	2.50	10	50.00
Grasses				
Dactylis glomeratus				
Elymus spicatus	8.00	7.81	10	60.00
Elymus cinereus	29.00	15.62	10	100.00
Elymus lanceolatus	8.50	9.50	10	60.00
Poa pratensis	1.50	2.29	10	30.00

TABLE 14: Summary for woody species density and annual production for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "G", see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia tridentata	239.58
Ceratoides lanata	152.46
Chrysothamnus nauseosus	65.34
Eriogonum corymbosum	21.78
Gutierrezia sarothrae	21.78
Kochia prostrata	21.78
TOTAL	522.72

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	1315.80	521.72	5(25)
Woody Spp.	8.14	11.24	5(25)
TOTAL	1323.94	518.68	5(25)

* Number in parentheses include estimates made by "double sampling".

TABLE 15: Summary of total cover, composition and cover by species for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "H", see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	45.00	10.25	10
Litter	7.00	6.00	10
Bareground	28.00	11.00	10
Rock	20.00	8.37	10

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	34.51	23.02	10
Forbs	18.38	11.52	10
Grasses	47.11	21.90	10

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Artemisia tridentata	3.50	5.94	10	40.00
Ceratoides lanata	0.50	1.50	10	10.00
Chrysothamnus nauseosus	6.50	6.34	10	60.00
Eriogonum corymbosum	1.00	3.00	10	10.00
Gutierrezia sarothrae	1.00	3.00	10	10.00
Kochia prostrata	2.00	4.00	10	20.00
Forbs				
Cynoglossum officinale	2.50	7.50	10	10.00
Epilobium halleanum	0.50	1.50	10	10.00
Kochia scoparia	1.50	3.20	10	20.00
Lactuca serriola	0.50	1.50	10	10.00
Machaeranthera canescens	2.00	2.00	10	40.00
Medicago sativa	1.00	2.00	10	20.00
Melilotus officinale	0.50	1.50	10	10.00
Polygonum aviculare	0.50	1.50	10	10.00
Grasses				
Bromus tectorum	5.50	6.50	10	50.00
Elymus cinereus	8.50	8.08	10	60.00
Elymus lanceolatus	7.50	8.44	10	50.00

TABLE 16: Summary for woody species density and annual production for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Area "H", see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia tridentata	2482.92
Ceratoides lanata	65.34
Chrysothamnus nauseosus	1916.64
Gutierrezia sarothrae	21.78
Kochia prostrata	566.28
TOTAL	5056.96

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	337.23	240.15	5(25)
Woody Spp.	424.32	309.49	5(25)
TOTAL	761.55	368.12	5(25)

* Number in parentheses include estimates made by "double sampling".

TABLE 17: Summary of total cover, composition and cover by species for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Areas "A-H" combined, see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	50.75	9.56	80
Litter	10.56	6.37	80
Bareground	18.69	10.36	80
Rock	20.00	9.01	80

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	14.78	19.14	80
Forbs	18.99	16.51	80
Grasses	66.24	23.76	80

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Artemisia nova	0.13	1.11	80	1.25
Artemisia tridentata	1.75	5.92	80	13.75
Atriplex canescens	0.13	1.11	80	1.25
Ceratoides lanata	0.19	1.24	80	2.50
Chrysothamnus nauseosus	2.81	5.75	80	26.25
Eriogonum corymbosum	0.13	1.11	80	1.25
Gutierrezia sarothae	0.25	1.56	80	2.50
Kochia prostrata	1.56	4.78	80	11.25
Rosa woodsii	0.25	2.22	80	1.25
Symphoricarpos oreophilus	0.13	1.11	80	1.25
Forbs				
Aster foliaceus	1.13	4.68	80	7.50
Cynoglossum officinale	0.44	2.87	80	3.75
Epilobium brachycarpum	0.31	1.21	80	6.25
Eriogonum sp.	0.06	0.56	80	1.25
Grindelia squarrosa	0.06	0.56	80	1.25
Hedysarum boreale	0.13	1.11	80	1.25
Kochia scoparia	0.19	1.24	80	2.50
Lactuca serriola	0.06	0.56	80	1.25
Machaeranthera canescens	1.38	2.85	80	21.25

TABLE 17 (continued)

Machaeranthera grindelioides	0.06	0.56	80	1.25
Medicago sativa	4.50	6.25	80	47.50
Melilotus officinalis	0.69	2.05	80	11.25
Polygonum aviculare	0.06	0.56	80	1.25
Salsola pestifer	0.31	2.78	80	1.25
Grasses				
Agropyron cristatum	0.06	0.56	80	1.25
Bromus carinatus	0.06	0.56	80	1.25
Bromus tectorum	0.75	2.97	80	7.50
Elymus cinereus	15.63	17.47	80	47.50
Elymus hispidus	0.06	0.56	80	1.25
Elymus lanceolatus	7.00	9.73	80	47.50
Elymus spicatus	8.81	10.79	80	51.25
Poa pratensis	1.31	3.85	80	12.50
Poa secunda	0.38	1.54	80	6.25

TABLE 18: Summary for woody species density and annual production for the reclaimed areas of the Gordon Creek 3 & 6 Mines (Areas "A-H" combined, see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia tridentata	1006.40
Cercocarpus montanus	2.72
Ceratoides lanata	65.28
Chrysothamnus nauseosus	579.36
Eriogonum corymbosum	2.72
Gutierrezia sarothrae	10.88
Kochia prostrata	198.56
Quercus gambelii	8.16
Pinus ponderosa	2.72
Pseudotsuga menziesii	2.72
Rosa woodsii	2.72
Suaeda torreyana	5.44
Symphoricarpos oreophilus	57.12
TOTAL	1944.80

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	969.88	605.54	40(200)
Woody Spp.	130.27	216.20	40(200)
TOTAL PRODUCTION	1100.15	579.46	40(200)

* Number in parentheses include estimates made by "double sampling".

TABLE 19: Summary of total cover, composition and cover by species for the reference area of the Gordon Creek 3 & 6 Mines (see Sample Map).

A.

TOTAL COVER	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Living Cover	42.83	7.92	30
Litter	10.17	5.55	30
Bareground	18.50	8.58	30
Rock	28.50	13.43	30

B.

COMPOSITION	PERCENT	STANDARD DEVIATION	SAMPLE SIZE
Shrubs	48.92	17.32	30
Forbs	14.58	13.96	30
Grasses	36.50	14.34	30

C.

COVER BY SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
Trees & Shrubs				
Artemisia ~~*frigida*~~ tridentata	15.83	9.41	30	100.00
Cercocarpus montanus	1.67	5.53	30	16.67
Chrysothamnus depressus	0.50	1.50	30	10.00
Eriogonum corymbosum	2.00	6.40	30	10.00
Gutierrezia sarothrae	1.00	2.38	30	16.67
Forbs				
Asclepias sp.	0.07	0.36	30	3.33
Astragalus mollissimus	0.50	1.50	30	30.00
Hedysarum boreale	3.83	6.79	30	43.33
Machaeranthera grindelioides	1.83	2.41	30	36.64
Grasses				
Elymus salinus	15.17	6.64	30	100.00
Stipa hymenoides	0.43	1.86	30	6.67

TABLE 20: Summary for woody species density and annual production for the reference area of the Gordon Creek 3 & 6 Mines (combined, see Sample Map).

A.

WOODY SPECIES DENSITY	NUMBER/ACRE
Artemisia frigida	6791.89
Ceratoides lanata	34.86
Cercocarpus montanus	244.02
Chrysothamnus depressus	145.25
Eriogonum corymbosum	232.40
Gutierrezia sarothrae	505.47
Pinus edulis	11.62
TOTAL	7965.51

B.

ANNUAL PRODUCTION

LIFEFORM	LBS/ ACRE	STANDARD DEVIATION	SAMPLE* SIZE
Herbaceous	195.75	89.72	30(150)
Woody Spp.	212.33	65.96	30(150)
TOTAL	408.09	79.24	30(150)

* Number in parentheses include estimates made by "double sampling".

TABLE 21: Statistical summary sheet for the reclaimed areas and reference areas at Gordon Creek No. 3 & 6 Mines.

RECLAIMED AREAS (A-E Combined)			
Living Cover*	x=50.75	s=9.56	n=80
Density	x=1944.80	s= **	n=64
Production	x=1100.15	s=579.46	n=40(200)
REFERENCE AREA			
Living Cover*	x=42.83	s=7.92	n=30
Density**	x=1000***	s= **	n=30
Production	x=408.09	s=79.24	n=30(150)
STATISTICAL ANALYSES			
Cover	t=4.044	df=108	SL=p<.001
Density	t= **	df= --	SL= --
Production	t=6.845	df=68	SL=p<.001

x = sample mean, s = sample standard deviation,
n = sample size, NS = nonsignificant,
p = probability level of significance
* represents understory and overstory cover combined.
** differences obvious, s and t values not calculated
*** predetermined and approved standard

COLOR PHOTOGRAPHS

Reclaimed Area "G"

Reclaimed Area "H"

Reference Area

Reclaimed Area "D"

Reclaimed Area "E"

Reclaimed Area "F"

Reclaimed Area "G"

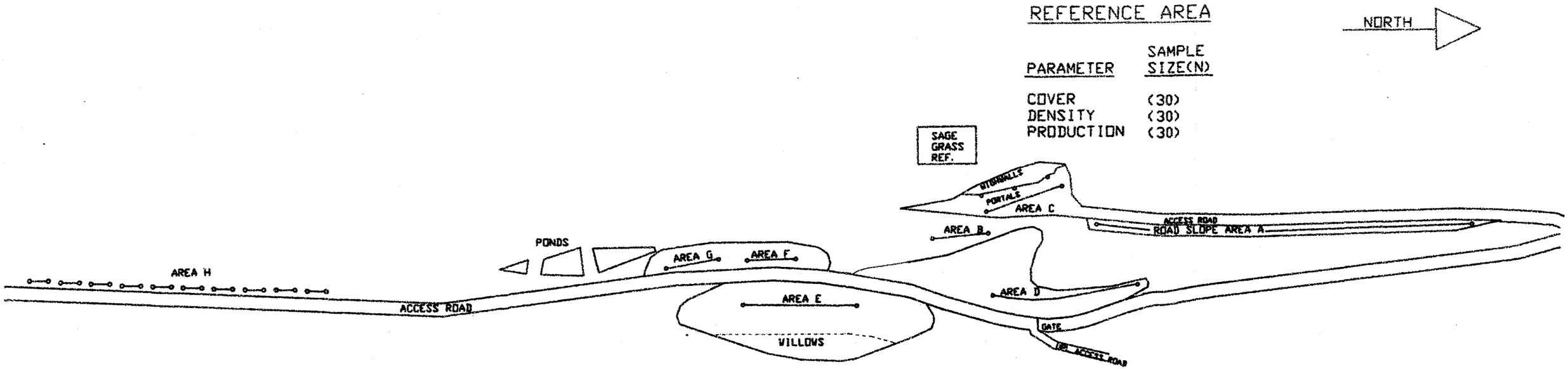
Reclaimed Area "H"

Reference Area

SAMPLE MAP

REFERENCE AREA

PARAMETER	SAMPLE SIZE(N)
COVER	(30)
DENSITY	(30)
PRODUCTION	(30)



SAMPLE AREA	PARAMETER	SAMPLE SIZE(N)
A-H	COVER	(80)
	DENSITY	(64)
	PRODUCTION	(40)

SAMPLE AREA	PARAMETER	SAMPLE SIZE(N)
A	COVER	(10)
	DENSITY	(8)
	PRODUCTION	(5)
B	COVER	(10)
	DENSITY	(8)
	PRODUCTION	(5)
C	COVER	(10)
	DENSITY	(8)
	PRODUCTION	(5)
D	COVER	(10)
	DENSITY	(8)
	PRODUCTION	(5)
E	COVER	(10)
	DENSITY	(8)
	PRODUCTION	(5)

SAMPLE AREA	PARAMETER	SAMPLE SIZE(N)
F	COVER	(10)
	DENSITY	(8)
	PRODUCTION	(5)
G	COVER	(10)
	DENSITY	(8)
	PRODUCTION	(5)
H	COVER	(10)
	DENSITY	(8)
	PRODUCTION	(5)

TRANSECT LINES

GORDON CREEK NO. 3&6
SAMPLE LOCATION MAP
1995

MT. NEBO SCIENTIFIC
RESEARCH AND CONSULTING

DRAWN	S. LEWIS
CHECKED	P. COLLINS
DATE	9-25-95
SCALE	NOT TO SCALE

GC36.DWG

APPENDIX A:

RAW DATA

BLACKHAWK

[illegible]on Creek 3 & 6

[illegible]med Mine Site

Area "A" - Road Slope

Exposure: E

Slope: 39 deg.

Sample Date: 21 Aug 1995	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	Mean	SDev	Freq
TREES & SHRUBS													
Rosa woodsii	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	6.00	10.00
Ceratoides lanata	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	1.00	3.00	10.00
Symphoricarpos oreophilus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	1.00	3.00	10.00
FORBS													
Aster foliaceus	0.00	20.00	0.00	0.00	5.00	0.00	0.00	0.00	20.00	0.00	4.50	7.89	30.00
Machaeranthera grindelicoides	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
Salsola pestifer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	2.50	7.50	10.00
[illegible]SSES													
Elymus hispidus	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
Elymus lanceolatus	35.00	20.00	0.00	10.00	0.00	5.00	0.00	10.00	0.00	15.00	9.50	10.83	60.00
Elymus cinereus	0.00	0.00	75.00	35.00	70.00	65.00	15.00	5.00	10.00	10.00	28.50	28.81	80.00
Elymus spicatus	0.00	0.00	0.00	20.00	0.00	0.00	25.00	35.00	30.00	0.00	11.00	13.93	40.00
COVER													
Total Living Cover	60.00	45.00	75.00	65.00	75.00	70.00	50.00	60.00	60.00	50.00	61.00	9.95	
Litter	5.00	5.00	5.00	5.00	15.00	20.00	10.00	10.00	10.00	5.00	9.00	4.90	
Bareground	10.00	30.00	5.00	5.00	5.00	5.00	10.00	20.00	25.00	35.00	15.00	10.95	
Rock	25.00	20.00	15.00	25.00	5.00	5.00	30.00	10.00	5.00	10.00	15.00	8.94	
% COMPOSITION													
Shrubs	33.33	0.00	0.00	0.00	0.00	0.00	20.00	16.67	0.00	0.00	7.00	11.40	
Forbs	0.00	55.56	0.00	0.00	6.67	0.00	0.00	0.00	33.33	50.00	14.56	21.50	
Grasses	66.67	44.44	100.00	100.00	93.33	100.00	80.00	83.33	66.67	50.00	78.44	19.71	

BLACKHAWK

[illegible]n Creek 3 & 6

[illegible]med Mine Site

Area "B" - Pad Slope

Exposure: E

Slope: 39 deg.

Sample Date: 21 Aug 1995	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	Mean	SDev	Freq
TREES & SHRUBS													
Chrysothamnus nauseosus	5.00	5.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	3.50	7.43	30.00
Artemisia tridentata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.50	1.50	10.00
FORBS													
Cynoglossum officinale	0.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00	0.00	0.00	1.00	2.00	20.00
Melilotus officinalis	10.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	2.00	3.32	30.00
Machaeranthera canscens	10.00	0.00	5.00	5.00	0.00	0.00	0.00	5.00	0.00	0.00	2.50	3.35	40.00
Eriogonum sp.	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
Aster foliaceus	0.00	0.00	0.00	0.00	5.00	10.00	0.00	0.00	0.00	0.00	1.50	3.20	20.00
Grindelia squarrosa	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
Epilobium halleanum	0.00	5.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	20.00
Medicago sativa	0.00	0.00	10.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	1.50	3.20	20.00
[illegible]SSES													
Bromus tectorum	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
Elymus lanceolatus	0.00	5.00	20.00	0.00	0.00	0.00	10.00	15.00	40.00	0.00	9.00	12.41	50.00
Elymus cinereus	15.00	0.00	0.00	0.00	40.00	20.00	40.00	0.00	0.00	0.00	11.50	15.82	40.00
Elymus spicatus	10.00	25.00	0.00	40.00	15.00	10.00	0.00	0.00	0.00	40.00	14.00	15.13	60.00
Bromus carinatus	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
COVER													
Total Living Cover	50.00	50.00	50.00	45.00	65.00	50.00	50.00	50.00	45.00	45.00	50.00	5.48	
Litter	10.00	10.00	10.00	20.00	15.00	20.00	15.00	20.00	10.00	20.00	15.00	4.47	
Bareground	10.00	10.00	20.00	10.00	5.00	5.00	10.00	10.00	30.00	20.00	13.00	7.48	
Rock	30.00	30.00	20.00	25.00	15.00	25.00	25.00	20.00	15.00	15.00	22.00	5.57	
% COMPOSITION													
Shrubs	10.00	10.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	11.11	8.11	14.72	
Forbs	40.00	20.00	50.00	11.11	15.38	40.00	0.00	20.00	11.11	0.00	20.76	16.35	
Grasses	50.00	70.00	50.00	88.89	84.62	60.00	100.00	30.00	88.89	88.89	71.13	21.61	

BLACKHAWK

[illegible]on Creek 3 & 6

[illegible]imed Mine Site

Area "C" - Portal Pad

Exposure: E

Slope: 2 deg.

Sample Date: 22 Aug 1995	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	Mean	SDev	Freq
TREES & SHRUBS													
Chrysothamus nauseosus	0.00	0.00	0.00	0.00	5.00	10.00	0.00	0.00	0.00	15.00	3.00	5.10	30.00
Artemisia tridentata	0.00	0.00	0.00	0.00	25.00	40.00	0.00	0.00	0.00	0.00	6.50	13.43	20.00
FORBS													
Medicago sativa	0.00	5.00	25.00	15.00	0.00	5.00	15.00	5.00	5.00	0.00	7.50	7.83	70.00
Melilotus officinalis	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.00	10.00
Aster foliaceus	0.00	0.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	3.00	9.00	10.00
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	5.00	15.00	2.50	4.61	30.00
[illegible]ASSES													
Poa secunda	0.00	5.00	0.00	10.00	0.00	0.00	0.00	5.00	0.00	0.00	2.00	3.32	30.00
Elymus cinereus	20.00	5.00	0.00	20.00	10.00	0.00	25.00	0.00	5.00	0.00	8.50	9.23	60.00
Elymus spicatus	10.00	20.00	35.00	10.00	0.00	10.00	10.00	25.00	25.00	10.00	15.50	9.86	90.00
COVER													
Total Living Cover	40.00	35.00	60.00	55.00	70.00	65.00	50.00	40.00	40.00	40.00	49.50	11.72	
Litter	10.00	5.00	5.00	20.00	5.00	10.00	10.00	5.00	5.00	5.00	8.00	4.58	
Bareground	15.00	50.00	5.00	10.00	5.00	5.00	20.00	10.00	20.00	20.00	16.00	12.81	
Rock	35.00	10.00	30.00	15.00	20.00	20.00	20.00	45.00	35.00	35.00	26.50	10.50	
% COMPOSITION													
Shrubs	0.00	0.00	0.00	0.00	42.86	76.92	0.00	0.00	0.00	37.50	15.73	25.86	
Forbs	25.00	14.29	41.67	27.27	42.86	7.69	30.00	25.00	25.00	37.50	27.63	10.62	
Grasses	75.00	85.71	58.33	72.73	14.29	15.38	70.00	75.00	75.00	25.00	56.64	26.06	

BLACKHAWK

[illegible]n Creek 3 & 6

[illegible]med Mine Site

Area "D"

Exposure: SE E

Slope: 25 - 30 deg.

Sample Date: 22 Aug 1995	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	Mean	SDev	Freq
TREES & SHRUBS													
Chrysothamnus nauseosus	10.00	10.00	25.00	0.00	0.00	5.00	0.00	20.00	0.00	5.00	7.50	8.44	70.00
Kochia prostrata	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
FORBS													
Hedysarum boreale	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.00	10.00
Medicago sativa	20.00	5.00	10.00	5.00	20.00	5.00	10.00	5.00	10.00	25.00	11.50	7.09	100.00
Machaeranthera canescens	0.00	0.00	0.00	10.00	0.00	0.00	5.00	0.00	0.00	0.00	1.50	3.20	20.00
Melilotus officinalis	5.00	0.00	5.00	0.00	5.00	0.00	5.00	0.00	0.00	0.00	2.00	2.45	40.00
[illegible]SSES													
Elymus lanceolatus	0.00	25.00	0.00	20.00	0.00	30.00	10.00	0.00	0.00	0.00	8.50	11.41	40.00
Elymus cinerus	5.00	0.00	0.00	5.00	5.00	0.00	5.00	25.00	60.00	0.00	10.50	17.95	60.00
Elymus spicatus	20.00	0.00	15.00	0.00	20.00	0.00	0.00	0.00	0.00	10.00	6.50	8.38	40.00
Poa secunda	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	5.00	1.00	2.00	20.00
COVER													
Total Living Cover	60.00	50.00	55.00	45.00	50.00	40.00	40.00	50.00	70.00	45.00	50.50	8.79	
Litter	10.00	5.00	10.00	5.00	10.00	5.00	5.00	10.00	10.00	20.00	9.00	4.36	
Bareground	15.00	30.00	15.00	20.00	10.00	20.00	15.00	20.00	10.00	20.00	17.50	5.59	
Rock	15.00	15.00	20.00	30.00	30.00	35.00	40.00	20.00	10.00	15.00	23.00	9.54	
% COMPOSITION													
Shrubs	16.67	20.00	45.45	11.11	0.00	12.50	0.00	40.00	0.00	11.11	15.68	15.12	
Forbs	41.67	30.00	27.27	33.33	50.00	12.50	50.00	10.00	14.29	55.56	32.46	15.81	
Grasses	41.67	50.00	27.27	55.56	50.00	75.00	50.00	50.00	85.71	33.33	51.85	16.62	

BLACKHAWK

[illegible]on Creek 3 & 6

[illegible]med Mine Site

Area "E"

Exposure: E

Slope:

Sample Date: 28 Aug 1995	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	Mean	SDev	Freq
TREES & SHRUBS													
Chrysothamus nauseosus	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	1.00	3.00	10.00
Kochia prostrata	10.00	0.00	15.00	15.00	0.00	0.00	0.00	25.00	20.00	15.00	10.00	8.94	50.00
Artemisia nova	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	1.00	3.00	10.00
Atriplex canescens	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	1.00	3.00	10.00
FORBS													
Aster foliaceus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	1.00	3.00	10.00
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
Medicago sativa	0.00	0.00	10.00	0.00	5.00	5.00	0.00	0.00	5.00	0.00	2.50	3.35	40.00
[illegible]SSES													
Agropyron cristatum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.50	1.50	10.00
Poa pratensis	0.00	0.00	10.00	0.00	0.00	0.00	10.00	10.00	0.00	0.00	3.00	4.58	30.00
Elymus cinereus	25.00	10.00	15.00	25.00	25.00	15.00	35.00	10.00	10.00	25.00	19.50	8.20	100.00
Elymus lanceolatus	0.00	10.00	0.00	0.00	0.00	10.00	0.00	0.00	10.00	0.00	3.00	4.58	40.00
Elymus spicatus	15.00	20.00	0.00	10.00	15.00	5.00	10.00	0.00	0.00	15.00	9.00	7.00	80.00
COVER													
Total Living Cover	50.00	40.00	50.00	50.00	55.00	50.00	65.00	50.00	45.00	65.00	52.00	7.48	
Litter	10.00	30.00	20.00	15.00	25.00	10.00	20.00	10.00	30.00	10.00	18.00	7.81	
Bareground	5.00	20.00	20.00	25.00	10.00	10.00	5.00	35.00	15.00	15.00	16.00	8.89	
Rock	35.00	10.00	10.00	10.00	10.00	30.00	10.00	5.00	10.00	10.00	14.00	9.43	
% COMPOSITION													
Shrubs	20.00	0.00	30.00	30.00	18.18	20.00	15.38	50.00	44.44	23.08	25.11	13.68	
Forbs	0.00	0.00	20.00	0.00	9.09	20.00	0.00	0.00	11.11	15.38	7.56	8.19	
Grasses	80.00	100.00	50.00	70.00	72.73	60.00	84.62	50.00	44.44	61.54	67.33	16.66	

BLACKHAWK

[illegible]on Creek 3 & 6

[illegible]med Mine Site

Area "F"

Exposure: SSW

Slope:

Sample Date: 28 Aug 1995	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	Mean	SDev	Freq
TREES & SHRUBS													
Artemisia tridentata	0.00	0.00	10.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	4.00	20.00
Chrysothamnus nauseosus	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
FORBS													
Machaeranthera canescens	0.00	0.00	5.00	0.00	5.00	5.00	5.00	0.00	0.00	0.00	2.00	2.45	40.00
Medicago sativa	15.00	15.00	10.00	20.00	5.00	0.00	5.00	5.00	5.00	15.00	9.50	6.10	90.00
Epilobium halleanum	0.00	0.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	20.00
[illegible]RASSES													
Poa pratensis	25.00	5.00	0.00	10.00	10.00	10.00	0.00	0.00	0.00	0.00	6.00	7.68	50.00
Elymus lanceolatus	5.00	20.00	5.00	5.00	5.00	10.00	0.00	25.00	25.00	0.00	10.00	9.22	80.00
Elymus cinereus	5.00	5.00	0.00	5.00	10.00	20.00	15.00	10.00	10.00	10.00	9.00	5.39	100.00
Elymus spicatus	0.00	0.00	5.00	0.00	0.00	5.00	20.00	15.00	0.00	20.00	6.50	8.08	50.00
COVER													
Total Living Cover	50.00	45.00	45.00	50.00	40.00	50.00	45.00	55.00	40.00	45.00	46.50	4.50	
Litter	5.00	5.00	10.00	5.00	5.00	5.00	10.00	10.00	10.00	20.00	8.50	4.50	
Bareground	40.00	25.00	25.00	20.00	30.00	20.00	25.00	10.00	25.00	20.00	24.00	7.35	
Rock	5.00	25.00	20.00	25.00	25.00	25.00	20.00	25.00	25.00	15.00	21.00	6.24	
% COMPOSITION													
Shrubs	0.00	0.00	33.33	20.00	0.00	0.00	0.00	0.00	0.00	0.00	5.33	11.08	
Forbs	30.00	33.33	44.44	40.00	37.50	10.00	22.22	9.09	12.50	33.33	27.24	12.31	
Grasses	70.00	66.67	22.22	40.00	62.50	90.00	77.78	90.91	87.50	66.67	67.42	20.97	

BLACKHAWK

[illegible]on Creek 3 & 6

[illegible]ined Mine Site

Area "G"

Exposure: E

Slope: 5-10 deg

Sample Date: 28 Aug 1995	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	Mean	SDev	Freq
TREES & SHRUBS													
Artemisia tridentata	5.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	3.20	20.00
Chrysothamnus nauseosus	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
Gutierrezia sarothae	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.00	10.00
FORBS													
Medicago sativa	5.00	5.00	0.00	5.00	0.00	0.00	5.00	0.00	5.00	0.00	2.50	2.50	50.00
[illegible]RASSES													
Poa pratensis	0.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	5.00	0.00	1.50	2.29	30.00
Elymus lanceolatus	10.00	0.00	0.00	0.00	10.00	0.00	20.00	5.00	10.00	30.00	8.50	9.50	60.00
Elymus cinereus	10.00	20.00	30.00	25.00	20.00	60.00	40.00	50.00	25.00	10.00	29.00	15.62	100.00
Elymus spicatus	20.00	0.00	20.00	10.00	15.00	0.00	0.00	5.00	10.00	0.00	8.00	7.81	60.00
COVER													
Total Living Cover	50.00	40.00	50.00	55.00	50.00	60.00	65.00	60.00	55.00	40.00	52.50	7.83	
Litter	5.00	10.00	15.00	10.00	10.00	10.00	5.00	20.00	10.00	5.00	10.00	4.47	
Bareground	25.00	25.00	25.00	15.00	20.00	10.00	20.00	10.00	15.00	35.00	20.00	7.42	
Rock	20.00	25.00	10.00	20.00	20.00	20.00	10.00	10.00	20.00	20.00	17.50	5.12	
% COMPOSITION													
Shrubs	10.00	25.00	0.00	18.18	10.00	0.00	0.00	0.00	0.00	0.00	6.32	8.70	
Forbs	10.00	12.50	0.00	9.09	0.00	0.00	7.69	0.00	9.09	0.00	4.84	4.97	
Grasses	80.00	62.50	100.00	72.73	90.00	100.00	92.31	100.00	90.91	100.00	88.84	12.44	

BLACKHAWK

[illegible]n Creek 3 & 6

[illegible]med Mine Site

Area "H"

Exposure: E

Slope:

Sample Date: 28 Aug 1995	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	Mean	SDev	Freq
TREES & SHRUBS													
Chrysothamus nauseosus	0.00	20.00	10.00	10.00	0.00	10.00	10.00	5.00	0.00	0.00	6.50	6.34	60.00
Artemisia tridentata	0.00	0.00	0.00	0.00	5.00	5.00	20.00	0.00	5.00	0.00	3.50	5.94	40.00
Kochia protrata	10.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	2.00	4.00	20.00
Eriogonum corymbosum	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	1.00	3.00	10.00
Gutierrezia sarothrae	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.00	10.00
Ceratoides	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
FORBS													
Medicago sativa	5.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	1.00	2.00	20.00
Machaeranthera canescens	0.00	0.00	5.00	0.00	5.00	5.00	0.00	0.00	0.00	5.00	2.00	2.45	40.00
Polygonum aviculare	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
Kochia scoparia	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	1.50	3.20	20.00
Cynoglossum officinale	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	7.50	10.00
Melilotus officinalis	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	10.00
Lactuca serriola	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.50	1.50	10.00
Epilobium halleanum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.50	1.50	10.00
[illegible]SSES													
Bromus tectorum	0.00	10.00	5.00	10.00	0.00	0.00	10.00	0.00	20.00	0.00	5.50	6.50	50.00
Elymus lanceolatus	0.00	10.00	15.00	0.00	0.00	15.00	0.00	10.00	0.00	25.00	7.50	8.44	50.00
Elymus cinereus	15.00	0.00	0.00	10.00	5.00	0.00	0.00	20.00	15.00	20.00	8.50	8.08	60.00
COVER													
Total Living Cover	35.00	50.00	40.00	65.00	35.00	40.00	40.00	35.00	50.00	60.00	45.00	10.25	
Litter	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	25.00	7.00	6.00	
Bareground	50.00	20.00	25.00	25.00	30.00	30.00	35.00	35.00	25.00	5.00	28.00	11.00	
Rock	10.00	25.00	30.00	5.00	30.00	25.00	20.00	25.00	20.00	10.00	20.00	8.37	
% COMPOSITION													
Shrubs	28.57	40.00	37.50	30.77	71.43	37.50	75.00	14.29	10.00	0.00	34.51	23.02	
Forbs	28.57	20.00	12.50	38.46	14.29	25.00	0.00	0.00	20.00	25.00	18.38	11.52	
Grasses	42.86	40.00	50.00	30.77	14.29	37.50	25.00	85.71	70.00	75.00	47.11	21.90	

Reclaimed Mine Site Gordon Creek 3 & 6 Area A = 1 thru 10

"A" thru "H" Combined

e Date: 28 Aug 1995

	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00
TREES & SHRUBS									
Rosa woodsii	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chrysothamnus nauseosus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Symphoricarpos oreophilus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00
Artemisia tridentata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ceratoides lanata	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00
Kochia prostrata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Artemisia nova	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Atriplex canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eriogonum corymbosum	0.00	0.00	0.00	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	0.00	0.00	0.00
FORBS									
Aster foliaceus	0.00	20.00	0.00	0.00	5.00	0.00	0.00	0.00	20.00
Machaeranthera canescens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Polygonum aviculare	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eriogonum sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lactuca serriola	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Melilotus officinalis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medicago sativa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hedysarum boreale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kochia scoparia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Salsola pestifer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
eranthera grindelioides	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
glossum officinale	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grindelia squarrosa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Epilobium halleanum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GRASSES									
Poa pratensis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus lanceolatus	35.00	20.00	0.00	10.00	0.00	5.00	0.00	10.00	0.00
Elymus cinereus	0.00	0.00	75.00	35.00	70.00	65.00	15.00	5.00	10.00
Elymus spicatus	0.00	0.00	0.00	20.00	0.00	0.00	25.00	35.00	30.00
Agropyron cristatum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bromus tectorum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus hispidus	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bromus carinatus	0.00	0.00	0.00	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	0.00	0.00	0.00
COVER									
Total Living Cover	60.00	45.00	75.00	65.00	75.00	70.00	50.00	60.00	60.00
Litter	5.00	5.00	5.00	5.00	15.00	20.00	10.00	10.00	10.00
Bareground	10.00	30.00	5.00	5.00	5.00	5.00	10.00	20.00	25.00
Rock	25.00	20.00	15.00	25.00	5.00	5.00	30.00	10.00	5.00
MPOSITION									
	33.33	0.00	0.00	0.00	0.00	0.00	20.00	16.67	0.00
Forbs	0.00	55.56	0.00	0.00	6.67	0.00	0.00	0.00	33.33
Grasses	66.67	44.44	100.00	100.00	93.33	100.00	80.00	83.33	66.67

Area B = 11 thru 20

10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	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	5.00	5.00	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
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	0.00	0.00	0.00	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	10.00	0.00	0.00	0.00	0.00
0.00	10.00	0.00	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	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	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	10.00	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
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	0.00	0.00	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	5.00	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	0.00	0.00	0.00	0.00	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	0.00	5.00	20.00	0.00	0.00	0.00	10.00	15.00	40.00	0.00
10.00	15.00	0.00	0.00	0.00	40.00	20.00	40.00	0.00	0.00	0.00
0.00	10.00	25.00	0.00	40.00	15.00	10.00	0.00	0.00	0.00	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	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	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
50.00	50.00	50.00	50.00	45.00	65.00	50.00	50.00	50.00	45.00	45.00
5.00	10.00	10.00	10.00	20.00	15.00	20.00	15.00	20.00	10.00	20.00
35.00	10.00	10.00	20.00	10.00	5.00	5.00	10.00	10.00	30.00	20.00
10.00	30.00	30.00	20.00	25.00	15.00	25.00	25.00	20.00	15.00	15.00
0.00	10.00	10.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	11.11
50.00	40.00	20.00	50.00	11.11	15.38	40.00	0.00	20.00	11.11	0.00
50.00	50.00	70.00	50.00	88.89	84.62	60.00	100.00	30.00	88.89	88.89

Area C = 21 thru 30

21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	29.00	30.00	31.00
0.00	0.00	0.00	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	10.00	0.00	0.00	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	0.00
0.00	0.00	0.00	0.00	25.00	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	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	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	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	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	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	5.00
0.00	5.00	25.00	15.00	0.00	5.00	15.00	5.00	5.00	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	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	5.00	0.00	20.00	10.00	0.00	25.00	0.00	5.00	0.00	5.00
10.00	20.00	35.00	10.00	0.00	10.00	10.00	25.00	25.00	10.00	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
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	10.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
40.00	35.00	60.00	55.00	70.00	65.00	50.00	40.00	40.00	40.00	60.00
10.00	5.00	5.00	20.00	5.00	10.00	10.00	5.00	5.00	5.00	10.00
15.00	50.00	5.00	10.00	5.00	5.00	20.00	10.00	20.00	20.00	15.00
35.00	10.00	30.00	15.00	20.00	20.00	20.00	45.00	35.00	35.00	15.00
0.00	0.00	0.00	0.00	42.86	76.92	0.00	0.00	0.00	37.50	16.67
25.00	14.29	41.67	27.27	42.86	7.69	30.00	25.00	25.00	37.50	41.67
75.00	85.71	58.33	72.73	14.29	15.38	70.00	75.00	75.00	25.00	41.67

Area D = 31 thru 40

32.00	33.00	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
10.00	25.00	0.00	0.00	5.00	0.00	20.00	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	5.00	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	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	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	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	5.00	0.00	0.00	0.00	0.00	0.00
5.00	10.00	5.00	20.00	5.00	10.00	5.00	10.00	25.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	20.00	0.00	30.00	10.00	0.00	0.00	0.00	0.00	10.00
0.00	0.00	5.00	5.00	0.00	5.00	25.00	60.00	0.00	25.00	10.00
0.00	15.00	0.00	20.00	0.00	0.00	0.00	0.00	10.00	15.00	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
0.00	0.00	0.00	0.00	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	5.00	0.00	0.00
50.00	55.00	45.00	50.00	40.00	40.00	50.00	70.00	45.00	50.00	40.00
5.00	10.00	5.00	10.00	5.00	5.00	10.00	10.00	20.00	10.00	30.00
30.00	15.00	20.00	10.00	20.00	15.00	20.00	10.00	20.00	5.00	20.00
15.00	20.00	30.00	30.00	35.00	40.00	20.00	10.00	15.00	35.00	10.00
20.00	45.45	11.11	0.00	12.50	0.00	40.00	0.00	11.11	20.00	0.00
30.00	27.27	33.33	50.00	12.50	50.00	10.00	14.29	55.56	0.00	0.00
50.00	27.27	55.56	50.00	75.00	50.00	50.00	85.71	33.33	80.00	100.00

Area E = 41 thru 50

43.00	44.00	45.00	46.00	47.00	48.00	49.00	50.00	51.00	52.00	53.00
0.00	0.00	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	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	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.00	15.00	0.00	0.00	0.00	25.00	20.00	15.00	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	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	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	5.00	5.00	0.00	0.00	5.00	0.00	15.00	15.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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
10.00	0.00	0.00	0.00	10.00	10.00	0.00	0.00	25.00	5.00	0.00
0.00	0.00	0.00	10.00	0.00	0.00	10.00	0.00	5.00	20.00	5.00
15.00	25.00	25.00	15.00	35.00	10.00	10.00	25.00	5.00	5.00	0.00
0.00	10.00	15.00	5.00	10.00	0.00	0.00	15.00	0.00	0.00	5.00
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
50.00	50.00	55.00	50.00	65.00	50.00	45.00	55.00	50.00	45.00	45.00
20.00	15.00	25.00	10.00	20.00	10.00	30.00	10.00	5.00	5.00	10.00
20.00	25.00	10.00	10.00	5.00	35.00	15.00	15.00	40.00	25.00	25.00
10.00	10.00	10.00	30.00	10.00	5.00	10.00	20.00	5.00	25.00	20.00
30.00	30.00	18.18	20.00	15.38	50.00	44.44	27.27	0.00	0.00	33.33
20.00	0.00	9.09	20.00	0.00	0.00	11.11	0.00	30.00	33.33	44.44
50.00	70.00	72.73	60.00	84.62	50.00	44.44	72.73	70.00	66.67	22.22

Area F = 51 thru 60

54.00	55.00	56.00	57.00	58.00	59.00	60.00	61.00	62.00	63.00	64.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	5.00	5.00	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
20.00	5.00	0.00	5.00	5.00	5.00	15.00	5.00	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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

10.00	10.00	10.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00
5.00	5.00	10.00	0.00	25.00	25.00	0.00	10.00	0.00	0.00	0.00
5.00	10.00	20.00	15.00	10.00	10.00	10.00	10.00	20.00	30.00	25.00
0.00	0.00	5.00	20.00	15.00	0.00	20.00	20.00	0.00	20.00	10.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	40.00	50.00	45.00	55.00	40.00	45.00	50.00	40.00	50.00	55.00
5.00	5.00	5.00	10.00	10.00	10.00	20.00	5.00	10.00	15.00	10.00
20.00	30.00	20.00	25.00	10.00	25.00	20.00	25.00	25.00	25.00	15.00
25.00	25.00	25.00	20.00	25.00	25.00	15.00	20.00	25.00	10.00	20.00

20.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	25.00	0.00	18.18
40.00	37.50	10.00	22.22	9.09	12.50	33.33	10.00	12.50	0.00	9.09
40.00	62.50	90.00	77.78	90.91	87.50	66.67	80.00	62.50	100.00	72.73

Area G = 61 thru 70

Area G = 70 thru 80

65.00	66.00	67.00	68.00	69.00	70.00	71.00	72.00	73.00	74.00	75.00
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	20.00	10.00	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
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	10.00	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	10.00
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	5.00	0.00	5.00
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	5.00	0.00	0.00	0.00	0.00
0.00	0.00	5.00	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
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	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	0.00	0.00	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
10.00	0.00	20.00	5.00	10.00	30.00	0.00	10.00	15.00	0.00	0.00
20.00	60.00	40.00	50.00	25.00	10.00	15.00	0.00	0.00	10.00	5.00
15.00	0.00	0.00	5.00	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	10.00	5.00	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
50.00	60.00	65.00	60.00	55.00	40.00	35.00	50.00	40.00	65.00	35.00
10.00	10.00	5.00	20.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00
20.00	10.00	20.00	10.00	15.00	35.00	50.00	20.00	25.00	25.00	30.00
20.00	20.00	10.00	10.00	20.00	20.00	10.00	25.00	30.00	5.00	30.00
10.00	0.00	0.00	0.00	0.00	0.00	28.57	40.00	37.50	30.77	71.43
0.00	0.00	7.69	0.00	9.09	0.00	28.57	20.00	12.50	38.46	14.29
90.00	100.00	92.31	100.00	90.91	100.00	42.86	40.00	50.00	30.77	14.29

Reclaimed Mine Site
Area "A" thru "H" Combined
Sample Date: 28 Aug 1995

76.00	77.00	78.00	79.00	80.00	Mean	SDev	Freq	
								TREES & SHRUBS
0.00	0.00	0.00	0.00	0.00	0.25	2.22	1.25	Rosa woodsii
10.00	10.00	5.00	0.00	0.00	2.81	5.75	26.25	Chrysothamnus nauseosus
0.00	0.00	0.00	0.00	0.00	0.13	1.11	1.25	Symphoricarpos oreophilus
5.00	20.00	0.00	5.00	0.00	1.75	5.92	13.75	Artemisia tridentata
0.00	0.00	0.00	0.00	0.00	0.19	1.24	2.50	Ceratoides lanata
0.00	0.00	0.00	0.00	0.00	1.56	4.78	11.25	Kochia prostrata
0.00	0.00	0.00	0.00	0.00	0.13	1.11	1.25	Artemisia nova
0.00	0.00	0.00	0.00	0.00	0.13	1.11	1.25	Atriplex canescens
0.00	0.00	0.00	0.00	0.00	0.13	1.11	1.25	Eriogonum corymbosum
0.00	0.00	0.00	0.00	0.00	0.25	1.56	2.50	Gutierrezia sarothrae
								FORBS
0.00	0.00	0.00	0.00	0.00	1.13	4.68	7.50	Aster foliaceus
5.00	0.00	0.00	0.00	5.00	1.38	2.85	21.25	Machaeranthera canescens
0.00	0.00	0.00	0.00	0.00	0.06	0.56	1.25	Polygonum aviculare
0.00	0.00	0.00	0.00	0.00	0.06	0.56	1.25	Eriogonum sp.
0.00	0.00	0.00	0.00	5.00	0.06	0.56	1.25	Lactuca serriola
0.00	0.00	0.00	0.00	0.00	0.69	2.05	11.25	Melilotus officinalis
5.00	0.00	0.00	0.00	0.00	4.50	6.25	47.50	Medicago sativa
0.00	0.00	0.00	0.00	0.00	0.13	1.11	1.25	Hedysarum boreale
0.00	0.00	0.00	10.00	0.00	0.19	1.24	2.50	Kochia scoparia
0.00	0.00	0.00	0.00	0.00	0.31	2.78	1.25	Salsola pestifer
0.00	0.00	0.00	0.00	0.00	0.06	0.56	1.25	Machaeranthera grindelioides
0.00	0.00	0.00	0.00	0.00	0.44	2.87	3.75	Cynoglossum officinale
0.00	0.00	0.00	0.00	0.00	0.06	0.56	1.25	Grindelia squarrosa
0.00	0.00	0.00	0.00	5.00	0.31	1.21	6.25	Epilobium halleanum
								GRASSES
0.00	0.00	0.00	0.00	0.00	1.31	3.85	12.50	Poa pratensis
15.00	0.00	10.00	0.00	25.00	7.00	9.73	47.50	Elymus lanceolatus
0.00	0.00	20.00	15.00	20.00	15.63	17.47	47.50	Elymus cinereus
0.00	0.00	0.00	0.00	0.00	8.81	10.79	51.25	Elymus spicatus
0.00	0.00	0.00	0.00	0.00	0.06	0.56	1.25	Agropyron cristatum
0.00	10.00	0.00	20.00	0.00	0.75	2.97	7.50	Bromus tectorum
0.00	0.00	0.00	0.00	0.00	0.06	0.56	1.25	Elymus hispidus
0.00	0.00	0.00	0.00	0.00	0.06	0.56	1.25	Bromus carinatus
0.00	0.00	0.00	0.00	0.00	0.38	1.54	6.25	Poa secunda
								COVER
40.00	40.00	35.00	50.00	60.00	50.75	9.56		Total Living Cover
5.00	5.00	5.00	5.00	25.00	10.56	6.37		Litter
30.00	35.00	35.00	25.00	5.00	18.69	10.36		Bareground
25.00	20.00	25.00	20.00	10.00	20.00	9.01		Rock
								% COMPOSITION
37.50	75.00	14.29	10.00	0.00	14.78	19.14		Shrubs
25.00	0.00	0.00	20.00	25.00	18.99	16.51		Forbs
37.50	25.00	85.71	70.00	75.00	66.24	23.76		Grasses

BLACKHAWK

[illegible]on Creek 3 & 6

[illegible]nce Area Sagebrush/Grass

Exposure: E

Slope: 36 deg.

Sample Date: 24 Aug 1995	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00
TREES & SHRUBS															
Artemisia nova	5.00	10.00	30.00	5.00	15.00	35.00	20.00	10.00	25.00	10.00	5.00	5.00	0.00	15.00	20.00
Cercocarpos montanus	0.00	5.00	0.00	0.00	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00
Gutierrezia sarothrae	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
Eriogonum corymbosum	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
Chrysothamnus depressus	0.00	5.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00
FORBS															
Hedysarum boreale	5.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.00	10.00	5.00	5.00	5.00
Astragalus mollissimus	5.00	5.00	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
Asclepias sp.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Machaeranthera grindelioides	5.00	0.00	0.00	0.00	0.00	0.00	5.00	5.00	0.00	5.00	0.00	0.00	0.00	5.00	0.00
[illegible]SES															
[illegible] hymenoides	0.00	0.00	0.00	0.00	0.00	0.00	10.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elymus salinus	15.00	10.00	25.00	20.00	10.00	20.00	10.00	10.00	15.00	15.00	15.00	15.00	25.00	15.00	10.00
COVER															
Total Living Cover	35.00	45.00	55.00	50.00	40.00	55.00	50.00	30.00	40.00	35.00	55.00	45.00	35.00	40.00	35.00
Litter	5.00	10.00	10.00	25.00	5.00	25.00	10.00	5.00	5.00	10.00	10.00	10.00	5.00	10.00	10.00
Bareground	35.00	25.00	25.00	15.00	20.00	5.00	20.00	5.00	10.00	25.00	10.00	10.00	30.00	10.00	20.00
Rock	25.00	20.00	10.00	10.00	35.00	15.00	20.00	60.00	45.00	30.00	25.00	35.00	30.00	40.00	35.00
% COMPOSITION															
Shrubs	14.29	44.44	54.55	60.00	62.50	63.64	50.00	33.33	62.50	42.86	9.09	44.44	14.29	37.50	57.14
Forbs	42.86	33.33	0.00	0.00	12.50	0.00	10.00	23.33	0.00	14.29	63.64	22.22	14.29	25.00	14.29
Grasses	42.86	22.22	45.45	40.00	25.00	36.36	40.00	43.33	37.50	42.86	27.27	33.33	71.43	37.50	28.57

16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	29.00	30.00	Mean	SDev	Freq
0.00	25.00	20.00	5.00	20.00	25.00	35.00	20.00	20.00	5.00	20.00	15.00	20.00	20.00	15.00	15.83	9.41	100.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	1.67	5.53	16.67
0.00	0.00	0.00	5.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00	1.00	2.38	16.67
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	0.00	2.00	6.40	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	0.50	1.50	10.00
0.00	0.00	5.00	0.00	5.00	0.00	10.00	0.00	0.00	0.00	10.00	5.00	0.00	5.00	0.00	3.83	6.79	43.33
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	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	0.00	0.00	0.00	0.07	0.36	3.33
5.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00	5.00	0.00	5.00	0.00	5.00	0.00	0.00	1.83	2.41	36.64
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	1.86	6.67
10.00	20.00	25.00	20.00	15.00	10.00	10.00	5.00	15.00	5.00	15.00	20.00	5.00	15.00	35.00	15.17	6.64	100.00
40.00	45.00	50.00	30.00	50.00	40.00	55.00	30.00	40.00	40.00	50.00	40.00	35.00	40.00	55.00	42.83	7.92	
10.00	10.00	20.00	5.00	10.00	5.00	5.00	5.00	10.00	20.00	5.00	10.00	15.00	10.00	10.00	10.17	5.55	
20.00	20.00	15.00	5.00	20.00	30.00	20.00	10.00	35.00	20.00	5.00	25.00	25.00	15.00	25.00	18.50	8.58	
30.00	25.00	15.00	60.00	20.00	25.00	20.00	55.00	15.00	20.00	40.00	25.00	25.00	35.00	10.00	28.50	13.43	
62.50	55.56	40.00	33.33	60.00	62.50	63.64	66.67	50.00	87.50	40.00	37.50	71.43	50.00	36.36	48.92	17.32	
12.50	0.00	10.00	0.00	10.00	12.50	18.18	16.67	12.50	0.00	30.00	12.50	14.29	12.50	0.00	14.58	13.96	
25.00	44.44	50.00	66.67	30.00	25.00	18.18	16.67	37.50	12.50	30.00	50.00	14.29	37.50	63.64	36.50	14.34	

SUBSIDENCE SURVEY

MOUNTAIN COAL COMPANY
SUBSIDENCE MONITORING
GORDON CREEK NO. 3/6 MINE

STATION	ORIGINAL ELEVATION 07/30/86	SURVEY ELEVATION 10/08/93	SURVEY ELEVATION 11/04/94	SURVEY ELEVATION 11/25/95	CHANGE LAST	CHANGE ACCUMULATED
"O"	7577.760	7577.760	7577.760	7577.760	CONTROL	CONTROL
"N"	7892.180	7892.180	7892.180	7892.180	CONTROL	CONTROL
Sub-1	8269.400	8269.332	8269.330	8269.330	0.000	-0.070
Sub-2	8107.430	8107.180	8107.175	8107.180	0.005	-0.250
Sub-3	8502.610	8502.505	8502.478	8502.470	-0.008	-0.140
Sub-4	8308.580	8308.645	8308.639	8308.650	0.011	0.070
Sub-5	8512.470	8512.129	8512.111	8512.110	-0.001	-0.360
Sub-6	8412.570	8412.264	8412.245	8412.250	0.005	-0.320

NOTE: (1) THE AREA WAS WALKED BETWEEN ALL STATIONS. NO VISIBLE MOVEMENT, CRACKS OR OTHER RECENT SUBSIDENCE EFFECTS WERE NOTED DURING THE SURVEY.

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
11/25/95
STATE OF UTAH

ANNUAL IMPOUNDMENT CERTIFICATIONS

MOUNTAIN COAL COMPANY
1995 ANNUAL POND INSPECTION REPORT

POND: SED. POND

LOCATION: G.C. 3/6 MINES

IMPOUNDMENTS

(1) Stability	Slopes Stable. Vegetated.
(2) Structural Weakness/Erosion	None Noted.
(3) Potential Safety Hazards	None Noted.
(4) Depth of Impounded Water	N/A - Dry (1½" snow) Lower Cell Dry.
(5) Existing Storage Capacity	3.65 Ac. Ft.
(6) Monitoring Procedures	Quarterly Inspection. U.P.D.E.S. Discharge.

SEDIMENT PONDS ONLY

(7) Sediment Accumulation (Elev.)	7509.4 (U)	7508.0 (L)
(8) Sediment Cleanout Level (Elev.)	7510.5 (U)	7509.5 (L)
(9) Principle Spillway (Elev.)	-	7516.0 (L)
(10) Emergency Spillway (Elev.)	7520.0 (U)	7518.0 (L)
(11) Existing Sediment Capacity (To Cleanout)	1.14 Ac. Ft.	

GENERAL

(12) Comments/Recommendations	Moderate Use by Wildlife. No Discharge.

STATEMENT

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.

(Signature)

11-29-95
(Date)

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
STATE OF UTAH