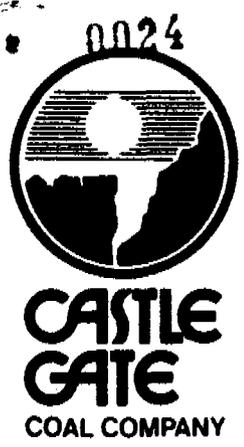


File AOT/007/004
#6

RECEIVED
MAR 07 1988

DIVISION OF
OIL, GAS & MINING



March 4, 1988

Mr. Lowell Braxton
Administrator
Division of Oil, Gas & Mining
3 Triad Center
Suite 350
Salt Lake City, UT 84180-1203

Dear Mr. Braxton:

Enclosed is your annual report form filled out as requested. Castle Gate Coal Company sent to you in January the Water Monitoring Data and Annual Pond Certification and social economic report.

Sincerely,

Richard H. Allison, Jr.
Richard H. Allison, Jr., P.E.
Project Supervisor

RHA:jcr

cc: D. Miller
DOGM File
Chrono

cc5.rha304

[Revised January 1988]

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

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

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

Operator: Castle Gate Coal Company

Mine Name: Castle Gate Mine

Mailing Address: P. O. Box 449, Helper, UT 84526

Company Representative: Richard H. Allsion, Jr., P.E.

Permit Number: ACT 007/004

Date of Most Recent Permanent Program Permit: Dec 1984

Quantity of Coal Mined (tonnage) 1987: 535,000

Attach Updated Mine Sequence Map.

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

- A. Summarized Water Monitoring Data Sent in January
- B. Precipitation or Other Climatological Data None taken
- C. Subsidence Monitoring Report Not required in permit
- D. Vegetation Data (test plots) or Revegetation Success Monitoring (includes interim and final)
Goose Island Area will have a test plot established in March & April
- E. Permit Stipulation Status
Social-Economic report sent in January

jr
1426R/1

CASTLE GATE COAL COMPANY
ANNUAL WATER MONITORING REPORT

red 1/5/88
AS

STATION: B-5

LOCATION AND SIGNIFICANCE: Price River - Below Property

MONITORING DATES - MEASUREMENTS					
Monitoring Parameters	<u>1st 3/26/87</u>	<u>2nd 5/22/87</u>	<u>3rd 8/10/87</u>	<u>4th 10/13/87</u>	<u>Mean</u>
Flow (cfs)	> 10 cfs	> 10 cfs	> 10 cfs	> 10 cfs	> 10 cfs
Temperature (c°)	2°	7°	15°	9°	8.25°
pH	8.3	8.2	8.1	8.1	8.2
TDS (mg/l)	410	261	188	239	274.5
TSS (mg/l)	397	64	138	20	155.
O & G (mg/l)	< 5.0	< 5	< 5.0	< 5.0	< 5.0
Fe (mg/l)	.75	2.46	.42	.70	1.08
Ca (mg/l)	56	40	42	47	46.3
Na (mg/l)	37	15	11	12	18.75
K (mg/l)	2	1	2	2	1.75
Chloride (mg/l)	27	12	10	12	15.25
Mg (mg/l)	39	31	17	23	27.5
HCO ₃ (mg/l)	295	250	193	214	238
Sulfate (mg/l)	92	40	28	38	49.5

- Meter Malfunction
- Not Measured
- For springs - masked by surface runoff
- Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPANY
ANNUAL WATER MONITORING REPORT

STATION: B-6

LOCATION AND SIGNIFICANCE: Price River - Above Property

MONITORING DATES - MEASUREMENTS

Monitoring Parameters	1st 3/26/87	2nd 5/22/87	3rd 8/10/87	4th 10/13/87	Mean
Flow (cfs)	>10 cfs	>10 cfs	>10 cfs	>10 cfs	>10 cfs
Temperature (c°)	2°	7	15°	9°	8.25°
pH	8.2	8.3	8.2	8.0	8.1
TDS (mg/l)	420	265	156	479	330
TSS (mg/l)	379	250	34	50	178.25
O & G (mg/l)	< 5.0	< 5	< 5.0	< 5.0	< 5.0
Fe (mg/l)	1.81	1.86	1.46	.61	1.44
Ca (mg/l)	59	50	46	51	51.5
Na (mg/l)	35	16	10	61	43.4
K (mg/l)	2	1	2	3	2
Chloride (mg/l)	28	11	13	26	19.5
Mg (mg/l)	39	25	16	41	30.25
HCO ₃ (mg/l)	306	254	177	272	252
Sulfate (mg/l)	94	39	29	162	81

- * - Meter Malfunction
- . - Not Measured
- ∩ - For springs - masked by surface runoff
- 0 - Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPA
ANNUAL WATER MONITORING REPORT

STATION: B-12

LOCATION AND SIGNIFICANCE: Upstream from #3 Mine Facility in Hardscrabble
Canyon

MONITORING DATES - MEASUREMENTS

Monitoring Parameters	1st 3/27/87	2nd 5/22/87	3rd 8/10/87	4th 10/13/87	Mean
Flow (cfs)	Dry	DRY	DRY	DRY	DRY
Temperature (c°)					
pH					
TDS (mg/l)					
TSS (mg/l)					
O & G (mg/l)					
Fe (mg/l)					
Ca (mg/l)					
Na (mg/l)					
K (mg/l)					
Chloride (mg/l)					
Mg (mg/l)					
HCO ₃ (mg/l)					
Sulfate (mg/l)					

- I - Meter Malfunction
- M - Not Measured
- IR - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPANY

ANNUAL WATER MONITORING REPORT

STATION: B-11

LOCATION AND SIGNIFICANCE: Downstream from #3 Mine Facility in Hardscrabble Canyon

MONITORING DATES - MEASUREMENTS

Monitoring Parameters	1st 3/26/87	2nd 5/22/87	3rd 8/10/87	4th 10/13/87	Mean
Flow (cfs)	Dry	DRY	DRY	DRY	DRY
Temperature (c°)					
pH					
TDS (mg/l)					
TSS (mg/l)					
O & G (mg/l)					
Fe (mg/l)					
Ca (mg/l)					
Na (mg/l)					
K (mg/l)					
Chloride (mg/l)					
Mg (mg/l)					
HCO ₃ (mg/l)					
Sulfate (mg/l)					

- Meter Malfunction
- M - Not Measured
- NR - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPANY
ANNUAL WATER MONITORING REPORT

STATION: B-28

LOCATION AND SIGNIFICANCE: Sowbelly Gulch Upstream from #5 Mine

MONITORING DATES - MEASUREMENTS					
Monitoring Parameters	<u>1st 3/26/87</u>	<u>2nd 5/22/87</u>	<u>3rd 8/10/87</u>	<u>4th 10/13/87</u>	<u>Mean</u>
Flow (cfs)	DRY	DRY	DRY	4.7	4.7
Temperature (c°)				10°	10°
pH				8.1	8.1
TDS (mg/l)				71	71
TSS (mg/l)				833	833
O & G (mg/l)				< 5	< 5
Fe (mg/l)				19.8	19.8
Ca (mg/l)				19	19
Na (mg/l)				1	1
K (mg/l)				10	10
Chloride (mg/l)				2	2
Mg (mg/l)				1	1
HCO ₃ (mg/l)				70	70
Sulfate (mg/l)				4	4

- M - Meter Malfunction
- M - Not Measured
- MR - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPANY
ANNUAL WATER MONITORING REPORT

STATION: B-22

LOCATION AND SIGNIFICANCE: Lower Crandall Creek

MONITORING DATES - MEASUREMENTS					
Monitoring Parameters	1st 3/26/87	2nd 5/22/87	3rd 8/10/87	4th 10/13/87	Mean
Flow (cfs)	DRY	11.5 gpm	6.4 gpm	37 gpm	13.8
Temperature (c°)		9°	16°	9°	11°
pH		8.5	8.0	8.1	8.2
TDS (mg/l)		347	766	717	610
TSS (mg/l)		184	29	52	88.3
O & G (mg/l)		< 5	< 5.0	< 5.0	< 5.0
Fe (mg/l)		7.53	.81	.44	2.93
Ca (mg/l)		52	86	88	75.3
Na (mg/l)		8	30	24	20.6
K (mg/l)		3	7	9	6.3
Chloride (mg/l)		7	30	24	20.3
Mg (mg/l)		48	105	96	83
HCO ₃ (mg/l)		327	425	431	394.3
Sulfate (mg/l)		60	301	265	208.7

- .1 - Meter Malfunction
- M - Not Measured
- MR - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPA
ANNUAL WATER MONITORING REPORT

STATION: B-25

LOCATION AND SIGNIFICANCE: Upper Crandall Creek

MONITORING DATES - MEASUREMENTS					
Monitoring Parameters	1st 3/26/87	2nd 5/22/87	3rd 8/10/87	4th 10/13/87	Mean
Flow (cfs)	Frozen	9.8 gpm	DRY	2.1 gpm	6
Temperature (c°)		9°		9°	9°
pH		8		8	8
TDS (mg/l)		433		118	275.5
TSS (mg/l)		272		364	318
O & G (mg/l)		<5		<5	<5
Fe (mg/l)		11.32		8.9	10.1
Ca (mg/l)		56		34	45.
Na (mg/l)		20		1	10.05
K (mg/l)		5		8	6.5
Chloride (mg/l)		12		2	7
Mg (mg/l)		58		4	31
HCO ₃ (mg/l)		351		132	241
Sulfate (mg/l)		108		4	56

- .1 - Meter Malfunction
- M - Not Measured
- MR - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPANY
ANNUAL WATER MONITORING REPORT

STATION: BM-31

LOCATION AND SIGNIFICANCE: Abandoned Western Coal Company Mine
Sub Seam 1

MONITORING DATES - MEASUREMENTS

Monitoring Parameters	1st 3/26/87	2nd 5/22/87	3rd 8/10/87	4th 10/13/87	Mean
Flow (cfs)	Snow Covered	DRY	DRY	DRY	DRY
Temperature (c°)					
pH					
TDS (mg/l)					
TSS (mg/l)					
O & G (mg/l)					
Fe (mg/l)					
Ca (mg/l)					
Na (mg/l)					
K (mg/l)					
Chloride (mg/l)					
Mg (mg/l)					
HCO ₃ (mg/l)					
Sulfate (mg/l)					

- Meter Malfunction
- M - Not Measured
- rR - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

PRICE RIVER COAL COMPANY
ANNUAL WATER MONITORING REPORT

STATION: B-26

LOCATION AND SIGNIFICANCE: Spring - Stack Area Soil

MONITORING DATES - MEASUREMENTS					
Monitoring Parameters	<u>1st 3/27/87</u>	<u>2nd 5/22/87</u>	<u>3rd 8/10/87</u>	<u>4th 10/13/87</u>	<u>Mean</u>
Flow (cfs)	.33	DRY	.2 gpm	DRY	
Temperature (c°)	1°		15°		8°
pH	7.4		7.2		7.3
TDS (mg/l)	892		936		914
TSS (mg/l)	8		64		36
O & G (mg/l)	< 5.0		< 5.0		< 5
Fe (mg/l)	2.66		3.65		3.16
Ca (mg/l)	136		141		138.5
Na (mg/l)	29		25		27
K (mg/l)	6		7		6.5
Chloride (mg/l)	28		30		28
Mg (mg/l)	88		105		96.5
HCO ₃ (mg/l)	540		546		543
Sulfate (mg/l)	296		321		308.5

- Meter Malfunction
- NM - Not Measured
- R - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPA
ANNUAL WATER MONITORING REPORT

STATION: BM-30

LOCATION AND SIGNIFICANCE: Discharge - Old Mine Works - Hwy 50 & 6

MONITORING DATES - MEASUREMENTS					
Monitoring Parameters	1st 3/26/87	2nd 5/22/87	3rd 8/10/87	4th 10/13/87	Mean
Flow (cfs)	.1 gpm	72 gpm	7 gpm	.2 gpm	2
Temperature (c°)	12°	19°	18°	14°	15.75
pH	8.4	8.2	7.8	8.1	8.13
TDS (mg/l)	4320	1746	1770	613	2112
TSS (mg/l)	192	5	6.5	53	64.13
O & G (mg/l)	5.50	<5	<5	D	<5
Fe (mg/l)	1.56	.09	.21	.24	.53
Ca (mg/l)	34	43	35	18	32.5
Na (mg/l)	1320	503	530	182	633.75
K (mg/l)	23	12	13	4	13
Chloride (mg/l)	230	195	202	49	169
Mg (mg/l)	177	66	55	11	77.25
HCO ₃ (mg/l)	1891	848	784	187	927.5
Sulfate (mg/l)	1602	511	546	241	725.0

- Meter Malfunction
- M - Not Measured
- NR - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPANY
ANNUAL WATER MONITORING REPORT

STATION: BM-32

LOCATION AND SIGNIFICANCE: Spring Canyon - Gravel Spring

MONITORING DATES - MEASUREMENTS					
Monitoring Parameters	1st 3/26/87	2nd 5/22/87	3rd 8/10/87	4th 10/13/87	Mean
Flow (cfs)	6.4 gpm	DRY	3.9 gpm	6.2	5.5
Temperature (c°)	2°		14°	9°	8.3
pH	8.2		7.9	8	8
TDS (mg/l)	1506		1480	1420	1468.6
TSS (mg/l)	1		4	2	3.3
O & G (mg/l)	< 5.0		< 5.0	D	< 5.0
Fe (mg/l)	148		.11	.15	49.42
Ca (mg/l)	56		165	152	124.3
Na (mg/l)	12		57	52	40.3
K (mg/l)	47		13	15	25.
Chloride (mg/l)	167		47	47	112
Mg (mg/l)	477		178	182	279
HCO ₃ (mg/l)	730		447	469	548.6
Sulfate (mg/l)			800	744	772.0

- Meter Malfunction
- M - Not Measured
- NR - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

CASTLE GATE COAL COMPANY
ANNUAL WATER MONITORING REPORT

STATION: B-17

LOCATION AND SIGNIFICANCE: Mouth of Sowbelly Gulch Downstream from #5 Mine
Facility

MONITORING DATES - MEASUREMENTS

Monitoring Parameters	1st 3/26/87	2nd 5/22/87	3rd 8/10/87	4th 10/13/87	-Mean
Flow (cfs)	DRY	DRY	DRY	6.2	6.2
Temperature (c°)				10	10
pH				8.1	8.1
TDS (mg/l)				784	784
TSS (mg/l)				1000	1000
O & G (mg/l)				< 5	< 5
Fe (mg/l)				36	36
Ca (mg/l)				133	133
Na (mg/l)				42	42
K (mg/l)				13	13
Chloride (mg/l)				457	457
Mg (mg/l)				77	77
HCO ₃ (mg/l)				79	79
Sulfate (mg/l)				23	23

- I - Meter Malfunction
- M - Not Measured
- NR - For springs - masked by surface runoff
- D - Sample lost or destroyed in transit or at lab

File Act 107/1084
F. #2 + #6



**CASTLE
GATE**
COAL COMPANY

RECEIVED
JAN 12 1988

DIVISION OF
OIL, GAS & MINING

January 7, 1988

Mr. Lowell Braxton, Administrator
Division of Oil, Gas & Mining
Three Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Dear Mr. Braxton:

Condition No. 10 of the Castle Gate Coal Company Mining Permit No. 007/004 states that an annual report of future and present employment must be made to your department. Pursuant to this condition, I am furnishing you the following information.

Castle Gate Coal Company currently employs 254 people. By the end of the year 1988, this Company will employ a maximum of 265 personnel.

This report will be submitted to your office on an annual basis in January of each year.

Sincerely,

Richard H. Allison, Jr.
Richard H. Allison, Jr., P.E.
Project Supervisor

RHA:jcr

cc: David Miller
DOGM File
Chrono

cc5.rha107b



**CASTLE
GATE**
COAL COMPANY

RECEIVED
JAN 12 1988

DIVISION OF
OIL, GAS & MINING

File Act 107/107
#2 #6

January 7, 1988

Mr. Lowell Braxton, Administrator
Division of Oil, Gas & Mining
Three Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Dear Mr. Braxton:

Condition No. 10 of the Castle Gate Coal Company Mining Permit No. 007/004 states that an annual report of future and present employment must be made to your department. Pursuant to this condition, I am furnishing you the following information.

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Sincerely,

Richard H. Allison, Jr.
Richard H. Allison, Jr., P.E.
Project Supervisor

RHA:jcr

cc: David Miller
DOGM File
Chrono

cc5.rha107b

Document Information Form

Mine Number: C1007/004

File Name: Incoming
Castle Gate

To: Lowell Braxton

From:

Person Richard Allison

Company Castle Gate

Date Received: 3-7-88

Explanation: Map of the No. 5 Mine

Mine Development and Surface Improvements

cc:

Document Information Form

Mine Number: C/007/004

File Name: Incoming
Castle Gate

To: Lowell Braxton

From:

Person Richard Allison

Company Castle Gate

Date Received: 3-7-88

Explanation: Map - Map of the No. 3 Mine

cc: