

BEAVER CREEK COAL COMPANY

1987 ANNUAL REPORT

C.V. SPUR

**BEAVER CREEK Coal Company**

Post Office Box 1378  
Price, Utah 84501  
Telephone 801 637-5050



March 31, 1988

Mr. Lowell Braxton  
Administrator  
Division of Oil, Gas & Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

**RECEIVED**  
**MAR 31 1988**  
DIVISION OF OIL  
GAS & MINING  
PRICE, UTAH

RE: 1987 Annual Report  
C.V. Spur Loadout Facility  
ACT/007/022  
Carbon County, Utah

Dear Mr. Braxton:

Enclosed is the Annual Report for Coal Mining and Reclamation Operations for 1987 for the C.V. Spur.

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

Respectfully,

Dan W. Guy,  
Manager, Permitting & Compliance

DWG/cr

cc: Johnny Coffey  
File 4-P-5-1-1

BEAVER CREEK COAL COMPANY

1987 ANNUAL REPORT

C.V. SPUR

[Revised January 1988]

COAL MINING AND RECLAMATION OPERATIONS FOR 1987  
(Authority UMC 784)

(Must be submitted to the Division by March 31, 1988)

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, UT 84180-1203  
(801) 538-5340

Operator: Beaver Creek Coal Company  
Mine Name: C V Spur Processing and loadout Facility  
Mailing Address: P O Box 1378, Price, Utah 84501  
Company Representative: Dan W. Guy  
Permit Number: ACT/007/022  
Date of Most Recent Permanent Program Permit: 8/6/84  
Quantity of Coal Mined (tonnage) 1987: 881,300 Tons Shipped  
(Sub-Standard) 12,771

Attach Updated Mine Sequence Map. N/A

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

- A. Summarized Water Monitoring Data (Included)
- B. Precipitation or Other Climatological Data (Included)
- C. Subsidence Monitoring Report (N/A)
- D. Vegetation Data (test plots) or Revegetation Success Monitoring (includes interim and final) (Included)
- E. Permit Stipulation Status (Included)

jr  
1426R/1

CERTIFICATES OF INSURANCE

Revised November, 1987.

CERTIFICATE OF LIABILITY INSURANCE

Issued to:  
State of Utah  
Department of Natural Resources  
Division of Oil, Gas and Mining  
--oo00oo--

THIS IS TO CERTIFY THAT:

Insurance Company of North America

(Name of Insurance Company)

1600 Arch Street, Philadelphia, PA 19101

(Home Office Address of Insurance Company)

HAS ISSUED TO:

BEAVER CREEK COAL CO.

(Name of Permit Applicant)

C.V. SPUR PROCESSING/LOADOUT FACILITY

(Mine Name)

ACT/007/022

(Permit Number)

CERTIFICATE OF INSURANCE:

HDO GO 969065-7

(Policy Number)

1-1-88

(Effective Date)

UNDER THE FOLLOWING TERMS AND CONDITIONS:

As Per UMC/SMC Part 800.60 Terms and Conditions for Liability Insurance;

- A. The Division shall require the applicant to submit as part of its permit application a certificate issued by an insurance company authorized to do business in the state of Utah certifying that the applicant has a public liability insurance policy in force for the surface coal mining and reclamation operations for which the permit is sought. Such policy shall provide for personal injury and property damage protection in an amount adequate to compensate any persons injured or property damaged as a result of the surface coal mining and reclamation operations, including the use of explosives and who are entitled to compensation under the applicable provisions of state law. Minimum insurance coverage for bodily injury and property damage shall be \$300,000 for each occurrence and \$500,000 aggregate.
- B. The policy shall be maintained in full force during the life of the permit or any renewal thereof, including the liability period necessary to complete all reclamation operations under this chapter.

Page 2.  
CERTIFICATE OF LIABILITY INSURANCE

C. The policy shall include a rider requiring that the insurer notify the Division whenever substantive changes are made in the policy including any termination or failure to renew.

IN ACCORDANCE WITH THE ABOVE TERMS AND CONDITIONS, and the Utah Code Annotated 40-10-1 et seq., the Insurance Company hereby attests to the fact that coverage for said Permit Applicant is in accordance with the requirements of the State of Utah and agrees to notify the Division of Oil, Gas and Mining in writing of any substantive change, including cancellation, failure to renew, or other material change. No change shall be effective until at least thirty (30) days after such notice is received by the Division.

UNDERWRITING AGENT:

M. J. Morehouse

213-739-4630

(Agent's Name)

(Phone)

Insurance Company of North America

(Company Name)

3333 Wilshire Blvd

Los Angeles, CA 90010

(Mailing Address)

(City, State, Zip Code)

The undersigned affirms that the above information is true and complete to the best of his or her knowledge and belief, and that he or she is an authorized representative of the above-named insurance company.

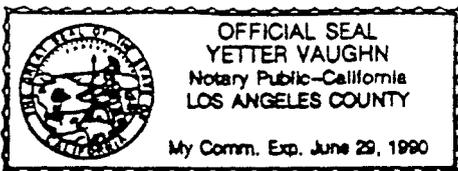
1-27-88 M. J. Morehouse - Account Manager  
(Date, Signature and Title of Authorized Agent of Insurance Company)

Signed and sworn before me by

M. J. MOREHOUSE

(Name)

this 27th day of January, 1988.



Yetter Vaughn  
(Signature)

My Commission Expires:

June 29, 1990  
(Date)

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES AND ENERGY  
DIVISION OF OIL, GAS AND MINING  
4241 State Office Building  
Salt Lake City, Utah 84114

RECEIVED

JUL 30 1984

DIVISION OF OIL  
GAS & MINING

THE MINED LANDS RECLAMATION ACT

BOND  
\*\*\*\*\*

The undersigned Beaver Creek Coal Company  
as principal, and FEDERAL INSURANCE COMPANY as  
surety, hereby jointly and severally bind ourselves, our heirs, administrators,  
executors, successors and assigns unto the State of Utah, Division of Oil, Gas  
and Mining in the penal sum of Two Million, Seventeen Thousand, Six Hundred &  
Sixty Nine dollars (\$2,017,669.00).

The principal estimated in a "Notice of Intention to Commence Mining  
Operations and a Mining and Reclamation Plan," filed with the Division of Oil,  
Gas and Mining on the 23rd day of September  
1983, that 160.0 acres of land will be affected by this mining  
operation in the State of Utah. A description of the affected land is attached  
hereto as Exhibit "A."

If the principal shall satisfactorily reclaim the above-mentioned land  
affected by mining by the said principal in accordance with the Mining and  
Reclamation Plan and shall faithfully perform all requirements of the Mine  
Land Reclamation Act, and comply with the Rules and Regulations adopted in  
accordance therewith, then this obligation shall be void; otherwise it shall  
remain in full force and effect until the reclamation is completed as outlined  
in the approved Mining and Reclamation Plan.

If the approved plan provides for reclamation of the land affected on  
piecemeal or cyclic basis, and the land is reclaimed in accordance with such  
plan, then this bond may be reduced periodically.

In the converse, if the plan provides for a gradual increase in the area  
of the land affected or increased reclamation work, then this bond may  
accordingly be increased with the written approval of the surety company.

NOTE: Where one signs by virtue of Power of Attorney for a surety company, such Power of Attorney must be filed with this bond. If the principal is a corporation, the bond shall be executed by its duly authorized officers with the seal of the corporation affixed.

Beaver Creek Coal Company  
Principal (Company)

By J.A. Herickhoff  
Company Official - Position  
J.A. Herickhoff  
General Manager

Date: July 30, 1984

FEDERAL INSURANCE COMPANY  
Surety (Company)

By Norman D. Squires  
Official of Surety - Position  
Norman D. Squires, Attorney-in-Fact  
447 East First South  
Salt Lake City, Utah 84111

DATE: July 30, 1984

STATE OF UTAH

County of Salt Lake

ss.:

On this 30th day of July in the year nineteen hundred  
eighty-four, A. D., before me, Mary Cristaudo, a Notary Public in and for the

County of Salt Lake

, State of Utah, residing therein, duly commissioned and s

personally appeared Norman D. Squires  
known to me to be the Attorney(s) in Fact of Federal Insurance Company executin  
annexed instrument, and acknowledged to me that such Corporation executed the

IN WITNESS WHEREOF, I have hereunto set my hand and affixed by officia  
in said county the day and year in this certificate first above written.

Mary Cristaudo  
Notary Public in and for the County of Salt Lake, State of

My Commission expires July 4, 1957

C.V. SPUR PROCESSING & LOADOUT FACILITY

Exhibit A

Affected Area

SW $\frac{1}{4}$ , Section 11, T. 15S., R. 10E., SLM, Utah  
(160 Acres, more or less)

Know all Men by these Presents, That the FEDERAL INSURANCE COMPANY, 15 Mountain View Road, Warren, New Jersey, a New Jersey corporation, has constituted and appointed, and does hereby constitute and appoint Norman D. Squires, Richard G. Taylor and George L. Williams, Salt Lake City, Utah

each its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on surety thereon or otherwise, bonds of any of the following classes, to-wit:

1. Bonds and Undertakings filed in any suit, matter or proceeding in any Court, or filed with any Sheriff or Magistrate, for the doing or not doing specified in such Bond or Undertaking.
2. Surety bonds to the United States of America or any agency thereof, including those required or permitted under the laws or regulations relating to Internal Revenue; License and Permit Bonds or other indemnity bonds under the laws, ordinances or regulations of any State, City, Board or other body or organization, public or private; bonds on Transportation Companies, Lost Instrument bonds; Lease bonds, Workmen's Compensation bonds, Miscellaneous Surety bonds and bonds on behalf of Notaries Public, Sheriffs, Deputy Sheriffs and similar public officials.
3. Bonds on behalf of contractors in connection with bids, proposals or contracts.

In Witness Whereof, the said FEDERAL INSURANCE COMPANY has, pursuant to its By-Laws, caused these presents to be signed by its Assistant Vice-President and Assistant Secretary and its corporate seal to be hereto affixed this 12th day of December 19 83

Corporate Seal



Richard D. O'Connor

Assistant Secretary

FEDERAL INSURANCE COMPANY

By

George McClellan

Assistant Vice-President

STATE OF NEW JERSEY  
County of Somerset

SS.

On this 12th day of December 19 83, before me personally came Richard D. O'Connor to me known and by me known to be Assistant Secretary of the FEDERAL INSURANCE COMPANY, the corporation described in and which executed the foregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he is the Assistant Secretary of the FEDERAL INSURANCE COMPANY and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by authority of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; and that he is acquainted with George McClellan and knows him to be the Assistant Vice-President of said Company, and that the signature of said George McClellan subscribed to said Power of Attorney is in the genuine handwriting of said George McClellan and was thereto subscribed by him in my presence.

Notarial Seal



Acknowledged and Sworn to before me on the date above written.

Alice Leonard

Notary Public

CERTIFICATION

ALICE LEONARD

NOTARY PUBLIC OF NEW JERSEY.

My Commission Expires June 28, 1988

STATE OF NEW JERSEY  
County of Somerset

SS.

I, the undersigned, Assistant Secretary of the FEDERAL INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by the Board of Directors on March 11, 1953 and most recently amended March 11, 1983 and that this By-Law is in full force and effect.

"ARTICLE XVIII.

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to execute and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney.

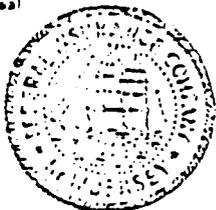
Section 3. All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or the President or a Vice-President or an Assistant Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved or lithographed."

I further certify that said FEDERAL INSURANCE COMPANY is duly licensed to transact fidelity and surety business in each of the States of the United States of America, District of Columbia, Puerto Rico and the Provinces of Canada with the exception of Prince Edward Island, and is also duly licensed to become surety on bonds, undertakings, etc., permitted or required by law.

I, the undersigned Assistant Secretary of FEDERAL INSURANCE COMPANY, do hereby certify that the foregoing Power of Attorney is in full force and effect.

Given under my hand and the seal of said Company at Warren, N.J., this 30th day of July 19 84

Corporate Seal



Norman D. Stanton

Assistant Secretary

1987

WATER MONITORING DATA

Beaver Creek Coal Company  
Water Monitoring Report

CV-0-W  
Station #

Property: CV Spur  
Location: N.W. Corner  
Type: Well  
Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	01/06/87	06/26/87	
Depth	DRY	DRY	
PH			
Temperature			
Specific Conductivity			

Laboratory Measurements [mg/l]	Date Sampled		Mean
	DRY	DRY	
Total Suspended Solids			
Total Dissolved Solids			
Total Hardness [as CaCO <sub>3</sub> ]			
Acidity [CaCO <sub>3</sub> ]			
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]			
Bicarbonate [HC] <sub>3</sub> <sup>-1</sup>			
Calcium [Ca]			
Chloride [Cl <sup>-</sup> ]			
Iron [Fe]			
Magnesium [Mg]			
Total Manganese [Mn]			
Potassium [K]			
Sodium [Na]			
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]			
Cation - Anion Balance			

Beaver Creek Coal Company  
Water Monitoring Report

CV-1-W  
Station #

Property: CV Spur  
 Location: Pumphouse  
 Type: French Drain  
 Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	1/5/87	6/26/87	
Flow	DRY	16'FS	16'FS
PH		7.8	7.8
Temperature		12	12
Specific Conductivity		10,000+	10,000+

Laboratory Measurements [mg/l]	Date Sampled		Mean
	1/5/87	6/26/87	
Total Suspended Solids		1.6	1.6
Total Dissolved Solids		13,400	13,400
Total Hardness [as CaCO <sub>3</sub> ]		2580	2580
Acidity [CaCO <sub>3</sub> ]		413	413
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]		0	0
Bicarbonate [HC <sub>3</sub> <sup>-1</sup> ]		503	503
Calcium [Ca]		389	389
Chloride [Cl <sup>-</sup> ]		160	160
Iron [Fe]		<.02	<.02
Magnesium [Mg]		391	391
Total Manganese [Mn]		.02	.02
Potassium [K]		21	21
Sodium [Na]		3375	3375
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]		8847	8847
Cation - Anion Balance		.47%	.47%

Beaver Creek Coal Company

Water Monitoring Report

CV-3-W  
Station #

Property: CV Spur  
 Location: S. Central  
 Type: Well  
 Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	1/6/87	6/26/87	
Depth	4' FS	8' FS	6' FS
PH	7.5	7.4	7.4
Temperature	4°	19°	11.5°
Specific Conductivity	4000	5800	4800

Laboratory Measurements [mg/l]	Date Sampled		Mean
	1/6/87	6/26/87	
Total Suspended Solids	164	532	348
Total Dissolved Solids	3889	3480	3684
Total Hardness [as CaCO <sub>3</sub> ]	1890	1710	1800
Acidity [CaCO <sub>3</sub> ]	257	248	253
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]	0	0	0
Bicarbonate [HC <sub>3</sub> <sup>-1</sup> ]	314	303	308.5
Calcium [Ca]	459	406	433
Chloride [Cl <sup>-</sup> ]	50	43	47
Iron [Fe]	67.0	11.6	38.3
Magnesium [Mg]	181	169	175
Total Manganese [Mn]	1.49	.47	.98
Potassium [K]	11	31	21
Sodium [Na]	457	405	431.5
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]	2578	2276	2427
Cation - Anion Balance	1.96%	.92%	1.44%

Beaver Creek Coal Company  
Water Monitoring Report

CV-4-W  
Station #

Property: CV Spur  
 Location: N.E. Corner  
 Type: Well  
 Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	1/6/87	6/26/87	
Depth	14' FS	DRY	14'FS
PH	8.1		
Temperature	6°		
Specific Conductivity	10,000		

Laboratory Measurements [mg/l]	Date Sampled		Mean
	1/6/87	6/26/87	
Total Suspended Solids	26240		26240
Total Dissolved Solids	10647		10647
Total Hardness [as CaCO <sub>3</sub> ]	2477		2477
Acidity [CaCO <sub>3</sub> ]	716		716
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]	0		0
Bicarbonate [HC <sub>3</sub> <sup>-1</sup> ]	874		874
Calcium [Ca]	388		388
Chloride [Cl <sup>-</sup> ]	96		96
Iron [Fe]	4.46		4.46
Magnesium [Mg]	367		367
Total Manganese [Mn]	.42		.42
Potassium [K]	6		6
Sodium [Na]	2408		2408
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]	6954		6954
Cation - Anion Balance	2.37%		2.37%

Beaver Creek Coal Company  
Water Monitoring Report

CV-5-W  
Station #

Property: CV Spur  
 Location: N. Central  
 Type: Well  
 Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	1/30/87	6/26/87	
Depth	6'	DRY	6'
PH	7.5		7.5
Temperature	6°		6°
Specific Conductivity	2000		2000

Laboratory Measurements [mg/l]	Date Sampled		Mean
	1/30/87	6/26/87	
Total Suspended Solids	6660		6660
Total Dissolved Solids	2090		2090
Total Hardness [as CaCO <sub>3</sub> ]	1420		1420
Acidity [CaCO <sub>3</sub> ]	171		171
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]	0		0
Bicarbonate [HC <sub>3</sub> <sup>-1</sup> ]	209		209
Calcium [Ca]	512		512
Chloride [Cl <sup>-</sup> ]	9		9
Iron [Fe]	35.3		35.3
Magnesium [Mg]	34		34
Total Manganese [Mn]	.66		.66
Potassium [K]	19		19
Sodium [Na]	43		43
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]	1383		1383
Cation - Anion Balance	2.85%		2.85%

Beaver Creek Coal Company  
Water Monitoring Report

CV-6-W  
Station #

Property: CV Spur  
 Location: E. Central  
 Type: Well  
 Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	1/6/87	6/26/87	
Depth	6" FS	6" FS	6" FS
PH	7.2	8.1	7.51
Temperature	4°	19°	11.5°
Specific Conductivity	2000	10,000+	6000+

Laboratory Measurements [mg/l]	Date Sampled		Mean
	1/6/87	6/26/87	
Total Suspended Solids	28	12	20
Total Dissolved Solids	1452	19400	1696
Total Hardness [as CaCO <sub>3</sub> ]	458	3450	1954
Acidity [CaCO <sub>3</sub> ]	61	228	144.5
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]	0	0	0
Bicarbonate [HC <sub>3</sub> <sup>-1</sup> ]	74	278	176
Calcium [Ca]	129	476	302.5
Chloride [Cl <sup>-</sup> ]	36	255	145.5
Iron [Fe]	5.46	.41	2.78
Magnesium [Mg]	33	550	291.5
Total Manganese [Mn]	.04	.06	.05
Potassium [K]	9	32	20.5
Sodium [Na]	273	4695	2484
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]	936	13,200	7068
Cation - Anion Balance	1.09%	2.39%	1.76%

Beaver Creek Coal Company  
Water Monitoring Report

CV-10-W  
Station #

Property: CV Spur  
 Location: S.E. Adj.  
 Type: Well  
 Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	1/6/87	6/26/87	
Depth	DRY	DRY	
PH			
Temperature			
Specific Conductivity			

Laboratory Measurements [mg/l]	Date Sampled		Mean
	1/6/87	6/26/87	
Total Suspended Solids	DRY	DRY	
Total Dissolved Solids			
Total Hardness [as CaCO <sub>3</sub> ]			
Acidity [CaCO <sub>3</sub> ]			
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]			
Bicarbonate [HC <sub>3</sub> <sup>-1</sup> ]			
Calcium [Ca]			
Chloride [Cl <sup>-</sup> ]			
Iron [Fe]			
Magnesium [Mg]			
Total Manganese [Mn]			
Potassium [K]			
Sodium [Na]			
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]			
Cation - Anion Balance			

Beaver Creek Coal Company  
Water Monitoring Report

CV-11-W  
Station #

Property: CV Spur  
 Location: N.E. Adj.  
 Type: Well  
 Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	1/6/87	6/27/87	
Depth	5'6"	4" FS	4'8" FS
PH	8.1	7.8	7.95
Temperature	6°	17°	11.5°
Specific Conductivity	10,000+	10,000+	10,000+

Laboratory Measurements [mg/l]	Date Sampled		Mean
	1/6/87	6/27/87	
Total Suspended Solids	370	2390	1230
Total Dissolved Solids	46981	40800	43890
Total Hardness [as CaCO <sub>3</sub> ]	10,200	9270	9735
Acidity [CaCO <sub>3</sub> ]	582	573	577.5
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]	0	0	0
Bicarbonate [HC <sub>3</sub> <sup>-1</sup> ]	709	698	703.5
Calcium [Ca]	455	457	456
Chloride [Cl <sup>-</sup> ]	192	201	196.5
Iron [Fe]	5.45	21.8	13.62
Magnesium [Mg]	2214	1977	2095
Total Manganese [Mn]	.95	.37	.66
Potassium [K]	21	24	22.5
Sodium [Na]	10,870	9225	10,475
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]	33068	28,700	30,984
Cation - Anion Balance	2.01%	2.35%	2.18%

Beaver Creek Coal Company  
Water Monitoring Report

CV-12-W  
Station #

Property: CV Spur  
 Location: N. Adj.  
 Type: Well  
 Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	1/6/87	6/27/87	
Depth	[Snow Covered]	18' FS	
PH		7.2	
Temperature		16	
Specific Conductivity		4680	

Laboratory Measurements [mg/l]	Date Sampled		Mean
	1/6/87	6/27/87	
Total Suspended Solids		10,300	
Total Dissolved Solids		4020	
Total Hardness [as CaCO <sub>3</sub> ]		2690	
Acidity [CaCO <sub>3</sub> ]		564	
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]		0	
Bicarbonate [HC <sub>3</sub> <sup>-1</sup> ]		687	
Calcium [Ca]		566	
Chloride [Cl <sup>-</sup> ]		70	
Iron [Fe]		2620	
Magnesium [Mg]		320	
Total Manganese [Mn]		292	
Potassium [K]		14	
Sodium [Na]		231	
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]		2560	
Cation - Anion Balance		1.19%	

Beaver Creek Coal Company  
Water Monitoring Report

CV-14-W  
Station #

Property: CV Spur  
 Location: N.E. Corner  
 Type: Ditch  
 Frequency: Bi-annual

Field Measurements:	Date Sampled		Mean
	1/6/87	6/26/87	
Flow	DRY	DRY	
PH			
Temperature			
Specific Conductivity			

Laboratory Measurements [mg/l]	Date Sampled		Mean
	1/6/87	6/26/87	
Total Suspended Solids	DRY	DRY	
Total Dissolved Solids			
Total Hardness [as CaCO <sub>3</sub> ]			
Acidity [CaCO <sub>3</sub> ]			
Carbonate [CO <sub>3</sub> <sup>-2</sup> ]			
Bicarbonate [HC <sub>3</sub> <sup>-1</sup> ]			
Calcium [Ca]			
Chloride [Cl <sup>-</sup> ]			
Iron [Fe]			
Magnesium [Mg]			
Total Manganese [Mn]			
Potassium [K]			
Sodium [Na]			
Sulfate [SO <sub>4</sub> <sup>-2</sup> ]			
Cation - Anion Balance			
Oil & Grease			



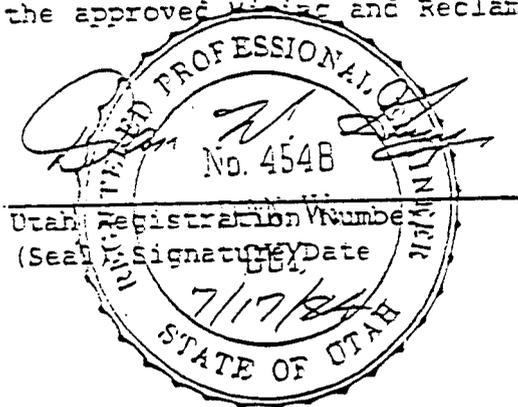
Date: July 17, 1984

Subject: Certification of Sediment Ponds

From/Location: D.W. Guy

To/Location: File

I, Dan W. Guy, a registered professional engineer State of Utah No. 4548, do hereby certify that the sediment control ponds at the Castle Valley Spur have been constructed in accordance with the plan and design criteria set forth in the approved Mining and Reclamation Plan.



1987

PRECIPITATION DATA

1987  
VEGETATION DATA



355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

September 14, 1987

Mr. Dan Guy, Manager  
Beaver Creek Coal Company  
Permitting & Compliance  
P. O. Box 1378  
Price, Utah 84501

Dear Mr. Guy:

Re: C. V. Spur Test Plot Approval, Beaver Creek Coal Company, C. V. Spur, ACT/007/022, Folder #2, Carbon County, Utah

This letter confirms our phone conversation on September 9, 1987, concerning the C. V. Spur test plots. The design of the test plot is approved as proposed, with the following conditions:

1. The test plot treatments shall be duplicated using a randomize design.
2. The following species shall be incorporated into plot #8 and tested on an individual basis for adaptability to the site for possible use in future seed mixes. The species are:

<u>Scientific Name</u>	<u>Common Name</u>
Agropyron Smithii	Western Wheatgrass
Agropyron Cristatum	Crested Wheatgrass
Agropyron Elongatum	Tall Wheatgrass
Agropyron Trichophorun	Pubescent Wheatgrass

It is also suggested that Beaver Creek Coal Company (BCCC) try planting bare root stock or containerized plants of the shrub species proposed in the seed mix. These could be planted in the fall or early spring to test survival rates. Five plants of each species should be planted.

Page 2  
Dan Guy, Manager  
ACT/007/022  
September 14, 1987

After the proposed three year monitoring period, if success is not evident to the Division, from data provided, BCCC must repeat the test plots using other treatments and incorporating procedures and species which were successful initially. Other treatments may include different mulching materials, rates or incorporating techniques, other adaptable species, and irrigation treatments.

Technically, the Division believes irrigation may be the best treatment for success in the permit area because of the dry, saline environment. The Division agrees with Beaver Creek that test plots should not test too many treatments, that the plots become unmanageable, and that initial plots should test treatments that require the least amount of management.

If irrigation treatments are to be used in subsequent plots, the plan should be for a two year irrigation period, to leach salts from the root zone and to establish plants. In the first year, enough water should be applied to leach salts out of the root zone and to prevent salts from raising back up into the root zone in the evaporational stream. This will also provide adequate soil moisture to encourage plant establishment. In the second year, water should be applied twice; first, early in the growing season for adequate soil moisture, and then again later in the season after plants have gone through a drying cycle. This will help harden plants for survival in the dry climate. When planning an irrigation program the irrigation water quality must be considered to establish the proper leaching fraction for the soils present. Drainage conditions of the soil profile and the timing and duration of irrigation must also be considered.

If I can be of any help, please feel free to contact me.

Sincerely,



Dan Duce  
Reclamation Soils Specialist

DD/djh  
cc: J. Whitehead  
0835R/4

**BEAVER CREEK Coal Company**

Post Office Box 1378  
Price, Utah 84501  
Telephone 801-637-5050



July 16, 1987

Ms. Kathy Mutz  
Utah Division of Oil, Gas & Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Re: C.V. Spur Test Plots  
C.V. Spur Processing Facility  
ACT/007/022  
Carbon County, Utah

Dear Kathy:

Enclosed is our proposal for the vegetation test plots at C.V. Spur. The proposed location of the plots is on the west end of the refuse pile, near the soil storage piles.

The proposal is submitted as Appendix 9-1, and upon approval, can be inserted into Chapter 9 of the M.R.P. Additional copies will be provided as requested.

It is our plan to install the test plots in the fall (September-October) of this year. The proposed area is no longer used for refuse disposal, and will not be disturbed in the foreseeable future. The corners of the plot area will be clearly marked and signed. A fence will be placed only if necessary.

I hope this proposal will meet with your approval. If you have any questions, or need any further information, please let me know.

Respectfully,

Dan W. Guy  
Director Permitting/Compliance

DWG/rs

cc: R.J. Marshall  
File

APPENDIX 9-1  
VEGETATION TEST PLOTS

7/16/87

## VEGETATION TEST PLOTS

### C.V. SPUR

#### Scope:

Beaver Creek C.V. Spur is located approximately 4 miles southeast of Price, Utah in Carbon County. The area comprises approximately 120 acres of potential disturbance associated with the washing, cleaning and loading of coal. The land lies in an agricultural region but is not classified a prime farm ground due to the rolling topography with saline soils derived from mancos shale. The predominant vegetative cover prior to disturbance is outlined in C.V. Spur MRP, Chapter 9, Total vegetative cover is less than 18% comprised predominantly of species which are of marginal importance is wildlife or domestic grazing. This, in combination with very low productivity, less than 300# per acre renders this area ideal to attempt to enhance the region in its ability to support a more diversified population of wildlife while providing increased forage and cover over what existed prior to disturbance.

Attempts to perform contemporaneous revegetation at the site in the past have met with little success. The purpose of the test plots is to evaluate different soil treatment and planting techniques, including a mixture of soil and refuse as a planting medium. In addition, a standard control test plot will be used to allow evaluation of individual plant species within the seed mix.

The test plots will be placed on the west end of the refuse pile,  
and will remain undisturbed throughout the life of the study.

## Methodology:

An area of 400' x 200' of level refuse will be covered by 6" of top soil [location Plate 1]. This test area will be divided into 8 100' x 100' plots. [See Figure 1]. Each plot will receive the following treatments:

### Plot #1

- [A] 6" of top soil mixed 50% with coal refuse. This mixing will be accomplished by spreading a uniform 6" of soil over the entire area then tilling to a depth of 12" to uniformly mix refuse and coal at approximately 50%.
- [B] Drillseed the area with the appropriate seed [Attachment 1]
- [C] Overspray the reseeded area with 2000# per acre wood fiber mulch in combination with 60# Terra Tac AR and 100# of 16-16-8 fertilizer.

### Plot #2

[Same as Plot 1, A and B]

- [C] Blow 2000# clean straw over the entire area and mechanically crimp into the prepared soil.
- [D] Apply 100# 16-16-8 fertilizer per acre with straw.

### Plots #3 & 4

Duplication of Plots 1 & 2 respectively with the exception that only 25% coal refuse is incorporated into the 6" of top soil.

### Plots 5 & 6

Duplication of Plots 1 & 2 respectively with the exception no coal refuse is incorporated into the 6" of top soil.

Plot 7

Control Plot - 6" of top soil drill seeded with the appropriate mix.

Plot 8

A composite of all seed species on 6" of top soil over coal refuse planted in 1 meter wide rows.

Monitoring:

Success monitoring will be structured after the approved monitoring methodology as outlined in the CV Spur MRP, Chapter 9. The results of the monitoring data will be supplied to UDOGM on an annual basis, on or before March 31, 1988 and will continue for a period of 3 years with a summation and finding document on or before March 31, 1991.

CV SPUR Test Plot Layout

50% Coal R	25% Coal R	0% Coal R	0% Coal R
[1] 2000#/acre Wood Fiber Mulch  60#/acre Terra Tac AR	[3]  Same  Application as #1 w/ 25% coal	[5]  Same  Application as #1 w/o coal refuse 6" topsoil	[7]  Control  Drill Seed & Fertilize  6" topsoil (no mixing)
[2]  2000#/acre Straw Mulch	[4]  Same  Application as #2 w/ 25% coal	[6]  Same  Application as #2 w/o coal refuse 6" topsoil	[8] 6" topsoil over coal. 1 X 2 meter strip planting of individual species in seed mix Mulch and Tac

1" = 50 meters

Entire area has 6" top soil, 100#/acre 16-16-8 fertilizer, and is drill seeded (except #8 Plot which is hand broadcast and raked).

Attachment I  
 PERMANENT RECLAMATION SEED MIXTURE

Name	Rate (Pounds PLS/AC)	Price Per Pound	Total
<u>Grasses</u>			
Galleta ( <u>Hilaria jamesii</u> )	2	\$26.25	\$ 52.50
Thickspike wheatgrass ( <u>Agropyron dasystachyum</u> )	4	\$ 3.90	\$ 15.60
Indian ricegrass ( <u>Oryzopsis hymenoides</u> )	3	\$ 8.15	\$ 24.45
Alkali scaton ( <u>Sporobolus airoides</u> )	.75	\$ 3.30	\$ 2.48
Inland saltgrass ( <u>Distichlis spicata</u> )	1	NA	<u>NA</u> \$ 95.03
<u>Forbs</u>			
Globemallow ( <u>Sphaeralcea grossulariaefolia</u> )	.5	\$45.00	\$ 27.50
Sunflower ( <u>Helianthus annuus</u> )	4	\$ 8.95	\$ 35.80
Palmer Penstemon ( <u>Penstemon palmeri</u> )	.5	\$35.00	\$ 17.50
Yellow sweetclover ( <u>Melilotus officinalis</u> )	2	\$ .68	<u>\$ 1.36</u> \$ 82.16
<u>Shrubs</u>			
Winterfat ( <u>Ceratoides lanata</u> )	3	\$18.50	\$ 55.50
Shadscale ( <u>Atriplex confertifolia</u> )	4	\$ 8.00	\$ 32.00

Name	Rate (Pounds PLS/AC)	Price Per Pound	Total
<u>Shrubs (continued)</u>			
Matbush ( <u>Atriplex corrugata</u> )	4	\$15.00	\$ 60.00
Whitestem rubber rabbitbrush ( <u>Chrysothamnus nauseosus</u> var. <u>albicanlis</u> )	1.5	\$68.00	\$102.00
Four-wing saltbrush ( <u>Atriplex canescens</u> )	<u>3</u>	\$ 6.00	<u>\$ 18.00</u> \$267.50
TOTAL (for broadcast or hydroseeding)		<u>33.25</u>	\$444.69
(½ rate for drill seeding.)			

1987

PERMIT/ STIPULATION STATUS



355 W. North Temple • 3 Triod Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

March 2, 1988

Mr. Dan W. Guy, Manager  
Permitting & Compliance  
Beaver Creek Coal Company  
P. O. Box 1378  
Price, Utah 84501

Dear Mr. Guy:

Re: Approval of PAP Amendment, Request to Revise Water Monitoring Plan, Beaver Creek Coal Company, C. V. Spur Loadout Facility, ACT/007/022-87C, Folder No. 3, Carbon County, Utah

The Division received Beaver Creek Coal Company's (BCCC's) conditional approval response on February 12, 1988. The response was reviewed by James Fricke, Reclamation Hydrologist, and has been determined adequate for final approval. This letter will serve as the Division's final approval for this permit change application. Beaver Creek Coal Company has now provided all of the information required by this office to finalize this permitting action.

The Division will forward extra copies of the approved plans to the appropriate state and federal agencies to update file copies of BCCC's approved Mining and Reclamation Plan (MRP). Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg  
Data Management Coordinator

JR

Attachment

cc: P. Rutledge

R. Hagen

J. Whitehead

8992R/30

J. Fricke

P.F.O.



September 14, 1987

Mr. Dan Guy, Manager  
Beaver Creek Coal Company  
Permitting & Compliance  
P. O. Box 1378  
Price, Utah 84501

Dear Mr. Guy:

Re: C. V. Spur Test Plot Approval, Beaver Creek Coal Company, C. V. Spur, ACT/007/022, Folder #2, Carbon County, Utah

This letter confirms our phone conversation on September 9, 1987, concerning the C. V. Spur test plots. The design of the test plot is approved as proposed, with the following conditions:

1. The test plot treatments shall be duplicated using a randomize design.
2. The following species shall be incorporated into plot #8 and tested on an individual basis for adaptability to the site for possible use in future seed mixes. The species are:

Scientific Name

Common Name

Agropyron Smithii

Western Wheatgrass

Agropyron Cristatum

Crested Wheatgrass

Agropyron Elongatum

Tall Wheatgrass

Agropyron Trichophorum

Pubescent Wheatgrass

It is also suggested that Beaver Creek Coal Company (BCCC) try planting bare root stock or containerized plants of the shrub species proposed in the seed mix. These could be planted in the fall or early spring to test survival rates. Five plants of each species should be planted.

Page 2  
Dan Guy, Manager  
ACT/007/022  
September 14, 1987

After the proposed three year monitoring period, if success is not evident to the Division, from data provided, BCCC must repeat the test plots using other treatments and incorporating procedures and species which were successful initially. Other treatments may include different mulching materials, rates or incorporating techniques, other adaptable species, and irrigation treatments.

Technically, the Division believes irrigation may be the best treatment for success in the permit area because of the dry, saline environment. The Division agrees with Beaver Creek that test plots should not test too many treatments, that the plots become unmanageable, and that initial plots should test treatments that require the least amount of management.

If irrigation treatments are to be used in subsequent plots, the plan should be for a two year irrigation period, to leach salts from the root zone and to establish plants. In the first year, enough water should be applied to leach salts out of the root zone and to prevent salts from raising back up into the root zone in the evaporational stream. This will also provide adequate soil moisture to encourage plant establishment. In the second year, water should be applied twice; first, early in the growing season for adequate soil moisture, and then again later in the season after plants have gone through a drying cycle. This will help harden plants for survival in the dry climate. When planning an irrigation program the irrigation water quality must be considered to establish the proper leaching fraction for the soils present. Drainage conditions of the soil profile and the timing and duration of irrigation must also be considered.

If I can be of any help, please feel free to contact me.

Sincerely,



Dan Duce  
Reclamation Soils Specialist

DD/djh  
cc: J. Whitehead  
0835R/4



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 2, 1987

Mr. Dan Guy, Manager  
Permitting & Compliance  
Beaver Creek Coal Company  
P. O. Box 1378  
Price, Utah 84501

Dear Mr.  Guy:

Re: Approval, Mid-Term Permit Review and Updated MRP, C. V. Spur,  
Beaver Creek Coal Company, ACT/007/022, Folder No. 2 and 3,  
Carbon County, Utah

The Division has reviewed the materials submitted January 9, 1987 in response to the Mid-Term Review Process. The Division finds that approval can be given to the Mining and Reclamation Plan as updated.

Please feel free to contact Lowell Braxton or John Whitehead should you have questions.

Best regards,

  
Dianne R. Nielson  
Director

TM/djh  
cc: A. Klein  
J. Whitehead  
B. Malencik  
0800R/63

FINDINGS

Mid Permit Term Review  
Beaver Creek Coal Company  
C. V. Spur Mine  
ACT/007/022

March 31, 1987

1. The Mining and Reclamation Plan (MRP) has been updated by submittals up through January 9, 1987 and is now complete and current.
2. The consolidated MRP has been reviewed and found to comply with current Division of Oil, Gas and Mining (Division) policy and rules.
3. Beaver Creek Coal Company has no outstanding permit stipulations for the C. V. Spur permit.
4. The applicant has proposed no changes to the application which would require a change in bond amount.

John J. Hitchcock  
Permit Supervisor

Kenneth E. May 3/30/87  
Associate Director, Mining

Samuel P. Brewster 3/30  
Administrator, Mined  
Land Development and  
Reclamation Program

Donna P. Nielson  
Director 4-2-87

APPROVED AS TO FORM:

Paul W. Robert  
Assistant Attorney General

1153R-14



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Scott M. Matheson, Governor  
Temple A. Reynolds, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

October 31, 1984

Mr. Dan W. Guy, Manager  
Permitting and Compliance  
Beaver Creek Coal Company  
P. O. Box 1378  
Price, Utah 84501

Dear Mr. Guy:

RE: Stipulation Responses, C. V. Spur Preparation Plant,  
ACT/007/022, #2 and #4, Carbon County, Utah

This letter is to apprise you that the responses to the C. V. Spur Preparation Plant Stipulations 817.46-(1-2)-JW and 817.48-(1)-JW forwarded by Beaver Creek Coal Company to the Division on September 5, 1984 have been reviewed by the Division staff and are complete and adequate.

Thank you for your cooperation in this matter.

Sincerely,

Mary M. Boucek  
Permit Supervisor/  
Reclamation Biologist

JW/btb

cc: Allen Klein  
Robert Hagen  
John Whitehead  
Ken Wyatt

92940-20

C.V. SPUR

1987

REFUSE PILE

INSPECTIONS / ANALYSES

REFUSE PILE INSPECTION REPORT

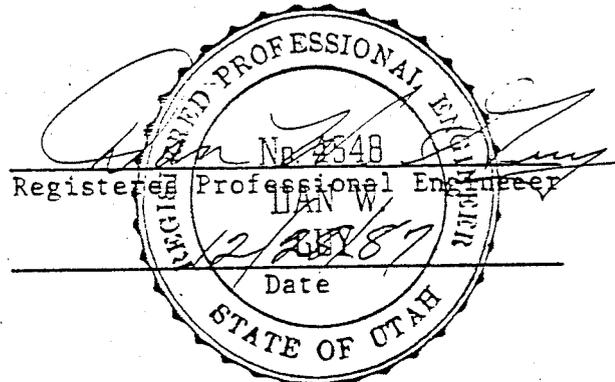
MSHA SITE #1211-UT-9-0034

C.V. SPUR

QUARTER 4/87

<u>ITEM</u>	<u>REMARKS</u>
(1) Potential Safety Hazards	<u>None</u>
(2) Slope Stability	<u>Stable</u>
(3) Removal of Topsoil and Organics	<u>N/A - Topsoil brought in on west end for test plots. Plots finished &amp; fenced.</u>
(4) Construction and Maintenance Performance Standards	<u>O.K.</u>
(5) Recommendations	<u>None</u>

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



REFUSE PILE INSPECTION REPORT

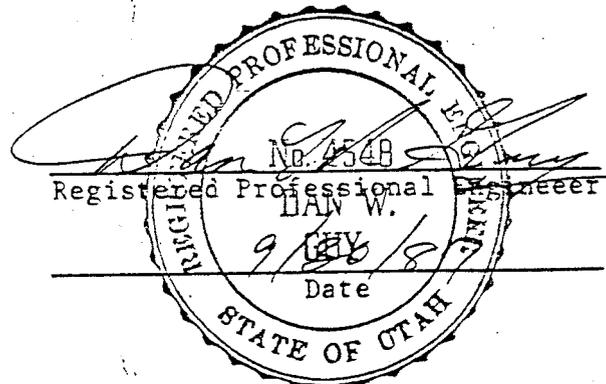
MSHA SITE #1211-UT-9-0034

C.V. SPUR

QUARTER 3/87

ITEM	REMARKS
(1) Potential Safety Hazards	None
(2) Slope Stability	Stable - Minor rills on north end.
(3) Removal of Topsoil and Organics	N/A
(4) Construction and Maintenance Performance Standards	O.K. - Blade out & compact sed. Pond waste after drying.
(5) Recommendations	Pile looks good. See comments above.

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



REFUSE PILE INSPECTION REPORT

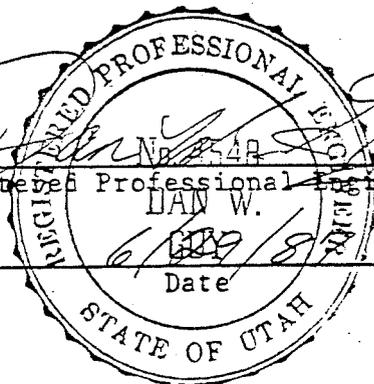
MSHA SITE #1211-UT-9-0034

C.V. SPUR

QUARTER 2/87

<u>ITEM</u>	<u>REMARKS</u>
(1) Potential Safety Hazards	<u>NONE</u>
(2) Slope Stability	<u>STABLE</u>
(3) Removal of Topsoil and Organics	<u>N/A</u>
(4) Construction and Maintenance Performance Standards	<u>O.K.</u>
(5) Recommendations	<u>Pile well graded. Refuse and Soil grading around Pond #5 is excellent.</u>

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

  
Registered Professional Engineer  
DAN W.  
6/29/87  
Date

REFUSE PILE INSPECTION REPORT

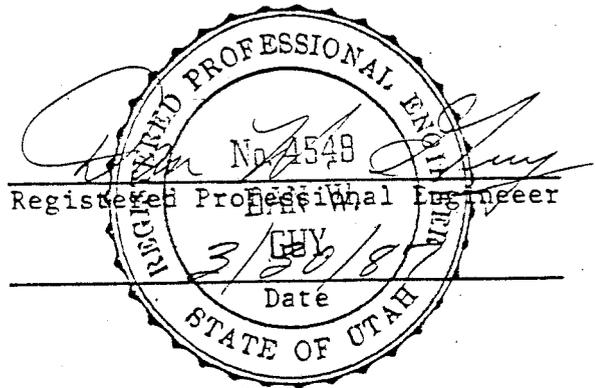
MSHA SITE #1211-UT-9-0034

C.V. SPUR

QUARTER 1/87

<u>ITEM</u>	<u>REMARKS</u>
(1) Potential Safety Hazards	NONE
(2) Slope Stability	STABLE
(3) Removal of Topsoil and Organics	N/A
(4) Construction and Maintenance Performance Standards	O.K.
(5) Recommendations	Regrading of Pile looks good.

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



REFUSE PILE ANALYSIS

TYPICAL COAL ANALYSIS  
NO.7 MINE - CASTLE GATE "A" SEAM

TYPICAL COAL ANALYSIS

NO.9 MINE - HIAWATHA SEAM

1987

MODIFICATIONS / AMENDMENTS



55 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

March 2, 1988

Mr. Dan W. Guy, Manager  
Permitting & Compliance  
Beaver Creek Coal Company  
P. O. Box 1378  
Price, Utah 84501

Dear Mr. Guy:

Re: Approval of PAP Amendment, Request to Revise Water Monitoring Plan, Beaver Creek Coal Company, C. V. Spur Loadout Facility, ACT/007/022-87C, Folder No. 3, Carbon County, Utah

The Division received Beaver Creek Coal Company's (BCCC's) conditional approval response on February 12, 1988. The response was reviewed by James Fricke, Reclamation Hydrologist, and has been determined adequate for final approval. This letter will serve as the Division's final approval for this permit change application. Beaver Creek Coal Company has now provided all of the information required by this office to finalize this permitting action.

The Division will forward extra copies of the approved plans to the appropriate state and federal agencies to update file copies of BCCC's approved Mining and Reclamation Plan (MRP). Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg  
Data Management Coordinator

jr

Attachment

cc: P. Rutledge

R. Hagen

J. Whitehead

8992R/30

J. Fricke

P.F.O.



355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

February 29, 1988

TO: John Whitehead, Permit Supervisor  
FROM: James R. Fricke, Reclamation Hydrologist *JRF*  
RE: Water Monitoring Amendment, Beaver Creek Coal Company,  
C.V. Spur Loadout Facility, ACT/O07/O22-87C, Folder #2,  
Carbon County, Utah

Synopsis

The operator has adequately addressed (letter of February 5, 1988) the Division's concerns (letter of November 16, 1987) for the water monitoring amendment.

Analysis

Total Settleable Solids will be analyzed at NPDES stations. Oil and Grease will be analyzed at NPDES stations and CV-14-W.

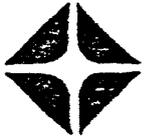
Recommendations

The Division should approve the amendment.

djh  
0798R/46

BEAVER CREEK Coal Company

Post Office Box 1378  
Price, Utah 84501  
Telephone 801 637-5050



February 5, 1988

Mr. Lowell P. Braxton  
Administrator  
Utah Division of Oil, Gas & Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Attn: Mr. D. Wayne Hedberg:

Re: Water Monitoring Amendment  
C.V. Spur Loadout Facility  
ACT/007/022-87C, #3  
Carbon County, Utah

Dear Mr. Braxton:

Enclosed are 14 copies of the amended water monitoring plan for the C.V. Spur Loadout Facility. This submittal reflects the changes requested in Mr. Hedberg's letter of November 16, 1987. All sheets are numbered and should replace corresponding sheets in the plan.

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

Respectfully,

Dan W. Guy  
Manager Permitting/Compliance

DWG/rs

cc: J.L. Coffey  
File

Property: \_\_\_\_\_  
 Date Sampled: \_\_\_\_\_ Date Analyzed: \_\_\_\_\_  
 Station: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Frequency: \_\_\_\_\_

Field Measurements:

Water Level or Flow : \_\_\_\_\_  
 PH : \_\_\_\_\_  
 Specific Conductivity : \_\_\_\_\_ (ohms/cm)  
 Temperature : \_\_\_\_\_ (°C)  
 Dissolved Oxygen : \_\_\_\_\_ (ppm)

(Perennial streams only)

Laboratory Measurements (mg/l):

\*\* Total Settleable Solids: \_\_\_\_\_  
 Total Suspended Solids : \_\_\_\_\_  
 Total Dissolved Solids : \_\_\_\_\_  
 Total Hardness (as CaCO<sub>3</sub>): \_\_\_\_\_  
 Acidity (CaCO<sub>3</sub>) : \_\_\_\_\_  
 \*Carbonate (CO<sub>3</sub><sup>-2</sup>) : \_\_\_\_\_  
 \*Bicarbonate (HC<sub>3</sub><sup>-1</sup>) : \_\_\_\_\_  
 \*Calcium (Ca) : \_\_\_\_\_  
 Chloride (Cl<sup>-</sup>) : \_\_\_\_\_  
 Iron (Fe) : \_\_\_\_\_  
 \*Magnesium (Mg) : \_\_\_\_\_  
 \*Total Manganese (Mn) : \_\_\_\_\_  
 \*Potassium (K) : \_\_\_\_\_  
 \*Sodium (Na) : \_\_\_\_\_  
 \*Sulfate (SO<sub>4</sub><sup>-2</sup>) : \_\_\_\_\_  
 \*\*\* Oil & Grease : \_\_\_\_\_  
 Cation - Anion Balance : \_\_\_\_\_

\* Dissolved Form  
 \*\* NPDES Samples only  
 \*\*\* Designated Samples Only

7.2.5 Mitigation and Control Plans. (continued)

Operational monitoring of surface water shall include Parameters listed in Table 7-15. Monitoring of pond #6 shall be conducted monthly with efforts to sample storm runoff events. The monitoring station CV-14W shown on Plate 7-1 is for the North Ditch above the discharge from Pond #6. Monitoring will proceed on the same frequency after mining until bond release.

Station CV-14-W will also be checked bi-annually for oil and grease, since it is the only station below the sediment pond discharge.

Note Total Setteable Solids will not be monitored at non-NPDES stations; however, the requirements of UMC817.46(u) will be met for sediment pond removal.

Mining and Reclamation Plan  
 Castle Valley Spur Coal Processing and Loadout Facility

Water Monitoring Program  
Castle Valley Spur

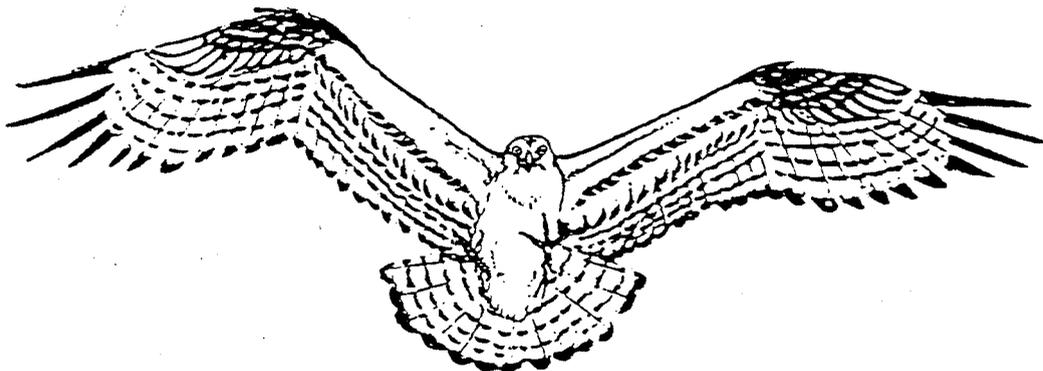
Station	Location	Type	Frequency	Flow Device	Results To	Remarks
CV-0-W	N.W. Corner of Property	Well	Bi-Annually	Level Rod	DOGM, OSM	
CV-1-W	Pumphouse	French Drain	Bi-Annually	Time/Volume	DOGM, OSM	
CV-3-W	South Central Property	Well	Bi-Annually	Level Rod	DOGM, OSM	
CV-4-W	NE Corner Property	Well	Bi-Annually	Level Rod	DOGM, OSM	
CV-5-W	North Central Property	Well	Bi-Annually	Level Rod	DOGM, OSM	
CV-6-W	E. Central Property	Well	Bi-Annually	Level Rod	DOGM, OSM	
CV-10-W	S.E. Adjacent Property	Well	Bi-Annually	Level Rod	DOGM, OSM	
CV-11-W	N.E. Adjacent Property	Well	Bi-Annually	Level Rod	DOGM, OSM	
CV-12-W	North Adjacent Property	Well	Bi-Annually	Level Rod	DOGM, OSM	
CV-14-W	N.E. Corner Property	Ditch	Bi-Annually	Level Rod	DOGM, OSM	
CV-15-W	Sed. Pond Discharge	Pond Outlet	Monthly	Hand-Held Time/Volume	E.P.A., DOGM Utah Health Dept.	Monitored per NPDES Permit

2/5/88

7-90c

1987  
RAPTOR SURVEY  
AND  
MONITORING REPORT

RAPTOR SURVEY  
AND  
MONITORING REPORT FOR 1987  
Beaver Creek Coal Company



Prepared by

E. I. S.

## Raptor Survey and Monitoring Report for 1987

### Scope:

The following report is based on a helicopter survey conducted in April-May of 1987 by various coal companies in cooperation with the Utah Division of Wildlife Resources.

### Methodology:

The information is referenced by nest location numbers which correspond to official nest designations as listed by both the federal and state Wildlife agencies. In addition to the official inventory, E.I.S. personnel monitored raptor sightings at all properties during the nesting period. As a result of this monitoring activity, three significant sightings were made and reported to either Miles Moretti or Larry Dalton of the Utah Division of Wildlife Resources. These observations were: [1] possible Peregrine Falcon sighting #2 Mine Area ridge separating Beaver Creek and Gordon Creek drainages, [2] paired Bald Eagles below #3 & 6 Mine adjacent to Gordon Creek Haul Road [feeding on road kill deer].

In addition to the reported sighting of T & E species, there were 12 sightings of Redtail hawks, 3 sightings of a Sharpshin hawks, 3 sightings of a Goshawk and 5 unidentified raptors in the mine area. The relocated nests in the upper end of Gordon Creek Canyon appeared to be abandoned and not being utilized during the 1987 nesting season.

Results:

A map of each property is attached with the nest locations indicated and the corresponding number identity. Tables R-1, R-2, R-3 and R-4 list each property and a summation of nest sights and/or monitoring sightings.

Recommendations:

Based on a meeting with Larry Dalton of the Utah Division of Wildlife Resources and the attached correspondance, Appendix R-1, the practice of an annual raptor survey should be discontinued. The survey utilizing a helicopter is a cooperative function of the wildlife agencies and the company, and as such should only be conducted under conditions which warrant this type of activity. The Utah Division of Oil, Gas and Mining have set standards and procedures for this type of inventory [see Appendix R-2]. Unless Beaver Creek Coal anticipates the type of activities outlined in Appendix R-2, an annual survey appears to be be redundant at best, and could be considered harrassment of raptors at worst.

TABLE R-1

## Huntington Canyon #4 Mine

<u>Species</u>	<u>Year</u>	<u>Map I.D. Number</u>
Unknown Buteo	1981	168
Unknown Buteo	1981	169
Unknown Buteo	1981	170
Unknown Buteo	1981	171
Unknown Buteo	1987	271
Unknown Buteo	1987	272

TABLE R-2

## Gordon Creek 3 &amp; 6 Mine Permit Area

No known nest sites within 1 mile of existing permit area.

TABLE R-3

## CV Spur Permit Area

No known nest sites within 1 mile of existing permit area.

TABLE R-4

## Gordon Creek #2 &amp; #7 Mine

No nest sites within  $\frac{1}{2}$  mile, however, there is one raptor site near the southern boundary of the Location Map Plate 1-1.

<u>Species</u>	<u>Year</u>	<u>Map I.D. Number</u>
Unknown Buteo	1987	327

APPENDIX R-1



Southeastern Region • 455 West Railroad Avenue • Price, UT 84501-2829 • 801-637-3310

March 23, 1988

Mr. Melvin A. Coonrod  
Environmental Industrial Supply  
P.O. Box 258  
Elmo, UT 84521

Dear Mel:

In regards to Beaver Creek Coal Company's request for you to assist them at conducting an annual raptor survey, the following is offered for your consideration.

Annual surveys for permitted facilities are not normally required. Where raptor nests are known to exist within one-half mile of surface disturbed areas/facilities, annual monitoring to determine the status of just those nests was recommended during the first 5-year permit period. Once the impacts, if any, from a coal facility on a raptor nest are established, monitoring could be discontinued.

From a planning perspective, there is value for a coal company to conduct at least one permit-wide survey every five years on their actively mined property. This would facilitate future and appropriately timed surface disturbing developments. When adequate historical data is not available and a new surface disturbing development is planned at a coal mining complex, a raptor survey within one-half mile radius of such may be recommended.

Personnel conducting a survey during the raptor breeding season, which lies between early February and mid August, and who approach within one-half mile of a nest are required to secure a "Certificate of Registration" from the Division. Survey work that is accurate and comprehensive always results in disturbance (harassment) to the birds. Such is not allowed without appropriate authorization. A certificate of registration will only be issued to a qualified raptor ecologist and for a specific survey area. Additionally, the survey technique will require Division approval before the certificate is issued. Generally speaking, precipitous terrain will require use of a helicopter during mid May and a biologically trained backup observer must accompany the raptor ecologist. Survey of arboreal areas can be conducted on-the-ground by a raptor ecologist. On-the-ground survey must occur prior to leaf-out.

Mel, adequate baseline raptor data exists for Beaver Creek's Trail Mountain and Huntington Canyon (Mill Fork) properties due to an intense helicopter survey in May of 1987. Also, the Mill Fork properties have undergone final

Mel Coonrod  
Page 2  
March 23, 1988

reclamation. No raptor survey work is needed in association with the Castle Valley loadout project due to a lack of raptor nesting habitat and the already existing facility. The 3/6 mines in the Gordon Creek area (Coal Canyon) have also undergone final reclamation, thus no raptor survey is needed. The 2/7 mines in the Gordon Creek area remain in an actively developing mining project. The small amount of precipitous terrain associated with the permit area has potential for raptor nests. Also, the arboreal areas on that permit tract have a potential for raptor nests. Neither setting has been adequately surveyed in recent years. If the company has plans to expand into undisturbed areas, a comprehensive survey during this spring (1988) would behoove their interests. If no such plans exist or have potential to arise, there is no justification for a survey.

I hope this assessment will provide the needed guidance for Beaver Creek Coal Company's decision. If a decision to conduct inventory is made, a helicopter doing such work will be in the area in May. Coordination with DOGM (AMR Program) and possibly Castle Gate Coal Company could reduce cost for such an inventory. Please advise if I can be of further assistance.

Thank you for an opportunity to provide comment.

Sincerely,



Larry B. Dalton, Resource Analyst  
Southeastern Region

LBD/dd

cc: Darrell Nish, DWR  
Randy Radant, DWR  
Lowell Braxton, DOGM  
Clark Johnson, USFWS

APPENDIX R-2

Utah Division of Oil, Gas and Mining  
Standards and Procedures for Raptor Surveys

The following should be considered a supplement to the Division's Fish and Wildlife Information Guidelines and will be incorporated into those guidelines when they are revised.

Before the Survey:

1. Consult with the Division to determine if a survey is necessary. This contact may be part of the normal wildlife consultation process for permit submission. If a survey is required, the following are general guidelines for surveys:
  - a. New mine permit or activity involving long term disturbance: The minimum requirement for baseline information is a survey of suitable habitat within a .5 mile radius of surface disturbing construction or operations activities. Surface disturbance includes potential areas of subsidence on cliffs.

A baseline survey of the entire permit area is recommended to prevent delays for clearances on amendments and permit renewals and may be required by the Division. Follow-ups on baseline surveys may be required for five year permit renewals.
  - b. Short term disturbances, e.g. small construction projects or exploration: If disturbance is to occur in the breeding season of February 15 to July 15, survey suitable habitat within .5 mile radius of the disturbance. If there will be no disturbance during the breeding season, surveys can usually be limited to the actual disturbance site.
  - c. Monitoring: Monitoring studies (i.e. methods, locations, scheduling) should be developed on a site by site basis. Except for special situations, survey flights are not required of the entire permit area or of all known nests. Monitoring will usually include reporting on known and new nests in the .5 mile buffer area around disturbances.
2. Contact (a) the Resource Analyst at the appropriate regional office of the Utah Division of Wildlife Resources; (b) the Field Supervisor, U.S. Fish and Wildlife Service, RM 2060, 1745 W. 1700 So., Salt Lake City, Utah 84104; and (c) the office of the appropriate federal land management agency, if applicable, for their most recent data on area raptors.

These state and federal agencies share information on raptors but one or more may have different data if recent work has been done by an agency.

Baseline Survey:

1. In most cases a helicopter is necessary for a baseline survey of cliff raptor habitat or any large scale survey of tree nesting species. Fixed wing aircraft cannot, generally, fly slow and close enough for an adequate survey. Ground monitoring may be useful after nest areas are identified but should not be considered a substitute for baseline data collection from a helicopter.

2. At least two observers, in addition to the pilot, should fly the survey. Data will not be accepted unless at least one qualified raptor biologist/observer is on all flights. The most experienced raptor biologist/observer (lead observer) should be in the front seat. Judgements on the qualifications of participants will be made by the Division in consultation with DWR and USFWS. To avoid rejection of data, obtain advance approval of personnel if their qualifications are questionable, e.g., if they have not been approved as the lead observer in the past.

The USFWS and/or DWR and/or land managing agency should be given 30 days notice to allow their participation in surveys. If DWR or USFWS personnel do not participate in the survey, a federal permit and state Certificate of Registration may be required prior to conducting an aerial survey.

3. Baseline surveys should be conducted during the breeding season when nest area activity is at its height and nests are easiest to locate. Surveying at this time also provides information on the year's potential bird production.

#### Reports:

1. A map of appropriate scale (minimum of 1:24,000) must denote the surveyed area and location of raptor nests. If the survey is performed for a particular disturbance, the map should designate the area of disturbance or be of a scale such that it can be overlaid onto a "disturbance area" map included in the report.
2. The report should include a list of individuals contacted before the survey, existing data on the area (e.g., historical use of nests), personnel on the survey, a description of how and when (dates and times) the survey was performed, type of aircraft, copies of data sheets and/or field notes, a listing of nests (see #3 below) and photographs, if appropriate.
3. Data forms used in the USFWS raptor data base (Attachment A) should be used, if possible. A description of this data base and its descriptors is available from the Division. If the USFWS data sheet is not used, the following minimum nest information is essential:
  - a. a number designation for mapping
  - b. substrate (cliff, rock/earthen pinnacle, rock outcrop, ground, live or dead shrub species, live or dead tree species, manmade structures or disturbance)
  - c. nest status (active, occupied, inactive; include comments)
  - d. type of nest (large stick, small stick, scrape, perch, cavity)
  - e. user (indicate the species, category such as buteo, or undetermined)
  - f. productivity (none, unknown, number of birds with approximate age or time to fledging)

The permit applicant or mine operator is responsible for the survey. This includes planning, obtaining necessary permits or Certificates of Registration, helicopter time, mine or consulting personnel, report preparation and distribution, etc. but does not necessarily include time or expenses for any state or federal agency participating in the study.

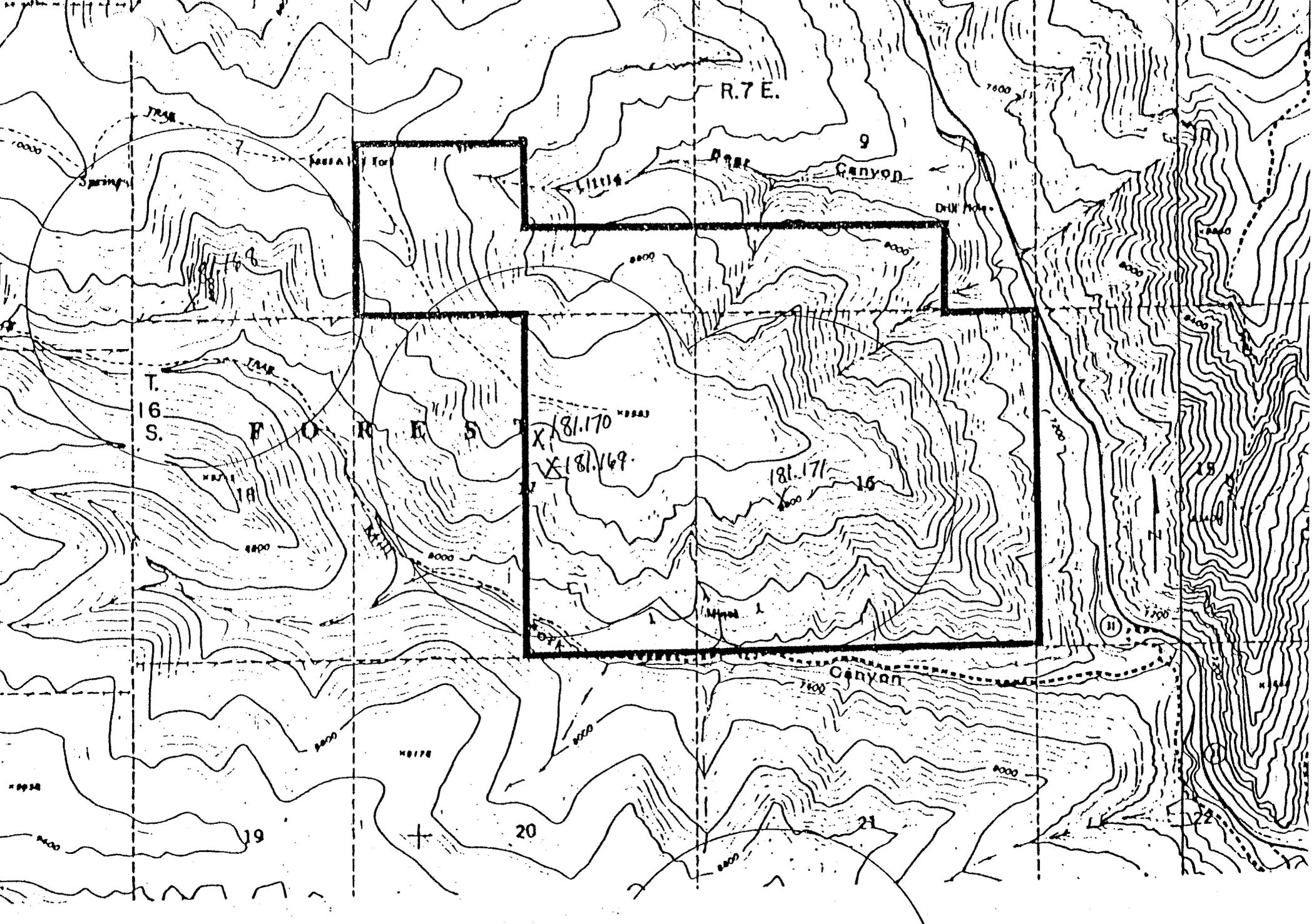


FIGURE I-2. Huntington Canyon No. 4 Mine Permit Area

187.271  
 X 187.272

