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BEAVER CREEK COAL COMPANY
1388 ANNUAL REPORT
TRAIL MOUNTAIN NO. 9 MINE

BEAVER CREEK Coal Company

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



RECEIVED
MAR 31 1989
DIVISION OF OIL
GAS & MINING
PRICE, UTAH

March 31, 1989

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

RE: 1988 Annual Report
Trail Mountain No.9 Mine
ACT/015/009
Carbon County, Utah

Dear Mr. Braxton:

Enclosed is the Annual Report for Coal Mining and Reclamation Operations for 1988 for the Trail Mountain No.9 Mine.

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
1988 ANNUAL REPORT
TRAIL MOUNTAIN NO. 9 MINE

MAR 31 1989
DIVISION OF
GAS & MINES
PRICE, UTAH

BEAVER CREEK Coal Company

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



March 31, 1989

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

RE: 1988 Annual Report
Trail Mountain No.9 Mine
ACT/015/009
Carbon County, Utah

Dear Mr. Braxton:

Enclosed is the Annual Report for Coal Mining and Reclamation Operations for 1988 for the Trail Mountain No.9 Mine.

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

Respectfully,

A handwritten signature in cursive script that reads "Dan W. Guy".

Dan W. Guy,
Manager, Permitting & Compliance

DWG/cr

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

COAL MINING AND RECLAMATION OPERATIONS FOR 1988
(Authority UMC 784)

(Must be submitted to the Division by March 31, 1989)

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

Operator: Beaver Creek Coal Company

Mine Name: Trail Mountain No.9 Mine

Mailing Address: P.O. Box 1378, Price, Utah 84571

Company Representative: Dan W. Guy

Permit Number: ACT/015/009

Date of Most Recent Permanent Program Permit: 2/19/85 (Tract II 4/30/87)

Quantity of Coal Mined (tonnage) 1988: 360,097 Tons

Attach Updated Mine Sequence Map. (Included)

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 (Included)
- D. Vegetation Data (test plots) or Revegetation Success Monitoring (includes interim and final) (Included)
- E. Permit Stipulation Status (Included)

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)

TRAIL MOUNTAIN No.9 MINE

(Mine Name)

ACT/015/009

(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

(Agent's Name)

213-739-4630

(Phone)

Insurance Company of North America

(Company Name)

3333 Wilshire Blvd

(Mailing Address)

Los Angeles, CA 90010

(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.

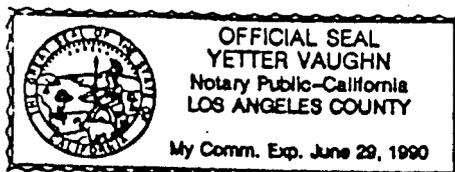
1-27-88 M. J. Morehouse - account manager
(Date, Signature and Title of Authorized Agent of Insurance Company)

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)

Beaver Creek Coal Company
Trail Mountain No. 9 Mine

APPENDIX 2-4
RECLAMATION PERFORMANCE BOND
FOR
TRAIL MOUNTAIN NO.9 MINE

Bond Number U63 05 13
 Permit Number ACT/015/009
 Mine Name Beaver Creek No. 9 Mine

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 84160-1203
 (801) 538-5340

THE MINED LANDS RECLAMATION ACT

BOND

The undersigned Beaver Creek Coal Company as principal, and United Pacific 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, and the U. S. Department of the Interior, Office of Surface Mining in the penal sum of Four Hundred Sixty-Three Thousand Seven Hundred Eleven dollars (\$ 463,711.00). Such sum shall be payable to one, but not both, of the above-named agencies.

The principal estimated in the Mining and Reclamation Plan filed with the Division of Oil, Gas and Mining on the 3rd day of March, 19 81, that 1414.77 acres of land will be disturbed by this mining operation in the State of Utah. A description of the disturbed land is attached hereto as Exhibit "A."

When the Division has determined that the principal has satisfactorily reclaimed the above-mentioned lands affected by mining in accordance with the approved Mining and Reclamation Plan and has faithfully performed all requirements of the Mined Land Reclamation Act, and complied 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 a 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.

The Division shall only accept the bond of a surety company if the bond is noncancellable by the surety at any time for any reason including, but not limited to nonpayment of premium or bankruptcy of the permittee during the period of liability.

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 officer.

Beaver Creek Coal Company
Principal (Company)

LEGAL
fa

By Charles B. Smith
Company Officer - Position
Charles B. Smith, Vice President

Date: September 22, 1987

United Pacific Insurance Company
Surety (Company)

By James M. Kade
Surety Company Officer - Position
James M. Kade, Attorney-in-Fact

DATE: September 21, 1987

APPROVED AS TO FORM:

By _____
Assistant Attorney General

Beaver Creek No. 9 Mine

Exhibit A

Affected Area (Permit Area)

Township 17 South, Range 6 East, SLB&M

Section 25: S1/2 NW1/4, W1/2 SW1/4, W1/2 E1/2 SW1/4, SW1/4
SE1/4, E1/2 E1/2 SW1/4

Begin at point of SW Corner of NW1/4 SE1/4, thence North
160 Rods, thence East 44 Rods to center of Cottonwood
Creek, Southward along creek to a point 76 Rods east of the
beginning, thence west 76 Rods to the Point of Beginning.

Section 26: SE1/4 NE1/4, E1/2 SW1/4 NE1/4, E1/2 SE1/4,
E1/2 W1/2 SE1/4

Section 35: N1/2 NE1/4, SE1/4 NE1/4, E1/2 SW1/4 NE1/4,
E1/2 SE1/4, E1/2 W1/2 SE1/4

Section 36: All

Disturbed Area:

Township 17 South, Range 6 East, SLB&M

Section 25: 8.8 acres in the SW1/4 NE1/4

Signed, sealed, and dated this 21st day of September 1987.

United Pacific Insurance Com

By: James M. Kaede
James M. Kaede, Attorney-in-F

UNITED PACIFIC INSURANCE COMPANY

HOME OFFICE, FEDERAL WAY, WASHINGTON

POWER OF ATTORNEY

WE ALL MEN BY THESE PRESENTS, That the UNITED PACIFIC INSURANCE COMPANY, a corporation duly organized under the laws of the State of Washington, does hereby make, constitute and appoint **James M. Keefe of Denver, Colorado**

its true and lawful Attorney-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, 1972, which provisions are now in full force and effect, reading as follows:

ARTICLE VII - EXECUTION OF BONDS AND UNDERTAKINGS

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 Attorneys-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-in-Fact at any time and revoke the power and authority given to him.

2. Attorneys-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. Attorneys-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 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 certificate 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 30th day of April, 1985.

UNITED PACIFIC INSURANCE COMPANY

Raymond MacNeil
Vice President



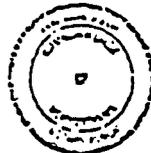
STATE OF Pennsylvania }
COUNTY OF Philadelphia } ss.

On this 30th day of April, 1985 personally appeared Raymond MacNeil

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.

My Commission Expires:

September 26, 1987



Christian Albert
Notary Public in and for State of Pennsylvania
Residing at Philadelphia

I, J. A. Dally, 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 21st day of Sept, 1985.



UNITED PACIFIC INSURANCE COMPANY

HOME OFFICE, FEDERAL WAY, WASHINGTON

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, That the UNITED PACIFIC INSURANCE COMPANY, a corporation duly organized under the laws of the State of Washington, does hereby make, constitute and appoint **James M. Kaede of Denver, Colorado**

its true and lawful Attorney-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.

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UNITED PACIFIC INSURANCE COMPANY

Vice President



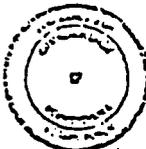
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COUNTY OF Philadelphia } ss.

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My Commission Expires:

September 26, 1987



Notary Public in and for State of Pennsylvania

Residing at Philadelphia

I, J. A. Dally, 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 21st day of September, 1987.



AFFIDAVIT OF QUALIFICATION

James M. Kade, being first duly sworn, on oath deposes and says that he/she is the (officer or agent) Attorney-in-Fact of said Surety Company, and that he/she is duly authorized to execute and deliver the foregoing obligations; that said Surety Company is authorized to execute the same and has complied in all respects with the laws of Utah in reference to becoming sole surety upon bonds, undertakings and obligations.

(Signed) James M. Kade
Surety Company Officer - Position
James M. Kade, Attorney-in-Fact

Subscribed and sworn to before me this 21st day of September, 1987.

[Signature]
Notary Public

My Commission Expires:

My Commission Expires 1-5, 19 .

1988

WATER MONITORING DATA

Beaver Creek Coal Company
Water Monitoring Report

SW-1
Station #

Property: Trail Mt. Coal
 Location: Trail Creek Canyon
 Type: Stream
 Frequency: Monthly and Quarterly

Field Measurements	Date Sampled												Mean
	1/16	2/22	3/19	4/26	5/17	6/30	7/28	8/28	9/20	10/31	11/29	12/7	
Flow [gpm]	147	290	189	340	290	81	210	210	140	112	47	42	174.8
pH	7.9	7.9	7.9	7.8	7.9	7.8	7.8	7.9	7.9	7.8	8.0	7.9	7.88
Sp. Con. [ohms]	340	400	490	210	480	420	400	390	240	300	400	400	279
Temp. [C°]	1°	1°	2°	2°	2°	4°	10°	12°	9°	5°	1°	1°	3.92
Diss. O [ppm]	8	9	9	9	9	9	9	9	9	10	9	10	9.2

Lab. Measurements	Date Sampled				Mean
	3/22/88	4/26/88	9/20/88	11/29	
mg/l TSet.S	< 1	< 1	< 1	< .3	< .1
TSS	51	12	8	138	52.3
TDS	352	307	298	299	314
CaCO ₃	325	266	279	283	288.3
A CaCO ₃	< 1	< 1	< 1	< 1	< 1
CO ₃ ⁻²	0	0	0	0	0
Ca	50	62	49	67	57
Cl ⁻	13	12	9	10	11
Fe/Total Fe	.83	.08	.05	< .02	.25
Mg	49	27	39	28	35.8
Mn	.07	< .02	< .02	< .02	< .02
K	2	1	2	1	1.5
Na	15	15	11	11	13
SO ₄ ⁻²	56	50	37	31	43.5
Ca:Anion	.49%	.25%	.08	1.73%	.64%
Oil & G	< 5	< 5	L	NT	< 5
HCO ₃	340	282	310	307	309.75

Inter-Mountain Laboratories, Inc.

Client: Beaver Creek Coal Company Date: December 27, 1988

Site: SW-1
Lab No: F2193
Date Collected: 11/29/88
Date Received: 12/05/88

Total Dissolved Solids (180), mg/l.....	320
Total Dissolved Solids (calc), mg/l.....	299
Total Suspended Solids, mg/l.....	139
Total Settleable Solids, ml/L.....	0.3
Total Alkalinity as CaCO ₃ , mg/l.....	252
Total Hardness as CaCO ₃ , mg/l.....	283

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	307	5.03
Carbonate as CO ₃	0	0.00
Chloride.....	10	0.28
Sulfate.....	31	0.65
Calcium.....	67	3.35
Magnesium.....	28	2.31
Potassium.....	1	0.03
Sodium.....	11	0.48
Major Cations.....		6.17
Major Anions.....		5.96
Cation/Anion Difference.....		1.73 %

Trace Metals (Dissolved Concentrations), mg/l

Iron..... 0.19
Manganese..... <0.02

Trace Metal (Total Concentration), mg/l

Manganese..... <0.02

E.I.S. Hydrology
Field Measurements Form

SW-1
Station #

Date 10/31/88

Company Beaver Creek

Flow/Depth 10 gpm

pH 7.8

Sp. Cond. 300

W. Temp. 4°

Air Temp. 5°

Diss. O 10

Time 19:50

Type: Spring Stream Well Discharge NPDES

Collection Point: Above Rapids

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor J. M. [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:
Reason: _____

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

E.I.S. Hydrology
Field Measurements Form

Station # 810-1

Date 11/29/88
Company Beaver Creek
Flow/Depth 47 gpm
pH 8.0
Sp. Cond. 400
W. Temp. 1
Air Temp. 29
Diss. O 9
Time 14:37

Type: Spring Stream Well Discharge NPDES

Collection Point: Channel

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: _____

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

E.I.S. Hydrology
Field Measurements Form

SW-1
Station #

Date 12/7/88
Company Bowen Creek
Flow/Depth 42 gpm
pH 7.9
Sp. Cond. 400
W. Temp. 10
Air Temp. 24
Diss. O 10
Time 15:20

Type: Spring Stream Well Discharge NPDES

Collection Point: Above P&P

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: N/R

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

Beaver Creek Coal Company
Water Monitoring Report

SW-2
Station #

Property: Trail Mt. Coal
Location: Trail Creek Canvon
Type: Stream
Frequency: Monthly and Quarterly

Field Measurements	Date Sampled												Mean
	1/16	2/21	3/19	4/26	5/17	6/30	7/28	8/28	9/20	10/31	11/29	12/7	
Flow [gpm]	260	340	212	380	290	97	265	194	156	116	49	40	199.9
pH	8.1	8	8	7.9	7.9	7.8	7.8	7.8	8	8	7.9	7.9	7.93
Sp. Con. [ohms]	480	510	460	529	510	400	540	240	300	400	370	350	424
Temp. [C°]	1°	1°	1°	2°	2°	4°	10	10	8	6°	1°	1°	3.9
Diss. Sol. [mg/l]	9	9	8	9	9	9	10	9	9	9	9	9	9

Lab Measurements		Date Sampled				Mean
		3/22/88	4/26/88	9/20/88	11/29	
mg/l	TSet.5	<1	<1	<1	<1	<1
	TSS	37	15	6	61	29.75
	TDS	354	348	301	350	338
	CaCO ₃	323	288	274	255	285
	A CaCO ₃	<1	<1	<1	<1	<1
	CO ₃ ⁻²	0	0	0	0	0
	Ca	55	53	44	59	52.75
	Cl ⁻	12	16	11	11	12.5
	Fe/Fe ^{Total}	2.41	.27	<.05	.08	.70
	Mg	45	38	40	39	40.5
	Mn	.11	.03	<.02	<.02	.045
	K	2	2	2	2	2
	Na	16	23	15	17	17.75
	SO ₄ ⁻²	62	75	47	80	66
	Ca:Anion	.91	.37	.98	1.14	.85
	Oil & G	<5	<5	L	Broken	<5
	HCO ₃	331	290	291	310	305.5

Client: Beaver Creek Coal Company Date: December 27, 1988

Site: SW-2
 Lab No: F2194
 Date Collected: 11/29/88
 Date Received: 12/05/88

Total Dissolved Solids (180), mg/l.....	350
Total Dissolved Solids (calc), mg/l.....	359
Total Suspended Solids, mg/l.....	61
Total Settleable Solids, ml/L.....	<0.1
Total Alkalinity as CaCO ₃ , mg/l.....	255
Total Hardness as CaCO ₃ , mg/l.....	307

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	310	5.09
Carbonate as CO ₃	0	0.00
Chloride.....	11	0.31
Sulfate.....	80	1.67
Calcium.....	59	2.94
Magnesium.....	39	3.20
Potassium.....	2	0.04
Sodium.....	17	0.73
Major Cations.....		6.91
Major Anions.....		7.07
Cation/Anion Difference.....		1.14 %

Trace Metals (Dissolved Concentrations), mg/l

Iron..... 0.08
 Manganese..... <0.02

Trace Metal (Total Concentration), mg/l

Manganese..... <0.02

E.I.S. Hydrology
Field Measurements Form

SW-2
Station #

Date 10/31/88

Company Beaver Creek

Flow/Depth 1/16

pH 8.0

Sp. Cond. 400

W. Temp. 6

Air Temp. 58

Diss. O 9

Time 18:35

Type: Spring Stream Well Discharge NPDES

Collection Point: Mid Property

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:
Reason: _____

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

E.I.S. Hydrology
Field Measurements Form

810-2
Station #

Date 11/29/98

Company Beaver Creek

Flow/Depth 49

pH 7.9

Sp. Cond. 370

W. Temp. 10

Air Temp. 22

Diss. O 9

Time 11:20

Type: Spring Stream Well Discharge NPDES

Collection Point: Mud Property

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor JAC Connor

Pump Reading _____

When Sample or Measurements Not Taken:
Reason: _____

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

E.I.S. Hydrology
Field Measurements Form

PW-2
Station #

Date 12/2/88
Company Beaver Creek
Flow/Depth 140 gpm
pH 7.9
Sp. Cond. 350
W. Temp. 1
Air Temp. 24
Diss. O 9
Time _____

Type: Spring ___ Stream Well ___ Discharge ___ NPDES ___

Collection Point: _____

Appearance of Water: Clear Milky ___ Cloudy ___ Opaque ___

Weather: Clear ___ Part. Cloudy ___ Overcast Rain ___ Snow ___

Quality Sample Taken: Yes ___ No

Comments _____

Field Monitor [Signature]
Pump Reading _____

When Sample or Measurements Not Taken:
Reason: N/A

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

Beaver Creek Coal Company
Water Monitoring Report

SW-3
Station #

Property: Trail Mt. Coal
Location: Trail Creek Canyon
Type: Stream
Frequency: Monthly & Quarterly

Field Measurements	Date Sampled												Mean
	1/16	2/21	3/19	4/26	5/17	6/30	7/28	8/28	9/20	10/31	11/29	12/7	
Flow [gpm]	260	360	215	385	315	110	250	200	160	167	52	41	209.6
PH	8	7.9	8	7.8	8	7.7	7.8	7.8	8.1	8.1	7.8	8.0	7.92
Sp. Con. [ohms]	410	600	510	410	520	520	590	690	260	420	390	450	446.7
Temp. [C°]	1°	1°	1°	2°	2°	4°	10°	10°	9°	6°	1°	1°	4°
Diss. O. [com]	9	8	9	10	8	10	10	8	8	9	9	9	9

Lab Measurements	Date Sampled				Mean
	3/22/88	4/26/88	9/20/88	10/31/88	
mg/l TSet.S	< 1	< 1	< 1	< 1	< 1
TSS	71	6.8	4	< .01	20.45
TDS	429	435	400	410	418.5
CaCO ₃	358	361	328	249	324
A CaCO ₃	< 1	< 1	< 1	< 1	< 1
CO ₃ ⁻²	0	0	0	0	0
Ca	72	60	49	57	59.5
Cl ⁻	22	24	23	25	23.5
Fe/ Total Fe	1.61	.08	< .05	< .05	.45
Mg	43	51	50	49	48.25
Mn	.06	< .02	< .02	< .02	.03
K	3	2	2	30	9.25
Na	24	30	27	3	21
SO ₄ ⁻²	106	100	95	97	99.5
Cat-Anion	.91	1.18	.00	.71	.7
Oil & G.	Broken	< 5	L	< 5	< 5
HCO ₃	323	342	314	304	320.75

Client: Beaver Creek Coal Company Date: November 18, 1988

Site: SW-3
 Lab No: F2066
 Date Collected: 10/31/88
 Date Received: 11/07/88

Total Dissolved Solids (180), mg/l.....	426
Total Dissolved Solids (calc), mg/l.....	410
Total Suspended Solids, mg/l.....	<0.01
Oil & Grease, mg/l.....	<5
Total Alkalinity as CaCO ₃ , mg/l.....	249
Total Hardness as CaCO ₃ , mg/l.....	346

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	304	4.98
Carbonate as CO ₃	0	0.00
Chloride.....	25	0.70
Sulfate.....	97	2.01
Calcium.....	57	2.86
Magnesium.....	49	4.05
Potassium.....	30	0.76
Sodium.....	3	0.13

Major Cations.....	7.80
Major Anions.....	7.69
Cation/Anion Difference.....	0.71 %

Trace Metals (Total Concentrations), mg/l

Iron.....	<0.05
Manganese.....	<0.02

E.I.S. Hydrology
Field Measurements Form

SW-3
Station #

Date 10/31/88

Company Deer Creek

Flow/Depth 167 gpm

pH 8.1

Sp. Cond. 420

W. Temp. 6

Air Temp. 54

Diss. O 9

Time 18:40

Type: Spring Stream Well Discharge NPDES

Collection Point: Below Paper Mill

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor Michael J. Edwards

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: _____

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

E.I.S. Hydrology
Field Measurements Form

810-3
Station #

Date 11/29/88
Company Beaver Creek
Flow/Depth 52
pH 7.8
Sp. Cond. 390
W. Temp. 10
Air Temp. 22
Diss. O 9
Time 12:40

Type: Spring Stream Well Discharge NPDES

Collection Point: Below Project

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor Michael Coore

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: R/R

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

E.I.S. Hydrology
Field Measurements Form

PW-3
Station #

Date 12/7/88
Company Beaver Creek
Flow/Depth 41
pH 8.0
Sp. Cond. 450
W. Temp. 1
Air Temp. 26
Diss. O 9
Time 15:40

Type: Spring Stream Well Discharge NPDES

Collection Point: Below Trap

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: N/A

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

Client: Beaver Creek Coal Company

Date: November 18, 1988

Sample Site: TM-1
 Lab No: F2068
 Date Sampled: 10/31/88
 Date Received: 11/07/88

Total Dissolved Solids (180), mg/l.....	1630
Total Dissolved Solids (calc), mg/l.....	1460
Fluoride, mg/l.....	0.37
Nitrate + Nitrite as "N", mg/l.....	0.68
Nitrate as NO3, mg/l.....	0.61
Nitrite as NO2, mg/l.....	0.07
Ammonia as "N", mg/l.....	<0.1
Sulfide as "S", mg/l.....	---
Total Hardness as CaCO3, mg/l.....	909
Total Alkalinity as CaCO3, mg/l.....	321

	mg/l	meq/l
Acidity as CaCO3.....	<1	<0.01
Bicarbonate as HCO3.....	391	6.41
Carbonate as CO3.....	0	0.00
Chloride.....	542	15.28
Sulfate.....	226	4.70
Calcium.....	182	9.08
Magnesium.....	111	9.11
Potassium.....	9	0.24
Sodium.....	195	8.48
Major Cations.....		26.91
Major Anions.....		26.39
Cation/Anion Difference.....		0.98 %

Trace Metals (Dissolved Concentrations), mg/l

Aluminum.....	<0.1	Lead.....	<0.02
Arsenic.....	<0.005	Manganese.....	<0.02
Barium.....	<0.5	Mercury.....	<0.001
Boron.....	0.02	Molybdenum.....	<0.02
Cadmium.....	<0.002	Nickel.....	<0.01
Chromium.....	<0.02	Phosphate.....	0.17
Copper.....	<0.01	Selenium.....	<0.005
Iron.....	<0.05	Zinc.....	<0.01

E.I.S. Hydrology
Field Measurements Form

TM-1
Station #

Date 10/31/88

Company Beaver Creek

Flow/Depth 23.6' FS

pH 7.8

Sp. Cond. 1500

W. Temp. 6

Air Temp. 56

Diss. O N/A

Time 17:10

Type: Spring Stream Well Discharge NPDES

Collection Point: Well

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:
Reason: _____

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

Client: Beaver Creek Coal Company

Date: December 27, 1988

Sample Site: TM-1
 Lab No: F2182
 Date Sampled: 11/29/88
 Date Received: 12/05/88

Total Dissolved Solids (180), mg/l.....	530
Total Dissolved Solids (calc), mg/l.....	585
Fluoride, mg/l.....	0.21
Nitrate + Nitrite as "N", mg/l.....	0.64
Nitrate as NO ₃ , mg/l.....	0.64
Nitrite as NO ₂ , mg/l.....	<0.01
Ammonia as "N", mg/l.....	0.25
Sulfide as "S", mg/l.....	---
Total Hardness as CaCO ₃ , mg/l.....	255
Total Alkalinity as CaCO ₃ , mg/l.....	250

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	305	5.00
Carbonate as CO ₃	0	0.00
Chloride.....	128	3.61
Sulfate.....	90	1.88
Calcium.....	52	2.60
Magnesium.....	30	2.49
Potassium.....	5	0.12
Sodium.....	131	5.69

Major Cations.....	10.90
Major Anions.....	10.49
Cation/Anion Difference.....	1.92 %

Trace Metals (Dissolved Concentrations), mg/l

Aluminum.....	0.1	Lead.....	<0.02
Arsenic.....	<0.005	Manganese.....	<0.02
Barium.....	<0.5	Mercury.....	<0.001
Boron.....	0.24	Molybdenum.....	<0.02
Cadmium.....	0.002	Nickel.....	<0.01
Chromium.....	<0.02	Phosphate.....	0.25
Copper.....	<0.01	Selenium.....	<0.005
Iron.....	0.36	Zinc.....	0.28

E.I.S. Hydrology
Field Measurements Form

TK-1
Station #

Date 11/29/88

Company Beaver Creek

Flow/Depth 24.9"

pH 7.8

Sp. Cond. 600

W. Temp. 50

Air Temp. 24°

Diss. O NA

Time 16:20

Type: Spring Stream Well Discharge NPDES

Collection Point: Well #1

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: _____

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

Client: Beaver Creek Coal Company

Date: December 29, 1988

Sample Site: TM-1
 Lab No: F2283
 Date Sampled: 12/07/88
 Date Received: 12/14/88

Total Dissolved Solids (180), mg/l.....	1530
Total Dissolved Solids (calc), mg/l.....	1550
Fluoride, mg/l.....	0.45
Nitrate + Nitrite as "N", mg/l.....	0.74
Nitrate as NO3, mg/l.....	0.61
Nitrite as NO2, mg/l.....	0.13
Ammonia as "N", mg/l.....	0.26
Sulfide as "S", mg/l.....	---
Total Hardness as CaCO3, mg/l.....	852
Total Alkalinity as CaCO3, mg/l.....	326

	mg/l	meq/l
Acidity as CaCO3.....	<1	<0.01
Bicarbonate as HCO3.....	397	6.51
Carbonate as CO3.....	0	0.00
Chloride.....	549	15.48
Sulfate.....	270	5.63
Calcium.....	173	8.63
Magnesium.....	102	8.41
Potassium.....	9	0.24
Sodium.....	255	11.08
Major Cations.....		28.36
Major Anions.....		27.62
Cation/Anion Difference.....		1.32 %

Trace Metals (Dissolved Concentrations), mg/l

Aluminum.....	0.6	Lead.....	<0.02
Arsenic.....	<0.005	Manganese.....	0.03
Barium.....	<0.5	Mercury.....	<0.001
Boron.....	0.19	Molybdenum.....	<0.02
Cadmium.....	<0.002	Nickel.....	0.01
Chromium.....	<0.02	Phosphate.....	0.41
Copper.....	0.01	Selenium.....	<0.005
Iron.....	6.40	Zinc.....	2.68

E.I.S. Hydrology
Field Measurements Form

TM-1
Station #

Date 12/07/88

Company Beaver Creek

Flow/Depth 25'

pH 7.8

Sp. Cond. 1500

W. Temp. 40

Air Temp. 21°

Diss. O NA

Time 10:15

Type: Spring Stream Well Discharge NPDES

Collection Point: Well #1

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: _____

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

Inter-Mountain Laboratories, Inc.

Client: Beaver Creek Coal Company

Date: November 18, 1988

Sample Site: T-19
 Lab No: F2067
 Date Sampled: 10/31/88
 Date Received: 11/7/88

Total Dissolved Solids (180), mg/l.....	518
Total Dissolved Solids (calc), mg/l.....	519
Fluoride, mg/l.....	0.29
Nitrate + Nitrite as "N", mg/l.....	0.15
Ammonia as "N", mg/l.....	<0.1
Sulfide as "S", mg/l.....	---
Total Hardness as CaCO ₃ , mg/l.....	331
Total Alkalinity as CaCO ₃ , mg/l.....	299

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	364	5.97
Carbonate as CO ₃	0	0.00
Chloride.....	36	1.02
Sulfate.....	131	2.73
Calcium.....	43	2.14
Magnesium.....	55	4.49
Potassium.....	3	0.08
Sodium.....	73	3.18
Major Cations.....		9.89
Major Anions.....		9.72
Cation/Anion Difference.....		0.87 %

Trace Metals (Dissolved Concentrations), mg/l

Aluminum.....	<0.1	Lead.....	<0.02
Arsenic.....	<0.005	Manganese.....	<0.02
Barium.....	<0.5	Mercury.....	<0.001
Boron.....	0.11	Molybdenum.....	<0.02
Cadmium.....	<0.002	Nickel.....	<0.01
Chromium.....	<0.02	Phosphate.....	0.37
Copper.....	<0.01	Selenium.....	<0.005
Iron.....	0.07	Zinc.....	0.14

E.I.S. Hydrology
Field Measurements Form

T-19
Station #

Date 10/31/88
Company Beaver Creek
Flow/Depth 36 gpm
pH 7.0
Sp. Cond. 600
W. Temp. 50
Air Temp. 50
Diss. O N/A
Time 19:00

Type: Spring Stream Well Discharge NPDES

Collection Point: Rock Crossing

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:
Reason: _____

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

Client: Beaver Creek Coal Company

Date: December 27, 1988

Sample Site: T-19
 Lab No: F2188
 Date Sampled: 11/30/88
 Date Received: 12/05/88

Total Dissolved Solids (180), mg/l.....	594
Total Dissolved Solids (calc), mg/l.....	570
Fluoride, mg/l.....	0.19
Nitrate + Nitrite as "N", mg/l.....	0.10
Ammonia as "N", mg/l.....	<0.1
Sulfide as "S", mg/l.....	<0.04
Total Hardness as CaCO3, mg/l.....	348
Total Alkalinity as CaCO3, mg/l.....	308

	mg/l	meq/l
Acidity as CaCO3.....	<1	<0.01
Bicarbonate as HCO3.....	376	6.16
Carbonate as CO3.....	0	0.00
Chloride.....	40	1.12
Sulfate.....	163	3.39
Calcium.....	46	2.30
Magnesium.....	57	4.65
Potassium.....	3	0.06
Sodium.....	79	3.44
Major Cations.....		10.45
Major Anions.....		10.67
Cation/Anion Difference.....		1.04 %

Trace Metals (Dissolved Concentrations), mg/l

Aluminum.....	<0.1	Lead.....	<0.02
Arsenic.....	<0.005	Manganese.....	<0.02
Barium.....	<0.5	Mercury.....	<0.001
Boron.....	0.03	Molybdenum.....	<0.02
Cadmium.....	<0.002	Nickel.....	<0.01
Chromium.....	<0.02	Phosphate.....	0.51
Copper.....	<0.01	Selenium.....	<0.005
Iron.....	<0.05	Zinc.....	<0.01

E.I.S. Hydrology
Field Measurements Form

Station # T-19

Date 11/29/88
Company Beaver Creek
Flow/Depth 39 gpm
pH 7.8
Sp. Cond. 590
W. Temp. 4°
Air Temp. 29°
Diss. O NH
Time 1:50

Type: Spring Stream Well Discharge NPDES

Collection Point: By Culvert Drop

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: _____

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

Client: Beaver Creek Coal Company

Date: December 29, 1988

Sample Site: T-19
 Lab No: F2282
 Date Sampled: 12/07/88
 Date Received: 12/14/88

Total Dissolved Solids (180), mg/l.....	492
Total Dissolved Solids (calc), mg/l.....	577
Fluoride, mg/l.....	0.20
Nitrate + Nitrite as "N", mg/l.....	0.07
Ammonia as "N", mg/l.....	<0.1
Sulfide as "S", mg/l.....	<0.04
Total Hardness as CaCO ₃ , mg/l.....	366
Total Alkalinity as CaCO ₃ , mg/l.....	308

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	375	6.15
Carbonate as CO ₃	0	0.00
Chloride.....	35	1.00
Sulfate.....	170	3.54
Calcium.....	44	2.22
Magnesium.....	62	5.10
Potassium.....	3	0.07
Sodium.....	79	3.41

Major Cations.....	10.80
Major Anions.....	10.69
Cation/Anion Difference.....	0.51 %

Trace Metals (Dissolved Concentrations), mg/l

Aluminum.....	0.1	Lead.....	<0.02
Arsenic.....	<0.005	Manganese.....	<0.02
Barium.....	<0.5	Mercury.....	<0.001
Boron.....	0.05	Molybdenum.....	<0.02
Cadmium.....	<0.002	Nickel.....	0.01
Chromium.....	<0.02	Phosphate.....	0.20
Copper.....	<0.01	Selenium.....	<0.005
Iron.....	0.05	Zinc.....	0.02

E.I.S. Hydrology
Field Measurements Form

T-19
Station #

Date 12/7/88
Company Beaver Creek
* Flow/Depth 35 gpm (est)
pH 7.8
Sp. Cond. 590
W. Temp. 10
Air Temp. 29
Diss. O 10
Time 13:02

Type: Spring Stream Well Discharge NPDES

Collection Point: Alber Hwy

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments * Channel was in tree, flow different
to other days

Field Monitor [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: _____

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

Inter-Mountain Laboratories, Inc.

Client: Beaver Creek Coal Company Date: November 18, 1988

Site: TM-23
Lab No: F2069
Date Collected: 10/31/88
Date Received: 11/07/88

Total Dissolved Solids (180), mg/l.....	386
Total Dissolved Solids (calc), mg/l.....	386
Total Alkalinity as CaCO ₃ , mg/l.....	302
Total Hardness as CaCO ₃ , mg/l.....	344

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	368	6.04
Carbonate as CO ₃	0	0.00
Chloride.....	15	0.41
Sulfate.....	59	1.23
Calcium.....	74	3.71
Magnesium.....	38	3.16
Potassium.....	2	0.05
Sodium.....	17	0.74
Major Cations.....		7.66
Major Anions.....		7.68
Cation/Anion Difference.....		0.13 %

Trace Metals (Dissolved Concentrations), mg/l

Iron..... <0.05
Manganese..... <0.02

E.I.S. Hyrology
Field Measurements Form

TM-23
Station #

Date 10/31/98

Company Beaver Creek

Flow/Depth 0.1 gpm

pH 7.8

Sp. Cond. 310

W. Temp. 60

Air Temp. 57

Diss. O NA

Time 16:50

Type: Spring Stream Well Discharge NPDES

Collection Point: 2" pipe

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor M. J. Lawrence

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: _____

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

Client: Beaver Creek Coal Company

Date: December 27, 1988

Site: TM-23

Lab No: F2184

Date Collected: 11/29/88

Date Received: 12/05/88

Total Dissolved Solids (180), mg/l.....	378
Total Dissolved Solids (calc), mg/l.....	401
Total Alkalinity as CaCO ₃ , mg/l.....	295
Total Hardness as CaCO ₃ , mg/l.....	348

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	359	5.89
Carbonate as CO ₃	0	0.00
Chloride.....	13	0.36
Sulfate.....	80	1.67
Calcium.....	73	3.63
Magnesium.....	40	3.32
Potassium.....	2	0.05
Sodium.....	17	0.76

Major Cations.....	7.76
Major Anions.....	7.92
Cation/Anion Difference.....	1.02 %

Trace Metals (Dissolved Concentrations), mg/l

Iron.....	<0.05
Manganese.....	<0.02

Client: Beaver Creek Coal Company Date: December 29, 1988

Site: TM-23
Lab No: F2284
Date Collected: 12/07/88
Date Received: 12/14/88

Total Dissolved Solids (180), mg/l..... 360
Total Dissolved Solids (calc), mg/l..... 405
Total Alkalinity as CaCO₃, mg/l..... 294
Total Hardness as CaCO₃, mg/l..... 358

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	358	5.87
Carbonate as CO ₃	0	0.00
Chloride.....	13	0.36
Sulfate.....	80	1.67
Calcium.....	75	3.75
Magnesium.....	41	3.40
Potassium.....	3	0.07
Sodium.....	18	0.77
Major Cations.....		7.99
Major Anions.....		7.90
Cation/Anion Difference.....		0.57 %

Trace Metals (Dissolved Concentrations), mg/l

Iron..... <0.05
Manganese..... <0.02

E.I.S. Hydrology
Field Measurements Form

727-23
Station #

Date 11/29/88
Company Bear Creek
Flow/Depth 17 gpm
pH 7.8
Sp. Cond. ~~400~~ 400
W. Temp. 4°
Air Temp. 28°
Diss. O N/A
Time 11:20

Type: Spring Stream Well Discharge NPDES

Collection Point: SP

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor J. R. [Signature]

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: _____

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

E.I.S. Hydrology
Field Measurements Form

177-23
Station #

Date 12/7/98
Company Beaver Creek
Flow/Depth 19.2 gpm
pH 7.8
Sp. Cond. 400
W. Temp. 4°
Air Temp. 24°
Diss. O N/A
Time 14:25

Type: Spring Stream Well Discharge NPDES

Collection Point: 2" Dip

Appearance of Water: Clear Milky Cloudy Opaque

Weather: Clear Part. Cloudy Overcast Rain Snow

Quality Sample Taken: Yes No

Comments _____

Field Monitor [Signature]
Pump Reading _____

When Sample or Measurements Not Taken:
Reason: _____

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

InterMountain Laboratories, Inc.

Client: Beaver Creek Coal Company Date: December 29, 1988

Site: T. Mt. West Main UG-2

Lab No: F2286

Date Collected: 12/07/88

Date Received: 12/14/88

Total Dissolved Solids (180), mg/l.....	328
Total Dissolved Solids (calc), mg/l.....	354
Total Alkalinity as CaCO ₃ , mg/l.....	324
Total Hardness as CaCO ₃ , mg/l.....	48

	mg/l	meq/l
Acidity as CaCO ₃	<1	<0.01
Bicarbonate as HCO ₃	395	6.47
Carbonate as CO ₃	0	0.00
Chloride.....	6	0.17
Sulfate.....	5	0.10
Calcium.....	11	0.56
Magnesium.....	5	0.41
Potassium.....	4	0.10
Sodium.....	129	5.62

Major Cations.....	6.69
Major Anions.....	6.74
Cation/Anion Difference.....	0.37 %

Trace Metals (Dissolved Concentrations), mg/l

Iron.....	0.10
Manganese.....	<0.02

E.I.S. Hydrology
Field Measurements Form

UB-2
Station #

Date 12/6/88

Company Beaver Creek

Flow/Depth 1.6 gpm/ft .48 gpm/ft

pH _____

Sp. Cond. _____

W. Temp. 47°

Air Temp. 49°

Diss. O N/A

Time 10:10

Type: Spring Stream _____ Well _____ Discharge _____ NPDES _____

Collection Point: #9 - Under Ground

Appearance of Water: Clear Milky _____ Cloudy _____ Opaque _____

Weather: Clear _____ Part. Cloudy _____ Overcast _____ Rain _____ Snow _____

Quality Sample Taken: Yes No _____

Comments Water has dulled odor of
Ammonia.

Field Monitor M.P. Cannon

Pump Reading _____

When Sample or Measurements Not Taken:

Reason: _____

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

Sediment Pond Report

Mine: Trail Mtn. #9 Mine

Year: 1988

This report is submitted to satisfy the requirements of UMC 817.46, UMC 817.49, and 30 CFR 817.49.

1. This report addresses the following ponds:

<u>Pond</u>	<u>Capacity</u>
1. Sed. Pond	1.91 Ac. ft.
2.	
3.	

The ponds listed above have been constructed and maintained in accordance with the approved plan and the above listed regulations.

2. The following addresses the required monitoring procedures and instrumentation used at each pond or impoundment:

<u>Pond</u>	<u>Requirement</u>
1. Sed. Pond	NPDES Discharge; Quarterly Inspection
2.	
3.	

3.

<u>Pond</u>	<u>Design Depth/Elevation</u>	<u>Average Depth/Elevation</u>
1. Sed. Pond	14.2' (Top of Pipe)	12.5' (Top of spillway pipe)
2.	17.5' (Top of Dam)	to sediment
3.		

4.

<u>Pond #</u>	<u>Accumulated Sediment</u>	<u>Existing Storage Capacity</u>
1. Sed. Pond	24" - 36"	1.71 Ac. ft. (1.47 req'd)

5. Have any fires occurred in the impoundment embankments?

<u>Pond</u>	<u>Yes</u>	<u>No</u>
1. Sed Pond		X
2.		
3.		

6. The ponds have been inspected for structural stability with the following results:

<u>Pond #</u>	<u>Comments</u>
1. Sed Pond	Pond is stable; no evident erosion; Moderate sediment accumulations; cleaning planned for fall of 1988.

I do hereby certify that the information found in this 1988 report is true and correct to the best of my knowledge.

John W. King
-9/1/88-

1988
VEGETATION DATA

REVEGETATION TEST PLOT MONITORING
OF THE TRAIL MOUNTAIN COAL MINE: 1988

by

Patrick D. Collins, Ph.D.

INTRODUCTION

The following is a summary of the 1988 sampling results of the Revegetation Test Plots on the properties of the Trail Mountain Coal Mine in Emery County, Utah. The research test plots were implemented in the fall of 1984. Vegetation sampling has been implemented on the plots since the growing season of 1985. The plots are beginning to show interesting patterns that should be outlined subsequent to sampling in 1989.

METHODS

Quantitative and qualitative data were taken on each of the test plots. Sampling methods were implemented this year exactly the same way they were in the previous years. These methods have been described adequately in earlier reports. The five tables of this report were numbered 16 through 20 so that they could be a simple addition to the report of November 1987 entitled "Results and Summary of Vegetation Test Plot Monitoring at the Trail Mountain Coal Mine".

RESULTS AND DISCUSSION

Summaries for the sampling data from 1988 are shown on Tables 16 - 20. Some patterns are beginning to appear and will be discussed following the sampling of 1989. For the record, however, a few things

should be noted in this report that may be used in a final report of the test plots. First, much of Utah has had a dry year. The soils and vegetation on the plots this year appeared drier than previous years, possibly contributing to the slight decline in total living cover. However, the plots were also sampled later in the growing season this year, which may also have contributed to the results. Seasonal fluctuations in precipitation should be correlated with some of the cover and composition fluctuations of the test plots. Additionally, we have not fertilized the plots since it was implemented in 1984. A follow up treatment of nitrogen and phosphorus may be beneficial to these plots and to the reclaimed surface at the time of final reclamation.

It should also be noted that the disturbance at one end of the test plot caused by drilling has been reclaimed and recontoured to the slope of the original test plot. This area could be reseeded with slight adjustments to the seed mix and monitored separately for additional information that would be helpful at the time of final reclamation.

I am encouraged, however, on the progress of the test plots. Germination and growth was good according to the data of 1985. We had a problem with cattle on the plot in 1986 (prior to fencing the plot) that depleted that year's production. We were concerned at that time that this may destroy our experiments, but results from our 1987 sampling showed the seeded plants species to have a remarkable tolerance to grazing. The results (to date) show encouraging revegetation potential with the present "spoil" material at the mine site.

TABLE 16: 1988 monitoring results for the vegetation test plots of the Trail Mountain Coal Mine, Utah. The table shows a plant species list and the plot it was in. (Plot was sampled August 26, 1988).

SCIENTIFIC NAME	COMMON NAME	SPECIES MIX	
SHRUBS			
<u>Atriplex confertifolia</u>	Shadscale	I	II
FORBS			
<u>Achillea millefolium</u>	Yarrow	I	
<u>Astragalus cicer</u>	Chickpea milkvetch	I	
<u>Erigeron</u> sp.	Fleabane	I	
<u>Eriogonum</u> sp.	Buckwheat		II
<u>Grindelia squarrosa</u>	Gumweed		II
<u>Hedysarum boreale</u>	Northern sweetvetch		II
<u>Linum perenne</u>	Wild flax		II
<u>Maribium vulgare</u>	Common horehound		II
<u>Melilotus officinalis</u>	Yellow sweet clover	I	
GRASSES			
<u>Agropyron cristatum</u>	Crested wheatgrass	I	II
<u>Agropyron trachycaulum</u>	Slender wheatgrass	I	
<u>Agropyron intermedium</u> var. <u>trichophorum</u>	Intermediate wheatgrass		II
<u>Bromus carinatus</u>	Mountain brome	I	II
<u>Bromus inermis</u>	Smooth brome		II
<u>Elymus cinereus</u>	Gt. Basin wildrye	I	II

TABLE 17: 1988 SAMPLING RESULTS - SPECIES MIXTURE I

Total cover and composition of the revegetation test plots of the Trail Mountain Coal Mine. The table shows means, standard deviations and sample sizes.

COVER - SPECIES MIXTURE I

	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE *
Total Living Cover	49.75	8.29	20
Erosion Mat & Litter	30.90	12.04	20
Bareground	11.70	6.78	20
Rock	7.65	6.64	20

COMPOSITION - SPECIES MIXTURE I

	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE *
Shrubs	2.63	10.88	20
Forbs	2.62	4.49	20
Grasses	94.76	11.20	20

*Sample size insures 90% accuracy within 10% of the true mean.

TABLE 18: 1988 SAMPLING RESULTS - SPECIES MIXTURE I

Mean percent cover, standard deviation, sample size and relative frequency by species of the revegetation test plots of the Trail Mountain Coal Mine.

SPECIES MIXTURE I				
SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
SHRUBS				
<u>Atriplex confertifolia</u>	1.05	4.35	20	10.00
FORBS				
<u>Achillea millefolium</u>	0.55	1.50	20	15.00
<u>Astragalus cicer</u>	0.20	0.60	20	10.00
<u>Erigeron sp.</u>	0.50	2.18	20	5.00
<u>Melilotus officinalis</u>	0.10	0.30	20	10.00
GRASSES				
<u>Agropyron cristatum</u>	0.30	1.13	20	10.00
<u>Agropyron trachycaulum</u>	20.45	9.73	20	100.00
<u>Bromus carinatus</u>	1.00	3.00	20	10.00
<u>Elymus cinereus</u>	25.60	14.39	20	100.00

TABLE 19: 1988 SAMPLING RESULTS - SPECIES MIXTURE II

Total cover and composition of the revegetation test plots of the Trail Mountain Coal Mine. The table shows means, standard deviations and sample sizes.

COVER SPECIES MIXTURE II			
	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE
Total Living Cover	49.80	10.87	20
Erosion Mat & Litter	28.15	11.96	20
Bareground	8.75	5.52	20
Rock	13.30	9.06	20

COMPOSITION - SPECIES MIXTURE II			
	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE*
Shrubs	0.42	1.82	20
Forbs	4.05	9.02	20
Grasses	95.06	9.02	20

*Sample size insures 90% accuracy within 10% of the true mean.

TABLE 20: 1988 SAMPLING RESULTS - SPECIES MIXTURE II

Mean percent cover, standard deviation, sample size and relative frequency by species of the revegetation test plots of the Trail Mountain Coal Mine.

SPECIES MIXTURE II				
SPECIES	% MEAN COVER	STANDARD DEVIATION	SAMPLE SIZE	RELATIVE FREQUENCY
SHRUBS				
<u>Atriplex confertifolia</u>	0.25	1.09	20	5.00
FORBS				
<u>Eriogonum sp.</u>	0.05	0.22	20	5.00
<u>Grindelia squarrosa</u>	0.25	1.09	20	5.00
<u>Hedysarum boreale</u>	0.05	0.22	20	5.00
<u>Linum perenne</u>	0.75	1.79	20	15.00
<u>Melilotus officinalis</u>	0.30	1.10	20	10.00
GRASSES				
<u>Agropyron cristatum</u>	0.25	1.09	20	5.00
<u>Agropyron intermedium</u> var. <u>trichophorum</u>	42.40	14.02	20	100.00
<u>Bromus carinatus</u>	0.25	1.09	20	45.00
<u>Bromus inermis</u>	3.70	5.64	20	55.00
<u>Elymus cinerus</u>	1.55	2.60	20	45.00

1988

SUBSIDENCE MONITORING REPORT

Bruce T. S. Ware

REGISTERED LAND SURVEYOR
RT. 1, BOX 146 H-2 HELPER, UTAH 84526
Phone 637-2620

SUBSIDENCE MONITORING FOR TRAIL MOUNTAIN #9 MINE

Page 1 of 4

Station	Original elevation Oct./Nov. 1986	Survey elev. Oct. 1988	Change
TMS 5-1W	8726.49	8726.50	+0.01
TMS 5	8667.11	8667.15	+0.04
TMS 5-1E	8552.84	8552.57	-0.27
TMS 5-2E	8376.51	8376.34	-0.17
TMS 5-3E	8254.87	8253.56	-1.31
TMS 5-4E	8222.28	8220.91	-1.37
TMS 5-5E	8271.12	8269.90	-1.22
TMS 5-6E	8282.30	8281.02	-1.28
TMS 5-7E	8247.31	8245.95	-1.36
TMS 6-9W	8847.41	8847.48	+0.07
TMS 6-8W	8777.88	8778.91	+1.03
TMS 6-7W	8703.52	8703.56	+0.04
TMS 6-6W	8672.38	8672.41	+0.03
TMS 6-5W	8624.83	8624.56	-0.27
TMS 6-4W	8583.89	8583.86	-0.03
TMS 6-3W	8582.66	8582.63	-0.03
TMS 6-2W	8541.26	8541.24	-0.02
TMS 6-1W	8567.21	8567.20	-0.01
TMS 6	8585.30	8585.30	0.00
TMS 3-6W	9068.96	9068.89	-0.07
TMS 3-5W	9067.50	9067.43	-0.07
TMS 3-4W	9009.30	9009.18	-0.12
TMS 3-3W	8974.95	8974.97	+0.02
TMS 3-2W	8928.61	8928.56	-0.05
TMS 3-1W	8924.49	8924.45	-0.04
TMS 3	8911.80	8911.74	-0.06
TMS 3-1E	8803.61	8803.58	-0.03
TMS 3-2E	8748.89	8748.90	+0.01

Bruce T. S. Ware
REGISTERED LAND SURVEYOR
RT. 1, BOX 146 H-2 HELPER, UTAH 84526
Phone 637-2620

SUBSIDENCE MONITORING FOR
TRAIL MOUNTAIN #9 MINE

Page 2 of 4

Station	Original elevation Oct./Nov. 1986	Survey elev. Oct. 1988	Change
TMS 2	9060.28	9060.18	-0.10
TMS 2-1E	9058.87	9058.68	-0.19
TMS 2-2E	9059.33	9059.13	-0.20
TMS 2-3E	9064.08	9063.84	-0.24
TMS 2-4E	9070.00	9069.78	-0.22
TMS 2-5E	9061.85	9061.60	-0.25
TMS 2-6E	8902.43	8902.14	-0.29
TMS 2-7E	8745.21	8744.74	-0.47
TMS 2-8E	8597.74	8597.18	-0.56
TMS 2-9E	8550.32	8549.78	-0.54
TMS 8-9W	8914.06	8913.91	-0.15
TMS 8-8W	8909.33	8909.11	-0.22
TMS 8-7W	8944.46	8944.20	-0.26
TMS 8-6W	8979.17	8978.97	-0.20
TMS 8-5W	9015.60	9015.42	-0.18
TMS 8-4W	9044.07	9043.89	-0.18
TMS 8-3W	8994.63	8994.50	-0.13
TMS 8-2W	8854.62	8854.55	-0.07
TMS 8-1W	8737.92	8737.93	+0.01
TMS 8	8650.46	8650.46	0.00
10 W#13	8725.32	8725.29	-0.03
10 W#12	8738.03	8737.97	-0.06
10 W#11	8764.34	8764.26	-0.08
10 W#10	8813.32	8813.21	-0.09
10 W#9	8866.54	8866.46	-0.08
10 W#8	8923.85	8923.70	-0.15
10 W#7	8979.89	LOST	
10 W#6	8998.19	8998.05	-0.14
10 W#5	8904.99	8904.84	-0.15

Bruce T. S. Ware

REGISTERED LAND SURVEYOR

RT. 1, BOX 146 H-2

HELPER, UTAH 84526

Phone 637-2620

SUBSIDENCE MONITORING FOR

Page 3 of 4

TRAIL MOUNTAIN #9 MINE

Station	Original elevation Oct./Nov. 1986	Survey elev. Oct. 1988	Change
10 W#4	8813.19	8813.01	-0.18
10 W#3	8739.89	8739.73	-0.16
10 W#2	8645.90	8645.72	-0.18
10 W#1	8584.66	8584.53	-0.13
10 W Zero	8531.07	8530.92	-0.15
11 W#13	8669.84	8670.53	+0.69
11 W#12	8689.23	8689.23	0.00
11 W#11	8715.02	8714.99	-0.03
11 W#10	8746.50	8746.48	-0.02
11 W#9	8792.97	8792.95	-0.02
11 W#8	8849.92	8849.86	-0.06
11 W#7	8910.03	8909.99	-0.04
11 W#6	8948.37	8948.28	-0.09
11 W#5	8856.84	8856.76	-0.08
11 W#4	8771.36	8771.27	-0.09
11 W#3	8694.92	8694.85	-0.07
11 W#2	8626.37	8626.30	-0.07
11 W#1	8557.82	8557.79	-0.03
11 W Zero	8526.88	8526.82	-0.06
12 W#12	8613.12	8613.17	+0.05
12 W#11	8624.55	8624.58	+0.03
12 W#10	8670.28	8670.33	+0.05
12 W#9	8703.86	8703.89	+0.03
12 W#8	8732.75	8732.80	+0.05
12 W#7	8777.98	8778.00	+0.02
12 W#6	8834.96	8834.93	-0.03
12 W#5	8875.09	8875.09	0.00
12 W#4	8775.49	8775.44	-0.05
12 W#3	8701.58	8701.51	-0.07

Bruce T. S. Ware

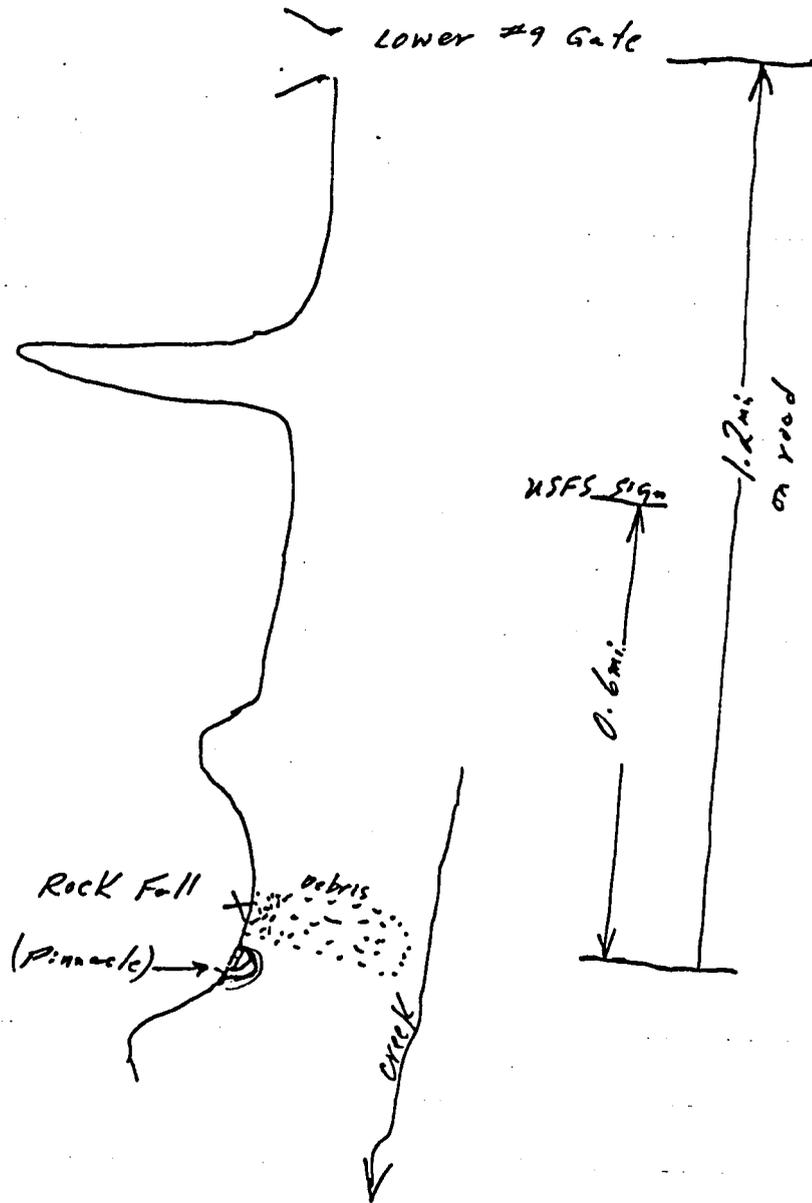
REGISTERED LAND SURVEYOR
RT. 1, BOX 146 H-2 HELPER, UTAH 84526
Phone 637-2620

SUBSIDENCE MONITORING FOR
TRAIL MOUNTAIN #9 MINE

Page 4 of 4

Station	Original elevation Oct./Nov. 1986	Survey elev. Oct. 1988	Change
12 W#2	8639.53	8639.52	-0.01
12 W#1	8599.11	8599.09	-0.02
12 W Zero	8546.30	8546.30	0.00
6 W Zero	9033.75	9033.54	-0.21
6 W#1	9031.75	9031.57	-0.18
6 W#2	9031.34	9031.17	-0.17
6 W#3	9028.91	9028.79	-0.12
6 W#4	9026.81	9026.69	-0.12
6 W#5	9017.18	LOST	
6 W#6	9023.57	9023.47	-0.10
6 W#7	9029.52	9029.39	-0.13
6 W#8	9039.87	9039.77	-0.10
6 W#9	9045.88	9045.80	-0.08
6 W#10	9050.65	9050.60	-0.05
6 W#11	9051.49	9051.45	-0.04
6 W#12	9046.57	9046.55	-0.02
6 W#13	9039.09	9039.13	+0.04
6 W#14	9030.16	9030.15	-0.01
6 W#15	9024.83	9024.88	+0.05
6 W#16	9022.48	9022.47	-0.01
6 W#17	9029.41	9029.45	+0.04
6 W#18	9030.07	9030.12	+0.05

#9 Mine
Cottonwood Canyon Rock Fall
12/12/88



Fall occurred on, or about, 12/5/88. I heard about it on 12/8/88 & called DCR/M (J. Whitehead). The fall was apparently a large pinnacle, on, and below, the Starpoint sandstone, and exposed a 9' ± coal outcrop. Debris nearly reached Cottonwood Creek. Fall does not appear to be mining related.

es

UPDATED MINE MAP

1988
PERMIT / STIPULATION STATUS

File



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

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

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

December 14, 1988

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

Dear Mr. *Dan* Guy:

Re: Approval, Mid-Permit Term Review, Beaver Creek Coal Company,
Trail Mountain #9 Mine, ACT/015/009, Folder #3, Emery County,
Utah

The Division has reviewed the materials dated November 23, 1988 in response to the Mid-Term Review for the Trail Mountain #9 Mine in Emery County, Utah. The Division finds that all deficiencies identified in the mid-term review process have been adequately addressed and approval is hereby given to the Permit Application Package as updated.

As discussed with John Whitehead, please submit to the Division four (4) additional copies of the updated PAP for distribution to other agencies.

Best regards,

Dianne
Dianne R. Nielson
Director

JJW/djh
cc: P. Rutledge
R. Hagen
J. Whitehead
B. Malencik
AT7/70

F I N D I N G S

Mid Permit Term Review
Beaver Creek Coal Company
Trail Mountain #9 Mine
ACT/015/009

December 14, 1988

1. The Permit Application Package (PAP) has been updated by submittals up through November 23, 1988 and is now complete and current.
2. The consolidated PAP 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 Trail Mountain #9 Mine permit.
4. The applicant has proposed no change to the application which would require a change in bond amount.

John W. Hitchcock 12/14/88
Permit Supervisor

Kenneth E. May 12/14/88
Associate Director, Mining

James P. Broughton 12/14
Administrator, Mined
Land Development and
Reclamation Program

James R. Nielson
Director

JJW/djh
AT7/71



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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

55 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84160-1203 • 801-538-5340

RECEIVED

NOV 30 1987

ATTORNEY GENERALS OFFICE

November 23, 1987

Mr. Richard Pick, President
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Pick:

Re: Approval for Permit Transfer, Trail Mountain Mine, ACT/015/009,
Folder #2 and #4, Emery County, Utah

The Division has found that Beaver Creek Coal Company has met all requirements for a permit transfer as required under UMC 788.18. Therefore, in accordance with the attached Findings, the request for transfer of the permit for the Trail Mountain Mine (to be known as Trail Mountain No. 9 Mine) is hereby approved.

As you are aware, Beaver Creek Coal Company is responsible for all prior commitments relating to this operation as made by previous owners. Please contact me or Lowell Braxton if we can be of further assistance.

Best regards,

Dianne R. Nielson
Director

JJW/djh
Attachments
cc: P. Rutledge, DSM
R. Hagen, DSMRE
D. Guy, BCCC
L. Braxton
J. Whitehead

0800R/41

FINDINGS

Trail Mountain #9 Mine
Beaver Creek Coal Company
ACT/015/009
Emery County, Utah

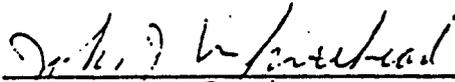
November 13, 1987

The applicant for transfer of permit rights, Beaver Creek Coal Company, has committed to continue to conduct the operations involved in full compliance with the terms and conditions of the original permit issued to Trail Mountain Coal Company (UMC 788.18[c][3]). Therefore, findings 2 through 6, and 10 through 16 of the original Decision Document (attached) are still pertinent.

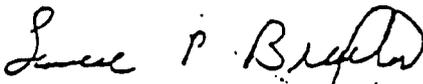
The following findings specifically apply to the application for transfer of permit rights.

1. The State of Utah has determined that the application for transfer of permit rights is accurate and complete, and complies with the requirements of UMC 788.18[a] and [b].
2. The applicant has obtained a performance bond equivalent to the bonding requirements of the original permit, in the amount of \$463,711.00 (UMC 788.18[c][2]).
3. The applicant has the legal right to enter and begin underground coal mining activities pursuant to the Sale Agreement between Arch Minerals Corporation and Atlantic Richfield Corporation.
4. The Division has assessed the applicant's compliance with Section 510[c] of the Surface Mining Control and Reclamation Act. It has been found that all AML fees have been paid and all outstanding Cessation Orders, civil penalties and violations have been resolved (Memo from Joe Helfrich, November 4, 1987).

5. Procedures for public participation have complied with requirements of the Act and the Utah State Program. Notice was published as required by UMC 788.18[b][1].



DOGMR Lead Reviewer



Administrator, Mineral Resource
Development and Reclamation Program



Associate Director, Mining



Attorney General
Approved as to Form



Director

0800R/42-43

FINDINGS DOCUMENT

Trail Mountain Coal Company
Tract 2 Lease
Trail Mountain Mine
ACT/015/009-1, Emery County, Utah

April 3, 1987

1. The plan and the permit application are accurate and complete and all requirements of the Surface Mining Control and Reclamation Act (the "Act"), and the approved Utah State Program have been complied with (UMC 786.19(a)).
2. The applicant proposes acceptable practices for the reclamation of disturbed lands. These practices have been shown to be effective in the short-term; there are no long-term reclamation records utilizing native species in the western United States. Nevertheless, the regulatory authority has determined that reclamation, as required by the Act, can be feasibly accomplished under the Mining and Reclamation Plan (MRP) (UMC 786.19(b)).
3. The assessment of the probable cumulative impacts of all anticipated coal mining activities in the general area on the hydrologic balance has been made by the regulatory authority. The reclamation plan proposed under the application has been designed to prevent damage to the hydrologic balance in the permit area (UMC 786.19(c) and UCA 40-10-11(2)(c)). (See Cumulative Hydrologic Impact Analysis (CHIA) compiled by OSM in April 1984 and the updated synopsis attached to this Findings Document.)
4. The proposed permit area for the Tract 2 lease is:
 - A. not included within an area designated unsuitable for underground coal mining operations;
 - B. not within an area under study for designated lands unsuitable for underground coal mining operations;
 - C. not on any lands subject to the prohibitions or limitations of 30 CFR 761.11(a) (national parks, etc.), 761.11(f) (public buildings, etc.) and 761.11(g) (cemeteries);
 - D. not within 100 feet of the outside right-of-way line of a public road (UMC 761.11);
 - E. not within 300 feet of any occupied dwelling (UMC 786.19(d)). (See MRP Section 782.16.).

5. The regulatory authority's issuance of a permit is in compliance with the National Historic Preservation Act and implementing regulations (36 CFR 800) (UMC 786.19(e)). (See attached letter from State Historic Preservation Officer (SHPO) dated February 13, 1987.)
6. The applicant has the legal right to enter and complete reclamation activities in the permit area through federal coal lease U-49332 (UMC 786.19(f)).
7. The applicant has shown that prior violations of applicable laws and regulations have been corrected (UMC 785.19(g)). (Memo of March 3, 1987 from Joe Helfrich, Division of Oil, Gas and Mining (DOGM), Inspection and Enforcement section.)
8. Neither Trail Mountain Coal Company nor its parent company, Diamond Shamrock, are delinquent in payment of fees for the Abandoned Mine Reclamation Fund (UMC 786.19(h)) (communication, Valerie Coleman, OSM, Washington, D. C., March 26, 1987).
9. The applicant does not control and has not controlled mining operations with a demonstrated pattern of willful violations of the Act of such nature, duration and with such resulting in irreparable damage to the environment as to indicate an intent not to comply with the provisions of the Act (UMC 786.19(i)) (communication, Valerie Coleman, OSM, Washington, D. C., March 26, 1987).
10. Underground coal mining and reclamation operations to be performed under the permit will not be inconsistent with other operations anticipated to be performed in areas adjacent to the proposed permit area (UMC 786.19(j)).
11. A detailed analysis of the proposed bond has been made. The bond estimate is \$463,711.00 in 1989 dollars. The regulatory authority has made appropriate adjustments to reflect costs which would be incurred by the state, if it was required to contract the final reclamation activities for the mine site. The bond shall be posted (UMC 786.19(k)) with the regulatory authority prior to final permit issuance.
12. No lands designated as prime farmlands or alluvial valley floors occur on the permit area (UMC 786.19(l)).
13. The proposed postmining land-use of the permit area has been approved by the regulatory authority (UMC 786.19(n)). (See TA, Section UMC 817.133.)

14. The regulatory authority has made all specific approvals required by the Act, and the approved State Program (UMC 786.19(n)).
15. The proposed operation will not affect the continued existence of any threatened or endangered species or result in the destruction or adverse modification of their critical habitats (UMC 785.19(o)).
16. All procedures for public participation required by the Act, and the approved Utah State Program have been complied with (UMC 786.11-.15).

Prior to the permit taking effect, the applicant must agree to comply with the special stipulations in the permit and post the performance bond for reclamation activities.

John H. Mitchell 4-3-87
DOG M Lead Reviewer

Lowell Beardsford ^{UMB}
Administrator, Mineral Resource
Development and Reclamation Program

Lowell E. Mc... 4/3/87
Associate Director, Mining

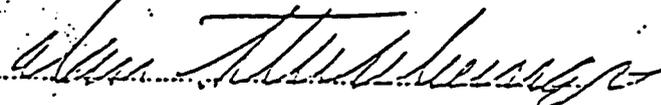
Dennis R. Nelson 4-3-87
Director

AFFIDAVIT OF PUBLICATION

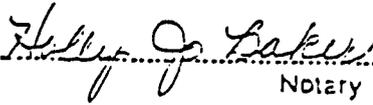
STATE OF UTAH
County of Emery,

ss.

I, Dan Stockburger on oath, say that I am
the General Manager of The Emery County Progress,
a weekly newspaper of general circulation, published at Castle Dale,
State and County aforesaid, and that a certain notice, a true copy
of which is hereto attached, was published in the full issue of
such newspaper for One (1)
consecutive issues, and that the first publication was on the
29th day of September, 1987 and that the
last publication of such notice was in the issue of such newspaper
dated the _____ day of _____, 19 _____



Subscribed and sworn to before me this
29th day of September, 1987



Notary Public.

My Commission expires MAY COMMISSION EXPIRES OCTOBER 22, 1990

Residing at Price, Utah

Publication fee, \$ 14.40

PUBLIC NOTICE

Beaver Creek Coal Company has applied for approval of the transfer of the Mining and Reclamation Permit for the Trail Mountain Mine from Trail Mountain Coal Company to Beaver Creek Coal Company.

The applicant is: Beaver Creek Coal Company, P.O. Box 1372, Price, Utah 84501.

The original permittee is: Trail Mountain Coal Company, P.O. Box 550, Orangeville, Utah 84537.

The permit(s) for which transfer is being sought are Utah # ACT/015/009 (Federal #UT-0017) and Utah # ACT/015/009-1. These are Mining and Reclamation Permits for the Trail Mountain Mine, which is located in the Cottonwood Canyon area of Emery County, Utah in Sections 25, 26, 35 and 36, T. 17 S., R. 6 E., S.L.B.&M.

Written comments on this application for transfer may be addressed to: Utah Division of Oil, Gas and Mining, 335 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Published in the Emery County Progress September 29, 1987.

RECORDED
NOV 02 1987

DIVISION OF
OIL, GAS & MINING

CC. J. Whitford

AFFIDAVIT OF PUBLICATION

OCT 5

BEAVER CREEK
COURT

STATE OF UTAH }
County of Carbon, } ss.

I, Dan Stockburger on oath, say that I am
the General Manager of The Sun-Advocate,
a weekly newspaper of general circulation, published at Price,
State and County aforesaid, and that a certain notice, a true copy
of which is hereto attached, was published in the full issue of
such newspaper for One (1)
consecutive issues, and that the first publication was on the
29th day of September, 19 87 and that the
last publication of such notice was in the issue of such newspaper
dated the _____ day of _____, 19 _____.

Dan Stockburger

Subscribed and sworn to before me this
29th day of September, 19 87

Holly O. Baker
Notary Public.

My Commission expires MY COMMISSION EXPIRES OCTOBER 22, 1990

Publication fee, \$ 14.10

PUBLIC NOTICE
Beaver Creek Coal Company has applied for approval of the transfer of the Mining and Reclamation Permit for the Trail Mountain Mine from Trail Mountain Coal Company to Beaver Creek Coal Company.
The applicant is: Beaver Creek Coal Company, P.O. Box 1378, Price, Utah 84501.
The original permittee is: Trail Mountain Coal Company, P.O. Box 550, Orangerville, Utah 84537.
The permit(s) for which transfer is being sought are Utah # ACT/015/009 (Federal #UT-0017) and Utah # ACT/015/009-1. These are Mining and Reclamation Permits for the Trail Mountain Mine, which is located in the Cottonwood Canyon area of Emery County, Utah in Sections 25, 26, 25 and 35, T. 17 S., R. 6 E., S. 1 B. & M.
Written comments on this application for transfer may be addressed to: Utah Division of Oil, Gas and Mining, 335 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.
Published in the Sun Advocate September 29, 1987.

RECORDED
NOV 02 1987

Appendix 1-3

ACT/015/009

Permit Approval

2/1/88

FEDERAL
(February 1985)

Permit Number ACT/015/009, Feb. 19, 1985

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/015/009, which incorporates the Office of Surface Mining (OSM) Permit UT-0017, is issued for the state of Utah by the Utah Division of Oil, Gas and Mining (DOGGM) to:

Trail Mountain Coal Company

P. O. Box 370

Orangeville, Utah 84537

for the Trail Mountain Mine. Trail Mountain Coal Company is the lessee of federal coal lease U-082996, the lessee of state coal leases ML-22603, and/or the lessee/owner of certain fee-owned parcels, 53 acres. The permit is not valid until a performance bond is filed with the DOGM in the amount of \$463,711.00 (filed October 29, 1984), payable to the state of Utah, Division of Oil, Gas and Mining and OSM, and the DOGM has received 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 UCMRA.

Sec. 2 The permittee is authorized to conduct surface coal mining and reclamation operations on the following described lands (as shown on ownership map) within the permit area at the Trail Mountain Mine situated in the state of Utah, Emery County, and located:

Township 17 South, Range 6 East, Salt Lake Base and Meridian

Sec. 25: Begin at point of SW Corner of NW1/4 SE1/4, thence North 160 Rods, thence East 44 Rods to center Cottonwood Creek, Southward along creek to a point 76 Rods east of the beginning, thence West 76 Rods to the Point of Beginning.

Sec. 25: SW1/4 SE1/4, E1/2 E1/2 SW1/4

Sec. 36: All

This legal description is for the permit boundary (as shown on the permit area map) of the Trail Mountain Mine. The permittee is authorized to conduct surface and reclamation operations connected with mining on the foregoing described property subject to the conditions of the leases, the approved mining plan, and OSM permit UT-0017, to be issued February 1985, including all conditions and all other applicable conditions, laws and regulations.

- Sec. 3 This permit is issued for a term of five (5) years commencing on the date the permit is signed by the permittee, except that this permit will terminate if the permittee has not begun the surface coal mining and reclamation operations covered herein within three (3) years of the date of issuance.
- Sec. 4 The permit rights may not be transferred, assigned or sold without the approval of the Director, DOGM. Request for 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 UMC 788.17-.19.
- Sec. 5 The permittee shall allow the authorized representative of the DOGM, including but not limited to inspectors, and representatives of the Office of Surface Mining, 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, UMC 840.12, 30 CFR 842.13 and UMC 842.13; and,
 - B. be accompanied by private persons for the purpose of conducting an inspection in accordance with UMC 842.12 and 30 CFR 842, when the inspection is in response to an alleged violation reported by the private person.
- Sec. 6 The permittee shall conduct surface coal mining and reclamation operations only on those lands specifically designated as within the permit area on the maps submitted in the mining plan and permit application and approved for the term of the permit and which are subject to the performance bond.

- Sec. 7 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 conditions 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. 8 The permittee shall dispose of solids, sludge, filter backwash, or pollutants removed in the course of treatment or control of waters or emissions to the air in the manner required by Subchapter K of this Chapter, the regulatory program and which prevents violation of any other applicable state or federal law.
- Sec. 9 The permittee shall conduct its operations-
- A. In accordance with any measures specified in the permit as necessary to prevent significant, imminent environmental harm to the health or safety of the public; and,
 - B. Utilizing any methods specified in the permit by the Division in approving alternative methods of compliance with the performance standards of the Act and the regulatory program, in accordance with the provisions of the Act, UMC 786.19(m), and Subchapter K.
- Sec. 10 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. 11 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. 12 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. 13 If during the course of mining operations, previously unidentified cultural resources are discovered, the applicant shall ensure that the site(s) is not disturbed and shall notify the state Regulatory Authority (RA). The state RA, after coordination with OSM, shall inform the operator of necessary actions required.
- Sec. 14 APPEALS - The lessee shall have the right to appeal: (a) under 30 CFR 775 from actions or decisions of any official of OSM; (b) under 43 CFR 3000.4 from an action or decision of any official of the Bureau of Land Management; (c) under 30 CFR 290 from an action, order or decision of any official of the Minerals Management Service; or (d) under applicable regulations from any action or decision of any other official of the Department of the Interior arising in connection with this permit. In addition, the lessee shall have the right to appeal as provided for under UMC 787.
- Sec. 15 SPECIAL CONDITIONS - In addition to the general obligations and of performance set out in the leases, OSM permit UT-0017 and this permit, the permittee shall comply with the special conditions of OSM permit UT-0017 and the conditions appended hereto as Attachment A.

The above conditions (Secs. 1-15) 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 grantor and the permittee at any time to adjust to changed conditions or to correct an oversight. The grantor may amend these conditions at any time without the consent of the permittee in order to make them consistent with any new federal or state statutes and any new regulations.

THE STATE OF UTAH

By: Deanne R. Nielson
Date: February 19, 1995

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

Alan P. [Signature]

Authorized Representative of
the Permittee

Date: 2/24/85

APPROVED AS TO FORM:

By: [Signature]
Assistant Attorney General

Date: 2-19-85

NOTICE OF DECISION

To Whom It May Concern:

Pursuant to the Utah Coal Mining and Reclamation Act (Utah Code Annotated 1953, Section 40-10-1 et seq), and the "Regulations Pertaining to Surface Effects of Underground Coal Mining Activities" (Final Rules of the Utah Board of Oil, Gas and Mining), the Utah Division of Oil, Gas and Mining has issued a permit to mine coal to Diamond Shamrock Coal Unit for its permit application No. ACT/015/009. The Company will mine coal underground in accordance with the approved Mining and Reclamation Plan for the Trail Mountain Mine associated with Federal Coal Lease U-082996, State Mineral Lease ML 26503, and the following lands:

Township 17 South, Range 6 East, SLBM, Utah

Sec. 25: begin at point of SW Corner of NW1/4 SE1/4, thence North 160 Rods, thence East 44 Rods to Center Cottonwood Creek, Southward along creek to a point 76 Rods East of the beginning, thence West 76 Rods to the point of beginning.

Sec. 25: SW1/4 SE1/4, E1/2 E1/2 SW1/4

Sec. 36: All

This permit was approved by the Utah Division of Oil, Gas and Mining and by the federal Office of Surface Mining. A copy of the permit, the decision document and Technical Analysis is on file at the following locations:

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

Office of Surface Mining
Western Technical Center
Brooks Tower
1020 Fifteenth Street
Denver, Colorado 80202
Telephone: (303) 844-3806

Anyone having comments pertaining to the Trail Mountain Mine should contact Dr. Dianne R. Nielson, Director, Utah Division of Oil, Gas and Mining, or Mr. Allen D. Klein, Administrator, Office of Surface Mining, at the addresses referenced above.

ATTACHMENT A

SPECIAL CONDITIONS

Diamond Shamrock Coal Unit
Trail Mountain Mine
ACT/015/009, Emery County, Utah

February 19, 1985

Stipulation 771.23-(1)-MB

1. Within 30 days of permit approval, the applicant will submit two current, complete and comprehensive copies of the Mining and Reclamation Plan for the Trail Mountain Mine to the Division.

Stipulation 817.41-(1)-RS

1. Within 30 days of permit approval, the operator shall provide, for Division approval, a plan for acquiring site-specific borehole data to delineate the occurrence of subsurface water(s) between the mine workings and Mancos Shale. The operator shall commit to acquiring and submitting this information by August 31, 1985.

If drilling encounters subsurface water(s), the operator shall provide, by August 31, 1985, a systematic monitoring plan for Division approval. The monitoring plan must include:

- A. The type and frequency of field measurements and sampling.
- B. A listing of water quality parameters to be tested and the frequency of laboratory analysis.
- C. A schedule for submitting water level and quality data.



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

August 30, 1985

Mr. Allen P. Childs, Engineer
Diamond Shamrock Coal Company
Trail Mountain Coal Company
P. O. Box 370
Orangeville, Utah 84537-0370

Dear Mr. Childs:

RE: Response to Stipulation 817.41-(1), Trail Mountain Mine,
ACT/015/009, #2, Emery County, Utah

The information you furnished for Well TM-1 satisfies the requirements of Stipulation 817.41-(1), Trail Mountain Mine permit. Thank you for your cooperation and timeliness in providing these data.

Sincerely,

A handwritten signature in cursive script, appearing to read "John J. Whitehead".

John J. Whitehead
Permit Supervisor/
Reclamation Hydrologist

RVS/btb
9562R-2

Appendix 1-4

ACT/015/009-1

Permit Approval

2/1/88



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangener, 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 30, 1987

Mr. Allen Childs
Mining Engineer
Trail Mountain Coal Company
P. O. Box 370
Orangeville, Utah 84537

Dear Mr. *Allen* Childs:

Re: Final Permit Approval, Trail Mountain Coal Company, Trail Mountain Mine Tract 2 Lease, ACT/015/009-1, Folder #2 and #4, Emery County, Utah

Enclosed is the revised state permit for Trail Mountain Coal Company's Trail Mountain Mine. The revised permit includes the Tract 2 Lease along with the existing, approved Tract 1 area. Please examine the permit with stipulations and sign both copies of the attached permit (ACT/015/009-1, 4/87), on page 5 of that document. Upon signing, please keep one copy of the permit for your records and return one original Certified Return Receipt Requested to the Division at your earliest convenience.

A signed and executed performance bond for the Trail Mountain Mine is posted in the amount of \$463,711, payable to the Division of Oil; Gas and Mining. Therefore, upon your signature of the permit, it will become valid and enforceable.

Thank you for your cooperation in this matter. Should you have any questions, please feel free to contact the Division.

Best regards,

Dianne R. Nielson
Director

JJW/djh
Enclosures
cc: P. Rutledge R. Hagen
L. Braxton J. Whitehead
Price Field Office
0800R/83

FEDERAL
(April 1987)

Permit Number ACT/015/009-1
(Revised 4/87)

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/015/009-1, is issued for the state of Utah by the Utah Division of Oil, Gas and Mining (DOGM) to:

Trail Mountain Coal Company
P. O. Box 370
Orangeville, Utah 84537-0570
(801) 748-2140

for the Trail Mountain Mine. Trail Mountain Coal Company is the lessee of federal coal lease U-49332 and U-082996, the lessee of state coal leases ML-22603, and/or the lessee/owner of certain fee-owned parcels. A performance bond is filed with the DOGM in the amount of \$463,711.00, payable to the state of Utah, Division of Oil, Gas and Mining and the Office of Surface Mining, Reclamation and Enforcement (OSMRE). DOGM 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 (as shown on the map appended as Attachment B) within the permit area at the Trail Mountain Mine situated in the state of Utah, Emery County, and located:

Township 17 South, Range 6 East, SLB&M

Section 25: S1/2 NW1/4, W1/2 SW1/4, W1/2 E1/2 SW1/4, SW1/4 SE1/4, E1/2 E1/2 SW1/4

Begin at point of SW Corner of NW1/4 SE1/4, thence North 160 Rods, thence East 44 Rods to center of Cottonwood Creek, Southward along creek to a point 76 Rods east of the beginning, thence west 76 Rods to the Point of Beginning.

(Township 17 South, Range 6 East, SLBM (Cont'd.))

Section 26: SE1/4 NE1/4, E1/2 SW1/4 NE1/4, E1/2 SE1/4,
E1/2 W1/2 SE1/4

Section 35: N1/2 NE1/4, SE1/4 NE1/4, E1/2 SW1/4 NE1/4,
E1/2 SE1/4, E1/2 W1/2 SE1/4

Section 36: All

This legal description is for the permit area (as shown on Attachment B) of the Trail Mountain Mine. The permittee is authorized to conduct underground coal mining activities connected with mining on the foregoing described property subject to the conditions of the leases, the approved mining plan, including all conditions and all other applicable conditions, laws and regulations.

- Sec. 3 PERMIT TERM - This permit expires on February 21, 1990.
- Sec. 4 ASSIGNMENT OF PERMIT RIGHTS - The permit rights may not be transferred, assigned or sold without the approval of the Director, DOGM. 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 UMC 788.17-.19.
- Sec. 5. RIGHT OF ENTRY - The permittee shall allow the authorized representative of DOGM, including but not limited to, inspectors and representatives of OSMRE, 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, UMC 840.12, 30 CFR 842.13 and UMC 842.13; and,
 - B. be accompanied by private persons for the purpose of conducting an inspection in accordance with UMC 842.12 and 30 CFR 842, when the inspection is in response to an alleged violation reported by the private person.

- Sec. 6 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 permit application and approved for the term of the permit and which are subject to the performance bond.
- Sec. 7 ENVIRONMENTAL IMPACTS - The permittee shall minimize any adverse impact to the environment or public health and safety through but not limited to:
- A. accelerated monitoring 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. 8 DISPOSAL OF POLLUTANTS - The permittee shall dispose of solids, sludge, filter backwash or pollutants in the course of treatment or control of waters or emissions to the air in the manner required by the approved Utah State Program and the Federal Lands Program which prevents violation of any applicable state or federal law.
- 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 DOGM 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 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.

Page 5
FEDERAL

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

Allen Childs

Authorized Representative of
the Permittee

Date: 5-1-87

APPROVED AS TO FORM:

By: Barbara W. Roberts
Assistant Attorney General

Date: 4-30-87

djh
1134R
26-30

Attachment A
Special Conditions

Condition No. 1

The applicant must handle on-site spoil materials to achieve the following:

- A. All materials exceeding electroconductivity (EC) values of 16 mmhos/cm shall be placed under a minimum of two feet of less saline suitable topsoil substitute materials.
- B. The surface six inches of suitable topsoil substitute material shall not exceed EC values of eight mmhos/cm.
- C. The proposed test plots shall include a revegetation trial incorporating topsoil substitute materials having electroconductivity values approximating these limits. Specifically, the surface six inches shall have a uniform EC value of eight, plus or minus one mmho/cm, and the underlying 18 inches shall have a uniform EC value of 16, plus or minus two mmhos/cm.

The applicant shall provide a plan to the Division within 60 days of permit issuance to sample the regraded surface for the purpose of confirming that the salinity values cited above have not been exceeded.

Condition No. 2

Before any site redisturbance takes place, the applicant must conduct a survey, under the supervision of the Division, of the areas to be redisturbed. The survey shall identify and record locations of individuals and populations of Hedysarum occidentale var. canone (canyon sweet-vetch). If canyon sweet-vetch is found in the portions of the permit area to be redisturbed, the applicant must develop a mitigation plan for Division approval before redisturbance takes place.

Condition No. 3

At such time that the Division, in consultation with the State Historic Preservation Officer, determines that subsidence within the permit area may adversely affect known or unrecorded cultural sites, additional cultural resource studies may be required. This determination will be based on new subsidence or cultural resource information and clear justification will be presented to the applicant.

Attachment A
Special Conditions
(Continued)

Condition No. 4

During reclamation the applicant must apply seed at 12-18 lbs./acre the first time with lighter applications for spot treatment, especially for broadcast seeding (USFS Condition 2/85).

Condition No. 5

Within 30 days of permit approval, the water monitoring plan for the Trail Mountain Mine will be amended to include operational monitoring of springs T-10, T-14, T-14a, T-15, T-16, and T-6, (USFS Condition 4/87).

Condition No. 6

By August 31, 1987, the applicant will verify the existence of the unnamed spring referenced in the U.S. Forest Service letter to the Office of Surface Mining dated April 8, 1987. If the spring exists, the approved permit application will be amended to include the spring in the water monitoring inventory, operational monitoring plan, and appropriate figures (7-1 and 7-3) (USFS Condition 4/87).

Condition No. 7

Within 30 days of permit approval, Section 7.1.3.1 of the approved permit application will be amended to reflect that water right filings by the U.S. Forest Service are pending with the State Engineer for several of the springs identified in the spring inventory (USFS Condition 4/87).

Condition No. 8

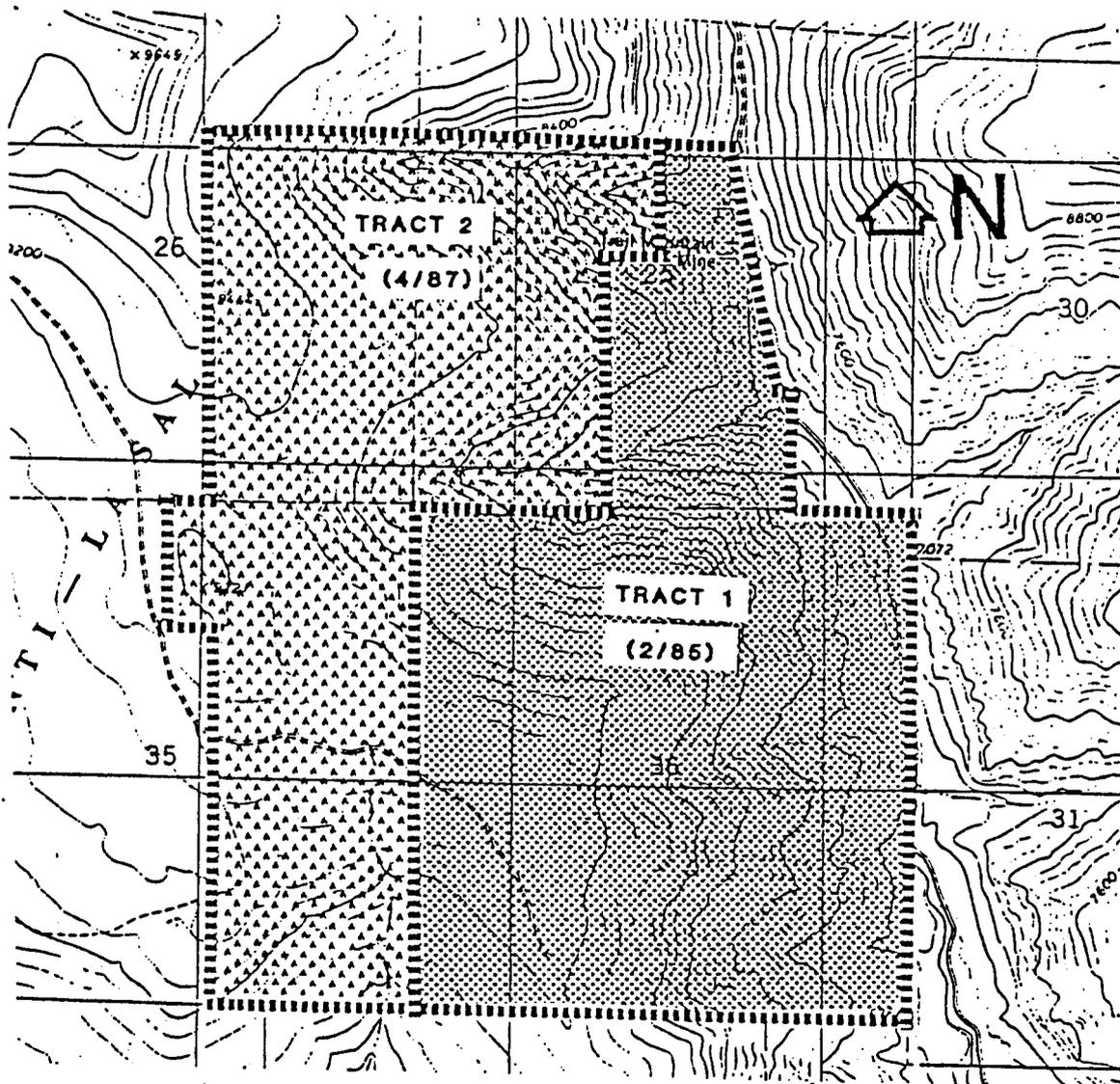
Underground coal mining activities shall not commence within Federal Lease U-49332 until the Mining Plan Modification is approved by the U.S. Department of the Interior. The Division reserves the right to amend this permit (ACT/015/009-1) to incorporate any changes or requirements set out in the approved Mining Plan Modification.

1134R/31-32

ATTACHMENT B

Trail Mountain Coal Company
Trail Mountain Mine
Permit Area
ACT/015/009-1

(Township 17 South, Range 6 East SLBM)



Scale 1":24000"

(adapted from plate 4-3, Tract 2 application 3-87)



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bongarter, 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 • 801-536-5340

August 18, 1987

Mr. Allen Childs
Mine Engineer
Trail Mountain Coal Company
P. O. Box 550
Orangeville, Utah 84537

Allen
Dear Mr. Childs:

Re: Mid-Term Review, Trail Mountain Coal Company, Trail Mountain Mine, ACT/015/009, Folder #2, Emery County, Utah

Attached are the items which must be addressed for the Mid-Term Permit Review for the Trail Mountain Mine. In addition to the specific items attached, two other significant items must be addressed as follows.

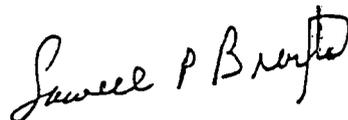
1. Permit Transfer - Due to the recent acquisition of Trail Mountain Coal Company by Arch Minerals, a formal permit transfer must be undertaken. Please note the requirements of UMC 788.17 and 788.18 for the specific requirements which must be addressed.
Submitted - Chapter 2, Appendix
2. Mine Plan Consolidation - The recent approval of the Tract 2 lease has resulted in a substantial amount of materials in the Tract 1 PAP being outdated or superceded. These two portions of what is now the approved PAP for the Trail Mountain Mine must be consolidated and all dated or superceded materials removed.
Forthcoming

Attached are letters from the Office of Surface Mining and the U.S. Forest Service which raise concerns to also be addressed in your response to this letter.

Page 2
Mr. Allen Childs
ACT/015/009
August 18, 1987

Thank you for your cooperation in this matter. Would you please have 14 copies of your response to all items to the Division offices no later than October 16, 1987.

Sincerely,



Lowell P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program

JJW/djh
Attachments
cc: P. Rutledge, OSMRE
Tech Review Team
1266R/1

ATTACHMENT "A"

UMC 771.23(b) and 784.23(b) (PGL)

Figures 3-1 and 3-5 received 3/22/85) must be updated to accurately reflect the on-site surface facilities as they exist today.

New Figures 3-1, 3-5

UMC 782.13(a)(2) (PGL)

The owners of record of the surface area and of coal rights must be updated, if necessary. Chapter 2 , Page 2-1

UMC 782.13(b)(1) (PGL)

The officers and directors of the applicant must be updated.

Chapter 3, page 2-3

UMC 782.13(b)(2) (PGL)

The principal shareholder of the applicant must be updated.

Chapter 2 - Page 2-4

UMC 782.13(c) (PGL)

The owners of record of surface and subsurface areas contiguous to the permit must be updated, if necessary. Chapter 2, Page 2-6

UMC 783.19 Vegetation Information (KMM)

Page 9-37 indicates that Threatened and Endangered plants are not known in the mine plan area. Please update this section with a brief discussion of Hedysarum occidentale var canone, which is known from the vicinity of the mine plan area (Miller Canyon, on UP&L property). Bob Thompson, USFS, can provide the necessary information on its status in your permit area. Chapter 9, Page 9-37

UMC 784.11 (PGL)

The plan mentioned on page 3-11a as Figure 3-6 is missing. Please submit. See Figure 3-6

UMC 784.13(b)(2) (PGL)

An updated reclamation cost estimate may be submitted with this mid-term review if Trail Mountain Coal Company desires. N/A

UMC 784.17 Protection of Public Parks and Historical Places (KMM)

Page 3-29 indicates that future development of the access road will impact cultural resources. Since the access road has already been developed, please revise the text to indicate this construction and what, if anything, happened to the cultural resources.

Chapter 3 page 3-29

UMC 784.21 Fish and Wildlife Plan (KMM)

Page 3-44 discusses a decrease in the macroinvertebrate population of Cottonwood Creek from above to below the mine; page 3-48/9 indicates that there will be an impact of mining on microinvertebrates; page 3-52/3 indicates that the creek will be culverted; and the Division received a copy of a letter dated 11/25/86 from DWR indicating that invertebrate sampling of Cottonwood Creek could be discontinued.

Please revise this section of the PAP to indicate current status of the creek, its culverts, its macroinvertebrate population, the impacts of the mining on the creek, mitigation measures you have or will institute and the status of your monitoring program, including pertinent correspondence as necessary. Chapter 3, pages 44,49,& 52-53 Appendix 10-8, Appendix 7-13.3 Chapter 9 page 37A
UMC 784.23(b)(1) and (b)(5) (PGL)

Fencing and topsoil sites should be shown on the surface facilities map. The fencing mentioned on page 3-21b must include all fencing on the property. Chapter 3, page 3-21b

UMC 784.23(b)(4) (PGL)

The coal yard described on page 3-11 was never developed; please update the PAP to reflect this. Chapter 3, page 3-11

UMC 784.26 Air Pollution Control Plan (KMM)

Page 4-9 indicates that roads are watered for dust suppression. Please revise this section discussing the new road pavement, coal yard sprinklers and any other modifications of your air pollution control plan. Chapter 4, page 9

UMC 817.11(c)(2)

The signs portrayed on page 3-22 are not correct as shown. Please correct and update. Chapter 3, page 3-22

UMC 817.21-.26 (DD)

On June 12, 1987, Trail Mountain Coal Company submitted an acceptable sampling program to assess if salinity is a problem with the existing pad materials which are proposed to be used for final reclamation. The sampling will occur after backfilling and grading operations are completed and before final reclamation.

In order to fully address the implications of the sampling program, soil analysis of the test plot area must be undertaken as well. This will allow correlation of test plot revegetation success with soil chemical and physical characteristics, and validate test plot results with the reasoning behind OSM Condition #1. Please submit a sampling program and data collected to date on the test plot, including a summary of any conclusions or findings..

Appendix 9-A (update) page 1-35

UMC 817.41-.46 Hydrologic Balance: General Requirements (JRF)

The PAP discusses the ground-water regime in Section 7.1. Due to recent studies (Lines, 1981), the operator should modify portions of the text that refer to the impermeability of the Blackhawk Formation and Starpoint Sandstone. Additionally, the PAP should reflect the current ground-water regime; including but not limited to the following:

- o Recent spring and seep survey maps and information
- o Modify text in Section 7.1 to reflect recent research performed on aquifer characteristics.
- o Modify the well discussion to include the monitor well in the mine yard, UP&L well, and the new water well.
- o The water rights section should be changed according to recent Forest Service comments.
- o The PAP should incorporate recent data and information that were derived for the Tract 2 permit into one comprehensive PAP. Mine Plan Consolidation/Forthcoming

Diversions

The sizing of the Cottonwood Creek channel at the outlet of the main bypass culvert must adequately pass the design event. Please submit calculations which document that the present configuration is adequate. Appendix 7-30

Sediment Control Plan

All figures (7-11, 7-12) and verbage in the PAP must reflect modifications to the sediment control plan including, but not limited to, the curb and gutter modification. Information in related appendices (Ap. 7) must be modified to reflect on the ground conditions. Figures 7-11,7-12

Water Distribution Plan

The PAP should be updated with the current water distribution plan. The in-mine water discharge system has been modified since permit approval. All verbage and maps must be altered to the current system (NPDES discharge). Additionally, a current water balance of mine water inflows and total mine water requirements should be incorporated into the PAP.

Reclamation

The PAP must contain a map and organized design details on the post-mining reclamation of the drainage system. The operator should address placement of sediment barriers along the stream channels to prevent sedimentation of the surface waters. The operator proposes to use contour furrows as runoff/sedimentation controls. Recent experience has shown that contour furrows may be a reclamation liability. The operator should consider alternative runoff/sediment controls. Land roughening has proven to be effective in the coal mining regions of Utah. Appendix 9 , page 11

Probable Hydrologic Consequences

The PAP should contain the most recent PHC document. Additionally, verbage and maps should be modified to reflect the current hydrologic regime at Trail Mountain. Appendix 7-30.

Waste Disposal

The PAP states that sediment pond waste will be disposed of in the mine. The operator should consult with MSHA on recent developments on waste disposal policies. Furthermore, the operator must commit to providing a plan that ensures the protection of groundwater resources during and after waste disposal.

Chapter 7, page 8
UMC 817.52 Hydrologic Balance: Surface and Ground Water
Monitoring (JRF)

The PAP should be updated to reflect all modifications and additions pertaining to ground-water monitoring. This should include, but is not limited to, the following:

- o Compilation of all (Tract 1 and 2) water quality data into one appendix.
- o Table or chart depicting sample points, sample frequencies, and chemical parameters to be analyzed.
- o Submit an accurate map depicting monitor points as of June, 1987.

The operator should incorporate all modifications to the water monitoring plan. The updated monitoring plan should reflect Tract 1 and Tract 2 monitoring schedules and parameters to be sampled. Verbage in Section 3, Section 7, and all corresponding tables and maps must be updated to the current monitoring schedule.

The PAP should contain information on the most recent spring and seep survey. The current mine plan has water quality information in Section 7 and in several appendices. Information for both Tract 1 and 2 should be incorporated into one section or appendix.

Figures (appendix - 7-16, 7-19, 7-29, 7-30)	Appendis 7-11.2 (Spring Inventory)
7-13.1 Macroinvertebrate (Intern)	7-16 Water monitoring Stations
7-13.2 (Final) - 4 -	7-16.1 Water monitoring Guidelines
7-13.3 (Discontinue Sampling)	7-21 Mine Inflows

Table 7-2 (water quality parameters) should demonstrate compliance with the Division's 1986 Water Monitoring Guidelines. Chapter 7 page 7-22

UMC 817.111 Revegetation: General (KMM)

Page 3-39 indicates that test plots will be installed. Please revise this text and Appendix 9, if necessary, to reflect what was actually done on the test plots. Chapter 3, page 39 Appendix 9-A

Please revise Figure 10-A to indicate the current status of revegetation on the mine site. Figure 10-A, page 25

UMC 817.116 Revegetation: Standards for Success (KMM)

Page 3-40 and Appendix 9, page 23, indicate that revegetation areas will be monitored annually by quantitatively sampling cover, density and production. There is no indication of where this data will be reported. This schedule includes more intensive sampling than seems necessary and, in terms of productivity, may be hazardous to the health of the revegetation. The Division recommends qualitative evaluation of revegetation each year and quantitative sampling in years 2, 3 (optional), 5, 9 and 10 of the liability period which begins when revegetation, including maintenance activities, are completed (see attached guideline). The applicant should consider revising their monitoring schedule, but must at least commit to providing data from monitoring in an annual report to be submitted to the Division by April 1 of each year.

Chapter 3, page 40 Appendix 9, pages 18-38; Appendix 9A, pages 1-17

1266R

1988
MODIFICATIONS / AMENDMENTS



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

February 3, 1989

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

Dear Mr. Guy:

Re: Approval to Amend Underground Water Monitoring Plan, Beaver
Creek Coal Company, Trail Mountain #9 Mine,
ACT/015/009-88C, Folder #3, Emery County, Utah

The submittal received January 31, 1989 regarding the above-referenced permitting action has been reviewed and determined to be complete and adequate by Division staff.

The Division hereby approves Amendment ACT/015/009-88C. Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "John J. Whitehead".

John J. Whitehead
Permit Supervisor/
Reclamation Hydrologist

RVS/djh
cc: G. Morris
R. Hagen
J. Helfrich
R. Smith
P. F. O.
AT8/41

BEAVER CREEK Coal Company

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



February 1, 1989

Mr. John Whitehead
Permit Supervisor
Utah Division of Oil, Gas and Mining
Suite 350
3 Triad Center
355 W. North Temple
Salt Lake City, Utah 84180-1203

Re: PAP Amendment
Underground Water
Monitoring Stations
Trail Mtn. No. 9 Mine
ACT/015/009-88C; #2
Emery County, Utah

Dear Mr. Whitehead:

Enclosed are 6 copies of amended pages and maps for the Trail Mountain No. 9 Mine plan, per your request. These reflect our committment to monitor the new underground monitoring station for baseline parameters, and to install a future underground monitoring well.

The pages should replace corresponding pages in Appendix 7-1, and the map should replace Figure 7-9A.

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

Respectfully,

Dan W. Guy
Mgr. Permitting

cc: J. L. Coffey
File

ATTACHMENT III
GROUNDWATER (Operational)
PARAMETERS

(Appendix 7-1)

FIELD MEASUREMENTS: QUARTERLY

Discharge
PH
Specific conductivity
Temperature (Air and Water)

LABORATORY MEASUREMENTS: QUARTERLY

Total Dissolved Solids
Total Hardness (as CaCO_3)
Carbonate (CO_3^{-2})
Bicarbonate (HCO_3^{-})
Calcium (Ca)
Chloride (Cl^{-})
Dissolved Iron (Fe)
Magnesium (Mg)
Manganese (Mn)
Potassium (K)
Sodium (Na)
Sulfate (SO_4^{-2})

Note: UG-1 and TM-2 Eliminated 5/11/88 - No longer Accessible.

2/1/89

Beaver Creek Coal Company
Trail Mountain No.9 Mine

ATTACHMENT IV

GROUND WATER (Baseline)

*TM-1 (SURFACE LOCATION)

**UG-2 (UNDERGROUND LOCATION)

***T-18 (Oliphant Mine Discharge)

****T-19 (Straight Canyon Aquifer)

FIELD MEASUREMENTS: QUARTERLY

Level/Flow
PH
Specific Conductivity
Temperature

LABORATORY MEASUREMENTS: QUARTERLY

Total Dissolved Solids
Total Hardness
Aluminum
Arsenic
Barium
Baron
Carbonate
Bicarbonate
Cadmium
Calcium
Chloride
Cromium
Copper
Flouride
Dissolved Iron
Lead
Magnesium
Maganese
Mercury
Molybdenum
Nickel
Nitrogen: Ammonia
Nitrite
Nitrate
Potassium
Phosphate
Selenium
Sodium
Sulfate
Sulfide
Zinc

*Change to operational in 1988

**Change to operational in 1991

***Change to operational in 1989

****Change to operational in 1990

2/1/89

ADDITIONAL GROUND WATER MONITORING

It was proposed to install an additional ground water monitoring well (TM-3) at the western extent of the 6th West Mains for the Tract II plan. Due to geologic problems encountered in the driving of 6th West, the area was abandoned as a main entry and second-mined and sealed. As a result, it was not possible to install the proposed monitoring well as planned. The proposed ground water monitoring well TM-3 (to replace TM-2) will be developed at (or near) the proposed location shown on Figure 7-9A. The well will be installed within 90 days after the proposed site is mined.

Underground mine water will continue to be evaluated (and monitored as necessary) according to the commitment in Sections 6.7.1 and 7.1.7.



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

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: Final Approval of PAP Amendment, Second Mining East of Escarpment
in Cottonwood Canyon, Beaver Creek Coal Company, Trail Mountain
#9 Mine, ACT/015/009-88A, Folder No. 3, Carbon County, Utah

On February 22, 1988, the Division received Beaver Creek Coal Company's (BCCC) amended response to our deficiency review letter dated February 11, 1988. The supplemental information has been reviewed by Pamela Grubaugh-Littig, Reclamation Engineer, and Richard Smith, Geologist of the Division's technical staff. The operator's proposal has been determined technically adequate for approval. Please refer to the attached technical memorandum for an explanation of the technical review and approval recommendation. This letter will serve as the Division's final approval for this permit change application. Beaver Creek 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

djh

Attachment

cc: J. Dryden

R. Hagen

P. G.-Littig

8992R/36

G. Morris

P. Rutledge

J. Whitehead

P.F.O.



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

March 1, 1988

TO: John Whitehead, Permit Supervisor

FROM: Pamela Grubaugh-Littig, Reclamation Engineer *pgl*
Rick Smith, Geologist *RVS per pgl*

RE: Amendment to Conduct Second Mining East of Escarpment in
Cottonwood Canyon, Beaver Creek Coal Company, Trail Mountain
#9 Mine, ACT/015/009-88A, Emery County, Utah

Materials dated January 28, 1988, Plate 1 submitted February 10, 1988, and the reply to deficiency letter submitted February 22, 1988, were all reviewed for the above-identified amendment.

Proposed second mining is delineated on Plate 3-6 and will occur in Section 36 (State Lease ML-22603), approximately 800 feet south of Section 25. Second mining will be conducted beyond outcropping Castlegate Sandstone.

The overburden as shown on Plate 1 is from 1,200 to 1,300 feet thick above the proposed area of second mining. Room entries were originally driven on 80 foot centers and 60 x 60 foot square pillars were developed. Proposed second mining will result in either leaving 40 x 60 foot pillars or 47 x 60 foot pillars and maintenance of a minimum safety factor of 1.5 for the proposed pillar sizes at the given depths. Calculations (using three methodologies) indicate proposed pillars will be relatively stable and slowly crush over time.

The maximum extent of surface subsidence will be based on a 15 degree angle-of-draw, confined within a horizontal distance of 500 feet from the area of proposed second mining and will not affect USFS lands in Section 25.

Overburden thickness and the proposed development method suggest the area above second mining will be at relatively low risk for surface manifestations of subsidence (tension cracking, catastrophic failure) and accordingly, a relatively low risk is designated for potential impacts to renewable resource lands and other environmental resources.

It is herein recommended that the above-identified amendment be approved.

djh
9075R/53



Norman H. Bangertor
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
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

December 21, 1988

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

Dear Mr. Guy:

Re: Final Approval of Culinary Water Well Amendment, Beaver
Creek Coal Company, Trail Mountain #9 Mine, ACT/015/009-87A,
Folder #3, Emery County, Utah

In completing our end of the year status check of amendments, it was noted that a final approval had not been granted for the above noted amendment. My letter of September 8, 1988 failed to note approval of responses to parts 1a, 1b and 1c of the amendment.

This letter is to grant final approval to this amendment with the exception of submission of a driller's log which was recinded by my letter of September 8, 1988.

Sincerely,

A handwritten signature in cursive script that reads "John J. Whitehead".

John J. Whitehead
Permit Supervisor/
Reclamation Hydrologist

djh
Attachment
cc: J. Helfrich
AT25/10



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

September 8, 1988

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

Dear Mr. Guy:

Re: Rescinding of Requirement for Driller's Log Requested for
Culinary Water Well, Beaver Creek Coal Company, Trail
Mountain No. 9 Mine, ACT/015/009-87A, Folder #2, Emery
County, Utah

This letter is to formally rescind the Division's requirement for a copy of the driller's log on the above-noted amendment. Apparently, in the transfer of ownership from the Diamond Shamrock Trail Mountain Mine to Beaver Creek Coal Company, the driller's log was not provided by the driller, and cannot be acquired at this time.

This will complete all action on this amendment.

Sincerely,

A handwritten signature in cursive script that reads "John J. Whitehead".

John J. Whitehead
Permit Supervisor/
Reclamation Hydrologist

djh
cc: R. Hagen
J. Helfrich
J. Fricke
WP+/23

BEAVER CREEK Coal Company

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



April 20, 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

Attention: Mr. D. Wayne Hedberg

RE: Culinary Water Well
Amendment
Trail Mountain No.9 Mine
ACT/015/009-87A: #2
Emery County, Utah

Dear Mr. Braxton:

This letter is to complete the additional requirements for the Culinary Water Well Amendment, requested in Mr. Hedberg's conditional approval letter of Aug. 11, 1987.

The response to each of the 3 requirements is summarized in order below:

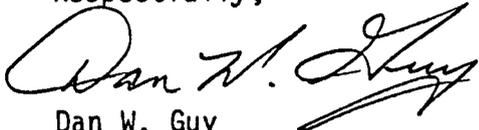
- 1.a. The updated Trail Mountain No.9 Mine Plan (dated 2/1/88) has a surety bond calculation in Table 3-3, which includes a section on removal of Water and Fuel System. I have enclosed a corrected copy of page 3-62 for Table 3-3 for insertion into the updated (2/1/88) mine plan. Also, please remove page 3-63 of this plan - it is a duplicate. Table 3-3 shows the required bond for the Mine to be \$303,113. The actual bond posted for this property is \$463,711.00; therefore, the bond is more than adequate and should not require any adjustment.
- 1.b. A revised Surface Facility Map showing the well location is included in the 2/1/88 Mine Plan submittal as Figure 1 of Appendix 7-7.
- 1.c. The water well is discussed under the groundwater section (7.1.4.1) of the 12/1/88 Plan. A revised page 7-14 is enclosed to clarify the final abandonment procedures.

page 2

2. Per my phone discussion of 4/21/88 with Mr. Hedberg, requirement NO.2 has been addressed
3. All required information has been submitted in Appendix 7-7 of the 2/1/88 M.R.P., except the as-built schematic of the well. I have enclosed 8 copies of this schematic - please add it to Appendix 7-7.

I hope this information will satisfy the requirements for this amendment. If you have any questions, or need any further information, please let me know.

Respectfully,



Dan W. Guy
Manager, Permitting/Compliance

cc: Johnny Coffey
File

DWG/cr

Beaver Creek Coal Company
Trail Mountain No.9 Mine

SURETY BOND ESTIMATE
TABLE 3-3

ITEM	AMOUNT LABOR, MAN/SHIFT ^{1,8}	MAN COST ² SHIFTS	LABOR COST	EQUIPMENT ³ REQUIREMENTS	MATERIAL ⁴ EQUIPMENT ⁵ SHIFT/COST	MATERIALS EQUIPMENT TOTAL COST	TOTAL LABOR, MATERIALS, EQUIPMENT ¹¹
SURFACE FACILITY REMOVAL							
Substation and Power Line	1/3	160	480	Truck	3/250 ⁽¹³⁾	750	1230
	1/3	160	480	Crane	3/381	1143	1623
	2/3	120	720	None	----	---	720
Office/Shop/ Bathhouse	1/6	160	960	Truck	6/250	1500	2460
	1/6	160	960	Backhoe/Loader	6/225	1350	2310
	1/2	120	1440	None	-----	---	1440
Water and Fuel System	1/2	160	320	Truck	2/250	500	820
	1/2	160	320	Backhoe/Loader	2/225	450	770
	1/2	120	240	None	----	---	240
Sewer System	1/1	120	120	Pump and Plug	1/100	100	220
Generator House	1/1	160	160	Truck	1/250	250	410
	1/1	160	160	Backhoe/Loader	1/225	225	385
	1/1	120	120	None	---	---	120
Storage Building	1/3	160	480	Truck	3/250	750	1230
	1/3	160	480	Backhoe/Loader	3/225	675	1155
	2/3	120	720	None	---	---	720
Tipple	1/4	160	6400	Truck	4/250	1000	1640
	1/4	160	640	Backhoe/Loader	4/255	675	1155
	2/4	120	960	None	---	---	960
Main Fan	1/2	160	320	Truck	2/250	500	820
	1/2	160	320	Backhoe/Loader	2/225	450	770
	1/2	120	240	None	---	---	240
Scale and Scale House	1/2	160	320	Truck	2/250	500	820
	1/2	160	320	Backhoe/Loader	2/225	450	770
	2/2	120	480	None	---	--	120

Beaver Creek Coal Company
Trail Mountain No.9 Mine

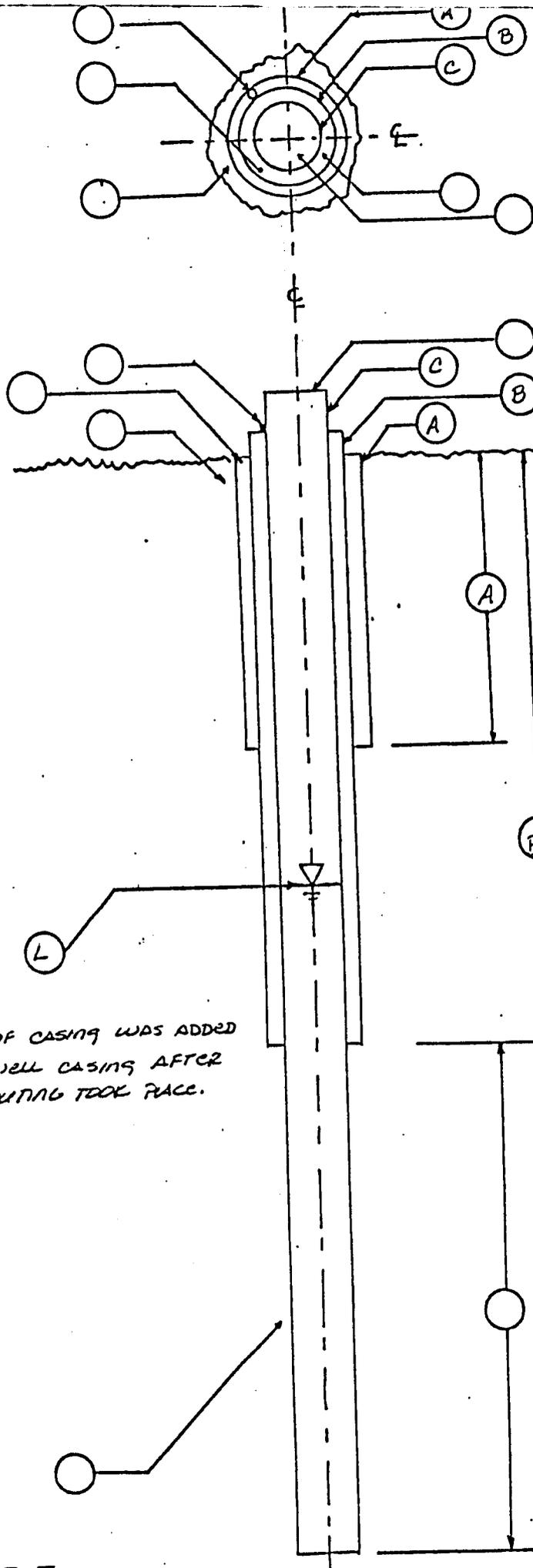
Surface water needs are also supplied by the creek pump system. A series of valves allow the water to be diverted either underground or to the surface facilities, as needed.

A culinary water well was also completed at the site in 1987. The well is approximately 350' deep, and will supply about 15 gpm for culinary and bath house use. The well is presently inactive, awaiting more favorable weather conditions to complete the plumbing into the office and bath house. The well will be abandoned and reclaimed upon final reclamation, according to the procedures described for drill holes under Section 3.5.3.1 and Figure 3-11A.

Water Rights A search of water rights from the Utah Division of Water Rights within and adjacent to the mine plan area showed no claimed groundwater rights within two miles.

7.1.4.2 Mine Dewatering

Water encountered within the mine has been generally in the form of roof leakers through bolt holes and tension cracks positioned parallel to the working face of the mine. Only a limited amount of water is made within the mine. In-mine water use uses quantities up to approximately 100 gallons per minute. The quantity of water used within the mine is generally larger than that made within the mine. Consequently, water is pumped from Cottonwood Creek to the main mine sump in order to make up the difference. As mining progresses downdip, leakers further than 500 feet updip of the working face generally dry up. Water made within the mine is used for dust suppression within the mine, for fire protection within the mine, and for the operation of in-mine machinery.



Trail Mt. Mine - Beaver Creek Coal
Name/Owner

Ex 2402 (93-2204)
Authorization to drill

DAVES DRILLING
Driller

Rick Wilder - Mark Price 9-23-87
Observed by Date

ITEM DESCRIPTIONS:

- A: 16" diameter casing (surface) 2' deep.
- B: 12" diameter casing 115' deep.
- C: 6" diameter production casing 460' deep.
- D: Welded caps.
- E: Annular space around surface casing cemented in. observed unobserved
- F: " diameter tremie grout line placed to '.
- G: Access port " to '.
- H: Calculated volume to fill annulus 92.4. Actual volume placed .
- I: Total depth of completed well casing 460'. Borehole 502'.
- J: Well screen from to . Type of screen . Slot size .
- J': Perforated area from 380' to 460'. Size x . # per round .
- K: Volume of gravel pack placed around screen . Naturally developed area.
- L: Static water level 24.94'. Flowing at surface '.
- M: Top 100' of strata .

DESCRIPTION OF GROUT MATERIALS USED:

CELTON CEMENT TYPE I/II
PORTLAND CEMENT - LOW ALKALI
BENTONITE 5152 MIXPACK - MUGEL
PLACEMENT METHOD: PUMPED DOWN THE PRODUCTION CASING AND UP INTO THE ANNULAR SPACE TO WITHIN 5' 6" OF THE SURFACE

CERTIFIED AS MEETING PUBLIC SUPPLY SURFACE SEAL CRITERIA

X YES NO

* 8 feet of casing was added to the well casing after the grouting took place.



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

** Should be copied to OSUDE... w/ final approval*

✓

Wayne

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

August 11, 1987

Mr. Allen Childs
Mine Engineer
Trail Mountain Coal Company
P. O. Box 550
Orangeville, Utah 84537

Dear Mr. Childs:

Re: Conditional Approval, Culinary Water Well Amendment, Trail Mountain Coal Company, Trail Mountain Mine, ACT/015/019-87A, Folder #2, Emery County, Utah

Scopie's

Your submittal dated June 29, 1987 regarding the installation of a culinary water well at the Trail Mountain Mine has been reviewed. The Division hereby grants approval for this amendment, conditional upon Trail Mountain Coal Company's written acceptance of the three requirements noted below:

1. The approved Trail Mountain Coal Company Permit Application Package (PAP) must be updated within 90 days of well completion to
 - a. reflect surety bond calculations for final abandonment of the well;
 - ✓ b. contain a revised Surface Facilities map showing the well location;
 - c. include the water well in the groundwater section (PAP Section) and specify final abandonment procedures.
- 4/ 2. A water level conduit shall be installed along with the submersible pump to prevent interference with the water level measuring device, pump pipe, and electrical cable.
- ✓ 3. Trail Mountain Coal Company shall provide an as-built schematic of the well, pump installation, and a copy of the drillers report, within 90 days of completion of the well.

311

Page 2
Allen Childs
ACT/015/019
August 11, 1987

Please submit written acceptance to these conditions by
August 21, 1987.

Please feel free to call me or Jim Fricke, Reclamation
Hydrologist, if you should have any questions on this matter.

Sincerely,



John J. Whitehead

djh
Attachment
cc: W. Hedberg
J. Fricke
0800R/37



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

June 8, 1988

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

Dear Mr. Guy:

Re: Final Approval of PAP Amendment, Cottonwood Creek
Realignment/NOV Abatement Plan, Beaver Creek Coal
Company, Trail Mountain #9 Mine, ACT/015/009-87B,
Folder #2, Emery County, Utah

The Division has reviewed your April 20, 1988 conditional approval response to the PAP referenced above and has determined it to be technically adequate for final approval.

This letter will serve as the Division's final approval for this PAP Amendment. Beaver Creek Coal Company has addressed all of the conditions required by this office to finalize this permitting action.

Thank you for your cooperation in completing this permitting activity.

Sincerely,

A handwritten signature in cursive script, reading "Richard V. Smith for".

John J. Whitehead
Permit Supervisor

RVS/as

cc: P. Rutledge, OSM
R. Hagen, OSM
D. Ariotti, Health
R. Morgan, DWR
J. Helfrich
J. Fricke
P.F.O.

9206R/40

BEAVER CREEK Coal Company

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



April 20, 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

Attention Mr. John Whitehead

RE: Cottonwood Creek
Alignment Plan
Trail Mountain No.9 Mine
ACT/015/009-87B;#2
Emery, County, Utah

Dear Mr. Braxton:

Enclosed are 14 copies of the revised Figure 7-29 for the Cottonwood Creek Alignment Plan, as requested in Mr. Whitehead's conditional approval letter of Oct.14, 1987. The maps should replace the existing Figure 7-29 in Appendix 7 of the Tract I M.R.P.

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

Respectfully,

Dan W. Guy
Manager Permitting Compliance

cc: Johnny Coffey
File

BEAVER CREEK Coal Company

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



April 20, 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

Attention Mr. John Whitehead

RE: Cottonwood Creek
Alignment Plan
Trail Mountain No.9 Mine
ACT/015/009-87B;#2
Emery, County, Utah

Dear Mr. Braxton:

Enclosed are 14 copies of the revised Figure 7-29 for the Cottonwood Creek Alignment Plan, as requested in Mr. Whitehead's conditional approval letter of Oct.14, 1987. The maps should replace the existing Figure 7-29 in Appendix 7 of the Tract I M.R.P.

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

Respectfully,

Dan W. Guy
Manager Permitting Compliance

cc: Johnny Coffey
File



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

October 14, 1987

Mr. Allen Childs
Mining Engineer
Trail Mountain Coal Company
P. O. Box 370
Orangeville, Utah 84537

Dear Mr. Childs:

Re: Conditional Approval Cottonwood Creek Alignment Plan, Trail Mountain Coal Company, Trail Mountain Mine, ACT/015/009, Folder No. 2, Emery County, Utah

The cross sections and plan view map you submitted on September 22, 1987 to address the impacts to the Cottonwood Creek stream channel which were the subject of NOV N-87-26-2-2 have been reviewed and are approved with the following conditions.

1. The plate entitled "Cottonwood Creek Cross Sections" shall be amended to replace the narrative under the heading "Riprap" with the following:

Two-inch minus riprap gravel road base will be used as a filter beneath all riprap. The depth of road base will be six inches at a minimum. The riprap will be composed of well-graded angular rock. Median diameter (D50) of the riprap will be 1.4 feet. Design methodologies for riprap are presented in Appendix 7-25 and 7-27 of the Trail Mountain Tract 1 MRP.

2. Fourteen (14) copies of the updated map and cross sections will be submitted by November 30, 1987 for insertion into the mine plan.

Thank you for your assistance in this matter. Though the NOV on this issue was vacated on a technicality, this does not obviate the need to size the stream channel impacted by the road construction last fall.

Sincerely,

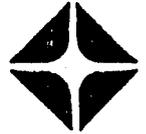
A handwritten signature in cursive script that reads "John J. Whitehead".

John J. Whitehead
Permit Supervisor/
Reclamation Hydrologist

djh
cc: P.F.O.
W. Hedberg
J. Fricke
0800R/47

BEAVER CREEK Coal Company

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



May 2, 1988

Mr. D. Wayne Hedberg
Data Management Coordinator
Utah Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RE: Conditional Approval of PAP Amendment
Temporary/Portable Coal Screening Plant
Trail Mountain No.9 Mine
ACT/015/009-88B ;#3
Emery County, Utah

Dear Mr. Hedberg:

This letter will serve as Beaver Creek Coal Company's written concurrence with your approval of the temporary screening plant at the Trail Mountain No.9 Minesite until September 30, 1988. If it appears that a longer time period will be needed, a request along with justification will be submitted in a timely manner to allow for review and approval prior to the expiration date.

Thank you for your assistance in obtaining this approval. If you need anything further, please let me know.

Respectfully,

A handwritten signature in black ink, appearing to read "Dan W. Guy". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Dan W. Guy
Manager Permitting/Compliance

cc: Johnny Coffey
Dan Meadors
Joe Fielder
Allan Childs
File

DWG/cr
IBM: CATHY6
Dan Guy



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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

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April 4, 1988

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

Dear Mr. Guy:

Re: Conditional Approval of PAP Amendment, Temporary/Portable Coal Screening Plant, Beaver Creek Coal Company, Trail Mountain #9 Mine, ACT/015/009-88B, Folder No. 3, Carbon County, Utah

On March 9, 1988, the Division received Beaver Creek Coal Company's (BCCC) permit change request to add a portable coal screening plant to the loadout/ stockpile area at the Trail Mountain #9 mine site. The proposal has been reviewed by Pamela Grubaugh-Littig, Reclamation Engineer of the Division's technical staff. It is our understanding through conversation with the State Bureau of Air Quality, no formal air quality permit will be required for this amendment.

Your proposal has been determined technically adequate for conditional approval. The amendment request describes a temporary use of the screening facility. However, the proposal fails to address how long this temporary time period will be. Therefore, the Division proposes a six (6) month period of use, or until September 30, 1988.

The Division requests BCCC's written concurrence with this condition, or an alternative time frame with justification for extended temporary use of the screening plant. Should BCCC desire a longer time period for temporary use, then a minor adjustment to the reclamation bond to cover dismantling and removal from the minesite may be necessary. The current bond is posted in 1989 dollars and contains an escalation factor adequate to cover a short term reclamation cost for this facility.

Please provide a response to this conditional approval by April 25, 1988. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg
Data Management Coordinator

DWH/djh

cc: J. Dryden G. Morris
R. Hagen P. Rutledge
D. Parker P. G.-Littig
P.F.O.

8992R/41



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

December 1, 1987

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

Dear Mr. Guy:

Re: Approval for Removal and Disposal of Sediment Pond Waste
Material for Trail Mountain #9 Sediment Pond Waste, Beaver Creek
Coal Company, Trail Mountain Mine, ACT/015/009, Folder #2, Emery
County, Utah

This letter shall serve as the Division's formal approval to remove and dispose of the sediment pond waste materials currently stockpiled at the Trail Mountain #9 Mine. Division Soils Specialist Dan Duce has reviewed the data submitted by the mine dated August 31, 1987, and indicates the materials are non-toxic, and non acid forming. Therefore the current stockpile can be disposed of as non-coal waste.

Please feel free to contact me if you should have any further questions on this.

Sincerely,

A handwritten signature in cursive script that reads "John J. Whitehead".

John J. Whitehead
Permit Supervisor/
Reclamation Hydrologist

djh
cc: L. Braxton
D. Duce
H. Sandbeck
0800R/30

AtlanticRichfieldCompany

Internal Correspondence
Legal



Date: September 28, 1987

Subject: Trail Mountain Mine -- Soil Analysis

From/Location/Tel: D. M. Arnolds DAT/1848

To/Location: D. Guy BCCC

Attached is a copy of a soil analysis performed by Standard Laboratories for Mountain Coal Company, which was provided to us by Bill Prince, the attorney for Arch. Our attorney, Clay Parr, believes that the analysis relates to the sedimentation pond at the mine. If you need any further information, please give me a call.

Attachment

DMA:18:2:pjp



BRANCH CODE 43
(SEE REVERSE)

LAB NO. 68980

DATE REC. 02.03.83

DATE SAMPLED _____

SAMPLED BY TMCC

SOIL SAMPLE

TRAIL MOUNTAIN COAL COMPANY
PO BOX 370
GRANGEVILLE, UT 84537

% COMBUSTIBLE	39.56
SODIUM-ABSORPTION-RATIO (MEG/L)	3.46
SATURATED WATER PERCENTAGE (%)	33.6
HOT-WATER SOLUBLE BORON	22.4 PPM
ELECTRICAL CONDUCTIVITY	4,900 UMHOS/CM
SELENIUM	1.07 PPM
TEXTURE (BY HYDROMETER)	
% SAND	44.32
% SILT	17.04
% CLAY	38.64

ACID-BASE ACCOUNTABILITY

COLOR	PIZZ	% SUL.	MAX FROM % SUL.	CACO3 EQUIV. (TONS/1000 TONS OF MATERIAL)			PASTE PH
				AMOUNT PRESENT	MAX NEEDED PH &	EXCESS	
2.5Y	4	.027	0.84	75.53		74.69	8.18

Branch Code 43
 Lab No. 72338
 Rec'd 07.01.87
 Date Sampled 02.12.87
 Sampled By TMCC



SAMPLE ID:
 SOIL SAMPLE

ARCH OF UTAH
 TRAIL MOUNTAIN MINE
 P.O. BOX 370
 ORANGEVILLE, UTAH 84537
 (801) 748-2140

% COMBUSTABLE	39.56
*% COMBUSTABLE @ 350oC	23.41
SODIUM-ABSORPTION-RATIO (MEQ/L)	3.46
SATURATED WATER PERCENTAGE (%)	33.6
HOT-WATER SOLUBLE BORON	2.4 PPM
ELECTRICAL CONDUCTIVITY	4,900 UMHOS/CM
SELENIUM	1.07 PPM
*WATER SOLUBLE SELENIUM	0.010 PPM
TEXTURE (BY HYDROMETER):	
% SAND	44.32
% SILT	17.04
% CLAY	38.64

ACID-BASE ACCOUNTABILITY CaCO3 EQUIV. (TONS/1000 TONS OF MATERIAL)

COLOR	FIZZ	%SUL.	MAX FROM % SUL.	AMOUNT PRESENT	MAX NEEDED PH 7	EXCESS	PASTE PH
2.5Y 4/2	4	0.27	0.84	75.53		74.69	8.18

* REQUESTED 7/1/87

FOR YOUR PROTECTION THIS DOCUMENT HAS
 BEEN PRINTED ON CONTROLLED PAPER STOCK

Respectfully Submitted, *Cliff Smart*

CLIFF SMART 08-05-87