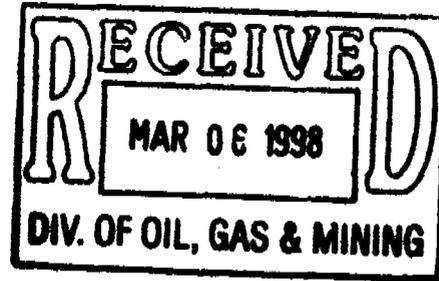




Canyon Fuel Company, LLC
SUFCO Mine
397 South 800 West
Salina, Utah 84654
(435) 637-4880 Fax: (435) 636-4499



March 2, 1998

Ms. Mary Ann Wright
Utah Coal Regulatory Program
1594 West North Temple, Suite 1210
P. O. Box 145801
Salt Lake City, UT 84114-5801

Re: 1997 Annual Report for Canyon Fuel Company LLC, SUFCO Coal Mine
ACT/041/002, Sevier County, Utah

Dear Ms. Wright:

Enclosed herewith is a copy of the annual report for the Canyon Fuel Company, SUFCO coal mine for 1997. The information included is thought to be complete as requested. Questions should be referred to Mike Davis at (435) 637-4880.

Sincerely,
CANYON FUEL COMPANY, LLC
SUFCO Mine

Kenneth E. May
Vice President and General Manager

Enclosures

KEM/MLD:kb

1997 ANNUAL REPORT

**CANYON FUEL COMPANY, LLC
SUFCO MINE
ACT/041/002**

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX A to this Annual Report or currently ON FILE with the Division.

Certified Reports:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Excess Spoil Piles		X				
2. Refuse Piles	X				X	Certified Reports previously submitted
3. Impoundments	X				X	Certified Reports previously submitted
4.						
5.						

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan which must be periodically submitted to the Division. Specify whether the information is included as APPENDIX B to this Annual Report or currently ON FILE with the Division.

Technical Data:	Reports Required?		INCLUDED or ON FILE w/DOGM?			Comments
	YES	NO	YES	NO	ON FILE	
1. Climatological Data	X		X			Included on disk in Appendix B
2. Subsidence Monitoring Data	X		X			Included in Appendix B
3. Vegetation Monitoring Data		X				
4. Soils Monitoring Data		X				
5. Water Monitoring Data						
First Quarter Report	X				X	Data Previously Submitted
Second Quarter Report	X				X	Data Previously Submitted
Third Quarter Report	X				X	Data Previously Submitted
Fourth Quarter Report	X				X	Data Previously Submitted
6. Geological/Geophysical Data		X				
7. Engineering Data		X				
8. Other Data						
<i>Refuse Analyses</i>	<i>+</i>		<i>+</i>			<i>Appendix E PPRB</i>

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

as required under R645-301-514

CONTENTS

None - Certified Reports previously submitted.

APPENDIX B

Reporting of Technical Data

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

in accordance with the requirements of R645-301-130 and R645-301-140.

CONTENTS

Climatological Data on Disk
Subsidence Report

1997 SUBSIDENCE REPORT

CANYON FUEL COMPANY, LLC

SUFCO MINE

by

JOHN M. BLACK

CHIEF SURVEYOR

INTRODUCTION

Canyon Fuel Company LLC, SUFCO Mine's 1997 subsidence report is an update of annual subsidence data which has been accumulated since 1976 as the former Southern Utah Fuel Company. Prior to 1985, the data was derived from conventional survey methods. Since then, photogrammetric surveys have been employed to monitor the ground movement.

During 1985, the entire SUFCO Mine property was flown to establish a set of baseline photography and a grid of surface elevations. Where possible, an elevation was photogrammetrically determined on an approximate 200 foot grid. These original x, y and z locations serve as a comparative base for determining ground movement in the succeeding years. In 1991, the newly obtained lease U-63214 was flown for a baseline as before with the other leases.

Once each year, another set of aerial photography is obtained. A new elevation is then found at the same x and y coordinates as all the originals within all areas considered to be active. The new, or current, elevations are compared to the originals and the difference between the two is used to generate a contour map. The result is the subsidence contour map included with each annual subsidence report.

The mine subsidence map accompanying this report shows surface control monuments, overburden contours, subsidence contours, surface tension cracks, a current outline of the mine, a one year mining projection and other miscellaneous items as explained in the legend.

SUBSIDENCE HISTORY

SUFCO Mine began operations which cause surface subsidence in June, 1976. Continuous miners were used to extract coal from pillars which were developed as part of a retreating panel. The panels were approximately 650 feet wide and varied in length up to 2,500 feet. The average mining height approached 11 feet and the extraction ratio averaged about 80%.

The resulting subsidence from these continuous miner panels averaged 4 feet in the plateau areas where overburden was 900 feet thick. In areas where panel boundaries were outside the escarpment and beyond the Castlegate Sandstone, subsidence increased with decreasing overburden thickness. The maximum subsidence measured to date, 8.5 feet, occurred in one of these areas. The overburden was only 600 feet thick.

Retreat mining continued in this manner until October, 1985, when a retreating longwall system was added. Longwall panels have ranged from 550 feet to 930 feet wide and up to 14,150 feet in length. Mining heights have varied from 8.5 feet to 12 feet.

Subsidence above the longwall panels has averaged 4 feet; but the overburden thickness has been as much as 1,800 feet. The Maximum measured subsidence caused by longwall mining is seven feet. This occurred in an area outside the escarpment very similar to the one mentioned above for the continuous miner panel.

DORMANT AND ACTIVE AREAS

Dormant areas are those that have shown no movement for several consecutive years. Yearly digitizing of these areas will not be done, but photographic coverage will be maintained in the event that a need should arise for reevaluation.

Active areas are currently being mined or that have evidence of movement within a reasonable time period. Active areas are digitized and evaluated for subsidence yearly, until they meet the parameters of a dormant area.

1997 SUBSIDENCE

The 1996 subsidence map (Map 1) was updated using data from current photogrammetric monitoring. Each subsidence area is labeled as an independent block. A brief description of each follows:

AREA 1

This was SUFCO Mine's first subsidence area. Undermining began in June, 1976, and continued into 1979. The area is composed of five continuous miner panels which averaged 650 feet in width. Mining height averaged 11 feet with about an 80% extraction ratio.

Maximum subsidence ranged from 4.5 feet to 8.5 feet. It was first detected in 1976 and continued until 1985. No surface movement was detected in this entire area from 1986 to 1989. Area 1 was not monitored for the 1990 subsidence report and is considered dormant.

AREA 2

This is another continuous miner area. The panels here were irregular shaped and the extraction ratio was modest. Undermining ceased in 1984.

Maximum subsidence has been measured at 2 feet. The area has been stable since 1985 and has not been monitored since 1989. This area is dormant.

AREA 3

This area is another continuous miner section, but the extracted area is a portion of mains with protective barriers instead of a panel. Coal recovery was moderate with mined areas which were subcritical. Undermining ceased in 1983.

Maximum subsidence was measured at 2 feet. Because of the limited extraction and subcritical areas, the subsidence occurred slowly with small changes noticeable until 1987. The area appeared stable in 1988 and 1989. It has not been monitored since 1989 and is considered dormant.

AREA 4

This subsidence area is comprised of three continuous miner panels. The mining height averaged 11 feet with a good extraction ratio. Undermining ceased in 1985.

Maximum subsidence was 5 feet with no detectable change in 1989. This area was monitored again in 1993, 1994 and 1995 with no detectable changes. This area has now been monitored for ten years since undermining ceased. The last detectable subsidence was in 1988. Therefore, this area will be considered dormant.

AREA 5

The four continuous miner panels which make up this area were mined from September, 1978, to November, 1981. Mining height averaged 11 feet with an 80% extraction ratio.

Maximum subsidence was 5 feet with no detectable changes from 1985 through 1991. This area has not been monitored since 1991, and will also remain dormant.

AREA 6

Area 6 is SUFCO Mine's first longwall induced subsidence area. It is comprised of nine longwall panels varying from 540 feet to 700 feet in width and 1,700 feet to 3,900 feet in length. Also, there is a section of recovered mains between two of the longwall blocks. Undermining began in Area 6 during October, 1985, and continued through the mains recovery in March, 1990.

Maximum subsidence measured in areas bounded by the plateau is five feet. There is a location on the map which shows seven feet; but this area is outside the escarpment where the overburden is only 600 feet thick. The subsided escarpment is intentional and is part of a study agreed upon by SUFCO Mine, the Division of Oil, Gas and Mining, the Bureau of Land Management and the U. S. Forest Service. This particular section of escarpment was removed from the "no subsidence zone" to study the effects of longwall mining on the escarpment.

Area 6 has shown no significant changes since 1992 and will be monitored for only one more year.

AREA 7

Area 7 was originally planned for no subsidence. Pillars were made to support the overburden but began to fail in the north end in 1984 when the underground workings were flooded. The failures progressed towards the south and by 1986, subsidence was detected over the area.

The map shows up to seven feet of subsidence. There was no additional subsidence movement detected from 1988 to 1994. Therefore, this area will also be considered dormant.

AREA 8

Undermining this area began in June, 1983, and was sporadic until 1992. Continuous miners were used with extraction ratios over 80% and average mining heights of 10 feet. This is still an active area due to its proximity to an adjacent active longwall block. Maximum subsidence to date is five feet. No noticeable vertical movement has been detected since 1993.

AREA 9

This area is a longwall mining area which is composed of four panels. The first began in June, 1989 and the block was finished in January 1992. The mining height averaged about 11 feet and the maximum subsidence shown to date is five feet.

AREA 10

Area ten is a new longwall mining block which began in January 1992 and is presently being mined. The entire surface area above this block was digitized for base-line elevations during 1991. Maximum subsidence shown to date is five feet. This area will be active for several more years.

The experimental mining practice area discussed under "Area 6" was extended, with regulatory approval, to the east side of the canyon under the Southwest corner of "Area 10". An extensive pre-mining survey of this location was conducted late in 1992. A detailed survey of the post-mining subsidence effects was provided in the 1993 report.

DRAW ANGLE SURVEYS

Several draw angle surveys have been performed during the past years. Completed surveys have been over continuous miner areas and have been oriented both parallel and perpendicular to the long axis of the panel. The average of all measurements is 15°. Individual measurements ranged from 10° to 21°.

New longwall draw angle data was obtained in 1995. Draw angle points were installed in May 1986, on the southern end of the first panel in "Area 6". As shown on the subsidence map, survey lines were placed parallel and perpendicular to the axis of the panel. Undermining of this panel was completed in June 1986. Measurements were taken in 1995 and indicate an angle 15.25° for the perpendicular line. An angle for the parallel line was not obtained because the mains underlying the survey line were partially extracted. These findings coincide with the average of 15° as stated above.

SUBSIDENCE TENSION CRACKS

Tension cracks have occurred above most of the subsidence areas. Most have been located by survey and are shown on the map. Their lengths vary from a few feet to five hundred feet. Most are oriented either parallel to the natural jointing pattern or to the boundaries of the underground excavation. Vertical displacement along the cracks is uncommon and horizontal displacement varies from hairline to several inches in width.

The U. S. Forest Service completed a tension crack study in 1978. They monitored twenty-two different cracks (located in Area 1) with widths varying from 1/8 inch to six inches. Results show that most cracks self-heal, or close, from 13% to 100% of their original width.

CONCLUSION

Areas 1, 2, 3, 4, 5 and 7 are all considered to be dormant. Photographic coverage will be maintained but yearly digitizing will not be done unless necessary. Yearly monitoring of Areas 6, 8, 9 and 10 will continue until subsidence has been determined to have ceased on an area by area basis.

JMB:kb

F:\WORK\GOVT1997\BLMS\SUBSID97.RPT

APPENDIX C

Legal, Financial, Compliance and Related Information

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

and other changes in ownership and control information
as required under R645-301-110.

CONTENTS

Report of Officers and Directors

REPORT OF OFFICERS AND DIRECTORS
RELOCATED TO CONFIDENTIAL FOLDER
AUGUST 2005

APPENDIX D

Mine Maps

as required under R645-301-525.270.

CONTENTS

Mining Progress Map 1997

APPENDIX E

Other Information

in accordance with the requirements of R645-301 and R645-302.

CONTENTS

~~None~~



Inter-Mountain Laboratories, Inc.
 Sheridan, Wyoming 82801

1633 Terra Avenue

Received

NOV 20 1997

Canyon Fuel Company
 SUFCO Mine
 Tel. (307) 672-8945

SOUTHERN UTAH FUEL COMPANY
 SALINA, UTAH

November 11, 1997

Page 1 of 2

Lab No.	Location	Depth	pH	EC mmhos/cm @ 25°C	Satur- ation %	Calcium meq/l	Magnesium meq/l	Sodium meq/l	SAR	Total Sulfur %	T.S. AB t/1000t	Neut. Pot. t/1000t	T.S. ASP t/1000t
148859	WRDS 3 QTR 97		7.2	3.91	44.8	24.4	21.6	5.53	1.15	1.04	32.5	125.	35.5

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APR 07 2000

DIVISION OF
 OIL, GAS AND MINING

Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur,
 Neut. Pot.= Neutralization Potential
 Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage, Exch= Exchangeable, Avail= Available



Inter-Mountain Laboratories, Inc.
 Sheridan, Wyoming 82801

1633 Terra Avenue

Received

NOV 20 1997

Canyon Fuel Company
 SUFCO Mine
 Tel. (307) 672-8945

SOUTHERN UTAH FUEL COMPANY
 SALINA, UTAH

November 11, 1997

Page 2 of 2

Lab No.	Location	Depths	Boron ppm	Selenium ppm	Alkalinity PE meq/l
148859	WRDS 3 QTR 97		3.02	0.04	3.76

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 OIL, GAS AND MINING



Inter-Mountain Laboratories, Inc.

Sheridan, Wyoming 82801

Tel. (307) 672-8945

1633 Terra Avenue

SOUTHERN UTAH FUEL COMPANY
SALINA, UTAH

July 29, 1997

Page 1 of 2

Lab No.	Location	Depths	pH	EC mmhos/cm @ 25°C	Satur- ation %	Calcium meq/l	Magnesium meq/l	Sodium meq/l	SAR	Total Sulfur %	T.S. AB t/1000t	Neut. Pot. t/1000t	T.S. ARP t/1000t
144740	WRDS 2ND QTR 97		7.2	3.52	45.7	27.2	23.9	4.59	0.91	1.90	59.4	183.	123.

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DIVISION OF
OIL, GAS AND MINING

Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur,

Neut. Pot.= Neutralization Potential

Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage, Exch= Exchangeable, Avail= Available



Inter-Mountain Laboratories, Inc.

Sheridan, Wyoming 82801

Tel. (307) 672-8945

1633 Terra Avenue

SOUTHERN UTAH FUEL COMPANY
SALINA, UTAH

July 29, 1997

Page 2 of 2

Lab No.	Location	Depths	Boron ppm	Selenium ppm	Alkalinity PE meq/l
144740	WRDS 2ND QTR 97		4.18	0.04	2.68

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OIL, GAS AND MINING



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 Sheridan, Wyoming 82801

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SOUTHERN UTAH FUEL CO.
 Tel. (307) 672-8945

SOUTHERN UTAH FUEL COMPANY
 SALINA, UTAH

April 22, 1997

Page 1 of 2

Lab No.	Location	Depths	pH	EC mmhos/cm @ 25°C	Satur- ation %	Calcium meq/l	Magnesium meq/l	Sodium meq/l	SAR
140443	WRDS 1ST QTR 97		7.1	5.65	41.2	31.6	16.3	27.6	5.63

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 Sheridan, Wyoming 82801

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 Tel. (307) 672-8945

SOUTHERN UTAH FUEL COMPANY
 SALINA, UTAH

April 22, 1997

Page 2 of 2

Lab No.	Location	Depths	Total Sulfur %	T.S. AB t/1000t	Neut. Pot. t/1000t	T.S. ABP t/1000t	Sulfate Sulfur %	Pyritic Sulfur %	Organic Sulfur %	PyrS AB t/1000t	PyrS ABP t/1000t	Boron ppm	Selenium ppm	Alkalinity PE meq/l
140443	WRDS 1ST QTR 97		0.46	14.4	130.	115.						3.90	0.02	2.22

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DIVISION OF
 OIL, GAS AND MINING

Abbreviations for extractants: PE= Saturated Paste Extract, H2Osol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
 Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur,
 Neut. Pot = Neutralization Potential



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FEB 12 1997

1633 Terra Avenue

Inter-Mountain Laboratories, Inc.
Sheridan, Wyoming 82801

SOUTHERN UTAH FUEL CO.
Tel. (307) 672-8945

SOUTHERN UTAH FUEL COMPANY
SALINA, UTAH

February 5, 1997

Page 1 of 2

Lab No.	Location	Depths	pH	EC mmhos/cm @ 25°C	Satur- ation %	Calcium meq/l	Magnesium meq/l	Sodium meq/l	SAR
139287	WRDS 4QTR96		7.3	3.64	50.4	29.2	14.1	8.89	1.91

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FEB 12 1997



Inter-Mountain Laboratories, Inc.

Sheridan, Wyoming 82801

SOUTHERN UTAH FUEL CO.

Tel. (307) 672-8945

1633 Terra Avenue

SOUTHERN UTAH FUEL COMPANY
SALINA, UTAH

February 5, 1997

Page 2 of 2

Lab No.	Location	Depths	Total Sulfur %	T.S. AB t/1000t	Neut. Pot. t/1000t	T.S. ABP t/1000t	Pyr+Org Sulfur %	Pyr+Org AB t/1000t	Pyr+Org ABP t/1000t	Boron ppm	Selenium ppm	Alkalinity PE eq/l
139287	WRDS 4QTR96		0.48	15.0	80.1	65.1				4.69	<0.02	2.47

RECEIVED

APR 07 1997

DIVISION OF
OIL, GAS AND MINING

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur,
Neut. = Neutralization Potential