0021

COPY

Canyon Fuel Company, LLC
Skyline Mines
HC 35 Box 380
Helper, Utah 84526
(435) 448-6463 Fax: (435) 448-2632

March 31, 2004

Incoming
C/007/~~002~~ 0005

Coal Regulatory Program
Attn.: Pam Grubaugh-Littig
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

RE: 2003 Annual Report for Canyon Fuel Company, Skyline Mine, C/007/005

Dear Ms. Grubaugh-Littig:

Please find enclosed with this letter two copies each of the Skyline Mine 2003 Annual Report. The information contained within the report is, to the best our knowledge, current and correct. Also attached to this letter in a separate envelope are copies of the written portion of the 2002 Raptor Survey for Skyline Mine. This information was apparently lacking from the 2002 Annual Report and was recently requested by Jerriann Ernstsen of your staff. The mine is still waiting on Dr. Dennis Shiozawa's macro invertebrate studies for the fall of 2003 in the Burnout, James and Eccles Creeks. The mine plans to perform the required fish studies in James and Burnout Creeks in 2004. Earlier, the Utah Division of Fish and Game requested the mine not perform the electro-shock survey of the fish two consecutive years. They were concerned about mortality rates due to the survey.

If you have any questions regarding the 2003 Annual Report, please call me at (435) 448-2669.

Sincerely:

Chris D. Hansen

Chris D. Hansen
Environmental Coordinator
Canyon Fuel Company, LLC

enclosures

RECEIVED
MAR 3 1 2004
DIV. OF OIL, GAS & MINING

File in:
❑ Confidential
❑ Shelf
☒ Expandable
Refer to Record No 0021 Date 03312004
In C 0070005 2004 Incoming
For additional information 2003 Annual Report

Canyon Fuel Company, LLC
Skyline Mines
C/007/005

2003 Annual Report

*To enter text, click in the box and type your response. If a box already contains an entry select the entry and type the replacement. You can use the **tab** key to move from one field to the next. To select a check box, click in the box or type an x.*

GENERAL INFORMATION

Permitte Name	Canyon Fuel Company, LLC
Mine Name	Skyline Mine
Operator Name (If other then permittee)	
Permit Expiration Date	April 30, 2007
Permit Number	C/007/005
Authorized Representative Title	Dan Meadors, General Manager
Phone Number	(435) 448-2619
Fax Number	(435) 448-2632
E-mail Address	dmeadors@archcoal.com
Mailing Address	Skyline Mine HCR 35 Box 380 Helper, UT 84526
Designated Representative	Chris Hansen
Resident Agent	Corporation Trust Company
Resident Agent Mailing Address	Corporation Trust Center 1209 Orange Street Wilmington, DE
Number of Binders Submitted	2

IDENTIFICATION OF OTHER PERMITS

Identify other permits that are required in conjunction with mining and reclamation activities.

Permit Type	ID Number	Description	Expiration Date
MSHA Mine ID(s)	1211-UT-09-01566-01	Skyline Mine	N/A
	1211-UT-09-01566-02	Skyline Mine Waste Rock Disposal Site	N/A
MSHA Impoundment(s)	None		
NPDES/UPDES Permit(s)	UT 0023540-01, 02, 03	UPDES Permit for Skyline Mine, Rail	10/30/04
		Loadout, Waste Rock Disposal Site	
PSD Permit(s) (Air)	147-98	Approval Order	N/A

Other

MSHA Mine ID(s)	1211-UT-09-01566-03	Skyline Mine Temporary Waste Rock	N/A
		Disposal Site	
Storm Water Permit	UTR000578	Storm Water Discharge Permit	12/01/06

CERTIFIED REPORTS

List the certified inspection reports as required by the rules and udder the approved plan that must be periodically submitted t the Division. Specify whether the information is included as Appendix A to this report or currently on file with the Division.

Certified Reports:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On File	
Excess Spoil Piles	☐	☒	☐	☐	
Refuse Piles	☒	☐	☒	☐	Appendix A
Impoundments	☒	☐	☒	☐	Appendix A
Other					
	☐	☐	☐	☐	
	☐	☐	☐	☐	

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 report or currently on file with the Division.

Technical Data:	Required		Included or on file with DOGM		Comments
	Yes	No	Included	On file	
Climatological	☐	☒	☐	☐	
Subsidence Monitoring	☒	☐	☒	☐	Appendix B
Vegetation Monitoring	☒	☐	☒	☐	Appendix B
Raptor Survey	☒	☐	☒	☐	Appendix B
Soils Monitoring	☐	☒	☐	☐	
Water Monitoring	☒	☐	☐	☒	
First quarter	☒	☐	☐	☒	
Second quarter	☒	☐	☐	☒	
Third quarter	☒	☐	☐	☒	
Fourth quarter	☒	☐	☐	☒	
Geological / Geophysical	☐	☒	☐	☐	
Engineering	☐	☒	☐	☐	
Non Coal Waste / Abandoned Underground Equipment*	☒	☐	☐	☒	
Other Data					
James and Burnout Canyon Fish and Macroinvertabrate Studies	☒	☐	☐	☒	
Spring '03 Eccles Creek Macroinvertabrate Study	☒	☐	☒	☐	Appendix B
EarthFax Mud/Eccles Creek Studies	☒	☐	☐	☒	
Raptor 2002 Report	☐	☐	☐	☐	Appendix B (Report only, no map)

*Reminder: If equipment has been abandoned during 2003, an amendment must be submitted that includes a map showing its location, a description of what was abandoned, whether there were any hazardous or toxic materials and any

LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

Change in administration or corporate structure can often bring about necessary changes to information found in the mining and reclamation plan. The Division is Requesting that each permittee review and update the legal, financial, compliance and related information in the plan as part of the annual report. Please provide the Department of Commerce, Annual Report of Officers, or other equivalent information as necessary to ensure that the information provided in the plan is current. Provide any other change as necessary regarding land ownership, lease acquisitions, legal results from appeals of violations, or other changes as necessary to update information required in the mining and reclamation plan. Include certified financial statements, audits or worksheets, which may be required to meet bonding requirements. Specify whether the information is currently on file with the Division or included as Appendix C to the report.

Legal / Financial Update	**Required**		**Included or on File with DOGM**		**Comments**
	Yes	No	Included	On file	
Department of Commerce, Annual Report Officers	☒	☐	☐	☒	Appendix C
Other					
	☐	☐	☐	☐	
	☐	☐	☐	☐	
	☐	☐	☐	☐	

MINE MAPS

Copies of mine maps, current and up-to-date through at least December 31, 2003, are to be provided to the Division as Appendix D to this report in accordance with the requirements of R 645-301-525.270. These map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Upon request, the Division shall keep mine maps confidential. Please provide a CD.

Map Number(s)	**Map Title/ Description**	**Confidential** Yes	No
	Skyline Mine 2003 3 Levels 2 and 3 As-Mined	☒	☐
	Cummulative Subsidence 1982 to 2003	☐	☒
	Skyline Mine Projected Mining 2004 - 2008	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

OTHER INFORMATION

Please provide any comments of further information to be included as part of the Annual Report. Any other attachments are to be provided as Appendix E to this report. If information is submitted as a group rather then by individual mine, please identify each of the mine's data in the list below.

Additional attachment to this report? **Yes** ☐ **No** ☒

EarthFax Engineering Inc. Mud Creek Erosion study was submitted to the Division on November 14, 2003 and is therefore not included in annual report.

Mt. Nebo Scientific Spring 2003 Macro Invertabrate Studies of James and Burnout Creeks were also previously submitted to the Division and therefore are not included in this report.

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

As required under R645-301-514

CONTENTS

Waste Rock Site Inspections
Sediment Pond Annual Inspection

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE			
Permit Number	C/007/005	**Report Date**	March 28, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company, LLC		
Excess Spoil Pile or Refuse Pile Identification	**Pile Name**	Skyline Waste Rock Site	
	Pile Number	NA	
	MSHA ID Number	42-01566	
Inspection Date	March 28, 2003		
Inspected By	Douglas E. Johnson		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)		Quarterly✗	
		Attachments to Report? ✗ **No** ☐ **Yes**	

Field Evaluation

1. **Foundation preparation, including the removal of all organic material and topsoil.**

Topsoil removal and foundation preparation was completed several years prior to the most recent placement of material.

2. **Placement of underdrains and protective filter systems.**

No underdrains are present or required at this site.

3. **Installation of final surface drainage systems.**

Existing surface is not at final contour. Therefore, final surface drainages have not yet been constructed. All surface runoff from the refuse pile is treated by the sediment pond. Runoff from the main access road below the sediment pond is treated by straw bale dikes.

4. **Placement and compaction of fill materials.**

Approximately 9348 tons of gob were hauled to the waste rock site in this quarter.
Gob was placed in lifts of 12-inches or less and compacted in place using rubber tired equipment and a tracked dozer. The majority of the material was placed in the northeastern portion of the waste rock site.

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE		

5. **Final grading and revegetation of fill.**

Contemporaneous reclamation of the waste rock pile is taking place as the site is backfilled with waste rock. The backfill slopes are built to 1 1/2h:1v or less and seeded as described in the final reclamation plan. The seed mix specified in the Reclamation Plan is planted after the placement of topsoil.

6. **Appearances of instability, structural weakness, and other hazardous conditions.**

No structural weaknesses were observed during the visit to the site. The sedimentation pond did not contain significant water at the time of the inspection.

No hazardous conditions were observed at the time of the inspection.

7. **Other Comments. Describe any changes in the geometry of the Excess Spoil/Refuse Pile structure, instrumentation, average and maximum lifts of materials placed in the pile, elevations of active benches, total and remaining storage capacity of the structure, evidence of fires in the pile and abatement of such fires, volumes of materials placed in the structure during the year, and any other aspect of the structure affecting its stability or function which has occurred during the reporting period.**

The pile has a remaining storage capacity of approximately 32,815 tons. The total storage capacity as designed is 334,125. However, Skyline is currently re-evaluating the storage capacity of the site.

Certification Statement

REGISTERED PROFESSIONAL ENGINEER
5-29-03
[Cert. Stamp]
No. 160554-2202
DOUGLAS E. JOHNSON
STATE OF UTAH

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

By: DOUGLAS E. JOHNSON, MGR. TECH SUPPORT
(Full Name and Title)

Signature: Douglas E. Johnson **Date:** 5-29-03

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE			
Permit Number	C/007/005	Report Date	July 15, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company, LLC		
Excess Spoil Pile or Refuse Pile Identification	**Pile Name**	Skyline Waste Rock Site	
	Pile Number	NA	
	MSHA ID Number	42-01566	
Inspection Date	June 23, 2003		
Inspected By	Douglas E. Johnson		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)		Quarterly✗	
		Attachments to Report? ✗ No ☐ Yes	

Field Evaluation

1. Foundation preparation, including the removal of all organic material and topsoil.

Topsoil removal and foundation preparation was completed several years prior to the most recent placement of material.

2. Placement of underdrains and protective filter systems.

No underdrains are present or required at this site.

3. Installation of final surface drainage systems.

Existing surface is not at final contour. Therefore, final surface drainages have not yet been constructed. All surface runoff from the refuse pile is treated by the sediment pond. Runoff from the main access road below the sediment pond is treated by straw bale dikes.

4. Placement and compaction of fill materials.

Approximately 7413 tons of gob were hauled to the waste rock site in the 2nd quarter of 2003.
Gob was placed in lifts of 12-inches or less and compacted in place using rubber tired equipment and a tracked dozer. The majority of the material was placed in the northeastern portion of the waste rock site.

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE		

5. **Final grading and revegetation of fill.**

Contemporaneous reclamation of the waste rock pile is taking place as the site is backfilled with waste rock. The backfill slopes are built to 1 1/2h:1v or less and seeded as described in the final reclamation plan. The seed mix specified in the Reclamation Plan is planted after the placement of topsoil.

6. **Appearances of instability, structural weakness, and other hazardous conditions.**

No structural weaknesses were observed during the visit to the site. The sedimentation pond did not contain significant water at the time of the inspection.

No hazardous conditions were observed at the time of the inspection.

7. **Other Comments. Describe any changes in the geometry of the Excess Spoil/Refuse Pile structure, instrumentation, average and maximum lifts of materials placed in the pile, elevations of active benches, total and remaining storage capacity of the structure, evidence of fires in the pile and abatement of such fires, volumes of materials placed in the structure during the year, and any other aspect of the structure affecting its stability or function which has occurred during the reporting period.**

The pile has a remaining storage capacity of approximately 25,402 tons. The total storage capacity as designed is 334,125.

Certification Statement

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

(Seal Stamp)

REGISTERED PROFESSIONAL ENGINEER
7-15-03
No. 180554-2202
DOUGLAS E. JOHNSON
STATE OF UTAH

By: DOUGLAS E. JOHNSON, MGR. TECH. SUPPORT
(Full Name and Title)

Signature: Douglas E Johnson **Date:** 7-15-03

Inter-Mountain Laboratories Inc.
1633 Terra Avenue Sheridan, WY 82801
Phone (307) 672-8945 Fax (307) 672-6053

September 17, 2003

Mr. Chris Hansen
Canyon Fuel Company
Skyline Mine
HC 35 Box 380
Helper, Utah 84526

Dear Mr. Hansen:

Enclosed are the results of the soil analysis for samples our laboratory received on August 27. The analyses were completed according to methods described in USDA Handbook 60 and the American Society of Agronomy monographs.

Feel free to contact me at your convenience if you have any questions or concerns.

Sincerely,

Joey Sheeley
Mining Soils

xc: File
Encl.

Inter-Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, WY 82801

Report ID: 010312880

Soil Analysis Report

Canyon Fuel Company, LLC

Skyline Mine
HC 35 Box 380
Helper, UT 84526

Client Project ID: Skyline Mine
Date Received: 08/27/03

Set #0103S12880
Report Date: 09/17/03

Lab Id	Sample Id	pH	Saturation	EC @ 25°C	Calcium	Magnesium	Sodium	SAR	Available Sodium	Exchangeable Sodium
		s.u.	%	mmhos/cm	meq/L	meq/L	meq/L		meq/100g	meq/100g
0103S12880	Sample 1	8.2	29.1	6.47	31.3	36.5	15.2	2.61	0.77	0.33
0103S12881	Sample 2	8.5	28.6	5.68	23.5	30.0	18.9	3.65	1.12	0.58
0103S12882	Sample 3	8.3	37.2	3.33	21.5	21.9	4.33	0.93	0.24	0.08
0103S12883	Sample 4	7.9	35.2	3.46	23.6	21.3	4.23	0.89	0.25	0.10
0103S12884	Sample 5	8.4	31.1	4.92	24.3	28.2	13.1	2.55	0.85	0.44
0103S12885	Sample 6	7.9	34.2	3.61	24.4	20.9	4.33	0.91	0.21	0.06
0103S12886	Sample 7	7.8	31.0	3.51	20.3	19.5	11.6	2.60	0.60	0.24
0103S12887	Sample 8	7.7	32.0	2.85	21.6	12.2	7.20	1.75	0.39	0.16
0103S12888	Sample 9	7.7	31.3	3.86	20.6	20.4	12.6	2.78	0.64	0.25
0103S12889	Sample 10	8.5	29.3	3.66	18.4	19.3	7.27	1.67	0.49	0.28
0103S12890	Sample 11	8.0	40.1	4.23	22.0	23.0	11.9	2.51	0.47	<0.01
0103S12891	Sample 12	7.8	32.4	3.40	23.3	19.1	3.75	0.81	0.11	<0.01
0103S12892	Sample 13	7.9	34.4	1.55	8.16	7.34	3.30	1.19	0.12	0.01
0103S12893	Electric Lake Site #1	7.8	62.0	0.45	2.64	0.74	0.78	0.60	0.03	<0.01
0103S12894	Electric Lake Site #2	7.7	40.8	0.33	1.77	0.44	0.72	0.68	0.02	<0.01

These results only apply to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= 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
Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed By: _____

Abbey Sheeley, Soils Lab Supervisor

Inter-Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, WY 82801

Report ID: 010312880

Soil Analysis Report
Canyon Fuel Company, LLC
Skyline Mine
HC 35 Box 380
Helper, UT 84526

Client Project ID: Skyline Mine
Date Received: 08/27/03

Set #0103S12880
Report Date: 09/17/03

Lab Id	Sample Id	1/3 Bar %	15 Bar %	Coarse Fragments %	Sand %	Silt %	Clay %	Texture
0103S12880	Sample 1	19.4	7.4	48.3	74.0	20.0	6.0	SANDY LOAM
0103S12881	Sample 2	18.8	7.3	59.3	73.0	17.0	10.0	SANDY LOAM
0103S12882	Sample 3	20.2	7.6	46.6	82.0	11.0	7.0	LOAMY SAND
0103S12883	Sample 4	22.6	9.3	35.2	72.0	20.0	8.0	SANDY LOAM
0103S12884	Sample 5	16.4	6.5	53.6	76.0	17.0	7.0	SANDY LOAM
0103S12885	Sample 6	19.6	8.8	40.5	74.0	19.0	7.0	SANDY LOAM
0103S12886	Sample 7	16.1	8.5	62.9	68.0	20.0	12.0	SANDY LOAM
0103S12887	Sample 8	17.9	10.4	33.6	62.0	24.0	14.0	SANDY LOAM
0103S12888	Sample 9	16.1	9.6	63.8	66.0	22.0	12.0	SANDY LOAM
0103S12889	Sample 10	22.3	11.4	52.7	70.0	22.0	8.0	SANDY LOAM
0103S12890	Sample 11	22.2	11.9	40.7	78.0	15.0	7.0	LOAMY SAND
0103S12891	Sample 12	20.5	11.2	45.5	72.0	22.0	6.0	SANDY LOAM
0103S12892	Sample 13	24.6	12.7	43.2	73.8	18.7	7.5	SANDY LOAM
0103S12893	Electric Lake Site #1	33.4	32.0	0.0	24.0	55.0	21.0	SILT LOAM
0103S12894	Electric Lake Site #2	25.7	18.3	1.8	48.0	38.0	14.0	LOAM

These results only apply to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= 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
Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed By: _____
Joey Sheeley, Soils Lab Supervisor

Lyker-Mountain Laboratories, Inc.

1630 Terra Avenue
Sheridan, WY 82801

Report ID: 010312880

Soil Analysis Report

Canyon Fuel Company, LLC

Skyline Mine
HC 35 Box 380
Helper, UT 84526

Client Project ID: Skyline Mine
Date Received: 08/27/03

Set #0103S12880
Report Date: 09/17/03

Lab Id	Sample Id	TOC	Total Sulfur	T.S. AB	Neutral. Pot.	T.S. ABP	Boron	Nitrogen Nitrate	Selenium	TKN
		%	%	t/1000t	t/1000t	t/1000t	ppm	ppm	ppm	%
0103S12880	Sample 1	26.7	0.45	14.1	282	268	0.83	1.72	<0.02	0.43
0103S12881	Sample 2	22.5	0.45	14.1	340	326	1.76	3.22	<0.02	0.37
0103S12882	Sample 3	67.9	0.46	14.4	85.5	71.1	1.42	4.72	<0.02	1.14
0103S12883	Sample 4	52.9	0.53	16.6	95.7	79.1	1.74	1.38	0.02	0.91
0103S12884	Sample 5	16.8	0.39	12.2	358	346	1.72	1.74	0.02	0.27
0103S12885	Sample 6	51.2	0.50	15.6	95.3	79.7	1.38	1.92	0.02	0.87
0103S12886	Sample 7	33.7	0.64	20.0	78.0	58.0	1.03	6.70	0.08	0.60
0103S12887	Sample 8	36.3	0.49	15.3	76.4	61.1	1.26	3.84	0.04	0.62
0103S12888	Sample 9	32.2	0.56	17.5	82.2	64.7	1.09	6.94	0.14	0.65
0103S12889	Sample 10	24.3	0.27	8.43	221	213	1.43	1.06	<0.02	0.44
0103S12890	Sample 11	65.8	0.43	13.4	79.0	65.6	2.02	1.44	<0.02	1.24
0103S12891	Sample 12	45.2	0.36	11.2	104	92.3	1.03	1.08	0.02	0.92
0103S12892	Sample 13	58.4	0.33	10.3	74.6	64.3	0.95	1.18	0.02	0.96
0103S12893	Electric Lake Site #1	3.0	0.02	0.62	26.1	25.5	0.38	15.1	<0.02	0.19
0103S12894	Electric Lake Site #2	1.6	0.01	0.31	8.75	8.44	0.29	4.22	<0.02	0.14

These results only apply to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= 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
Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed By: _____
Joey Sheeley, Soils Lab Supervisor

Inter-Mountain Laboratories, Inc.

6301 Terra Avenue
Sheridan, WY 82801

Report ID: 010312880

Soil Analysis Report

Canyon Fuel Company, LLC

Skyline Mine

HC 35 Box 380

Helper, UT 84526

Client Project ID: Skyline Mine

Date Received: 08/27/03

Set #0103S12880

Report Date: 09/17/03

Lab Id	Sample Id	pH	Saturation	EC @ 25°C	Calcium	Magnesium	Sodium	SAR	Available Sodium	Exchangeable Sodium
		s.u.	%	mmhos/cm	meq/L	meq/L	meq/L		meq/100g	meq/100g
0103S12887	Sample 8	7.7	32.0	2.85	21.6	12.2	7.20	1.75	0.39	0.16
0103S12887D	Sample 8	7.7	31.2	2.81	21.6	12.2	7.31	1.78	0.37	0.14
0103S12892	Sample 13	7.9	34.4	1.55	8.16	7.34	3.30	1.19	0.12	0.01
0103S12892D	Sample 13	7.9	35.6	1.35	6.21	5.93	2.25	0.91		

These results only apply to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= 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
Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed By: _____

Joey Sheeley, Soils Lab Supervisor

Inter-Mountain Laboratories, Inc.
1633 Terra Avenue
Sheridan, WY 82801

Report ID: 010312880

Soil Analysis Report
Canyon Fuel Company, LLC
Skyline Mine
HC 35 Box 380
Helper, UT 84526

Client Project ID: Skyline Mine
Date Received: 08/27/03

Set #0103S12880
Report Date: 09/17/03

Lab Id	Sample Id	1/3 Bar %	15 Bar %	Coarse Fragments %	Sand %	Silt %	Clay %	Texture
0103S12887	Sample 8	17.9	10.4	33.6	62.0	24.0	14.0	SANDY LOAM
0103S12887D	Sample 8	16.9	10.3	0.0	64.0	22.0	14.0	SANDY LOAM
0103S12892	Sample 13	24.6	12.7	43.2	73.8	18.7	7.5	SANDY LOAM
0103S12892D	Sample 13	24.8	11.6	0.0	73.8	18.7	7.5	SANDY LOAM

These results only apply to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= 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
Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed By: _____
Joey Sheeley, Soils Lab Supervisor

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1633 Terra Avenue
Sheridan, WY 82801

Report ID: 010312880

Soil Analysis Report
Canyon Fuel Company, LLC
Skyline Mine
HC 35 Box 380
Helper, UT 84526

Client Project ID: Skyline Mine
Date Received: 08/27/03

Set #0103S12880
Report Date: 09/17/03

Lab Id	Sample Id	TOC	Total Sulfur	T.S. AB	Neutral. Pot.	T.S. ABP	Boron	Nitrogen Nitrate	Selenium	TKN
		%	%	t/1000t	t/1000t	t/1000t	ppm	ppm	ppm	%
0103S12887	Sample 8	36.3	0.49	15.3	76.4	61.1	1.26	3.84	0.04	0.62
0103S12887D	Sample 8	33.1	0.48	15.0	78.7	63.7	1.30	2.88	0.04	0.66
0103S12892	Sample 13	58.4	0.33	10.3	74.6	64.3	0.95	1.18	0.02	0.96
0103S12892D	Sample 13	61.9	0.35	10.9	74.6	63.7	0.96	1.12	0.04	1.01

These results only apply to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= 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
Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed By: _____
Joey Sheeley, Soils Lab Supervisor

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE			
Permit Number	C/007/005	Report Date	November 21, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company, LLC		
Excess Spoil Pile or Refuse Pile Identification	**Pile Name**	Skyline Waste Rock Site	
	Pile Number	NA	
	MSHA ID Number	42-01566	
Inspection Date	September 15, 2003		
Inspected By	Douglas E. Johnson		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)		Quarterly✗	
		Attachments to Report? ✗ **No** □ **Yes**	

Field Evaluation

1. **Foundation preparation, including the removal of all organic material and topsoil.**

Topsoil removal and foundation preparation was completed several years prior to the most recent placement of material.

2. **Placement of underdrains and protective filter systems.**

No underdrains are present or required at this site.

3. **Installation of final surface drainage systems.**

Existing surface is not at final contour. Therefore, final surface drainages have not yet been constructed. All surface runoff from the refuse pile is treated by the sediment pond. Runoff from the main access road below the sediment pond is treated by straw bale dikes.

4. **Placement and compaction of fill materials.**

No gob was hauled to the site during this quarter.

5. **Final grading and revegetation of fill.**

Contemporaneous reclamation of the waste rock pile is taking place as the site is backfilled with waste rock. The backfill slopes are built to 1 1/2h:1v or less and seeded as described in the final reclamation plan. The seed mix specified in the Reclamation Plan is planted after the placement of topsoil.

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE		

6. **Appearances of instability, structural weakness, and other hazardous conditions.**

No structural weaknesses were observed during the visit to the site. The sedimentation pond did not contain significant water at the time of the inspection.

No hazardous conditions were observed at the time of the inspection.

7. **Other Comments. Describe any changes in the geometry of the Excess Spoil/Refuse Pile structure, instrumentation, average and maximum lifts of materials placed in the pile, elevations of active benches, total and remaining storage capacity of the structure, evidence of fires in the pile and abatement of such fires, volumes of materials placed in the structure during the year, and any other aspect of the structure affecting its stability or function which has occurred during the reporting period.**

The pile has a remaining storage capacity of approximately 25,402 tons. The total storage capacity as designed is 334,125.

Certification Statement

REGISTERED PROFESSIONAL ENGINEER
11-25-03
[Cert. Stamp]
No. 160554-2202
DOUGLAS E. JOHNSON
STATE OF UTAH

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

By: DOUGLAS E. JOHNSON, MGR. TECH. SUPPORT
(Full Name and Title)

Signature: Douglas E Johnson **Date:** 11-25-03 160554-2202

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE			
Permit Number	C/007/005	**Report Date**	February 12, 2004
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company, LLC		
Excess Spoil Pile or Refuse Pile Identification	**Pile Name**	Skyline Waste Rock Site	
	Pile Number	NA	
	MSHA ID Number	42-01566	
Inspection Date	December 31, 2003		
Inspected By	Carl Winters		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)		Annual/Quarterly	
		Attachments to Report? ✗ **No** ☐ **Yes**	

Field Evaluation

1. **Foundation preparation, including the removal of all organic material and topsoil.**

The site was not accessible on the inspection date. Topsoil removal and foundation preparation was completed several years prior to the most recent placement of material.

2. **Placement of underdrains and protective filter systems.**

No underdrains are present or required at this site.

3. **Installation of final surface drainage systems.**

Existing surface is not at final contour. Therefore, final surface drainages have not yet been constructed. All surface runoff from the refuse pile is treated by the sediment pond. Runoff from the main access road below the sediment pond is treated by straw bale dikes.

4. **Placement and compaction of fill materials.**

No gob was hauled to the site during this quarter.

5. **Final grading and revegetation of fill.**

Contemporaneous reclamation of the waste rock pile is taking place as the site is backfilled with waste rock. The backfill slopes are built to 1 1/2h:1v or less and seeded as described in the final reclamation plan. The seed mix specified in the Reclamation Plan is planted after the placement of topsoil.

INSPECTION AND CERTIFIED REPORT ON EXCESS SPOIL PILE OR REFUSE PILE		

6. **Appearances of instability, structural weakness, and other hazardous conditions.**

The site was inaccessible at the time of the inspection.

7. **Other Comments. Describe any changes in the geometry of the Excess Spoil/Refuse Pile structure, instrumentation, average and maximum lifts of materials placed in the pile, elevations of active benches, total and remaining storage capacity of the structure, evidence of fires in the pile and abatement of such fires, volumes of materials placed in the structure during the year, and any other aspect of the structure affecting its stability or function which has occurred during the reporting period.**

The pile has a remaining storage capacity of approximately 25,402 tons (as reported in the previous quarterly inspection). The total storage capacity as designed is 334,125.

Certification Statement

REGISTERED PROFESSIONAL ENGINEER
CARL W WINTERS
NO 22 157958-2202
STATE OF UTAH
[Cert. Stamp]

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

By: Carl W. Winters
(Full Name and Title) Business Manager

Signature: Carl W. Winters **Date:** 7-13-04

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	**Report Date**	March 28, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Mine Site Sediment Pond	
	Impoundment Number	001	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	March 28, 2003
Inspected By	Chris Hansen
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No signs of instability were observed. No hazardous conditions were observed during the inspection of the pond.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment Storage Capacity: 72,658 ft^3
60% Elevation: 8568.5 feet ASL (above sea level)
100% Elevation: 8571.5 feet ASL
The current elevation of the sediment within the pond at the discharge point was approximately 8562 ft ASL. At this elevation, approximately 90% of the storage volume remains. The remaining sediment volume storage capacity is approximately 65,392 ft^3.

3. Principle and emergency spillway elevations.

Principal and Emergency Spillway Elevations: 8579.6 feet ASL (The outlet structure for Pond 001 serves as both the Principal and Emergency Spillways)

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT

. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

Water elevation at the time of inspection was 8579.78 feet ASL (0.1 feet above discharge elevation) and was discharging. A sample of the pond discharge water has been taken on weekly basis throughout the quarter as required by the mine's UPDES permit. On a biweekly basis the water sample is analyzed for total iron and total dissolved solids. Weekly samples include oil and grease, total suspended solids, pH and conductivity. A sample of the water had been obtained on the 27 of March. Therefore, no additional sample was obtained on the day of the inspection.

Surface water is collected from the upper mine pad and discharged to the pond through a culvert located on the west end of the pond. The culvert appeared to be functioning as designed. The outlet structure was working as designed and appeared to be in good working condition. Currently, the mine discharges water collected in Mine #3 directly to the pond outlet structure, by-passing the pond. The maximum volume of water discharged from Mine #3 to the outlet structure is approximately 1650gpm.

A small area on the north side of the pond has a colony of cattails. The colony poses no threat to the operation of the pond.

A small delta appears to be forming at the base of the inlet culvert on the west end of the pond.

The pond was cleaned of most of its sediment in October and November of 2002. The sediment was hauled to the waste rock site for disposal.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The overall geometry of the pond does not appear to have been modified this quarter. The pond has continually discharged this quarter, therefore the minimum elevation has been no less than 8579.6. Flow depth above the level of the discharge pipe can vary between less than 0.01 and 0.26 feet. The estimated sediment in the pond in the first quarter of this year was 7,266 ft^3 and remaining sediment storage capacity is 65,392 ft^3 (after pond cleanout in October and November 2002). Total storage volume for water and sediment combined is 179,014 ft^3 (4.1 ac-ft).

Based on the estimated volume of sediment, the estimated volume of water in the pond is 171,748 ft^3 (3.93 ac-ft).

Qualification Statement	I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. **Signature:** Chad D. Hansen **Date:** 3-28-03

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	Report Date	July 15, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	Impoundment Name	Mine Site Sediment Pond	
	Impoundment Number	001	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	June 24, 2003
Inspected By	Chris Hansen
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No signs of instability were observed. No hazardous conditions were observed during the inspection of the pond.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment Storage Capacity: 72,658 ft^3
60% Elevation: 8568.5 feet ASL (above sea level)
100% Elevation: 8571.5 feet ASL
The current elevation of the sediment within the pond at the discharge point was approximately 8,565.5 ft ASL (14,532 ft^3). At this elevation, approximately 80% of the storage volume remains. The remaining sediment volume storage capacity is approximately 58,126 ft^3.

3. Principle and emergency spillway elevations.

Principal and Emergency Spillway Elevations: 8579.6 feet ASL (The outlet structure for Pond 001 serves as both the Principal and Emergency Spillways)

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

Water elevation at the time of inspection was 8579.68 feet ASL (0.08 feet above discharge elevation) and was discharging. A sample of the pond discharge water has been taken on weekly basis throughout the quarter as required by the mine's UPDES permit. On a biweekly basis the water sample is analyzed for total iron and total dissolved solids. Weekly samples include oil and grease, total suspended solids, pH and conductivity. A sample of the water had been obtained on the 18 of March. Another sample was obtained on the 25 of June.

Surface water is collected from the upper mine pad and discharged to the pond through a culvert located on the west end of the pond. The culvert appeared to be functioning as designed. The outlet structure was working as designed and appeared to be in good working condition. Currently, the mine discharges water collected in Mine #3 directly to the pond outlet structure, by-passing the pond. The maximum volume of water discharged from Mine #3 to the outlet structure is approximately 840gpm.

A small area on the north side of the pond has a colony of cattails. The colony poses no threat to the operation of the pond.

A small delta appears to be forming at the base of the inlet culvert on the west end of the pond.

The pond was cleaned of most of its sediment in October and November of 2002. The sediment was hauled to the waste rock site for disposal.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The overall geometry of the pond does not appear to have been modified this quarter. The pond has almost continually discharged this quarter, therefore the minimum elevation has been no less than 8579.6. Flow depth above the level of the discharge pipe can vary between less than 0.01 and 0.26 feet. Total storage volume for water and sediment combined is 179,014 ft^3 (4.1 ac-ft).

Based on the estimated volume of sediment, the estimated volume of water in the pond is 164,482 ft^3 (3.78 ac-ft).

Qualification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. **Signature:** [signature] **Date:** 7-15-03

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	Report Date	November 21, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	Impoundment Name	Mine Site Sediment Pond	
	Impoundment Number	001	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	September 16, 2003
Inspected By	Chris Hansen
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No signs of instability were observed. No hazardous conditions were observed during the inspection of the pond.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment Storage Capacity: 72,658 ft^3
60% Elevation: 8568.5 feet ASL (above sea level)
100% Elevation: 8571.5 feet ASL
The current elevation of the sediment within the pond at the discharge point was approximately 8,566.0 ft ASL (19,374 ft^3). At this elevation, approximately 74% of the storage volume remains. The remaining sediment volume storage capacity is approximately 53,284 ft^3.

3. Principle and emergency spillway elevations.

Principal and Emergency Spillway Elevations: 8579.6 feet ASL (The outlet structure for Pond 001 serves as both the Principal and Emergency Spillways)

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

Water elevation at the time of inspection was 8579.62 feet ASL (0.02 feet above discharge elevation) and was discharging. A sample of the pond discharge water has been taken on weekly basis throughout the quarter as required by the mine's UPDES permit. On a biweekly basis the water sample is analyzed for total iron and total dissolved solids. Weekly samples include oil and grease, total suspended solids, pH and conductivity.

Surface water is collected from the upper mine pad and discharged to the pond through a culvert located on the west end of the pond. The culvert appeared to be functioning as designed. The outlet structure was working as designed and appeared to be in good working condition. Currently, the mine discharges water collected in Mine #3 directly to the pond outlet structure, by-passing the pond. The maximum volume of water discharged from Mine #3 to the outlet structure is approximately 840gpm.

A small area on the north side of the pond has a colony of cattails. The colony poses no threat to the operation of the pond.

A small delta appears to be forming at the base of the inlet culvert on the west end of the pond.

The pond was cleaned of most of its sediment in October and November of 2002. The sediment was hauled to the waste rock site for disposal.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The overall geometry of the pond does not appear to have been modified this quarter. The pond has almost continually discharged this quarter, therefore the minimum elevation has been no less than 8579.6. Flow depth above the level of the discharge pipe can vary between less than 0.01 and 0.26 feet. Total storage volume for water and sediment combined is 179,014 ft^3 (4.1 ac-ft).

Based on the estimated volume of sediment, the estimated volume of water in the pond is 159,640 ft^3 (3.66 ac-ft).

Qualification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. **Signature:** Chris Johnson **Date:** 11-21-03

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	**Report Date**	February 12, 2004
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Mine Site Sediment Pond	
	Impoundment Number	001	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	December 31, 2003
Inspected By	Carl Winters
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual/Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No signs of instability were observed. No hazardous conditions were observed during the inspection of the pond.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment Storage Capacity: 72,658 ft^3
60% Elevation: 8568.5 feet ASL (above sea level)
100% Elevation: 8571.5 feet ASL
The current elevation of the sediment within the pond at the discharge point was approximately 8,566.5 ft ASL (14,531 ft^3). At this elevation, approximately 80% of the storage volume remains. The remaining sediment volume storage capacity is approximately 58,127 ft^3.

3. Principle and emergency spillway elevations.

Principal and Emergency Spillway Elevations: 8579.6 feet ASL (The outlet structure for Pond 001 serves as both the Principal and Emergency Spillways)

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

Water elevation at the time of inspection was 8579.62 feet ASL (0.02 feet above discharge elevation) and was discharging about 25 gpm. A sample of the mine discharge water has been taken on weekly basis throughout the quarter as required by the mine's UPDES permit. On a biweekly basis the water sample is analyzed for total iron and total dissolved solids. Weekly samples include oil and grease, total suspended solids, pH and conductivity.

Surface water is collected from the upper mine pad and discharged to the pond through a culvert located on the west end of the pond. The culvert appeared to be functioning as designed. The outlet structure was working as designed and appeared to be in good working condition. Currently, the mine discharges water collected in Mine #3 directly to the pond outlet structure, by-passing the pond. The maximum volume of water discharged from Mine #3 to the outlet structure is approximately 840 gpm.

A small area on the north side of the pond has a colony of cattails. The colony poses no threat to the operation of the pond.

The pond was cleaned of most of its sediment in October 2003.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The overall geometry of the pond does not appear to have been modified this quarter. The pond has almost continually discharged this quarter; therefore the minimum elevation has been no less than 8579.6. Flow depth above the level of the discharge pipe can vary between less than 0.01 and 0.26 feet. Total storage volume for water and sediment combined is 179,014 ft^3 (4.1 ac-ft).

Based on the estimated volume of sediment, the estimated volume of water in the pond is 164,483 ft^3 (3.78 ac-ft).

REGISTERED PROFESSIONAL ENGINEER
CARL W WINTERS
NO 22 157958-2202
STATE OF UTAH
2-13-04

Qualification Statement

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

Signature: Carl W. Winters **Date:** 2-13-04

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	Yes	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	Yes	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	Yes	

COMMENTS AND OTHER INFORMATION

No exceedances of the UPDES permit limits have occurred within the 4th quarter of 2003. Exceedances of the tons/per day permit limits had occurred in the previous quarters of this year. However, since the water quality was acceptable with regard to all other parameters and the TDS levels of the water was less than 500 mg/l, the Utah Division of Water Quality has chosen not to take enforcement action at this time. The mine's UPDES permit has been modified to allow the mine to discharge water with a TDS concentration less than 500 mg/l and no daily tonnage limit. If the TDS concentration increases above 500 mg/l, the mine is then subject to a limit of 7.1 tons per day of TDS.

Certification Statement:

REGISTERED PROFESSIONAL ENGINEER
CARL W WINTERS
NO 22 157958-2202
STATE OF UTAH
2-13-04
[PE Cert/Stamp]

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Carl W. Winters
(Full Name and Title) Business Manager

Signature: [signature] **Date:** 2-13-04

P.E. Number & State:

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	**Report Date**	March 28, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Rail Loadout Sediment Pond	
	Impoundment Number	002	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	March 28, 2003
Inspected By	Chris Hansen
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No instability of the embankment was noted during the inspection. No hazardous conditions were noted at the time of the inspection. Pond was frozen over with ice.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment Storage Capacity: 54,710 ft^3
60% Elevation: 7915.0 feet ASL (above sea level)
100% Elevation: 7915.6 ASL
Current Sediment Level Elevation: 7914 feet ASL

3. Principle and emergency spillway elevations.

Principle Spillway Elevation: 7919.7 feet ASL
Emergency Spillway Elevation: 7922 feet ASL

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

The surface of the ice covering the pond is currently approximately 12-inches below discharge level of the primary spillway or at an elevation of 7923.7 feet ASL. No discharge from the pond occurred this quarter. The pond was cleaned of sediment in July 2000. The pond has not been decanted since. The pond embankment appears stable and without noticeable erosion. Vegetation growing on the embankment and outslopes do not appear to create hazardous conditions.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The geometry of the pond does not appear to have changed recently. The pond was covered by an ice sheet several inches thick at the time of the inspection thus precluding an accurate measurement of the sediment held in the pond. The sediment volume in the was estimated to be 5,471 ft^3 in the 4th quarter of 2002 with a remaining sediment storage capacity of 49,239 ft^3. Since the area did not experience significant runoff events in the 1st quarter of 2003, the sediment volume did not likely increase significantly. The water level at the time of the inspection was approximately 7,917.7 ft ASL. The average elevation of the water impounded in the pond in 2002 was 7,918.0 feet ASL. This average is based upon the water surface elevations obtained during each quarterly inspection. The maximum elevation of approximately 7919.8 feet ASL of the water occurred when the pond spilled in March of 2002.

Total storage volume of water and sediment combined is 95,380 ft^3 (2.2 ac-ft). Assuming the sediment volume is approximately 5,471 ft^3, the estimated total water capacity remaining in the pond is approximately 73,279 ft^3 (1.7 ac-ft).

Qualification Statement	I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. **Signature** Craig D. Hansen **Date:** 3-28-03

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)	**YES**	**NO**

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	**Report Date**	July 15, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Rail Loadout Sediment Pond	
	Impoundment Number	002	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	June 24, 2003
Inspected By	Chris Hansen
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No instability of the embankment was noted during the inspection. No hazardous conditions were noted at the time of the inspection.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment Storage Capacity: 54,710 ft^3
60% Elevation: 7915.0 feet ASL (above sea level)
100% Elevation: 7915.6 ASL
Current Sediment Level Elevation: 7914.8feet ASL

3. Principle and emergency spillway elevations.

Principle Spillway Elevation: 7919.7 feet ASL
Emergency Spillway Elevation: 7922 feet ASL

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

Current water elevation is 7,918.5 feet ASL

Minimal discharge from the pond occurred this quarter. The pond discharged sporadically for about one week this spring. The pond was cleaned of sediment in July 2000. The pond has not been decanted since. The pond embankment appears stable and without noticeable erosion. Vegetation growing on the embankment and outslopes do not appear to create hazardous conditions.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The geometry of the pond does not appear to have changed recently. The sediment volume in the pond was estimated to be 32,278 ft^3 with a remaining sediment storage capacity of 22,432 ft^3. The water level at the time of the inspection was approximately 7,918.5 ft ASL. The maximum elevation of approximately 7919.8 feet ASL of the water occurred when the pond spilled in April of 2003.

Total storage capacity of water and sediment combined is 95,380 ft^3 (2.2 ac-ft). Assuming the sediment volume is approximately 32,278 ft^3, the estimated total water capacity remaining in the pond is approximately 63,102 ft^3 (1.5 ac-ft).

Qualification Statement

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

Signature: Chad Thomas **Date:** July 15, 2003

CERTIFIED REPORT

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	**Report Date**	November 21, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Rail Loadout Sediment Pond	
	Impoundment Number	002	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	September 16, 2003
Inspected By	Chris Hansen
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No instability of the embankment was noted during the inspection. No hazardous conditions were noted at the time of the inspection.

Required for an impoundment which functions as a SEDIMENTATION POND.	**2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.** Sediment Storage Capacity: 54,710 ft^3 60% Elevation: 7915.0 feet ASL (above sea level) 100% Elevation: 7915.6 ASL Current Sediment Level Elevation: 7915.0 feet ASL (at 60 % level)
	3. Principle and emergency spillway elevations. Principle Spillway Elevation: 7919.7 feet ASL Emergency Spillway Elevation: 7922 feet ASL

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

Current water elevation is 7,917.5 feet ASL

The pond is not currently discharging. The inflow ditch on the west side of pond will need to be repaired. Pond will be cleaned in October 2003. The pond was cleaned of sediment in July 2000. The pond has not been decanted since. The pond embankment appears stable and without noticeable erosion. Vegetation growing on the embankment and outslopes do not appear to create hazardous conditions.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The geometry of the pond does not appear to have changed recently. The sediment volume in the pond was estimated to be 32,826 ft^3 with a remaining sediment storage capacity of 21,884 ft^3. The water level at the time of the inspection was approximately 7,917.5 ft ASL. The maximum elevation of was less than 7,919.7 since the pond has not discharged this quarter..

Total storage capacity of water and sediment combined is 95,380 ft^3 (2.2 ac-ft). Assuming the sediment volume is approximately 32,826 ft^3, the estimated total water capacity remaining in the pond is approximately 62,554 ft^3 (1.43 ac-ft).

Qualification Statement

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

Signature: Chuck Hanson **Date:** 11-21-03

CERTIFIED REPORT

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	**Report Date**	February 12, 2004
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Rail Loadout Sediment Pond	
	Impoundment Number	002	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	December 31, 2003
Inspected By	Carl Winters
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Annual/Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No instability of the embankment was noted during the inspection. No hazardous conditions were noted at the time of the inspection. Ice covered the entire surface of the pond.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment Storage Capacity: 54,710 ft^3
60% Elevation: 7915.0 feet ASL (above sea level)
100% Elevation: 7915.6 ASL
Current Sediment Level Elevation: 7915.0 feet ASL (at 60 % level). This number is based on the volume reported in the 3rd Quarter of 2003. The sediment pond was cleaned of sediment in the last week of October 2003. Therefore, the elevation of sediment is probably less than 7915.6. However, since the pond surface was covered with ice, a determination of sediment elevation was not possible.

3. Principle and emergency spillway elevations.

Principle Spillway Elevation: 7919.7 feet ASL
Emergency Spillway Elevation: 7922 feet ASL

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

Current water/ice surface elevation is 7,918.8 feet ASL

The pond is not currently discharging. The inflow ditch on the west side of pond was repaired when sediment was removed from the pond in October 2003. The pond has not been decanted since July 2000. The pond embankment appears stable and without noticeable erosion. Vegetation growing on the embankment and outslopes does not appear to create hazardous conditions.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The geometry of the pond does not appear to have changed recently. The sediment volume in the pond, based on the 2003 3rd quarter inspection, was estimated to be 32,826 ft^3 with a remaining sediment storage capacity of 21,884 ft^3. The water level at the time of the inspection was 7,918.8 ft ASL. The maximum elevation of was less than 7,919.7 since the pond has not discharged this quarter.

Total storage capacity of water and sediment combined is 95,380 ft^3 (2.2 ac-ft). Assuming the sediment volume is approximately 32,826 ft^3, the estimated total water capacity remaining in the pond is approximately 62,554 ft^3 (1.43 ac-ft). However, it should be noted that the pond was cleaned of sediment in October 2003. A confirmation of the sediment elevation was not possible at the time of the inspection.

Qualification Statement	I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. **Signature:** [signature] **Date:** 2-13-04

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	Yes	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	Yes	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	Yes	

COMMENTS AND OTHER INFORMATION

Certification Statement:

REGISTERED PROFESSIONAL ENGINEER
CARL W WINTERS
NO 22 157958-2202
STATE OF UTAH

[PE Cert. Stamp]

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Carl W. Winters
(Full Name and Title) Business Manager

Signature: Carl W. Winters **Date:** 2-13-04

P.E. Number & State:

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	**Report Date**	March 28, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Waste Rock Site Sediment Pond	
	Impoundment Number	003	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	March 28, 2003
Inspected By	Chris Hansen
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No signs of instability, structural weaknesses, or any other hazardous conditions were found during the inspection of the pond.

Required for an impoundment which functions as a SEDIMENTATION POND.	**2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.** Sediment Storage Capacity: 6906 ft^3 60% Elevation: 7860.8 feet ASL (above sea level) 100% Elevation: 7861.3 ASL Current Sediment Level Elevation: No significant volume of sediment was observed during the 1st quarter of this year. A small delta has formed at the inlet to the pond and in the southeast corner of the pond. The pond was last cleaned in October 2000.
	3. Principle and emergency spillway elevations. Principal and Emergency Spillways Elevation: 7865.5 feet ASL (The outlet of Pond 003 serves as both the principal and emergency spillway).

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

This pond did not discharge in the first quarter of 2003, therefore no water samples were been obtained. No water was present in the pond at the time of inspection. No repairs to the pond have been needed in 2003. The sediment pond was not cleaned of sediment in the first quarter of 2003 nor was the pond decanted. Vegetation on the outslopes of the pond embankment do not appear to present any type of hazardous conditions.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The overall geometry of the pond has not changed since October 2000 when the pond sediment was cleaned out. Total estimated available storage volume of water and sediment combined is 42,689 cu. ft. (0.98 ac-ft). This assumption is based on the minimal volume of water noted in the pond and the lack of significant infilling of sediment since the October 2000 cleanout.

Qualification Statement	I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. **Signature:** Chad D. Hamer **Date:** 3-28-03

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	Report Date	July 15, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Waste Rock Site Sediment Pond	
	Impoundment Number	003	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	June 24, 2003
Inspected By	Chris Hansen
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No signs of instability, structural weaknesses, or any other hazardous conditions were found during the inspection of the pond.

Required for an impoundment which functions as a SEDIMENTATION POND.

2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.

Sediment Storage Capacity: 6906 ft^3
60% Elevation: 7860.8 feet ASL (above sea level)
100% Elevation: 7861.3 ASL
Current Sediment Level Elevation: No significant volume of sediment was observed during the 2nd quarter of this year. A small delta has formed at the inlet to the pond and in the southeast corner of the pond. The pond was last cleaned in October 2000.

3. Principle and emergency spillway elevations.

Principal and Emergency Spillways Elevation: 7865.5 feet ASL (The outlet of Pond 003 serves as both the principal and emergency spillway).

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

This pond did not discharge in the second quarter of 2003, therefore no water samples were been obtained. Only small puddles of water were present in the pond at the time of inspection. No repairs to the pond have been needed in 2003. The sediment pond was not cleaned of sediment in the second quarter of 2003 nor was the pond decanted. Vegetation on the out slopes of the pond embankment do not appear to present any type of hazardous conditions. Minor repairs have been made to the fence on the south side of the pond.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The overall geometry of the pond has not changed since October 2000 when the pond sediment was cleaned out. Total estimated available storage volume of water and sediment combined is 42,689 cu. ft. (0.98 ac-ft). This assumption is based on the minimal volume of water noted in the pond and the lack of significant infilling of sediment since the October 2000 cleanout.

Qualification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. **Signature:** Chad Hanson **Date:** 7-15-03

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	**Report Date**	November 21, 2003
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Waste Rock Site Sediment Pond	
	Impoundment Number	003	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	September 26, 2003
Inspected By	Chris Hansen
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

No signs of instability, structural weaknesses, or any other hazardous conditions were found during the inspection of the pond.

Required for an impoundment which functions as a SEDIMENTATION POND.	**2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.** Sediment Storage Capacity: 6906 ft^3 60% Elevation: 7860.8 feet ASL (above sea level) 100% Elevation: 7861.3 ASL Current Sediment Level Elevation: No significant volume of sediment was observed during the 3rd quarter of this year. A small delta has formed at the inlet to the pond and in the southeast corner of the pond. The pond was last cleaned in October 2000.
	3. Principle and emergency spillway elevations. Principal and Emergency Spillways Elevation: 7865.5 feet ASL (The outlet of Pond 003 serves as both the principal and emergency spillway).

4. **Field Information.** Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

This pond did not discharge in the third quarter of 2003, therefore no water samples were been obtained. The pond was dry at the time of inspection. No repairs to the pond have been needed in 2003. The sediment pond was not cleaned of sediment in the third quarter of 2003 nor was the pond decanted. Vegetation on the out slopes of the pond embankment do not appear to present any type of hazardous conditions.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

The overall geometry of the pond has not changed since October 2000 when the pond sediment was cleaned out. Total estimated available storage volume of water and sediment combined is 42,689 cu. ft. (0.98 ac-ft). This assumption is based the pond being dry at the time of inspection and the lack of significant infilling of sediment since the October 2000 cleanout.

Qualification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. **Signature:** Chris Hansen **Date:** 11-21-03

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			
Permit Number	C/007/005	**Report Date**	February 12, 2004
Mine Name	Skyline Mines		
Company Name	Canyon Fuel Company		
Impoundment Identification	**Impoundment Name**	Waste Rock Site Sediment Pond	
	Impoundment Number	003	
	UPDES Permit Number	UT0023540	
	MSHA ID Number	NA	

IMPOUNDMENT INSPECTION

Inspection Date	December 31, 2003
Inspected By	Carl Winters
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly/Annual

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

The site was inaccessible during the time of the inspection.

Required for an impoundment which functions as a SEDIMENTATION POND.	**2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.** Sediment Storage Capacity: 6906 ft^3 60% Elevation: 7860.8 feet ASL (above sea level) 100% Elevation: 7861.3 ASL Current Sediment Level Elevation: Not determined at the time of the inspection.
	3. Principle and emergency spillway elevations. Principal and Emergency Spillways Elevation: 7865.5 feet ASL (The outlet of Pond 003 serves as both the principal and emergency spillway).

Field Information. Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.

As reported by Chris Hansen of Canyon Fuel Company, this pond did not discharge in the third quarter of 2003, therefore no water samples were been obtained. The pond was dry at the time of his inspection. Mr. Hansen reported in the third quarter of 2003 the vegetation on the out slopes of the pond embankment do not appear to present any type of hazardous conditions.

5. **Field Evaluation.** Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.

Not accessible during the time of the inspection.

Qualification Statement	I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability. **Signature:** [signature] **Date:** 2-13-04

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	Yes	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	Yes	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	Yes	

COMMENTS AND OTHER INFORMATION

The pond has not discharged in the previous three quarters of 2003. There have been no reports of discharge from the pond this quarter. The construction of the pond has not been modified in several years.

Certification Statement:

REGISTERED PROFESSIONAL ENGINEER
CARL
W
WINTERS
NO 22 157958-2202
STATE OF UTAH

PE Cert. Stamp

I hereby certify that: I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Carl W. Winters
(Full Name and Title) Business Manager

Signature: Carl W. Winters **Date:** 2-13-04

P.E. Number & State:

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 requirement of R645-310-130 and R645-301-140

CONTENTS

2003 Subsidence Monitoring Map
2003 Vegetation Monitoring Information
2003 Raptor Survey
June 2003 Eccles Creek Macroinvertabrate Study

2003 Vegetation Report for Skyline Mine

The following seedlings were purchased from the Lone Peak Nursery in Draper Utah:

- Mountain Big Sagebrush,
- Birchleaf Mountain Mahogany (substituted for Golden Current which was unavailable due to crop failure),
- Rabbitbrush
- Snowberry, and
- Wood Rose.

Between 50 and 90 seedlings of each species were purchased on May 5, 2003 and planted on May 7, 2002. The seedlings were planted along the conveyor bench just west of the former vegetative test plot. The plants were grown from seeds collected from plants in Utah and Colorado at elevations similar to the mine site. Because of the dry climatic conditions that have continued through 2003, only a few of the seedlings planted in 2002(about 20%) appear to have survived the summer. This estimate of the survival rate of the 2002 plantings was confirmed in the spring of 2003. The same survival rate appears to be applicable to the 2003 plantings.

The following plants have been ordered for the spring of 2004: Golden Current, Woods Rose, Snowberry, Rubber Rabbitbrush, and Mountain Sage Brush. These plants will be planted in early May 2004 again in the former test plot area of the conveyor bench.

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Northern Goshawk Survey

The northern goshawk *(Accipiter gentilis)* in the western United States has been proposed for addition to the U.S. Fish and Wildlife Service (USFWS) species list in the threatened category several times in the last decade, but the USFWS has consistently decided that the status of the species does not yet warrant such protection. This trend was continued in July of 2003 when the USFWS found that the listing of the goshawk is unwarranted. Nevertheless, Region 4 of the U.S. Forest Service (USFS) lists northern goshawk as a sensitive, special status species and requires general presence-absence surveys for goshawk in areas adjacent to proposed development projects. The purpose of this survey was to determine if goshawks are present in three mining development sites within the Manti-La Sal National Forest.

Areas of potentially suitable nesting habitat for northern goshawk typically consist of coniferous forest and mixed-aspen forest types dominated by spruce, fir, pine, and aspen (Squires and Reynolds, 1997). Three sites were analyzed, using GAP data and ground truthing, and surveyed for the presence of goshawks in this study (See Figures 1 and 2). Site I is made up of 86 acres of aspen and 38 acres of aspen /conifer for a total of 124 acres. The forest on this site is somewhat open and may not be ideal goshawk nesting habitat. Site II is made up of 139 acres of dry meadow, 68 acres of aspen, 10 acres of spruce-fir and 8 acres of aspen-conifer for a total of 225 acres. The dry meadow is obviously unsuitable for goshawk nesting and the aspen habitat is somewhat open as it was on site I. Site III is made up of 300 acres of aspen and 128 acres of fir for a total of 428 acres. The forest on this site is relatively dense and offers acceptable to good nesting habitat for goshawks. The standardized inventory and monitoring protocols developed by Kennedy and Stahlecker (1993) and Joy et al. (1994) and adopted by the USFS in Utah were used to conduct surveys for nesting northern goshawks.

The surveys were conducted June 26-27, 2003, by broadcasting recordings of goshawk kecking calls from stations approximately 300 meters apart in the study area between dawn and approximately mid-day. The observer waited quietly at each broadcast station for one minute before initiating broadcasts of northern goshawk calls for 30 seconds, then repeating 10 seconds of calls for each 30 second interval (at least one in each of the four cardinal directions) thereafter

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for three minutes. The observer then remained silent, listened for responses and scanned for flying northern goshawks for one additional minute before moving on to the next station.. The boundaries for the calling station were plotted with a 200-meter buffer although the taped calls probably broadcasted in excess of 300 meters.

No northern goshawks were detected either visually or aurally. While the lack of northern goshawk detections within the three sites indicates that there is currently no active nesting pairs on this property, all three sites fall within known goshawk territories. Although it is not known if the resident pairs have been recently active (Player, 2003), it is likely that they may become active again, given the return of more favorable conditions.

If you have any questions regarding these survey methods or findings please do not hesitate to contact me at (801) 322-4307 at your earliest convenience. SWCA appreciates the opportunity to be of service to Mt. Nebo Scientific.

Sincerely,

Thomas Sharp
Wildlife Ecologist

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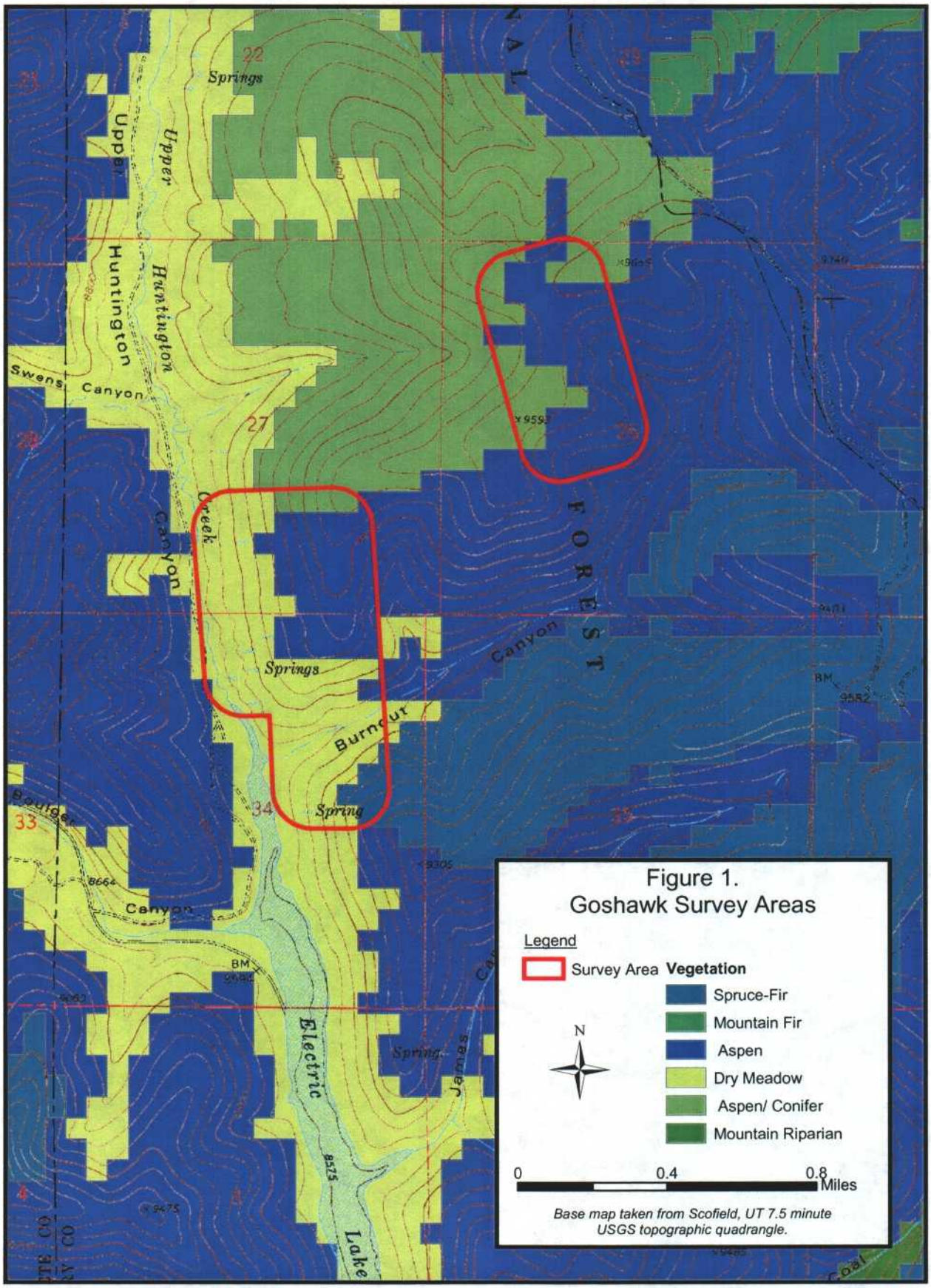

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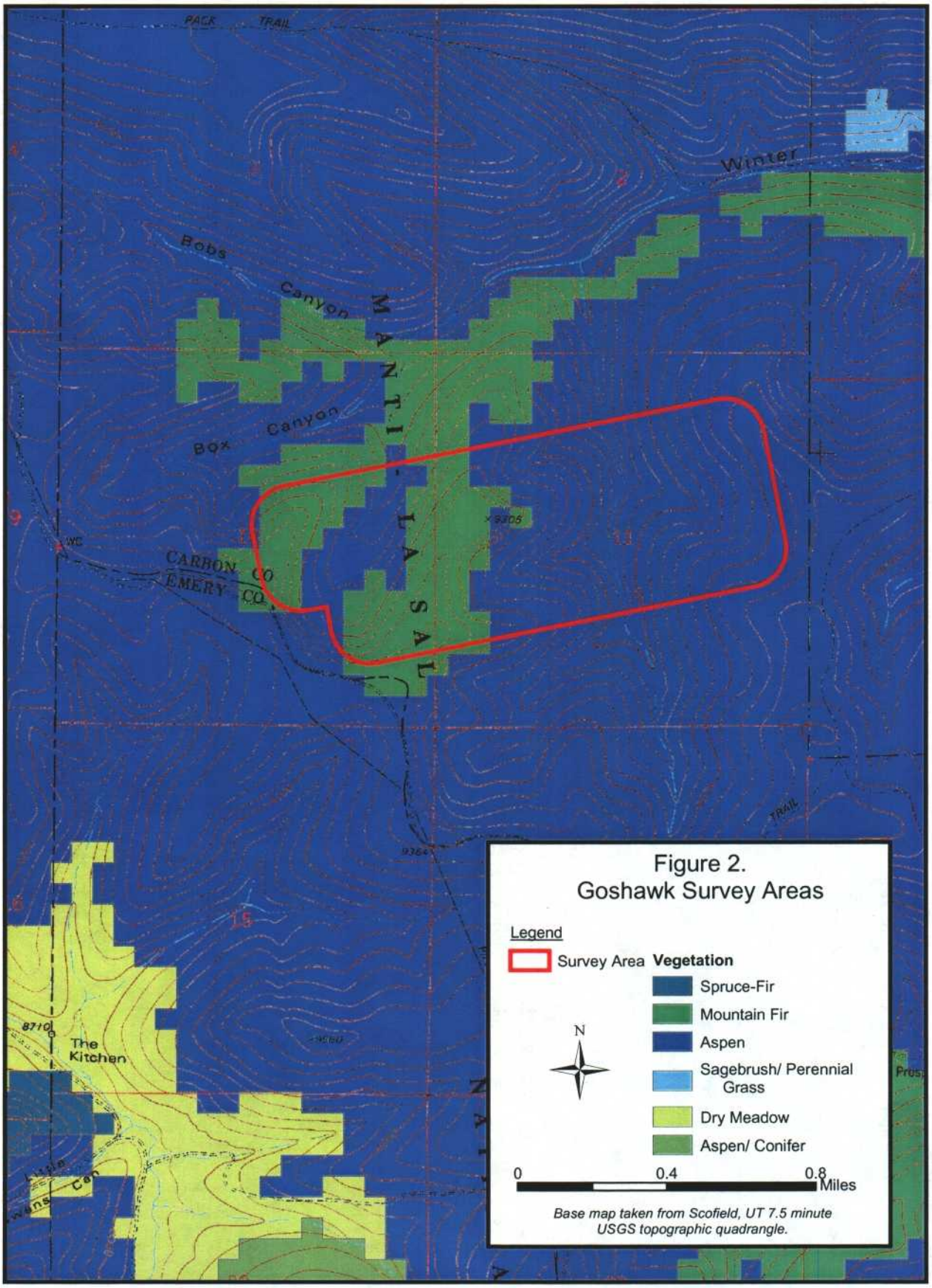

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Eccles Creek Benthic Invertebrate Monitoring

June 2003

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Introduction

In August of 2001 an aquifer tapped by Skyline Mine, near Scofield, Utah, significantly increased the discharge of water from the mine into Eccles Creek. The discharge has maintained the stream at approximately bank full levels since that time. This report summarizes results of monitoring of the benthic invertebrate community in Eccles Creek for spring, 2003 and includes summaries of previous data to maintain the context for comparative purposes. The samples taken in the spring of 2003 represents the fourth sample series taken from the stream within the time period following increased discharge. This project was undertaken for Canyon Fuel Company with the objective of determining the impact of the increased flows on the stream community.

Methods

Quantitative samples were taken from Eccles Creek on June 12, 2003. The three stations sampled were Eccles Creek, above South Fork (EC2: N 39^0 40.970', W 111.11.579', 8406 feet elevation), Eccles Creek at Whisky Canyon (EC-4: N 39^0 40.908', W 111.10.747', 8234 feet elevation), and Lower Eccles Creek (EC-5: N 39^0 41.001', W 111.10.031', 8074 feet elevation). These three stations have been sampled intermittently since 1979 (Shiozawa 2003). The samples were taken from the same locations sampled in July and October of 2002. Five replicate samples were taken per station. All samples were taken from locations in the stream where rubble or cobble substrates were present to reduce variability. A box sampler with a net mesh of 250 microns was used to collect the samples. The substrate was stirred to a depth of approximately 5 cm. All rocks within the area of the sampler were removed and individually washed to insure quantitative collection of the invertebrates. The samples were concentrated on a screen with a mesh of 64 microns and field preserved in ethyl alcohol. A GPS unit was used to both locate and record the positions of the sample stations.

In the laboratory the samples were sorted in illuminated pans. All invertebrates were removed and identified to the lowest possible taxonomic level using the keys of Merritt and Cummins (1996). Beginning with this sample series we have taken sub-samples from the samples after they were visually sorted. The sorted samples were placed in a volume of 200 ml and five 2 ml subsamples were processed under magnification with a dissecting scope. This was done to improve the accuracy of the sample counts. The mean density per subsample was used to project the total density of organisms remaining in the visually sorted sample, and these projections were added to the total count from the visual sorting. The data were then used to determine the density of taxa per square meter. Mean biomass estimates were also generated so that trends in standing crop could be documented.
Analyses included comparisons of the number of taxa and mean densities in the June 2003 samples with those generated from samples taken October 2002, November 24, 2001 (Shiozawa 2002a) and July 2, 2002 (Shiozawa 2002c), and with samples taken in 1979 (Winget 1980) and1992 (Ecosystems Research Institute,1992). These comparisons allow a general evaluation of changes that have occurred since the increased discharge of water into the stream channel from

the mine, and help place the results in perspective relative to other perturbations and baseline conditions.

The community tolerance quotient (CTQ; Winget and Mangum 1979) was used to gain insight into the condition of the stream relative to idealized system predicted from slope, water chemistry, and substrate. Water chemistry for Eccles Creek was provided EarthFax Engineering (2001). The following estimates were used for alkalinity and sulfate levels: Eccles Creek alkalinity recorded levels at 264 mg/l and sulfate estimated at 49 mg/l. The gradient in Eccles Creek it is approximately 3.3%. With its combination of physical properties, it had a predicted community tolerance quotient (CTQp) of 80 (Winget and Mangum 1979). The Biotic Condition Index was used to further interpret the data generated with this procedure.

Diversity was calculated for the stations using the Shannon-Weiner index (Pieliou 1977). This allows a general comparison among sample stations and dates. Diversity indices take the number of taxa and their individual densities into account, generating a single value for each station. The greater the number of species or taxa and generally the more even the distribution of densities between taxa, the higher the index value. Finally, the data were clustered with the UPGMA algorithm using the Bray-Curtis measure of dissimilarity (Poole 1974, Krebs 1989). The NTSYSpc package was utilized to generate the cluster dendrograms (Rolf 2000).

Results and Discussion

Number of Taxa

Nineteen taxa were collected from Eccles Creek in the spring 2003 samples, eleven taxa in EC2 , nine in EC5, and seven taxa in EC4 (Table 1). The total number of taxa is less than the 23 taxa collected in October 2002, but is still significantly higher than the five taxa (*Baetis*, *Hydropsyche*, *Pedicia*, chironomids, and ostracods) gathered from Eccles Creek in the 2001 sampling series. In comparison to the October 2002 data, the June 2003 samples increased in the number of taxa at sites EC2 and EC4, while station EC5 decreased in the number of taxa. These numbers are comparable with the data collected in the early 1990s (Ecosystems Research Institute,1992), but are a third to a fourth the number collected in the late 1970s (Winget 1980). If the stream were to recover to the pre-mining level, the number of taxa would be expected to increase substantially. However the sustained high discharge does not favor retention of detritus, and thus it is unlikely that the stream can recover without a reduction in flow. The number of taxa existing in Eccles Creek between the impacts of the early 1990's and the increased discharge in 2001, is unknown. However, studies in the 1980s documented the impact of the road, (Shiozawa 2002b), so it is reasonable to assume that just prior to the increased discharge of 2001, between 21 to 33 taxa were in the system. This would suggest that a doubling of the number of taxa from the June 2003 samples is a minimum recovery level for taxa.

Table 1. Number of taxa collected from Eccles Creek.

	Winget 1980		Ecosystems Research Institute 1992			Shiozawa 2002a	Shiozawa 2002c	Shiozawa 2003	
Sampling date	May-June 1979	Aug 1979	June 1990	Oct 1990	Sept 1991	Nov 2001	July 2003	Oct 2003	June 2003
South Fork tributary above mine, upper site (USF2)			20	11					
South Fork tributary above mine (USF)			12	9	21				
Middle Fork tributary above mine (UMF)			14	18					
Eccles Creek below mine (EC1)			4	2					
Eccles Creek above south Fork (EC2)		42	6		6		6	11	11
South Fork Eccles Creek (SF)	36	35	12						
Eccles Creek below South Fork (EC3)	27	30							
Eccles Creek at Whisky Canyon (EC4)	35	37	7	17	15	6	14	7	10
Lower Eccles Creek (EC5)	38	21	12	13/11	14		6	11	9

Total Density Comparisons

Total density (Table 2) of invertebrates in the June, 2003 sampling series was 6670 per square meter, considerably higher than obtained in October 2002 when the average per square meter was 1877. This increase is partly due to seasonal changes in community structure. Early instars of many invertebrates can pass through a 250 micron mesh net and chironomids often overwinter in

early instars (e.g. Shiozawa and Barnes1977). By June they would have grown to a size that could be more readily collected by the sampler. In addition, beginning with this sample series we initiated subsampling to improve recovery of small invertebrates that are often missed by unaided sorting in the illuminated trays. The increase in specimen recovery is seen with small invertebrates, especially microcrustaceans and early instar chironomids.

Table 2. Total invertebrate densities per square meter for selected studies on Eccles Creek.

	Winget 1980		Ecosystems Research Institute 1992			Shiozawa 2002a	Shiozawa 2002c	Shiozawa 2003	this report
Sampling date	May-June 1979	Aug 1979	June 1990	Oct 1990	Sept 1991	Nov 2001	July 2003	Oct 2003	June 2003
South Fork tributary above mine, upper site (USF2)			1089	528					
South Fork tributary above mine (USF)			1144	216	2455				
Middle Fork tributary above mine (UMF)			1503	3812					
Eccles Creek below mine (EC1)			164	16					
Eccles Creek above south Fork (EC2)		73,181	267		89		3703	1260	6265
South Fork Eccles Creek (SF)	9321	17773	1356						
Eccles Creek below South Fork (EC3)	18,093	23,247							
Eccles Creek at Whisky Canyon (EC4)	11,634	25,273	1719	3928	1419	61	8757	1491	10,351
Lower Eccles Creek (EC5)	18661	2526	2212	4104/ 2863	1468		4927	2879	3393

The total density for June 2003 is also higher than both the July 2002 (Shiozawa 2002c) and the 1990 (Ecosystems Research Institute,1992) estimates, but is are still lower than the values

recorded in 1979. As noted in previous reports (Shiozawa 2002c, 2003) the invertebrate densities should increase to 15,000 per square meter, or higher, if total numbers were to approximate the baseline condition. Based upon that measure, the stream has still not recovered, although EC4 appears to be close.

Taxa Specific Densities

While total densities can give a quick picture of the state of the stream system, they can also be misleading if the component taxa are not considered. High densities of relatively few taxa are common in stressed or polluted systems because under such conditions a few tolerant taxa are able to monopolize resources in an environment with reduced predation and competition.

Baetis were absent or rare in the June 2003 sampling series (Table 3). In the July 2002 samples (Shiozawa 2002c) *Baetis* densities were moderate, at 242/m^2 491/m^2 and 200/m^2 in EC2, EC4, and EC5 respectively. The October 2002 samples showed *Baetis* absent at EC2, about the same density at EC4 (400/m^2), and higher at EC5 (1297/m^2). Yet in the June 2003 samples only six *Baetis* per square meter were found at EC4, and none were present at EC2 or EC5. Sampling error and seasonal changes in abundance due to their life cycle could be responsible for this decrease, but those are unlikely given that a progressive decline in *Baetis*, beginning in the downstream station (EC2), appears to have taken place from July of 2002 to June of 2003. It is possible that the initial invasion of this vagrant species has not been sustained with the continual scouring of the stream bed by high flows. The constant and higher temperature of the stream may have also altered (advanced) emergence times such that the mayflies are emerging in mid winter when adult survival is not possible.

The mayfly *Cinygmula* was in moderate densities in the upstream site (EC2) with a density of 230/m^2, but rare or absent in the middle(EC4) and lower (EC5) sites. This genus was also absent in the fall 2002 samples, but was in very low densities at stations EC2 and EC4 in July of 2002. *Cinygmula* is characteristic of relatively high quality systems, so its increase in the upstream site may be a positive indicator for that station. It is a scraper-gatherer, feeding on algae and detritus on the surface of rocks. Prior to the construction of the road, this genus reached densities of over 8000 per square meter in late summer, although spring and early summer densities were around 1000 per square meter in the middle and upper reaches of Eccles Creek (Shiozawa 2002b). The numbers collected at EC2 are about a third to a fourth of what we would expect under baseline conditions.

The hydroptilid caddisfly, *Ochrotricha* (a micro-cadddisfly), was abundant in EC4. Densities were high in several samples (these were mostly detected in subsamples). These insects attach to the surface of rocks and woody debris and feed on algae growing on the surface of the substrate. While this taxon is abundant, it is also very small. It was absent from both the upstream (EC2) and downstream (EC5) sites. Other hydroptilids (*Hydroptila*) were collected at station EC4 in July of 2002. It is not clear why this site has these taxa, while the other sites do not, but they are

tolerant to stressful conditions and their feeding behavior, utilizing algae on the surface of rocks means they are not reliant on continual detritus input and deposition.

Table 3. Sample data and invertebrates per square meter.

	Eccles Creek above South Fork (EC2)						Eccles Creek Whisky Canyon (EC4)						Lower Eccles Creek (EC5)					
Taxa	1	2	3	4	5	**#/m²**	1	2	3	4	5	**#/m²**	1	2	3	4	5	**#/m²**
Ephemeroptera: *Baetis*	0	0	0	0	0	**0**	0	0	0	0	1	**6**	0	0	0	0	0	**0**
Ephemeroptera: *Cinygmula*	0	1	2	1	34	**230**	0	0	0	0	1	**6**	0	0	0	0	0	**0**
Plecoptera: *Zapada*	2	0	0	0	0	**12**	0	0	0	0	0	**0**	0	0	0	0	0	**0**
Trichoptera: pupae	0	0	0	0	0	**0**	1	0	0	0	0	**6**	0	0	0	0	0	**0**
Trichoptera: *Hydroptila*	0	1	0	0	0	**6**	0	0	0	0	0	**0**	1	0	0	0	5	**36**
Trichoptera: *Ochrotricia*	0	0	0	0	0	**0**	0	30	0	0	127	**951**	0	0	0	0	0	**0**
Trichoptera: *Tinodes*	0	0	0	0	0	**0**	1	0	0	0	0	**6**	0	0	0	0	0	**0**
Trichoptera: *Neothremma*	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	1	0	**6**
Coleoptera: *Peltodytes*	0	0	0	0	1	**6**	0	0	0	0	0	**0**	0	0	0	0	0	**0**
Diptera: Chironomidae larvae	184	225	90	24	117	**3837**	80	127	129	124	702	**7042**	142	25	9	63	161	**2424**
Diptera: Chironomidae pupae	2	8	1	0	5	**97**	4	3	4	8	40	**358**	8	0	0	0	12	**121**
Diptera: Ceratopogonidae	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	1	**6**
Diptera: *Chelifera* (Empididae)	0	1	0	0	1	**12**	0	0	0	0	0	**0**	0	0	0	0	0	**0**
Cladocera	45	15	15	16	0	**551**	0	0	0	150	0	**909**	2	0	0	0	93	**576**
Copepoda	15	1	15	31	15	**467**	1	0	1	0	0	**12**	1	0	0	0	2	**18**
Ostracoda	45	0	15	16	1	**467**	0	0	0	0	0	**0**	0	0	0	0	1	**6**
Hydracarina	15	0	0	0	0	**91**	0	0	0	0	0	**0**	0	0	0	0	15	**91**
Oligochaeta	16	50	0	1	6	**442**	3	32	3	3	104	**879**	16	0	0	0	1	**103**
Nematoda	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	1	0	0	0	**6**
Rotifera	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	1	0	0	0	**6**
totals	322	293	137	89	175	6265	86	189	133	307	807	10351	162	27	9	64	279	3393

Hydropsyche was not collected in the spring 2003 samples series. This genus was the dominant benthic macroinvertebrate in the October 2002 samples (1030/m^2, 1024/m^2, 1321/m^2 at stations EC2, EC4, and EC5 respectively). This difference could be due to temporal changes (seasonal emergence) or a lack of food for filter feeders because of the high flushing induced by the increased flows. The July 2002 samples had densities of 18/m^2, 1027/m^2, and 494/m^2 at stations EC2, EC4, and EC5 respectively). While lower densities may be characteristic during the early summer, a complete absence of individuals of this genus appears to be unlikely. This implies that other changes in the environment have a role in the disappearance of this group from the stations.

Chironomids were the dominant taxon in the June 2003 samples, being present in densities of 3837, 7042, and 2424 per square meter at stations EC2, EC4, and EC5 respectively (Table 3). Their numbers were almost 700 fold higher than in samples gathered in October 2002 (12/m^2, 12/m^2, and 97/m^2), but were roughly equivalent to the July 2002 densities (3163/m^2, 6121/m^2 and 3545/m^2). This suggests that the chironomid community may be fluctuating from seasonal changes in density. As noted above, many chironomids should have been in early instars during October and could have been missed with the 250 micron mesh net used in sampling. The further refinement in sample processing by subsampling (see methods) of the already sorted sample, should have also increased the overall recovery rate of very small larvae from the June 2003 samples, but this does not appear to have significantly shifted the numbers away from the July 2002 densities.

Oligochaets were moderately abundant at all three sites. Oligochaets are deposit feeders, burrowing into sand and other depositional microhabitats. Their abundance is may be a function of the sand in the stream bed. Cladocera and Ostracada were present in higher numbers than before in sites EC2, EC4, and EC5. This is probably due to the implementation of subsamples in the invertebrate counts. The small size of Cladocera and Ostracada makes it difficult to obtain an accurate count when separating them from debris in the illuminated pans.

Both the total densities of invertebrates in Eccles Creek in June 2003 as compared to 2001 and 2002 and the higher numbers of taxa at each site in 2003 suggest that the stream is undergoing a recovery. But the loss of *Hydropsyche* and *Baetis*, both of which are considered to be tolerant of stressful environments, indicates that serious problems exist. Recovery should include sustained populations of these two taxa, as well as the addition of other, less tolerant, groups. Two aquatic insects that did show higher numbers in the June 2003 samples, *Cinygmula* and *Ochrotricha*, are grazers. The two that were lost from the system feed more heavily on detrital food chains. This suggests that detrital input and/or retention has been compromised. Such changes can be attributed to the higher discharge which generates a continual scouring (erosional) environment in the stream system. As emphasized in previous reports (Shiozawa 2002a, b, c) the community is unlikely to return to the structure that existed in 1979 unless the sustained discharge is eliminated. If and when that occurs, the trajectory of the recovering community should resume towards the 1979 state.

Biomass

Total biomass for each site (Table 4) was determined. Such estimates allow insight into the actual partitioning of energy stored in the living system at different locations and time periods. Both the upper (EC2) and middle (EC4) sites have the highest standing crop, both being about double that in the lowest station (EC5). When compared to the October 2002 samples the June biomass estimates are nearly half of the October 2002 biomass estimates. The lack of tipulids, which are large detritivores, and hydropsychids could be the causal factors. Since tipulids tend to be in highest densities in the fall and winter when maximum coarse detrital material is available, the decline in biomass could be interpreted to be due to seasonal factors. However several more seasons of sampling need to be completed to determine if the patterns suggesting lower detrital retention continue. The decline in biomass between October 2002 and June 2003 while chironomid density increased greatly indicates that densities cannot stand alone. The June samples suggest numbers approaching the baseline states of the 1980s, yet clearly the lower densities of October 2002 included a much higher standing stock of fixed energy. The system has switched from fewer large individuals to many small individuals.

Table 4. Biomass, comparisons October 2002 with June 2003.

	Upper Eccles (EC2)		Middle Eccles (EC4)		Lower Eccles (EC5)	
	Oct 2002	June 2003	Oct 2002	June 2003	Oct 2002	June 2003
Sample 1	0.58 g	0.13 g	0.24 g	0.14 g	0.21 g	0.14 g
Sample 2	0.34 g	0.31 g	0.40 g	0.10 g	0.04 g	0.07 g
Sample 3	0.07 g	0.05 g	0.27 g	0.06 g	0.40 g	0.01 g
Sample 4	0.31 g	0.04 g	0.05 g	0.12 g	0.43 g	0.05 g
Sample 5	0.29 g	0.11 g	0.07 g	0.24 g	0.10 g	0.10 g
total	1.59 g	1.03 g	1.03 g	0.66 g	1.18 g	0.37 g
per m^2	16.06 g/m^2	6.46 g/m^2	10.40 g/m^2	6.67 g/m^2	11.92 g/m^2	3.74 g/m^2

Biotic Condition Index

Community tolerance quotients are a part of the biotic condition index developed by Winget and Mangum (1979). The community tolerance quotients are of two types, the actual community tolerance quotient, CTQa, and the predicted community tolerance quotient, CTQp. The predicted community tolerance quotient is based on water chemistry, substrate, and gradient, and was determined to be 80 using the directions in Winget and Mangum (1979). CTQa values are a

simple arithmetic mean of preassigned index values for the taxa present at a given station. The CTQa indices for the June 2003 samples and an idealized stream, based on a combination of taxa collected from Boardinghouse Creek in November of 2001 and all taxa collected in Eccles Creek from 2001-2003 are given in Table 5.

Table 5. Tolerance quotients.

Eccles Creek, June 2003 Taxa	above South Fork EC2	at Whisky Canyon (EC4)	Lower Eccles (EC5)	Ideal stream (species list, including Boarding-house Creek)
Ephemeroptera: Baetidae: Baetis	0	72	0	72
Ephemeroptera: Ephemerellidae: *Drunella sp.*	0	0	0	48
Ephemeroptera: Ephemerellidae: *Drunella dodsei*	0	0	0	4
Ephemeroptera: Ephemerellidae: *Seratella*	0	0	0	48
Ephemeroptera: Ephemerellidae: *Ephemerella*	0	0	0	48
Ephemeroptera: Heptageniidae: *Cinygmula*	21	21	0	21
Ephemeroptera: Leptophlebidae: *Paraleptophlebia*	0	0	0	24
Plecoptera early instar	0	0	0	36
Plecoptera: Nemouridae: *Malenka californica*	0	0	0	36
Plecoptera: Nemouridae: *Zapada*	16	0	0	16
Plecoptera: Perlodidae: *Isoperla*	0	0	0	48
Trichoptera: pupae	0	108	0	108
Trichoptera: Brachycentridae: *Brachycentrus*	0	0	0	24
Trichoptera: Brachycentridae: *Micrasema*	0	0	0	24
Trichoptera: Hydropsychidae: *Arctopsyche*	0	0	0	18
Trichoptera: Hydropsychidae: *Hydropsyche*	0	0	0	108
Trichoptera: Hydroptilidae: *Hydroptila*	108	0	108	108
Trichoptera: Hydroptilidae: *Ochrotricia*	0	108	0	108
Trichoptera: Limnephilidae: *Dicosmecus*	0	0	0	24
Trichoptera: Psychomyiidae: *Tinodes*	0	108	0	108

Trichoptera: Rhyacophilidae: *Rhyacophila*	0	0	0	18
Trichoptera: Uenoidae: *Neothremma alica*	0	0	8	8
Trichoptera: Uenoidae: *Oligoplebodes*	0	0	0	24
Coleoptera: Elmidae: *Optioservus*	0	0	0	108
Coleoptera: Haliplidae: *Peltodytes*	54	0	0	54
Diptera: Ceratopogonidae	0	0	108	108
Diptera: Chironomidae	108	108	108	108
Diptera: Empidae: *Chelifera*	108	0	0	108
Diptera: Simuliidae: *Simulium*	0	0	0	108
Diptera: Tipulidae *Dicranota*	0	0	0	24
Diptera: Tipulidae *Limnophila*	0	0	0	72
Diptera: Tipulidae *Tipula*	0	0	0	36
Diptera: Tipulidae *Pedicea*	0	0	0	72
Diptera: Tipulidae *Antocha*	0	0	0	24
Diptera: Stratiomyidae: *Allognasa*	0	0	0	108
Collembola	0	0	0	108
Hemiptera: Saldidae	0	0	0	108
Acari: Hydracarnia	108	0	108	108
Ostracoda	108	108	108	108
Copepoda	108	108	108	108
Cladocera	108	108	108	108
Mollusca: Spharidae *Sphaerium*	0	0	0	108
Oligochaeta	108	108	108	108
Tricladida Planariidae	0	0	0	108
total	955	957	872	2983
n	11	10	9	45
CTQa	86.8	95.7	96.9	62.2

Generally CTQa values less than 65 represent high quality waters, while those between 65 and 80 represent situations with moderate to high quality water. CTQa values greater than 80 represent low water quality or stressed systems. The June 2003 stations had CTQa values of 86.8, 95.7, and 96.9 at stations EC2, EC4, and EC5 respectively. All are greater than 80, thus indicating water quality problems with Eccles Creek. In October 2002 the sample from Eccles Creek above South Fork (EC2) had a CTQa value of 86.2, slightly lower than the June 2003 value, but both Eccles Creek at Whisky Canyon (EC4) and Lower Eccles Creek (EC5) had values representing moderate to high quality conditions (68.6 and 69.0 respectively). Thus all three stations showed in increase in stress from October 2002 to June of 2003. The downstream sites showed the greatest change in condition, and actually exceeded the upper site in the stress index. These values are comparable to the 93.6 CTQa for the fall of 2001. This indicates that significant problems still exist with Eccles Creek, and confirms the changes detected individual taxa and biomass.

Comparisons of Community Tolerance Quotient and Biotic Comparison Indices

CTQa values for Eccles Creek can be compared from the 1979, 1990 and 2000 time periods. These values detected the impact in the 1990s in three stations below the mine (EC1, EC2 and EC4; Table 6). This impact did not reach the lowest station, EC5. Beginning in 2001 the average CTQa for the stream jumped to 94 and stayed above 70 in 2002, and in June of 2003 it was again 94. The additional inflow has had a more intense impact on the stream than the 1990 detergent spill.

The biotic condition index (BCI) is simply CTQp/CTQa X 100. This measure, according to Winget and Mangum (1979), can be used in conjunction with CTQa to generate a broader interpretation of the state of the stream system. Ideally, if all predictors are accurate, a pristine system will have a BCI of 100 (CTQp = CTQa). BCI values below 100 represent a condition where fewer clean water taxa than predicted are present and thus indicate a reduction in the quality of the habitat. Any BCI value above 100 represents communities whose clean water taxa are in greater abundance than predicted. In 31 of the 37 sample stations presented in this report (Table 6) the BCI was over 100. None of the stations sampled in June 2003 had a BCI value above 100. The BCI values generated in previous studies of Eccles Creek indicates that the CTQp is systematically biased in its prediction of the expected average community tolerance quotient. However that implies that a BCI value less than 90 is a strong indication of a problem in the system.

One additional habitat measure, based on the BCI, can be explored, although the limitation in the BCI itself must be considered in interpreting the data. Winget and Mangum (1979, page 14) classify habitat quality based on the combination of the CTQa and BCI values (Table 7). The table provided on page 14 by Winget and Mangum, 1979 has an error, condition 4 should list the BCI as >70 rather than <70). These habitat quality designations can be used as general BCI generated statements of the condition of the stream in 1979, 1990-91 and 2001-03.

The habitat quality measures for Eccles Creek in 1990-91 do appear to have detected the impact of the mine spill and sedimentation. Streams reaches and tributaries outside of the influence of the mine are rated as high quality habitats while those below (EC1, EC2, and EC4) show signs of impact, being rated as low or high to moderate habitat quality. Additionally, the 2001 and 2002 data showed either high-moderate habitat quality or low habitat quality. Station (EC4), in July of 2002, had high habitat quality, even though the number of taxa and densities indicated that the site was been heavily impacted. Station EC2 in July 2002 and October 2002 had high-moderate habitat quality, yet again the number of taxa and densities are far from the baseline states for both dates.

Table 6. CTQa and BCI values for selected studies on Eccles Creek.

	Winget 1980		Ecosystems Research Institute 1992			Shiozawa 2002a	Shiozawa 2002c	Shiozawa 2003	this report
Sampling date	May-June 1979	Aug 1979	June 1990	Oct 1990	Sept 1991	Nov 2001	July 2003	Oct 2003	June 2003
	CTQa /BCI	CTQa /BCI	CTQa /BCI	CTQa /BCI	CTQa /BCI	CTQa /BCI	CTQa /BCI	CTQa /BCI	CTQa /BCI
South Fork tributary above mine, upper site (USF2)			59 /133	53 /151					
South Fork tributary above mine (USF)			49 /163	59 /136	45 /178				
Middle Fork tributary above mine (UMF)			54 /148	49 /163					
Eccles Creek below mine (EC1)			67 /119	108 /74					
Eccles Creek above south Fork (EC2)		65 /123			73 /110		99 /81	86 /93	87 /92
South Fork Eccles Creek (SF)	59 /136	64 /125	55 /145						
Eccles Creek below South Fork (EC3)	65 /123	55 /145							
Eccles Creek at Whisky Canyon (EC4)	62 /127	61 /131	69 /116	70 /114	63 /127	94 /85	52 /154	69 /116	96 /83
Lower Eccles Creek (EC5)	59 /136	74 /108	53 /151	55 /145 57 /140	58 /138		66 /121	69 /116	97 /82
Average	62 /131	64 /126	59 /140	64 /132	60 /138	94 /85	72 /119	75 /108	93 /86

Table 7. Habitat quality based on CTQa and BCI values for selected studies on Eccles Creek.

	Winget 1980		Ecosystems Research Institute 1992			Shiozawa 2002a	Shiozawa 2002c	Shiozawa 2003	this report
Sampling date	May-June 1979	Aug 1979	June 1990	Oct 1990	Sept 1991	Nov 2001	July 2003	Oct 2003	June 2003
South Fork tributary above mine, upper site (USF2)			high	high					
South Fork tributary above mine (USF)			high	high	high				
Middle Fork tributary above mine (UMF)			high	high					
Eccles Creek below mine (EC1)			low	high-mode rate					
Eccles Creek above south Fork (EC2)		low			low		high-moderate	high-moderate	low
South Fork Eccles Creek (SF)	high	high	high						
Eccles Creek below South Fork (EC3)	low	high							
Eccles Creek at Whisky Canyon (EC4)	high	high	low	low	high	high-moderate	high	low	low
Lower Eccles Creek (EC5)	high	low	high	high/ high	high		low	low	low

In addition the November 2001 samples, which had a total of just six taxa (Table 1) and a density of 61 per square meter (Table 2), was rated as having high-moderate habitat quality. The June 2003 sample stations all had low habitat quality.

When interpreting the BCI one must keep in mind that the CTQp values is likely to induce a systematic error into the computation. The interpretation given in Winget and Mangum (1979) can not be assumed to have consistent properties when compared across streams. Further, the CTQa values are based on the average index from just those taxa that are present, and all taxa are weighted equally, regardless of differences in abundance. A site could conceivably have just a single individual, and nothing else. For example one specimen of *Neothremma* would give the sample a CTQa of 8. One *Neothremma* and 5000 Chironomids would have a CTQa of 58 while 5000 chironomids would have a CTQa of 108. For these reasons the CTQa and BCI values cannot be relied upon as stand alone indicators of stream condition.

Diversity Index

Diversity indices are a way of combing both number of taxa and relative densities into a single measurement. High diversity index values indicate more taxa and a greater number of individuals per taxon. Low diversity values generally reflect a depauperate fauna in both species and somewhat in numbers. The baseline stations (the 1979 samples; Table 8) had diversity values ranging between about 2 to 3. The areas impacted in 1990-91 had diversities values around 1. But in September 1991 the values fell to around 0.5. However in that same sample series, the Upper South Fork had a diversity of 0.7, considerably lower than in the previous year.

Diversity from 2001-2002 was below 1.0 for all sampled stations. In June 2003 EC4 and EC5 were slightly below the July, 2002 levels, and EC2 was above 1.0 for the first time. This appears to be somewhat related to seasonality, and the baseline samples and the 1990-91 samples had obvious seasonal patterns. The continual discharge of water into the stream appears to be keeping diversity low in the two downstream stations. The upstream station, EC2, has shown some improvement in its diversity value, but this likely stems from the increased recovery of microcrustaceans as a result of adding subsampling to the sorting procedure. The diversity levels of June 2003 are still far from the values of 2 or 3 that characterized the baseline data taken in the late 1970s. Thus the diversity indices indicate that the conditions have not changed from the 2002 status at the three sites.

Cluster Analysis

The final analysis utilized in this study was clustering. This is a multivariate approach that generates a visual representation of the relationships among samples. The dissimilarity index utilized in the study considers both quantitative counts of individuals within each taxon and the relative densities of those organisms. The cluster results (Figure 1) separate the majority of the spring-summer samples, including all of the reference samples, into one cluster while the fall samples are part of a second cluster. The exceptions are eight aberrant spring samples in 1990. These are in the fall cluster but show a high dissimilarity to other members of the group. This separate grouping of spring/summer samples and fall samples illustrates very clearly the effect of

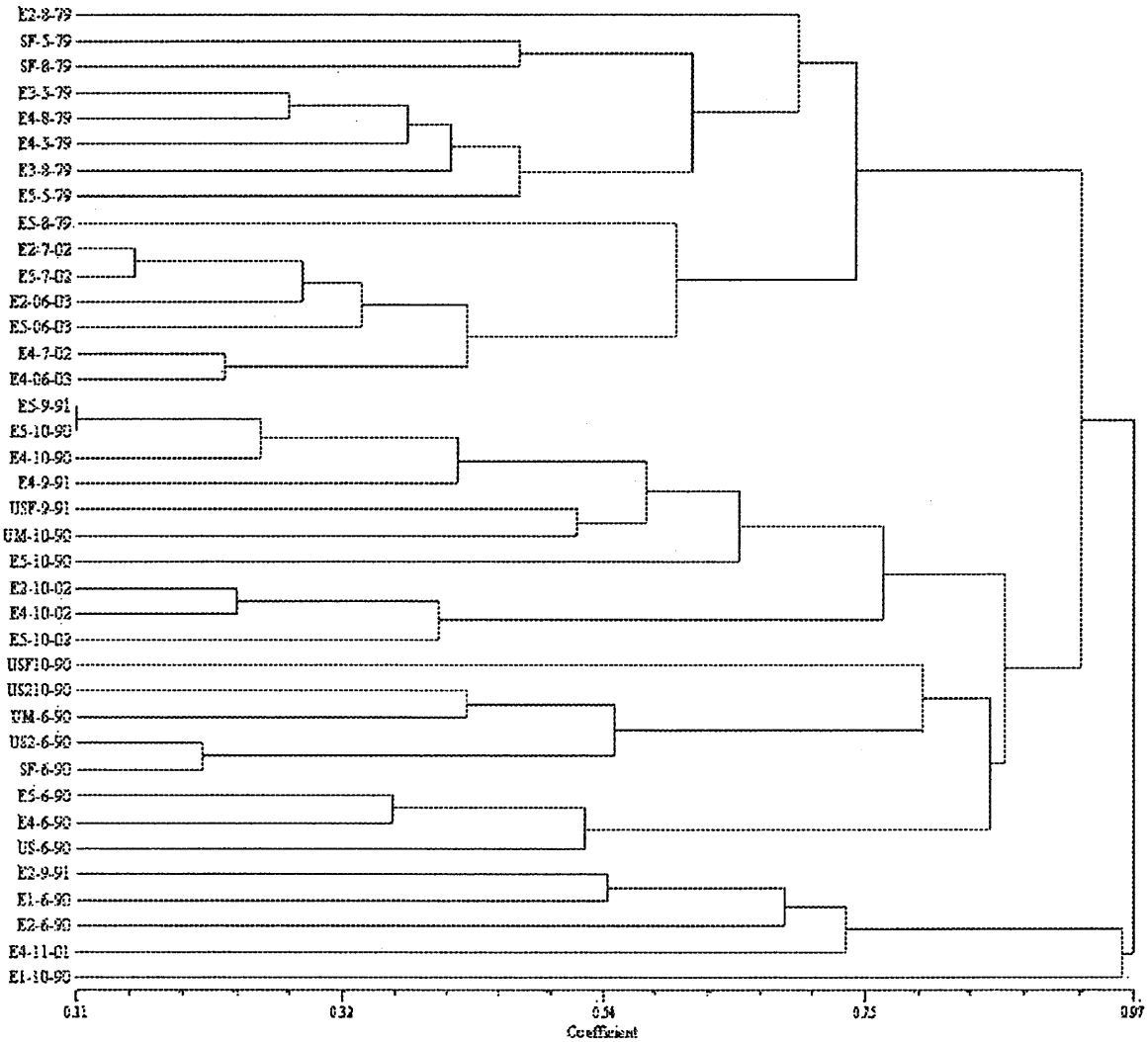
seasonality on the samples. The October 2002 samples were clearly in the fall cluster and the July 2002 were in the spring-summer cluster.

The Spring 2003 samples were grouped with the July 2002 samples. The June 2003 EC4 site clustered with the July 2002 EC4 site. The July 2002 and June 2003 cluster separate from the baseline stations by about 60% dissimilarity, indicating that while a seasonal signal existed, the samples form Eccles Creek after the input of the discharge water was still very dissimilar to the community that existed during the baseline studies in the late 1970s. Thus the cluster analysis also indicates that the stream is still far from its original condition.

Table 8. Diversity Indices, based on natural logs, for selected studies on Eccles Creek.

	Winget 1980		Ecosystems Research Institute 1992			Shiozawa 2002a	Shiozawa 2002c	Shiozawa 2003	this report
Sampling date	May-June 1979	Aug 1979	June 1990	Oct 1990	Sept 1991	Nov 2001	July 2003	Oct 2003	June 2003
South Fork tributary above mine, upper site (USF2)			1.63	1.9					
South Fork tributary above mine (USF)			1.72	1.9	0.702				
Middle Fork tributary above mine (UMF)			1.66	1.9					
Eccles Creek below mine (EC1)			1.06	0.7					
Eccles Creek above south Fork (EC2)		1.964	1.58		0.400		0.398	0.836	1.314
South Fork Eccles Creek (SF)	3.510	3.322	1.62						
Eccles Creek below South Fork (EC3)	2.450	2.743							
Eccles Creek at Whisky Canyon (EC4)	2.450	3.060	1.22	1.6	0.666	0.757	0.957	0.835	0.955
Lower Eccles Creek (EC5)	2.280	2.590	1.24	1.8/ 1.4	0.416		0.829	0.341	0.789

Figure 1. UPGMA Cluster dendrogram of relationships among invertebrate communities from selected stations and dates in Eccles Creek.



Conclusions

Eccles Creek in June of 2003 was still showing significant impacts from the increase inflow of water. In fact, this sample period indicated that the stress may have actually increased over what it was in the previous sample periods. This change could be caused by a number of factors associated with the increased inflow, or it could have been induced by an unknown spill into the stream some time between October 2002 and June of 2003. We assume that the change is a chronic response to the elevated discharge. The shifts in community structure that we can document show an increase in grazers and a decrease in detritivores. Such shifts reflect a decrease in the availability of detritus to run detrital based food chains. The lack of detritus is one expected outcome when habitats capable of retaining detritus are greatly reduced (Shiozawa 1983). In this case, the discharge has increased the stream level to channel full, and at the channel full level the stream becomes predominantly erosional. This change will increase the flushing rate of detritus from the system, and will also increase the leakage of any coarse particulate matter that is retained on or under rocks. In combination these factors will significantly affect the detrital based food chains in the stream.

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APPENDIX C

Legal Financial, Compliance and Related Information

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

Other change in ownership and control information
As required under R645-301-110

CONTENTS

Officers and Directors for Canyon Fuel Company, LLC

Officers and Directors

The following lists describe the officers and directors of Canyon Fuel Company, LLC, Arch Western Resources, LLC, Arch Coal, Inc., Itochu Corporation, and Itochu Coal International, Inc. The addresses for the officers, directors, representatives to the management board listed are the same as those of the respective business entities as listed below for which the individuals are officers, directors or representatives.

ADDRESS:

Arch Coal, Inc.
CityPlace One, Suite 300
St. Louis, MO 63141-7056

ADDRESS:

Arch Western Resources, LLC
City Place One, Suite 300
St. Louis, MO 63141-7056

Itochu Coal International, Inc. is a wholly owned subsidiary of Itochu Corporation, a Japanese corporation.

ADDRESS:

Itochu Coal International, Inc.
555 17th Street, Suite 845
Denver, Colorado 80202

ADDRESS:

Itochu Corporation, 5-1
Kita-Aoyama 2-Chome
Minato-ku, Tokyo 107-77, Japan

CANYON FUEL COMPANY, LLC:

Directors:

Robert W. Shanks Effective: 06/01/1998	Chairman
Masayoshi Araya Effective: 06/01/2001	
Yuzo Hirono Effective: 12/14/1999	
Steven F. Leer Effective: 06/01/1998	
Kenneth G. Woodring Effective: 12/01/2000	
John W. Eaves Effective: 12/01/2000	Alternative Representative
Joe Y. Nakazawa Effective: 06/01/2001	Alternative Representative
Tsutomu Niwa Effective: 10/09/2001	Alternative Representative

Officers

Richard D. Pick Effective: 06/01/1998	President, Chief Executive Officer and General Manager
Robert G. Messey Effective: 10/09/2001	Chief Financial Officer
James E. Florczak Effective: 05/25/1999	Vice President, Finance
John W. Eaves Effective: 06/23/1998	Vice President, Marketing
Robert G. Jones Effective: 03/08/2000	Vice President, General Counsel and Assistant Secretary
Janet L. Horgan	Secretary

Effective: 10/11/2000

William H. Rose — Assistant Secretary
Effective: 06/01/1998

ARCH COAL, INC.:

Directors:

James R. Boyd — Chairman
Effective: 07/01/1997

Frank M. Burke
Effective: 09/07/2000

Robert G. Potter
Effective: 04/26/2001

Theodore D. Sands
Effective: 02/25/1999

Michael A. Perry
Effective: 09/28/1998

Douglas H. Hunt
Effective: 07/01/1997

Steven F. Leer
Effective: 07/1/1997

James L. Parker
Effective: 07/01/1997

Thomas A. Lockhart
Effective: 02/21/2003

Officers:

Steven F. Leer — President and Chief Executive Officer
Effective: 07/1/1997

Kenneth G. Woodring — Executive Vice President-Mining Operations
Effective: 07/01/1997

C. Henry Besten, Jr. Effective: 07/01/1997	Vice President - Strategic Marketing
Larry R. Brown Effective: 07/01/1997	Vice President & Chief Information Officer
John W. Eaves Effective: 12/11/2002	Executive Vice President, Chief Operating Officer
David B. Peugh Effective: 07/01/1997	Vice President - Business Development
Robert W. Shanks Effective: 07/01/1997	Vice President - Operations
Robert J. Messey Effective: 12/1/2000	Senior Vice President, Chief Financial Officer
Robert G. Jones Effective: 10/16/2000 and 3/01/2000	Vice President, General Counsel and Secretary
James E. Florczak Effective: 08/17/1998	Treasurer
Deck S. Slone Effective: 04/26/2001	Vice President, Investor and Public Relations
Bradley M. Allbritten Effective: 03/1/2000	Vice President, Marketing
Shiela B. Feldman Effective: 02/03/2003	Vice President, Human Resources
Janet L. Horgan Effective: 10/16/2000	Assistant Secretary and Counsel
John W. Lorson Effective: 04/9/1999	Comptroller
Charles David Steele Effective: 04/24/2003	Vice President, Tax Panning
Bennett K. Hatfield Effective: 04/24/2003	Vice President

Arch Western Resources, LLC, Representatives to the Management Board:

Name: Steven F. Leer
Effective: 06/01/98

Name: Robert W. Shanks
Effective: 06/01/98

Alternate:

Name: Kenneth G. Woodring
Effective: 06/01/98

Itochu Coal International, Inc. Representatives to the Management Board:

Board:

Akio Shigetomi
Effective: 11/30/1996

Masayoshi Araya
Effective: 11/30/1996

Yuzo Hirono
Effective: 12/31/1999

Alternates:

Yutaka Nakazawa
Effective: 12/20/1996

Tsutomu Niwa
Effective: 6/01/2001

ARCH WESTERN RESOURCES, LLC
Directors:

Patrick A. Kriegshauser
Effective: 05/07/98

David B. Peugh
Effective: 05/07/98

Jeffry N. Quinn
Effective: 05/07/98

Thomas A. Lockhart
Effective: 02/24/2003

Officers:

Robert W. Shanks Effective: 06/28/98	President - Operations
David B. Peugh Effective: 05/17/98	Vice President
Robert G. Jones Effective: 03/01/00 and 6/2/98	Vice President and Assistant Secretary
Janet L. Horgan Effective: 3/17/98	Secretary
Anne W. Odonnell Effective: 05/23/2003	Assistant Secretary
James E. Florczak Effective: 05/15/98 and 9/15/98	Vice President, Finance, Treasurer
Charles David Steele Effective: 05/23/2003	Vice President, Tax Panning

ITOCHU CORPORATION

Name	Title	Date of Appointment
Minoru Murofushi	Chairman	April 1998
Masahisa Naitoh	Vice Chairman	April 2000
Uichiro Niwa	President, CEO	April 1998
Hiroshi Sumie	Executive Vice President	April 2000
Makoto Kato	Executive Vice President	April 2001
Yushin Okazaki	Executive Vice President	April 2001
Sumitaka Fujita	Executive Vice President	April 2001
Mitsuaki Fukuda	Sr. Managing Director	April 2000
Akira Yokota	Sr. Managing Director	April 2001
Kiyomi Yamada	Managing Director	April 2001
Motonori Toyota	Managing Director	June 2001
Kouhei Wantanabe	Managing Director	April 2002
Hiroshi Ueda	Managing Director	April 2002

ITOCHU COAL INTERNATIONAL INC.

Masayoshi Araya	Chairman of the Board	Dec. 1999
Yuzo Hirono	President and Chief Executive Officer	Dec. 1999
Tsutomu Niwa	Chief Financial Officer	June 1996
Dietz Fry	Vice President, Finance and Administration	March 1997
Yutaka Nakazawa	Vice President Commercial and Secretary	Dec. 1996
Hiroshi Akiba	Assistant Secretary	Feb. 2000

APPENDIX D

Mine Maps

As required under R645-302-525-270

CONTENTS

Skyline Mine 2003 3 Levels 2 and 3 As-Mined
Skyline Mine Projected Mining 2004 - 2008

APPENDIX E

Other Information

In accordance with the requirements of R645-301 and R645-302

CONTENTS

None