

March 23, 2017

Utah Coal Regulatory Program  
Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Salt Lake City, UT 84114-5801

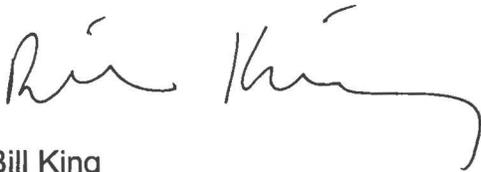
RE: 2016 Annual Report for Dugout Canyon Mine

To Whom It May Concern:

Please find attached to this e-mail a copy of the 2016 Annual Report for Dugout Canyon Mine with relevant appendices.

If you have any questions or require further information, please contact me at (435) 636-2898 or Dave Spillman at (435) 636-2872.

Sincerely,



Bill King  
Mining Engineer

Attachments

cc. Chris Hansen  
Dave Spillman

Print Form

Submit by Email

Reset Form

# Annual Report

This Annual Report shows information the Division has for your mine. Submit the completed document and any additional information identified in the Appendices to the Division by the date specified in the cover letter. During a complete inspection an inspector will check and verify the information.

## GENERAL INFORMATION

Company Name	Canyon Fuel Company, LLC	Mine Name	Dugout Mine
Permit Number	C/007/0039	Permit expiration Date	March 3, 2018
Operator Name	Same	Phone Number	+1 (435) 637-6360
Mailing Address	P.O. Box 1029	Email	dspillman@bowieresources.com
City	Wellington		
State	Utah	Zip Code	84542

## DOGM File Location or Annual Report Location

Excess Spoil Piles	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Not Required	
Refuse Piles	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required	
Impoundments	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required	
Other:		

## OPERATOR COMMENTS

**REVIEWER COMMENTS**     Met Requirements     Did Not meet Requirements

# COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the Mining and Reclamation Plan and conditions accepted with the permit are completed throughout the year. The Division has identified these commitments below and has provided space for you to report what you have done during the past year for each commitment. If additional written response is required, it should be filed as an attachment to this report.

## **Title: ANNUAL RAPTOR SURVEYS**

**Objective:** To obtain baseline data prior to mining disturbances including subsidence of cliff habitat and any surface disturbances (construction, reclamation, or exploration). Conduct follow-up surveys within one year if nests were observed during the baseline surveys and if the nest or raptors could be impacted from mining (subsidence or proximity to surface facilities).

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Annual

**Citation:** MRP, Chapter 3, Page 3-20

Operator Comments

See Appendix D Confidential

Reviewer Comments  Met Requirements  Did Not Meet Requirements

## **Title: SUBSIDENCE MONITORING VISUAL INSPECTIONS**

**Objective:** To check for surface subsidence features.

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Annual

**Citation:** MRP, Volume 3, Chapter 5, Section 525.100, page 5-29

Operator Comments

See Appendix C,  
No subsidence occurs under Dugout's current and future mine plan

Reviewer Comments  Met Requirements  Did Not Meet Requirements

**Title: WASTE ROCK SAMPLING**

**Objective:** To protect ground and surface water and potentially substantiate lesser cover at the waste rock site.

**Frequency:** One sample per 5,000 cubic yards taken to the waste rock site. Acid/toxic material to be buried within 30 days and should be compacted, and isolated from water infiltration.

**Status:** Ongoing. **Please indicate the volumes or tonnage placed during the year into the refuse pile and the remaining capacity in the pile.**

**Reports:** Annual report, and to be included in RA attachment 5-4.

**Citation:** MRP, Chapter 5, Section 513.400, Section 528.300, Section 536 and Refuse Pile Amendment Volume, Section 536.200

Operator Comments

See Appendix C

Reviewer Comments  Met Requirements  Did Not Meet Requirements



**Title: SEALING OF WELLS**

**Objective:** Permanent casing and sealing of wells when no longer in use.

**Frequency:** Once upon termination of use.

**Status:** N/A

**Reports:** Report on status of wells

**Citation:** Chp. 6, Section 631, Chp. 7, Section 765

Operator Comments

Degas Wells G-2 through G-7, G-9 through G-14, G-16, G-18, G-19, G-22, G-25, G-26, G-30 and G-31 are sealed.

Reviewer Comments  Did Not Meet Requirements  Met Requirements



# FUTURE COMMITMENTS AND CONDITIONS

The following commitments are not required for the current annual report year, but will be required by the permittee in the future as indicated by the "status" field. These commitments are included for information only, and do not currently require action. If you feel that the commitment is no longer relevant or needs to be revised, please contact the Division.

**Title: OVERBURDEN SAMPLING AND ANALYSIS**

**Objective:** Generate quality substitute topsoil

**Frequency:** At Final Reclamation

**Status:** long term

**Reports:** at final reclamation

**Citation:** MRP, Chapter 2, Section 224, Section 233.100, .300, and .400.

**Title: NUTRIENTS AND AMENDMENTS**

**Objective:** Establishment of vegetation

**Frequency:** At final reclamation

**Status:** Long term

**Reports:** At final reclamation

**Citation:** MRP, Chapter 2, Section 243; Refuse Pile Amendment Volume, Section 243.

**Title: VEGETATION MITIGATION PROJECT FOR BATS**

**Objective:** Permittee will plant additional willows along the channel where sufficient space allows.

**Frequency:** At final reclamation

**Status:**

**Reports:** At final reclamation

**Citation:** Vol. Chap 3, Sec. 322, pp. 3-19 through 3-20.

**OPERATOR COMMENTS (OPTIONAL)****REVIEWER COMMENTS**

## REPORTING OF OTHER TECHNICAL DATA

Please list other technical data or information that was not included in the form above, but is required under the approved plan, which must be periodically submitted to the Division.

Please list attachments:

Reviewer Comments



**APPENDIX A**

**Certified Reports**

**Excess Spoil Piles**

**Refuse Piles**

**Impoundments**

**As required under R645-301-514**

**CONTENTS**

**Refuse Pile Inspections**

**Impoundment Inspections**

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT/007/039	Report Date	3/4/2016
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Surface Facility Sedimentation Pond	
	Impoundment Number	None	
	UPDES Permit Number	UT0025593	
	MSHA ID Number	Impoundment - None (Mine - 42-01890)	
IMPOUNDMENT INSPECTION			
Inspection Date	2/23/2016		
Inspected By	Bill King		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Routine Quarterly Inspection		
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p><i>There were no signs of instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</p> <p><i>Sediment Storage Capacity - 100% = 0.34 acre-feet @ an elevation of 6,953.56 feet</i>  <i>- 60% = 0.20 acre-feet @ an elevation of 6,951.66 feet</i></p> <p><i>At the time of the inspection, due to the snow and ice that covered the pond a sediment volume was not taken. The 2015 pond cleaning was completed on June 27<sup>th</sup> and it is recommended that the annual cleaning of this pond be continued in 2016.</i></p>		
	<p>3. Principle and emergency spillway elevations.</p> <p><i>Principal Spillway Elevation - 6,964.44 feet</i>  <i>Emergency Spillway Elevation - 6,964.5 feet</i></p>		
<p>4. <b>Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>At the time of the inspection, the sediment pond was snow &amp; ice covered. The level of the impounded water was approximately 4 feet below the bottom of the skimmer at the principal spillway riser. The sediment cleanout marker was not visible, however, Nielson Construction had recently completed a full clean-out of the accumulated sediment in June 2015. The pond was not discharging at the time of the inspection and there were no signs of any issues regarding stability of the embankment.</i></p>			

**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.

**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: Bill King Date: 3/4/16

**CERTIFIED REPORT**

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

**COMMENTS AND OTHER INFORMATION**

**Certification Statement:**

[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: \_\_\_\_\_  
(Full Name and Title)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

P.E. Number & State: \_\_\_\_\_

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 3	
Permit Number	ACT/007/039	Report Date	06/14/16
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Surface Facility Sedimentation Pond	
	Impoundment Number	None	
	UPDES Permit Number	UT0025593	
	MSHA ID Number	Impoundment -None (Mine - 42-01890)	
IMPOUNDMENT INSPECTION			
Inspection Date	06/11/16, 06/12/16 & 06/13/16		
Inspected By	Dave Spillman		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Routine Quarterly Inspection and Annual Certification		
<p><b>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</b></p> <p><i>There were no signs of instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p> <p><i>Sediment Storage Capacity - 100% = 0.34 acre-feet @ an elevation of 6,953.56 feet</i>  <i>- 60% = 0.20 acre-feet @ an elevation of 6,951.66 feet</i></p>		
	<p><b>3. Principle and emergency spillway elevations.</b></p> <p><i>Principal Spillway Elevation - 6,964.44 feet</i>  <i>Emergency Spillway Elevation - 6,964.5 feet</i></p>		
<p><b>4. Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>Nielson Construction was contracted to clean the sediment accumulation out of the Dugout Canyon Mine sedimentation pond. Cleanout operations were completed on June 12<sup>th</sup>. Nielson Construction also cleaned the pond in 2003, 2004, 2006, 2007, 2008, 2009, 2010, 2011, 2013, 2014 and 2015. Following the 2003 cleanout, Johansen and Tuttle Engineering, Inc., was contracted to survey the as-built details of the sedimentation pond. The as-built details of the pond were subsequently submitted to DOGM in September 2003 and were approved by DOGM in October 2003.</i></p> <p><i>During the 2003 cleanout, it was observed that the original pond was excavated to a point where the bottom was solid and substantial. This bottom is easily recognizable during cleaning operations. During the 2016 cleanout, it was observed that Nielson Construction cleaned sediment down to the same solid bottom.</i></p>			

**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.

*At the time of inspection, the cleanout operations were complete. With the exception of one small pile along the northwestern edge of the impoundment, it appeared that the total sediment cleanout had been completed. This small pile was just beyond the safe reach of the long reach track-hoe and removal of this minimal volume did not warrant additional risk.*

**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:** \_\_\_\_\_ **Date:** \_\_\_\_\_

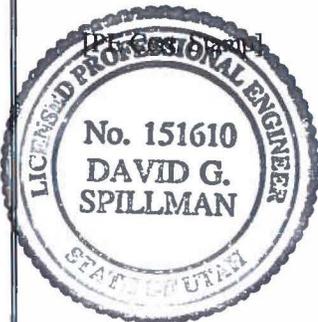
**CERTIFIED REPORT**

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

**COMMENTS AND OTHER INFORMATION**

**Certification Statement:**

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:** David G. Spillman, Technical Services Manager  
(Full Name and Title)

**Signature:** David G. Spillman **Date:** 06/14/16

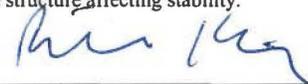
**P.E. Number & State:** No. 151610, State of Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT/007/039	Report Date	09/30/2016
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Surface Facility Sedimentation Pond	
	Impoundment Number	None	
	UPDES Permit Number	UT0025593	
	MSHA ID Number	Impoundment - None (Mine - 42-01890)	
IMPOUNDMENT INSPECTION			
Inspection Date	09/15/2016		
Inspected By	Bill King		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Routine Quarterly Inspection		
<p><b>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</b></p> <p><i>There were no signs of instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
<p><b>Required for an impoundment which functions as a SEDIMENTATION POND.</b></p>	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p> <p><i>Sediment Storage Capacity - 100% = 0.34 acre-feet @ an elevation of 6,953.56 feet</i>  <i>- 60% = 0.20 acre-feet @ an elevation of 6,951.66 feet</i></p> <p><i>At the time of the inspection, a conservative estimate on sediment volume is 3 %, which would correspond to an elevation of approximately 6948 feet.</i></p>		
	<p><b>3. Principle and emergency spillway elevations.</b></p> <p><i>Principal Spillway Elevation - 6,964.44 feet</i>  <i>Emergency Spillway Elevation - 6,964.5 feet</i></p>		
<p><b>4. Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>At the time of the inspection, the level of the impounded water was approximately 3 feet below the bottom of the skimmer at the principal spillway riser. The sediment cleanout marker was not visible, however Nielson Construction had recently completed a full clean-out of the accumulated sediment on June 12<sup>th</sup>, 2016. The pond was not discharging at the time of the inspection and there were no signs of any issues regarding stability of the embankment.</i></p>			

**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.

**Qualification Statement**

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Signature:  Date: 9/30/16

**CERTIFIED REPORT**

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

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

**COMMENTS AND OTHER INFORMATION**

**Certification Statement:**

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[PE Cert. Stamp]

By: \_\_\_\_\_  
(Full Name and Title)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

P.E. Number & State: \_\_\_\_\_

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT/007/039	Report Date	11/21/2016
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Surface Facility Sedimentation Pond	
	Impoundment Number	None	
	UPDES Permit Number	UT0025593	
	MSHA ID Number	Impoundment -None (Mine - 42-01890)	
<b>IMPOUNDMENT INSPECTION</b>			
Inspection Date	11/19/2016		
Inspected By	Bill King		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Routine Quarterly Inspection		
<p><b>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</b></p> <p><i>There were no signs of instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p> <p><i>Sediment Storage Capacity - 100% = 0.34 acre-feet @ an elevation of 6,953.56 feet</i>  <i>- 60% = 0.20 acre-feet @ an elevation of 6,951.66 feet</i></p> <p><i>At the time of the inspection, a conservative estimate on sediment volume is 5 %, which would correspond to an elevation of approximately 6948.2 feet.</i></p>		
	<p><b>3. Principle and emergency spillway elevations.</b></p> <p><i>Principal Spillway Elevation - 6,964.44 feet</i>  <i>Emergency Spillway Elevation - 6,964.5 feet</i></p>		
<p><b>4. Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>At the time of the inspection, the level of the impounded water was approximately 5 feet below the bottom of the skimmer at the principal spillway riser. The sediment cleanout marker was not visible, however Nielson Construction had recently completed a full clean-out of the accumulated sediment on June 12<sup>th</sup>, 2016. The pond was not discharging at the time of the inspection and there were no signs of any issues regarding stability of the embankment.</i></p>			

**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.

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Signature: *Rui Li* Date: 11/21/2016

**CERTIFIED REPORT**

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

**COMMENTS AND OTHER INFORMATION**

**Certification Statement:**

[PE Cert. Stamp]

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By: \_\_\_\_\_  
(Full Name and Title)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

P.E. Number & State: \_\_\_\_\_

Pace Cyn.Sediment Trap	Date	Time	Inspector(s) Signature	Quarterly Inspection Form
	3/21/2016	9:47	<i>[Signature]</i>	

Site: 006	Action Required			Person Notified	Date Corrected	Comments/Remarks
Permit # UT0025593	Yes/No	OK	N/A			

<b>Stability of Pond</b>						
Basin stability/weakness		X				
Erosion/Stability of banks		X				
Vegetation problem around basin	NO					See Note Below

<b>Hazardous Condition</b>						
Any visible contaminants	NO					
Hazardous condition observed	NO					

<b>Inlet Conditions</b>						
Inlet functioning		X				
Culvert(s)/ditches		X				

<b>Principle &amp; Emergency Spillways</b>						
Water Discharging (rate)			X			
Pond water level			X			
Spillway is clear of debris			X			
Oil skimmer		X				
Emergency spillway		X				
Primary spillway		X				

Other Useful Information	Value	Comments/Remarks	Sediment Storage Capacity/ Elevation	Value	Comments/Remarks
Last cleaning date for basin	NA		100% sediment storage capacity (ft^3)	5,714.5	0.1312 acre-ft.
Primary Spillway elevation (ft.)	6,991		50% sediment storage capacity (ft^3), Cleaning is recommended at this elev.	2,175.2	0.3 ft. below Primary Spillway (6,990.7 ft.)
Emergency Spillway elevation (ft.)	6,993		Current sediment Volume ft^3 (est.)	486	6,987.65 ft.
			Remaining storage capacity ft^3 (est.)	1,689	Capacity from 50%,
			Percent sediment volume	9%	

**Other Observations:** Embankment covered with vegetation.

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Pace Cyn.Sediment Trap	Date	Time	Inspector(s) Signature <i>J. H. H.</i>	Quarterly Inspection Form
	6/17/2016	9:37		

Site: 006	Action Required			Person Notified	Date Corrected	Comments/Remarks
Permit # UT0025593	Yes/No	OK	N/A			

<b>Stability of Pond</b>						
Basin stability/weakness		X				
Erosion/Stability of banks		X				
Vegetation problem around basin	NO					See Note Below

<b>Hazardous Condition</b>						
Any visible contaminants	NO					
Hazardous condition observed	NO					

<b>Inlet Conditions</b>						
Inlet functioning		X				
Culvert(s)/ditches		X				

<b>Principle &amp; Emergency Spillways</b>						
Water Discharging (rate)			X			
Pond water level			X			
Spillway is clear of debris			X			
Oil skimmer		X				
Emergency spillway		X				
Primary spillway		X				

Other Useful Information	Value	Comments/Remarks	Sediment Storage Capacity/ Elevation	Value	Comments/Remarks
Last cleaning date for basin	NA		100% sediment storage capacity (ft^3)	5,714.5	0.1312 acre-ft.
Primary Spillway elevation (ft.)	6,991		50% sediment storage capacity (ft^3), Cleaning is recommended at this elev.	2,175.2	0.3 ft. below Primary Spillway (6,990.7 ft.)
Emergency Spillway elevation (ft.)	6,993		Current sediment Volume ft^3 (est.)	486	6,987.65 ft.
			Remaining storage capacity ft^3 (est.)	1,689	Capacity from 50%,
			Percent sediment volume	9%	

**Other Observations:** Embankment covered with vegetation.

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Pace Cyn.Sediment Trap	Date	Time	Inspector(s) Signature	Quarterly Inspection Form
	9/7/2016	10:07		

Site: 006	Action Required			Person Notified	Date Corrected	Comments/Remarks
Permit # UT0025593	Yes/No	OK	N/A			

<b>Stability of Pond</b>						
Basin stability/weakness		X				
Erosion/Stability of banks		X				
Vegetation problem around basin	NO					See Note Below

<b>Hazardous Condition</b>						
Any visible contaminants	NO					
Hazardous condition observed	NO					

<b>Inlet Conditions</b>						
Inlet functioning		X				
Culvert(s)/ditches		X				

<b>Principle &amp; Emergency Spillways</b>						
Water Discharging (rate)			X			
Pond water level			X			
Spillway is clear of debris			X			
Oil skimmer		X				
Emergency spillway		X				
Primary spillway		X				

Other Useful Information	Value	Comments/Remarks	Sediment Storage Capacity/ Elevation	Value	Comments/Remarks
Last cleaning date for basin	NA		100% sediment storage capacity (ft^3)	5,714.5	0.1312 acre-ft.
Primary Spillway elevation (ft.)	6,991		50% sediment storage capacity (ft^3), Cleaning is recommended at this elev.	2,175.2	0.3 ft. below Primary Spillway (6,990.7 ft.)
Emergency Spillway elevation (ft.)	6,993		Current sediment Volume ft^3 (est.)	486	6,987.65 ft.
			Remaining storage capacity ft^3 (est.)	1,689	Capacity from 50%,
			Percent sediment volume	9%	

**Other Observations:** Embankment covered with vegetation.

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Pace Cyn.Sediment Trap	Date	Time	Inspector(s) Signature	Quarterly Inspection Form
	10/24/2016	8:12		

Site: 006	Action Required			Person Notified	Date Corrected	Comments/Remarks
Permit # UT0025593	Yes/No	OK	N/A			

<b>Stability of Pond</b>						
Basin stability/weakness		X				
Erosion/Stability of banks		X				
Vegetation problem around basin	NO					See Note Below

<b>Hazardous Condition</b>						
Any visible contaminants	NO					
Hazardous condition observed	NO					

<b>Inlet Conditions</b>						
Inlet functioning		X				
Culvert(s)/ditches		X				

<b>Principle &amp; Emergency Spillways</b>						
Water Discharging (rate)			X			
Pond water level			X			
Spillway is clear of debris			X			
Oil skimmer		X				
Emergency spillway		X				
Primary spillway		X				

Other Useful Information	Value	Comments/Remarks	Sediment Storage Capacity/ Elevation	Value	Comments/Remarks
Last cleaning date for basin	NA		100% sediment storage capacity (ft^3)	5,714.5	0.1312 acre-ft.
Primary Spillway elevation (ft.)	6,991		50% sediment storage capacity (ft^3), Cleaning is recommended at this elev.	2,175.2	0.3 ft. below Primary Spillway (6,990.7 ft.)
Emergency Spillway elevation (ft.)	6,993		Current sediment Volume ft^3 (est.)	486	6,987.65 ft.
			Remaining storage capacity ft^3 (est.)	1,689	Capacity from 50%,
			Percent sediment volume	9%	

**Other Observations:** Embankment covered with vegetation.

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IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT/007/039	Report Date	04/05/16
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Refuse Pile Sedimentation Pond	
	Impoundment Number	None	
	UPDES Permit Number	UT0025593	
	MSHA ID Number	Impoundment -None (Refuse Pile 1211-UT-09-01890-01)	
<b>IMPOUNDMENT INSPECTION</b>			
Inspection Date	03/21/16		
Inspected By	Dave Spillman		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly Inspection / Certification		
<p><b>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</b></p> <p><i>Construction of the Refuse Pile Sedimentation Pond has been completed in accordance with the approved plan. There were no signs instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p> <p><i>Sediment Storage Capacity (as-built) - 100% = 0.67 acre-feet @ an elevation of 5,897.55 feet</i>  <i>- 60% = 0.40 acre-feet @ an elevation of 5,896.5 feet</i>  <i>At the time of the inspection, the estimated average elevation of the existing sediment was 5,895.5 feet.</i></p>		
	<p><b>3. Principle and emergency spillway elevations.</b></p> <p><i>Emergency Spillway Elevation (as-built) - 5,902.5 feet</i></p>		
<p><b>4. Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>The pond contained approximately 2" of water at the time of the inspection.</i></p> <p><i>Sediment levels were observed as being below the established 60% levels.</i></p> <p><i>This pond has never discharged.</i></p>			

**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.

**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: \_\_\_\_\_ Date: \_\_\_\_\_

**CERTIFIED REPORT**

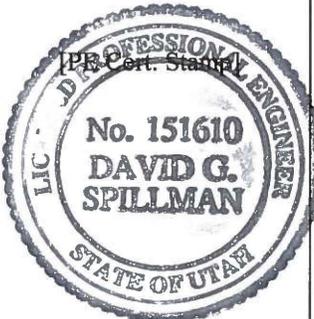
**IMPOUNDMENT EVALUATION (If NO, explain under Comments)**

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

**COMMENTS AND OTHER INFORMATION**

**Certification Statement:**

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: David G. Spillman, Technical Services Manager  
(Full Name and Title)

Signature: David G. Spillman Date: 04/05/16

P.E. Number & State: No. 151610, State of Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT/007/039	Report Date	06/09/16
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Refuse Pile Sedimentation Pond	
	Impoundment Number	None	
	UPDES Permit Number	UT0025593	
	MSHA ID Number	Impoundment -None (Refuse Pile 1211-UT-09-01890-01)	
IMPOUNDMENT INSPECTION			
Inspection Date	06/08/16		
Inspected By	Dave Spillman		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly Inspection / Certification		
<p><b>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</b></p> <p><i>Construction of the Refuse Pile Sedimentation Pond has been completed in accordance with the approved plan. There were no signs instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p> <p><i>Sediment Storage Capacity (as-built) - 100% = 0.67 acre-feet @ an elevation of 5,897.55 feet</i>  <i>- 60% = 0.40 acre-feet @ an elevation of 5,896.5 feet</i>  <i>At the time of the inspection, the estimated average elevation of the existing sediment was 5,895.5 feet.</i></p>		
	<p><b>3. Principle and emergency spillway elevations.</b></p> <p><i>Emergency Spillway Elevation (as-built) - 5,902.5 feet</i></p>		
<p><b>4. Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>The pond was dry at the time of the inspection.</i></p> <p><i>Sediment levels were observed as being below the established 60% levels.</i></p> <p><i>This pond has never discharged.</i></p>			

**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.

**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:** \_\_\_\_\_ **Date:** \_\_\_\_\_

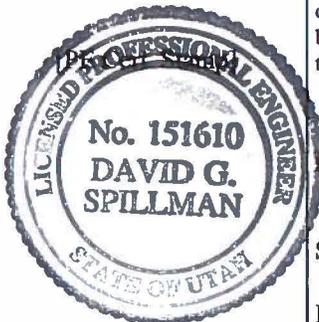
**CERTIFIED REPORT**

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

**COMMENTS AND OTHER INFORMATION**

**Certification Statement:**

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:** David G. Spillman, Technical Services Manager  
(Full Name and Title)

**Signature:** David G. Spillman **Date:** 06/09/16

**P.E. Number & State:** No. 151610, State of Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT/007/039	Report Date	08/11/16
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Refuse Pile Sedimentation Pond	
	Impoundment Number	None	
	UPDES Permit Number	UT0025593	
	MSHA ID Number	Impoundment - None (Refuse Pile 1211-UT-09-01890-01)	
IMPOUNDMENT INSPECTION			
Inspection Date	07/19/16		
Inspected By	Dave Spillman		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly Inspection / Certification		
<p><b>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</b></p> <p><i>Construction of the Refuse Pile Sedimentation Pond has been completed in accordance with the approved plan. There were no signs instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p> <p><i>Sediment Storage Capacity (as-built) - 100% = 0.67 acre-feet @ an elevation of 5,897.55 feet</i>  <i>- 60% = 0.40 acre-feet @ an elevation of 5,896.5 feet</i>  <i>At the time of the inspection, the estimated average elevation of the existing sediment was 5,895.5 feet.</i></p>		
	<p><b>3. Principle and emergency spillway elevations.</b></p> <p><i>Emergency Spillway Elevation (as-built) - 5,902.5 feet</i></p>		
<p><b>4. Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>The pond was dry at the time of the inspection.</i></p> <p><i>Sediment levels were observed as being below the established 60% levels.</i></p> <p><i>This pond has never discharged.</i></p>			

**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.

**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:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**CERTIFIED REPORT**

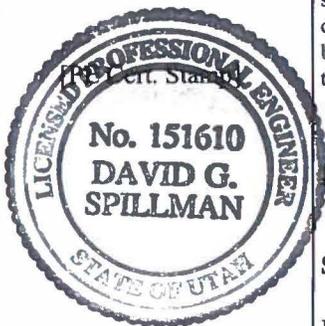
**IMPOUNDMENT EVALUATION (If NO, explain under Comments)**

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

**COMMENTS AND OTHER INFORMATION**

**Certification Statement:**

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: David G. Spillman, Technical Services Manager  
(Full Name and Title)

**Signature:** David G. Spillman **Date:** 08/11/16

**P.E. Number & State:** No. 151610, State of Utah

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	ACT/007/039	Report Date	11/05/16
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Refuse Pile Sedimentation Pond	
	Impoundment Number	None	
	UPDES Permit Number	UT0025593	
	MSHA ID Number	Impoundment - None (Refuse Pile 1211-UT-09-01890-01)	
IMPOUNDMENT INSPECTION			
Inspection Date	11/04/16		
Inspected By	Dave Spillman		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Quarterly Inspection / Certification		
<p><b>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</b></p> <p><i>Construction of the Refuse Pile Sedimentation Pond has been completed in accordance with the approved plan. There were no signs instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p> <p><i>Sediment Storage Capacity (as-built) - 100% = 0.67 acre-feet @ an elevation of 5,897.55 feet</i>  <i>- 60% = 0.40 acre-feet @ an elevation of 5,896.5 feet</i>  <i>At the time of the inspection, the estimated average elevation of the existing sediment was 5,895.5 feet.</i></p>		
	<p><b>3. Principle and emergency spillway elevations.</b></p> <p><i>Emergency Spillway Elevation (as-built) - 5,902.5 feet</i></p>		
<p><b>4. Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>The pond was dry at the time of the inspection.</i></p> <p><i>Sediment levels were observed as being below the established 60% levels.</i></p> <p><i>This pond has never discharged.</i></p>			

**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.

**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:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**CERTIFIED REPORT**

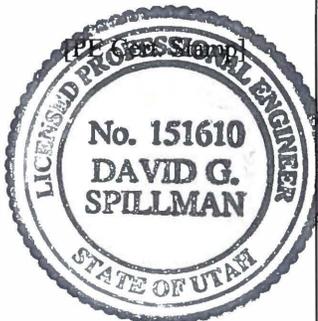
**IMPOUNDMENT EVALUATION (If NO, explain under Comments)**

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	<i>X</i>	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	<i>X</i>	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	<i>X</i>	

**COMMENTS AND OTHER INFORMATION**

**Certification Statement:**

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:** David G. Spillman, Technical Services Manager  
(Full Name and Title)

**Signature:** David G. Spillman **Date:** 11/05/16

**P.E. Number & State:** No. 151610, State of Utah

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**

Report Date April 5, 2016  
Permit Number C/007/039  
Company Name Canyon Fuel Company, LLC - Dugout Canyon Mine

**EXCESS SPOIL PILE OR REFUSE PILE IDENTIFICATION**

Pile Name Dugout Canyon Mine Refuse Pile  
Pile Number 1211-UT-09-01890-01  
MSHA ID Number 42-01890

Inspection Date March 21, 2016 *DAJ*  
Inspected By David G. Spillman  
Reason for Inspection Quarterly Inspection & Certification

Attachment to Report?      Yes          No   

**Field Evaluation**

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

The foundation preparation was found to be in accordance with the approved plan.

Phase I Expansion - The removal and stockpiling of subsoil associated with the approved Phase I expansion was initiated on November 30, 2015. Nielson Construction and Leland Sasser, Soil Scientist, were contracted for this work, which was completed in December. As-Built details, regarding soil removal and stockpiling, were submitted to DOGM on March 4, 2016.

- 2. Placement of underdrains and protective filter systems.

N/A

3. Installation of final surface drainage systems

All necessary drainage systems were constructed, functional and well established at the time of the inspection.

Phase I Expansion - As noted in Section 1, Nielson Construction was contracted to complete the Phase I expansion. At the time of the inspection, all drainage features (berms & ditches) had been completed. This drainage work appeared to be in accordance with our approved plan.

4. Placement and compaction of fill materials

Placement and compaction of this refuse appears to have been completed in accordance with the approved plan.

5. Final grading and revegetation of fill.

N/A

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

There was no appearance of instability, structural weakness or other hazardous conditions observed during this 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 site was not active at the time of the inspection. A check of the records indicated that 9,914 tons (6,676 yd3 at 110 lbs/ft3) have been delivered from the Castle Valley Prep Plant to this facility YTD. Also, the remaining capacity of this facility is now estimated at 138,516 tons, which includes the completed Phase I expansion (2014 year end value of 148,430 tons minus 9,914 tons). Records also indicate that the most recent sample of refuse taken for analysis was obtained on 02/26/16.

**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 the 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 David G. Spillman, Technical Services Manager  
*Full Name and Title*

Signature David G. Spillman Date 4/5/16

P.E. Number and State No. 151610, State of Utah

[Cert. Stamp]



*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**

Report Date June 9, 2016  
Permit Number C/007/039  
Company Name Canyon Fuel Company, LLC - Dugout Canyon Mine

**EXCESS SPOIL PILE OR REFUSE PILE IDENTIFICATION**

Pile Name Dugout Canyon Mine Refuse Pile  
Pile Number 1211-UT-09-01890-01  
MSHA ID Number 42-01890

Inspection Date June 8, 2016  
Inspected By David G. Spillman  
Reason for Inspection Quarterly Inspection & Certification

Attachment to Report?      Yes          No   

**Field Evaluation**

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

The foundation preparation was found to be in accordance with the approved plan.

Phase I Expansion - The removal and stockpiling of subsoil associated with the approved Phase I expansion was initiated on November 30, 2015. Nielson Construction and Leland Sasser, Soil Scientist, were contracted for this work, which was completed in December. As-Built details, regarding soil removal and stockpiling, were submitted to DOGM on March 4, 2016. Final approval of this as-built information was received from DOGM on May 26, 2016 and has now been incorporated into the mine's M&RP.

2. Placement of underdrains and protective filter systems.

N/A

3. Installation of final surface drainage systems

All necessary drainage systems were constructed, functional and well established at the time of the inspection.

4. Placement and compaction of fill materials

Placement and compaction of this refuse appears to have been completed in accordance with the approved plan.

5. Final grading and revegetation of fill.

N/A (Note: The revegetation success on last year's Phase I Expansion subsoil stockpile was observed as being sparse at best. This will be watched going forward, but some supplemental reseeding may be required this year.)

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

There was no appearance of instability, structural weakness or other hazardous conditions observed during this inspection. (Note: It was observed that the area near the most recent active refuse pushing had not been secured with an adequate, temporary safety berm. This berm will be reinforced with additional material.)

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 site was not active at the time of the inspection. A check of the records indicated that 10,901 tons (7,341 yd<sup>3</sup> at 110 lbs/ft<sup>3</sup>) have been delivered from the Castle Valley Prep Plant to this facility YTD. Also, the remaining capacity of this facility is now estimated at 137,529 tons, which includes the completed Phase I expansion (2015 year end value of 148,430 tons minus 10,901 tons). Records also indicate that the most recent sample of refuse taken for analysis was obtained on 02/26/16.

**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 the 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 David G. Spillman, Technical Services Manager

*Full Name and Title*

Signature David G. Spillman

Date 6/9/16

P.E. Number and State No. 151610, State of Utah

[Cert. Stamp]



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**

Report Date August 11, 2016  
Permit Number C/007/039  
Company Name Canyon Fuel Company, LLC - Dugout Canyon Mine

**EXCESS SPOIL PILE OR REFUSE PILE IDENTIFICATION**

Pile Name Dugout Canyon Mine Refuse Pile  
Pile Number 1211-UT-09-01890-01  
MSHA ID Number 42-01890

Inspection Date July 19, 2016  
Inspected By David G. Spillman  
Reason for Inspection Quarterly Inspection & Certification

Attachment to Report?      Yes          No   

**Field Evaluation**

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

The foundation preparation was found to be in accordance with the approved plan.

2. Placement of underdrains and protective filter systems.

N/A

3. Installation of final surface drainage systems

All necessary drainage systems were constructed, functional and well established at the time of the inspection.

4. Placement and compaction of fill materials

Placement and compaction of this refuse appears to have been completed in accordance with the approved plan.

5. Final grading and revegetation of fill.

N/A (Note: The revegetation success on last year's Phase I Expansion subsoil stockpile was observed as being sparse at best. This will be watched going forward, but some supplemental reseeding may be required this year.)

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

There was no appearance of instability, structural weakness or other hazardous conditions observed during this inspection. (Note: The necessary repairs to the temporary berm noted in the last inspection have been completed. Also, it was noted that the contractor has demobilized the cat from the site.)

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 site was not active at the time of the inspection. A check of the records indicated that 10,901 tons (7,341 yd3 at 110 lbs/ft3) have been delivered from the Castle Valley Prep Plant to this facility YTD. Also, the remaining capacity of this facility is now estimated at 137,529 tons, which includes the completed Phase I expansion (2015 year end value of 148,430 tons minus 10,901 tons). Records also indicate that the most recent sample of refuse taken for analysis was obtained on 02/26/16.

**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 the 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 David G. Spillman, Technical Services Manager  
*Full Name and Title*

Signature *David G. Spillman* Date *2/11/16*

P.E. Number and State No. 151610, State of Utah

[Cert. Stamp]



*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**

Report Date November 05, 2016  
Permit Number C/007/039  
Company Name Canyon Fuel Company, LLC - Dugout Canyon Mine

**EXCESS SPOIL PILE OR REFUSE PILE IDENTIFICATION**

Pile Name Dugout Canyon Mine Refuse Pile  
Pile Number 1211-UT-09-01890-01  
MSHA ID Number 42-01890

Inspection Date November 04, 2016  
Inspected By David G. Spillman  
Reason for Inspection Quarterly Inspection & Certification

Attachment to Report?      Yes          No   

**Field Evaluation**

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

The foundation preparation was found to be in accordance with the approved plan.

2. Placement of underdrains and protective filter systems.

N/A

3. Installation of final surface drainage systems

All necessary drainage systems were constructed, functional and well established at the time of the inspection.

4. Placement and compaction of fill materials

Placement and compaction of this refuse appears to have been completed in accordance with the approved plan.

5. Final grading and revegetation of fill.

N/A (Note: The revegetation success on last year's Phase I Expansion subsoil stockpile was observed as being sparse at best. Some supplemental reseeding is recommended before year's end.)

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

There was no appearance of instability, structural weakness or other hazardous conditions observed during this 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 site was not active at the time of the inspection. A check of the records indicated that 26,338 tons (17,736 yd<sup>3</sup> at 110 lbs/ft<sup>3</sup>) have been delivered from the Castle Valley Prep Plant to this facility YTD. Also, the remaining capacity of this facility is now estimated at 122,092 tons, which includes the completed Phase I expansion (2015 year end value of 148,430 tons minus 26,338 tons). Records also indicate that the most recent sample of refuse taken for analysis was obtained on 10/28/16.

**CERTIFICATION STATEMENT**

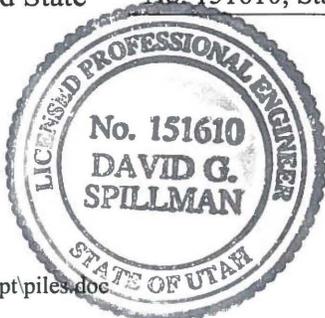
I hereby certify that; I am experienced in the construction of earth and rock fills; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of earth and rock fills in accordance with the certified and approved designs for this structure; that the fill structure has been maintained in accordance with the 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 David G. Spillman, Technical Services Manager  
*Full Name and Title*

Signature *David G. Spillman* Date *11/5/16*

P.E. Number and State No. 151610, State of Utah

[Cert. Stamp]



<b>IMPOUNDMENT INSPECTION AND CERTIFIED REPORT</b>		Page 1 of 2
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Permit Number	C/007/039	Report Date	3/30/2016
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Surface Facility Wastewater Disposal System (Leach Field)	
	Impoundment Number	None	
	UPDES Permit Number	None	
	MSHA ID Number	None (Mine - 42-01890)	

<b>IMPOUNDMENT INSPECTION</b>	
-------------------------------	--

Inspection Date	3/22/2016
Inspected By	Bill King
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Routine Quarterly Inspection

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

*There were no signs of instability, structural weakness or other hazardous conditions observed during this inspection.*

<p><b>Required for an impoundment which functions as a SEDIMENTATION POND.</b></p>	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p>
	<p><b>3. Principle and emergency spillway elevations.</b></p>

**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 out slopes of embankments, etc.

*At the time of the inspection all construction activities were completed. The contractor cleaned out all 7 junction boxes and corresponding laterals. The laterals appear to be functioning as designed. There was no evidence to suggest that any effluent was improperly flowing to the surface at the septic tank, at the distribution line clean-outs or air vents, or laterals in the leach field.*

**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.

*During repair of the leach filed laterals all rubber rabbitbrush was removed from the leach field surface.*

**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:     *Phil King*     Date:     *3/30/2016*    

**CERTIFIED REPORT**

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

	YES	NO
1. Is impoundment designed and constructed in accordance with the approved plan?	<b>X</b>	
2. Is impoundment free of instability, structural weakness, or any other hazardous condition?	<b>X</b>	
3. Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	<b>X</b>	

**COMMENTS AND OTHER INFORMATION**

*The Dugout Canyon Mine wastewater disposal system was approved for operation on October 30, 2001. The Utah Department of Environmental Quality, Southeast Utah District, granted this approval.*

**Certification Statement:**

[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: \_\_\_\_\_  
(Full Name and Title)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

P.E. Number & State: \_\_\_\_\_

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	C/007/039	Report Date	06/09/16
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Surface Facility Wastewater Disposal System (Leach Field)	
	Impoundment Number	None	
	UPDES Permit Number	None	
	MSHA ID Number	None (Mine - 42-01890)	
IMPOUNDMENT INSPECTION			
Inspection Date	06/08/16		
Inspected By	Dave Spillman		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)		Routine Quarterly Inspection and Annual Certification	
<p><b>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</b></p> <p><i>There were no signs of instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
Required for an impoundment which functions as a SEDIMENTATION POND.	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p>		
	<p><b>3. Principle and emergency spillway elevations.</b></p>		
<p><b>4. Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>At the time of the inspection, the leach field site appeared to be functioning as designed. There was no evidence to suggest that any effluent was improperly flowing to the surface at the facility site, at the septic tank, at the distribution line clean-outs or air vent. As noted in last year's inspections reports, it was discovered that the functionality of the sites laterals had become somewhat compromised due to a buildup of sludge. Last fall, a contractor completed the clean out on all 7 junction boxes and corresponding laterals.</i></p>			

**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.

*During 2015 repair and maintenance activities, all rubber rabbitbrush was grubbed from the site. This removal of the rubber rabbitbrush, will help minimize the root impact to the facilities subsurface laterals.*

**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: \_\_\_\_\_ Date: \_\_\_\_\_

**CERTIFIED REPORT**

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

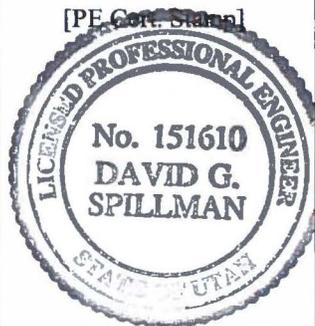
**COMMENTS AND OTHER INFORMATION**

*The Dugout Canyon Mine wastewater disposal system was approved for operation on October 30, 2001. The Utah Department of Environmental Quality, Southeast Utah District, granted this approval.*

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[PE Cert. Stamp]



By: David G. Spillman, Technical Services Manager  
(Full Name and Title)

Signature: David G. Spillman Date: 06/09/16

P.E. Number & State: No. 151610, State of Utah

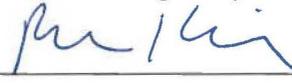
IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	C/007/039	Report Date	09/30/2016
Mine Name	Dugout Canyon Mine		
Company Name	Canyon Fuel Company, LLC		
Impoundment Identification	Impoundment Name	Surface Facility Wastewater Disposal System (Leach Field)	
	Impoundment Number	None	
	UPDES Permit Number	None	
	MSHA ID Number	None (Mine - 42-01890)	
IMPOUNDMENT INSPECTION			
Inspection Date	09/15/2016		
Inspected By	Bill King		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	Routine Quarterly Inspection		
<p><b>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</b></p> <p><i>There were no signs of instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
<p><b>Required for an impoundment which functions as a SEDIMENTATION POND.</b></p>	<p><b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and, estimated average elevation of existing sediment.</b></p>		
	<p><b>3. Principle and emergency spillway elevations.</b></p>		
<p><b>4. Field Information.</b> 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.</p> <p><i>At the time of the inspection, the leach field site appeared to be functioning as designed. There was no evidence to suggest that any effluent was improperly flowing to the surface at the facility site, at the septic tank, at the distribution line clean-outs or air vent. As noted in last year's inspections reports, it was discovered that the functionality of the sites laterals had become somewhat compromised due to a buildup of sludge. Last fall, a contractor completed the clean out on all 7 junction boxes and corresponding laterals.</i></p>			

**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.

*During 2015 repair and maintenance activities, all rubber rabbitbrush was grubbed from the site. This removal of the rubber rabbitbrush, will help minimize the root impact to the facilities subsurface laterals.*

**Qualification Statement**

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Signature:  Date: 9/30/16

**CERTIFIED REPORT**

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

**COMMENTS AND OTHER INFORMATION**

*The Dugout Canyon Mine wastewater disposal system was approved for operation on October 30, 2001. The Utah Department of Environmental Quality, Southeast Utah District, granted this approval.*

**Certification Statement:**

[PE Cert. Stamp]

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By: \_\_\_\_\_  
(Full Name and Title)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

P.E. Number & State: \_\_\_\_\_

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT		Page 1 of 2	
Permit Number	<i>C/007/039</i>	Report Date	<i>11/21/16</i>
Mine Name	<i>Dugout Canyon Mine</i>		
Company Name	<i>Canyon Fuel Company, LLC</i>		
Impoundment Identification	Impoundment Name	<i>Surface Facility Wastewater Disposal System (Leach Field)</i>	
	Impoundment Number	<i>None</i>	
	UPDES Permit Number	<i>None</i>	
	MSHA ID Number	<i>None (Mine - 42-01890)</i>	
IMPOUNDMENT INSPECTION			
Inspection Date	<i>11/19/16</i>		
Inspected By	<i>Bill King</i>		
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)		<i>Routine Quarterly Inspection</i>	
<p>1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.</p> <p><i>There were no signs of instability, structural weakness or other hazardous conditions observed during this inspection.</i></p>			
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.		
	3. Principle and emergency spillway elevations.		
<p>4. <b>Field Information.</b> 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 out slopes of embankments, etc.</p> <p><i>At the time of the inspection, the leach field site appeared to be functioning as designed. There was no evidence to suggest that any effluent was improperly flowing to the surface at the facility site, at the septic tank, at the distribution line clean-outs or air vent. As noted in last year's inspections reports, it was discovered that the functionality of the sites laterals had become somewhat compromised due to a buildup of sludge. Last fall, a contractor completed the clean out on all 7 junction boxes and corresponding laterals.</i></p>			

**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.

*During 2015 repair and maintenance activities, all rubber rabbitbrush was grubbed from the site. This removal of the rubber rabbitbrush, will help minimize the root impact to the facilities subsurface laterals.*

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Signature: Bill King Date: 11/21/2016

**CERTIFIED REPORT**

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

**COMMENTS AND OTHER INFORMATION**

*The Dugout Canyon Mine wastewater disposal system was approved for operation on October 30, 2001. The Utah Department of Environmental Quality, Southeast Utah District, granted this approval.*

**Certification Statement:**

[PE Cert. Stamp]

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By: \_\_\_\_\_  
(Full Name and Title)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

P.E. Number & State: \_\_\_\_\_

**APPENDIX B**

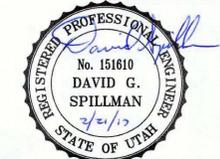
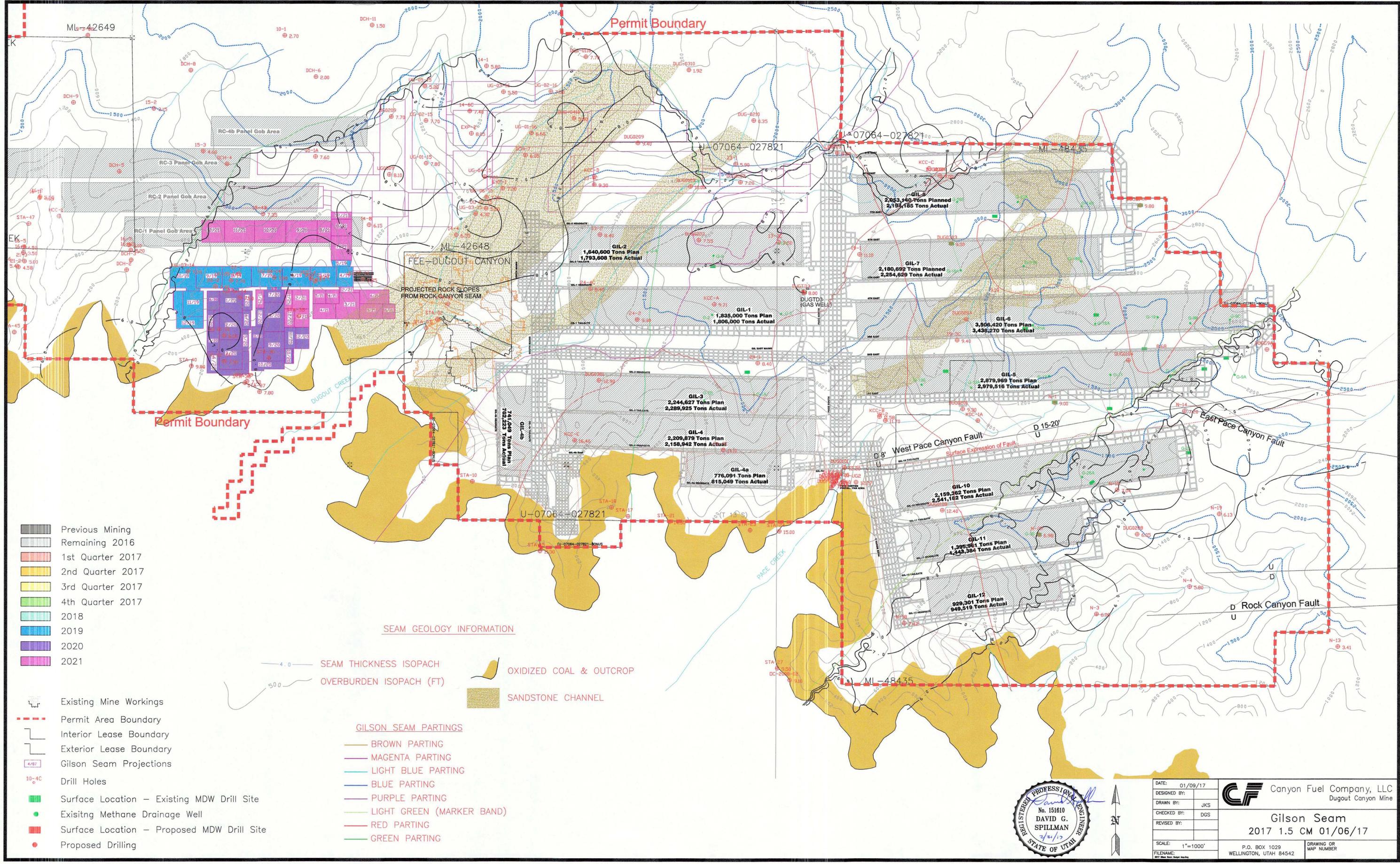
**Certified Mine Maps**

As required under R645-310-512 and R645-301-521

**CONTENTS**

**Mine Map – Gilson Seam**

**Mine Map – Rock Canyon Seam**



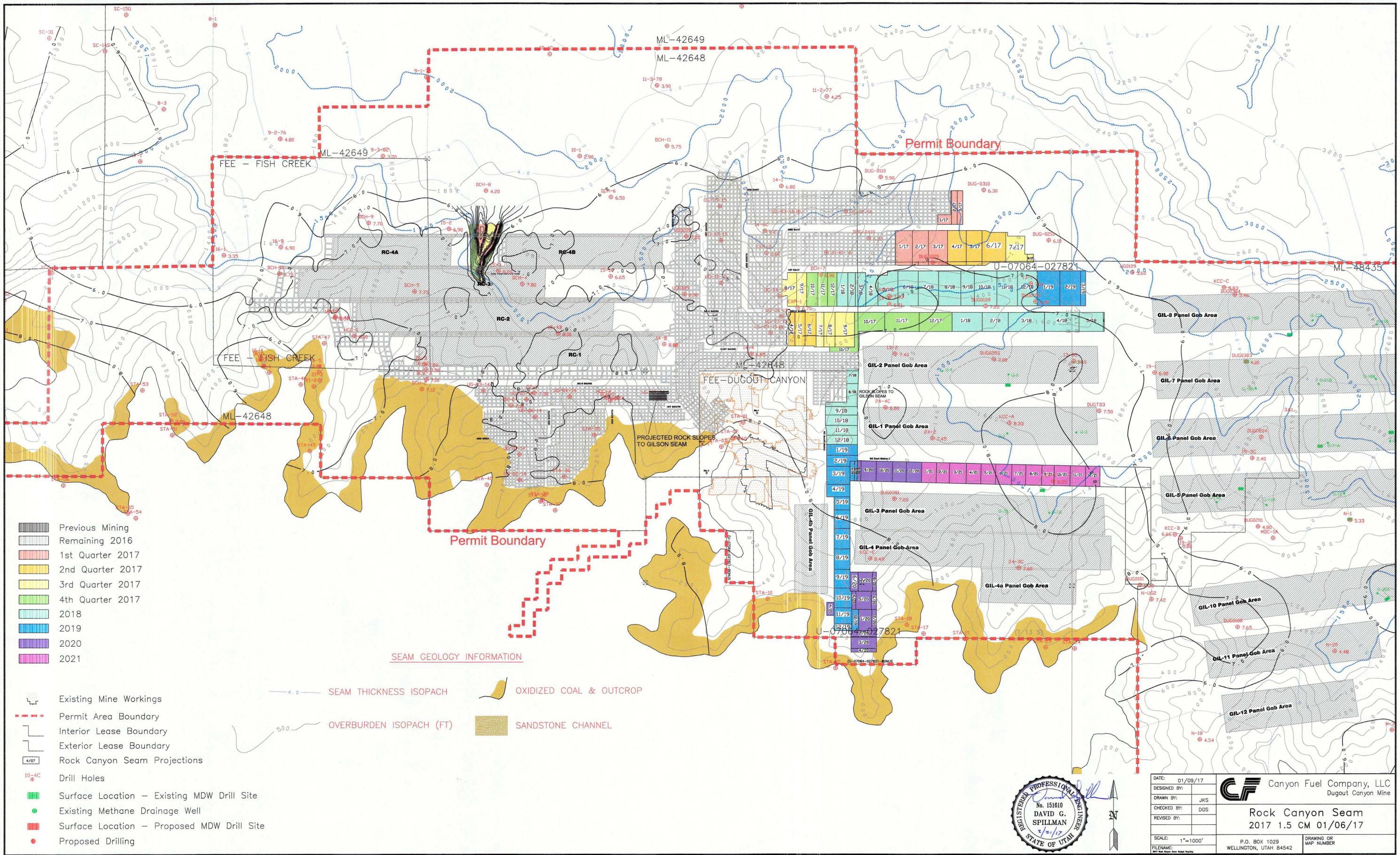
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DESIGNED BY:	
DRAWN BY:	JKS
CHECKED BY:	DGS
REVISED BY:	
SCALE:	1"=1000'
FILENAME:	

**Canyon Fuel Company, LLC**  
Dugout Canyon Mine

**Gilson Seam**  
2017 1.5 CM 01/06/17

P.O. BOX 1029  
WELLINGTON, UTAH 84542

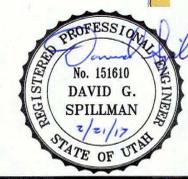
DRAWING OR  
MAP NUMBER



- Previous Mining
- Remaining 2016
- 1st Quarter 2017
- 2nd Quarter 2017
- 3rd Quarter 2017
- 4th Quarter 2017
- 2018
- 2019
- 2020
- 2021

- Existing Mine Workings
- Permit Area Boundary
- Interior Lease Boundary
- Exterior Lease Boundary
- Rock Canyon Seam Projections
- Drill Holes
- Surface Location - Existing MDW Drill Site
- Existing Methane Drainage Well
- Surface Location - Proposed MDW Drill Site
- Proposed Drilling

- SEAM GEOLOGY INFORMATION**
- 4.0 SEAM THICKNESS ISOPACH
  - OXIDIZED COAL & OUTCROP
  - 5.0 OVERBURDEN ISOPACH (FT)
  - SANDSTONE CHANNEL



DATE:	01/09/17	Canyon Fuel Company, LLC Dugout Canyon Mine
DESIGNED BY:		
DRAWN BY:	JKS	
CHECKED BY:	DGS	
REVISD BY:		<b>Rock Canyon Seam</b> 2017 1.5 CM 01/06/17
SCALE:	1"=1000'	P.O. BOX 1029 WELLINGTON, UTAH 84542
FILENAME:		DRAWING OR MAP NUMBER

**APPENDIX C**

**Other Information**

*As required under R645-300, R645-301, & R645-302*

**CONTENTS**

**Refuse Pile Assessment**

**Subsidence Report & Map**

**Waste Rock Sampling**

## Dugout Canyon Mine Refuse Pile 2016 Annual Assessment

The following information has been determined for the 2016 activities conducted at the Dugout Canyon Mine Refuse Pile:

- 2016 Total Delivered Tonnage – 35,363 Tons
- Average Density of the Placed and Compacted Refuse – 105.5 lbs/ft<sup>3</sup>
- Estimated 2016 Placed Refuse Volume – 670,391 ft<sup>3</sup> (24,829 yd<sup>3</sup>)
- Estimated Capacity Remaining at Year's End – 1,125,495 ft<sup>3</sup> (61,902 Tons @ 110 lbs/ft<sup>3</sup>)  
(Note: The 2016 year-end capacity values include the Phase I Expansion project which was completed in December 2015.)

David G. Spillman, P.E.  
Technical Services Manager  
P.E. No. 151610-2202, State of Utah



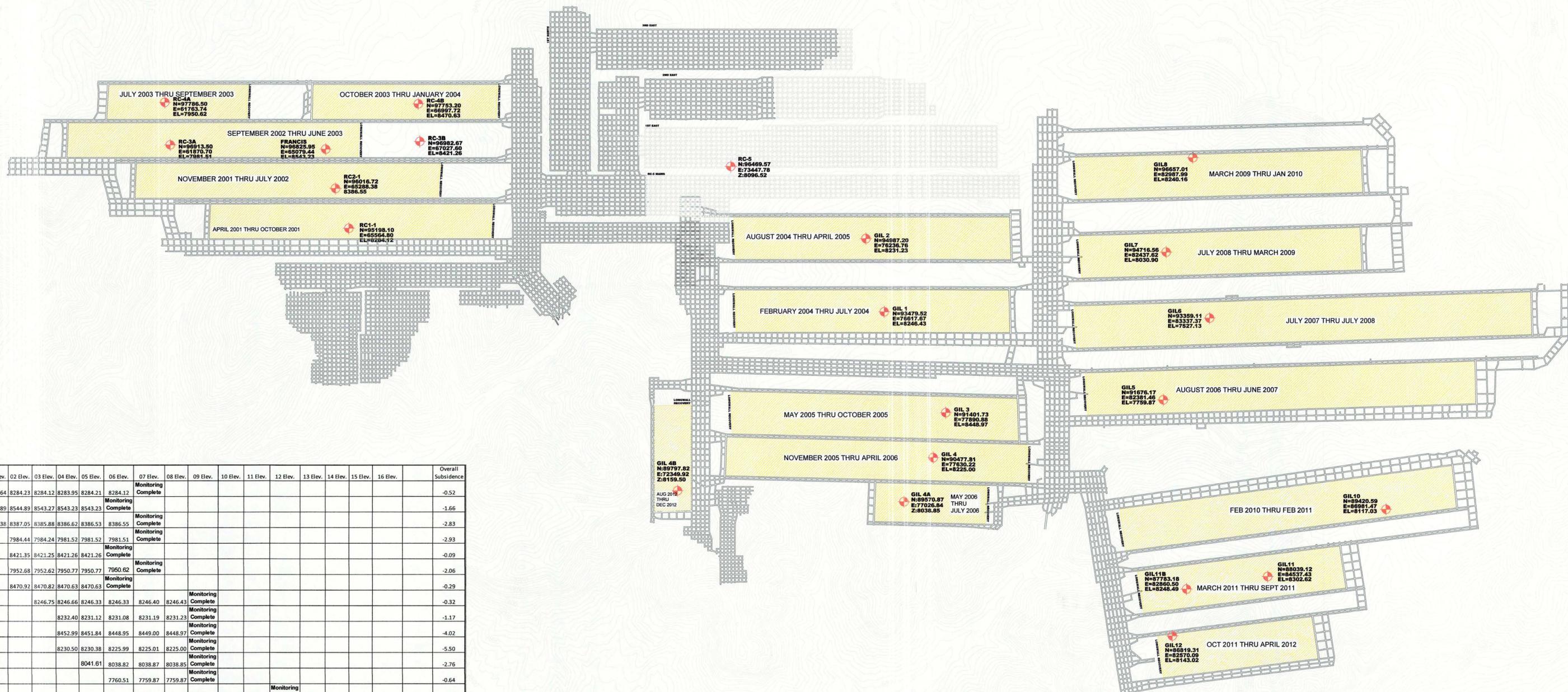
## Dugout Canyon Mine – Visual Checks for Subsidence – 2016

Dugout Canyon Mine, M&RP, Chapter 5, Section 525 "Visual checks for subsidence will be made during all surface activities, especially during water monitoring activities. These visual surveys will be used to detect surface irregularities and surface cracks."

During 2016 water monitoring in March (no access to higher elevations), June, August, September, October and November "No surface irregularities or surface cracks were observed".

X Bill King 2/21/17

Bill King  
Mining Engineer



Station	Original Elev.	01 Elev.	02 Elev.	03 Elev.	04 Elev.	05 Elev.	06 Elev.	07 Elev.	08 Elev.	09 Elev.	10 Elev.	11 Elev.	12 Elev.	13 Elev.	14 Elev.	15 Elev.	16 Elev.	Overall Subsidence
RC 1-1	8284.64	8284.64	8284.23	8284.12	8283.95	8284.21	8284.12	Monitoring Complete										-0.52
Francis	8544.89	8544.89	8543.27	8543.23	8543.23			Monitoring Complete										-1.66
RC 2-1	8389.38	8389.38	8387.05	8385.88	8386.62	8386.53	8386.55	Monitoring Complete										-2.83
RC-3A	7984.44	7984.44	7984.24	7981.52	7981.52	7981.51		Monitoring Complete										-2.93
RC-3B	8421.35	8421.35	8421.25	8421.26	8421.26			Monitoring Complete										-0.09
RC-4A	7952.68	7952.68	7952.62	7950.77	7950.77	7950.62		Monitoring Complete										-2.06
RC-4B	8470.92	8470.92	8470.82	8470.63	8470.63			Monitoring Complete										-0.29
GIL 1	8246.75		8246.75	8246.66	8246.33	8246.33	8246.40	8246.43	Monitoring Complete									-0.32
GIL 2	8232.40		8232.40	8231.12	8231.08	8231.19	8231.23		Monitoring Complete									-1.17
GIL 3	8452.99		8452.99	8451.84	8448.95	8449.00	8448.97		Monitoring Complete									-4.02
GIL 4	8230.50		8230.50	8230.38	8225.99	8225.01	8225.00		Monitoring Complete									-5.50
GIL 4A	8041.61		8041.61	8038.82	8038.87	8038.85		Monitoring Complete										-2.76
GIL 5	7760.51		7760.51	7759.87	7759.87			Monitoring Complete										-0.64
GIL 6	7527.96		7527.96	7527.94	7527.14	7527.14	7527.13		Monitoring Complete									-0.83
GIL 7	8031.93		8031.93	8031.10	8031.03	8030.90		Monitoring Complete										-1.03
GIL 8	8240.53		8240.53	8240.53	8240.02	8240.16		Monitoring Complete										-0.37
GIL 10	8117.09		8117.09	8117.06	8117.03			Monitoring Complete										-0.06
GIL 11	8304.63		8304.63	8303.70	8303.02	8302.83	8302.67	8302.62	Monitoring Complete									-2.01
GIL 11B	8251.09		8251.09	8250.70	8248.83	8248.59	8248.18	8248.36	8248.49	Monitoring Complete								-2.60
GIL 12	8143.52		8143.52	8142.94	8142.58	8142.56	8142.79	8143.04	8143.02	Monitoring Complete								-0.50
GIL 4B	8162.67		8162.67	8162.53	8162.35	8159.61	8159.41	8159.50		Monitoring Complete								-3.17
RC-5	8096.52		8096.52															Plans for a RC 5 Longwall Panel have been eliminated

Note: Coordinates and elevations provided by:  
 Ware Surveying, L.L.C.  
 1344 North 1000 West  
 Price, UT 84501  
 Field work was completed July 11, 2016.



## SUBSIDENCE REPORT 2016



P.O. BOX 1029 WELLINGTON, UTAH 84542 435-637-6360	Date: February 24, 2017	Checked By: D.G.S.	REVISION:
CAD File: Subsidence Report 2016.dwg	Scale: 1" = 1000'	Drawn By: J.H.	
		Updated By: JKS	



Date: 2/16/2016

**CLIENT:** Canyon Fuel Company  
**Project:** Dugout Canyon Mine  
**Lab Order:** S1601286

**CASE NARRATIVE**  
**Report ID:** S1601286001

Sample WR 2016-01 was received on January 22, 2016.

Samples were analyzed using the methods outlined in the following references:

- U.S.E.P.A. 600/2-78-054 "Field and Laboratory Methods Applicable to Overburden and Mining Soils", 1978
- American Society of Agronomy, Number 9, Part 2, 1982
- USDA Handbook 60 "Diagnosis and Improvement of Saline and Alkali Soils", 1969
- Wyoming Department of Environmental Quality, Land Quality Division, Guideline No. 1, 1984
- New Mexico Overburden and Soils Inventory and Handling Guideline, March 1987
- State of Utah, Division of Oil, Gas, and Mining: Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining, April 1988
- Montana Department of State Lands, Reclamation Division: Soil, Overburden, and Regraded Spoil Guidelines, December 1994
- State of Nevada Modified Sobek Procedure
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

*Karen A Secor*



**Soil Analysis Report**  
**Canyon Fuel Company**

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Report ID: S1601286001

Date Reported: 2/16/2016

Work Order: S1601286

Project: Dugout Canyon Mine

Date Received: 1/22/2016

Lab ID	Sample ID	pH	Saturation	Electrical Conductivity	Field Capacity	Wilting Point	PE Calcium	PE Magnesium	PE Potassium	PE Sodium	SAR
		s.u.	%	dS/m	%	%	meq/L	meq/L	meq/L	meq/L	
S1601286-001	WR 2016-01	7.8	33.4	1.49	15.4	3.6	6.68	7.00	0.76	2.84	1.09

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



**Soil Analysis Report**  
**Canyon Fuel Company**

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Report ID: S1601286001

Date Reported: 2/16/2016

Work Order: S1601286

Project: Dugout Canyon Mine

Date Received: 1/22/2016

Lab ID	Sample ID	Sand %	Silt %	Clay %	Texture	Boron ppm	Phosphorus ppm	Selenium ppm	Nitrate(as N) ppm	TKN %
S1601286-001	WR 2016-01	88.0	9.0	3.0	Sand	0.54	3	<0.02	0.3	0.33

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



**Soil Analysis Report  
Canyon Fuel Company**

Report ID: S1601286001

Project: Dugout Canyon Mine

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Date Reported: 2/16/2016

Date Received: 1/22/2016

Work Order: S1601286

Lab ID	Sample ID	Available	Exchangeable	Total	
		Sodium	Sodium	Carbon	TOC
		meq/100g	meq/100g	%	%
S1601286-001	WR 2016-01	0.24	0.14	18.6	18.0

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



**Soil Analysis Report**  
**Canyon Fuel Company**

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Report ID: S1601286001

Date Reported: 2/16/2016

Work Order: S1601286

Project: Dugout Canyon Mine

Date Received: 1/22/2016

Lab ID	Sample ID	Total Sulfur	T.S. AB	Neutral. Potential	T.S. ABP	Sulfate Sulfur	Pyritic Sulfur	Organic Sulfur	PyriticS AB	PyriticS ABP
		%	t/1000t	t/1000t	t/1000t	%	%	%	t/1000t	t/1000t
S1601286-001	WR 2016-01	1.74	54.4	47.1	-7.31	0.12	1.16	0.45	36.4	10.7

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

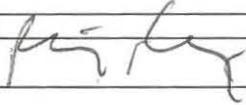
Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor

Inter-Mountain Laboratories, Inc.  
**CHAIN OF CUSTODY**  
**DUGOUT CANYON MINE**

51601286-001

Sample Identification	WR 2016-01																		
Sample Date	01/20/16																		
Number of Samples	1																		
Type of Soil	WR																		
<b>Laboratory Analyses</b>																			
Table 6, Topsoil & Overburden Parameters	X																		
<b>AND</b>																			
Texture	X																		
pH	X																		
Electrical Conductivity	X																		
Total Carbon	X																		
SAR	X																		
Water Holding Capacity	X																		
Plant Available Nitrogen	X																		
Phosphorus	X																		
Pyritic sulfur	X																		
T.S. ABP	X																		

WR (Waste Rock), SS (Sub-Soil), TS (Topsoil)

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
Bill King 	1/20/2016	10:01 AM	Crystal Herman	1/22/16	11:10a



Date: 3/24/2016

**CLIENT:** Canyon Fuel Company  
**Project:** Dugout Canyon Mine  
**Lab Order:** S1603085

**CASE NARRATIVE**  
**Report ID:** S1603085001

Sample WR 2016-02 was received on March 7, 2016.

Samples were analyzed using the methods outlined in the following references:

- U.S.E.P.A. 600/2-78-054 "Field and Laboratory Methods Applicable to Overburden and Mining Soils", 1978
- American Society of Agronomy, Number 9, Part 2, 1982
- USDA Handbook 60 "Diagnosis and Improvement of Saline and Alkali Soils", 1969
- Wyoming Department of Environmental Quality, Land Quality Division, Guideline No. 1, 1984
- New Mexico Overburden and Soils Inventory and Handling Guideline, March 1987
- State of Utah, Division of Oil, Gas, and Mining: Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining, April 1988
- Montana Department of State Lands, Reclamation Division: Soil, Overburden, and Regraded Spoil Guidelines, December 1994
- State of Nevada Modified Sobek Procedure
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

*Karen A Secor*



**Soil Analysis Report**  
**Canyon Fuel Company**

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Report ID: S1603085001

Date Reported: 3/24/2016

Work Order: S1603085

Project: Dugout Canyon Mine

Date Received: 3/7/2016

Lab ID	Sample ID	pH	Saturation	Electrical Conductivity	Field Capacity	Wilting Point	Calcium PE	Magnesium PE	Potassium PE	Sodium PE	SAR
		s.u.	%	dS/m	%	%	meq/L	meq/L	meq/L	meq/L	
S1603085-001	WR 2016-02	7.5	35.7	3.24	24.8	9.9	15.8	11.2	1.10	13.7	3.73

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



**Soil Analysis Report**  
**Canyon Fuel Company**

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Report ID: S1603085001

Date Reported: 3/24/2016

Work Order: S1603085

Project: Dugout Canyon Mine

Date Received: 3/7/2016

Lab ID	Sample ID	Sand %	Silt %	Clay %	Texture	Boron ppm	Phosphorus ppm	Selenium ppm	Nitrate(as N) ppm	TKN %
S1603085-001	WR 2016-02	64.0	25.0	11.0	Sandy Loam	1.11	6	0.09	0.8	0.24

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



**Soil Analysis Report**  
**Canyon Fuel Company**

Report ID: S1603085001

Project: Dugout Canyon Mine

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Date Reported: 3/24/2016

Date Received: 3/7/2016

Work Order: S1603085

Lab ID	Sample ID	Available	Exchangeable	Total	
		Sodium	Sodium	Carbon	TOC
		meq/100g	meq/100g	%	%
S1603085-001	WR 2016-02	0.93	0.44	12.9	12.1

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



**Soil Analysis Report**  
**Canyon Fuel Company**

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Report ID: S1603085001

Date Reported: 3/24/2016

Work Order: S1603085

Project: Dugout Canyon Mine

Date Received: 3/7/2016

Lab ID	Sample ID	Total Sulfur	T.S. AB	Neutral. Potential	T.S. ABP	Sulfate Sulfur	Pyritic Sulfur	Organic Sulfur	PyriticS AB	PyriticS ABP
		%	t/1000t	t/1000t	t/1000t	%	%	%	t/1000t	t/1000t
S1603085-001	WR 2016-02	0.58	18.1	62.7	44.6	0.05	0.40	0.13	12.5	50.2

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

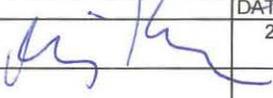
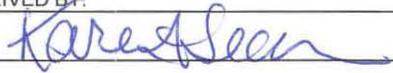
Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor

Inter-Mountain Laboratories, Inc.  
CHAIN OF CUSTODY  
 DUGOUT CANYON MINE

51603085-001

Sample Identification	WR 2016-02																			
Sample Date	02/26/16																			
Number of Samples	1																			
Type of Soil	WR																			
<b>Laboratory Analyses</b>																				
Table 6, Topsoil & Overburden Parameters	X																			
<b>AND</b>																				
Texture	X																			
pH	X																			
Electrical Conductivity	X																			
Total Carbon	X																			
SAR	X																			
Water Holding Capacity	X																			
Plant Available Nitrogen	X																			
Phosphorus	X																			
Pyritic sulfur	X																			
T.S. ABP	X																			

WR (Waste Rock), SS (Sub-Soil), TS (Topsoil)

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
Bill King 	2/26/2016	2:51 PM		3/7/16	0945



Date: 10/5/2016

**CLIENT:** Canyon Fuel Company  
**Project:** Dugout Canyon Mine  
**Lab Order:** S1609165

**CASE NARRATIVE**  
**Report ID:** S1609165001

Sample WR 2016-03 was received on September 12, 2016.

Samples were analyzed using the methods outlined in the following references:

- U.S.E.P.A. 600/2-78-054 "Field and Laboratory Methods Applicable to Overburden and Mining Soils", 1978
- American Society of Agronomy, Number 9, Part 2, 1982
- USDA Handbook 60 "Diagnosis and Improvement of Saline and Alkali Soils", 1969
- Wyoming Department of Environmental Quality, Land Quality Division, Guideline No. 1, 1984
- New Mexico Overburden and Soils Inventory and Handling Guideline, March 1987
- State of Utah, Division of Oil, Gas, and Mining: Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining, April 1988
- Montana Department of State Lands, Reclamation Division: Soil, Overburden, and Regraded Spoil Guidelines, December 1994
- State of Nevada Modified Sobek Procedure
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

*Karen A Secor*



**Soil Analysis Report  
Canyon Fuel Company**

Report ID: S1609165001

Project: Dugout Canyon Mine

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Date Reported: 10/5/2016

Date Received: 9/12/2016

Work Order: S1609165

Lab ID	Sample ID	pH	Saturation	Electrical Conductivity	Field Capacity	Wilting Point	Calcium PE	Magnesium PE	Potassium PE	Sodium PE	SAR
		s.u.	%	dS/m	%	%	meq/L	meq/L	meq/L	meq/L	
S1609165-001	WR 2016-03	8.3	36.8	0.69	12.6	5.4	1.64	1.66	0.25	3.65	2.84

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



**Soil Analysis Report**  
**Canyon Fuel Company**

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Report ID: S1609165001

Date Reported: 10/5/2016

Work Order: S1609165

Project: Dugout Canyon Mine

Date Received: 9/12/2016

Lab ID	Sample ID	Nitrogen								
		Sand %	Silt %	Clay %	Texture	Boron ppm	Phosphorus ppm	Selenium ppm	Nitrate(as N) ppm	TKN %
S1609165-001	WR 2016-03	68.0	20.0	12.0	Sandy Loam	0.54	3	<0.02	0.2	0.19

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



**Soil Analysis Report  
Canyon Fuel Company**

Report ID: S1609165001

Project: Dugout Canyon Mine

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Date Reported: 10/5/2016

Date Received: 9/12/2016

Work Order: S1609165

Lab ID	Sample ID	Available	Exchangeable	Total	
		Sodium	Sodium	Carbon	TOC
		meq/100g	meq/100g	%	%
S1609165-001	WR 2016-03	0.93	0.80	14.1	10.8

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



**Soil Analysis Report**  
**Canyon Fuel Company**

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Report ID: S1609165001

Date Reported: 10/5/2016

Work Order: S1609165

Project: Dugout Canyon Mine

Date Received: 9/12/2016

Lab ID	Sample ID	Total Sulfur	T.S. AB	Neutral. Potential	T.S. ABP	Sulfate Sulfur	Pyritic Sulfur	Organic Sulfur	PyriticS AB	PyriticS ABP
		%	t/1000t	t/1000t	t/1000t	%	%	%	t/1000t	t/1000t
S1609165-001	WR 2016-03	0.22	6.75	276	270	<0.01	0.12	0.09	3.71	273

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

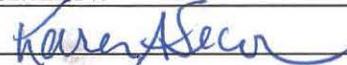
Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor

**Inter-Mountain Laboratories, Inc.**  
**CHAIN OF CUSTODY**  
**DUGOUT CANYON MINE**

51609165-001

Sample Identification	WR 2016-03																		
Sample Date	09/07/16																		
Number of Samples	1																		
Type of Soil	WR																		
<b>Laboratory Analyses</b>																			
Table 6, Topsoil & Overburden Parameters	X																		
AND																			
Texture	X																		
pH	X																		
Electrical Conductivity	X																		
Total Carbon	X																		
SAR	X																		
Water Holding Capacity	X																		
Plant Available Nitrogen	X																		
Phosphorus	X																		
Pyritic sulfur	X																		
T.S. ABP	X																		

WR (Waste Rock), SS (Sub-Soil), TS (Topsoil)

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
Bill King 	9/8/2016	8:07 AM		9/12/16	1:10



Date: 12/12/2016

**CLIENT:** Canyon Fuel Company  
**Project:** Dugout Canyon Mine  
**Lab Order:** S1611038

**CASE NARRATIVE**  
**Report ID:** S1611038001

Sample WR2016-04 was received on November 2, 2016.

Samples were analyzed using the methods outlined in the following references:

- U.S.E.P.A. 600/2-78-054 "Field and Laboratory Methods Applicable to Overburden and Mining Soils", 1978
- American Society of Agronomy, Number 9, Part 2, 1982
- USDA Handbook 60 "Diagnosis and Improvement of Saline and Alkali Soils", 1969
- Wyoming Department of Environmental Quality, Land Quality Division, Guideline No. 1, 1984
- New Mexico Overburden and Soils Inventory and Handling Guideline, March 1987
- State of Utah, Division of Oil, Gas, and Mining: Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining, April 1988
- Montana Department of State Lands, Reclamation Division: Soil, Overburden, and Regraded Spoil Guidelines, December 1994
- State of Nevada Modified Sobek Procedure
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

*Karen A Secor*



**Soil Analysis Report**  
**Canyon Fuel Company**

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Report ID: S1611038001

Date Reported: 12/12/2016

Work Order: S1611038

Project: Dugout Canyon Mine

Date Received: 11/2/2016

Lab ID	Sample ID	pH	Saturation	Electrical Conductivity	Field Capacity	Wilting Point	Calcium PE	Magnesium PE	Potassium PE	Sodium PE	SAR
		s.u.	%	dS/m	%	%	meq/L	meq/L	meq/L	meq/L	
S1611038-001	WR2016-04	8.1	20.1	3.48	10.0	5.0	20.0	20.7	0.61	9.30	2.06

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor



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Lab ID	Sample ID	Nitrogen								
		Sand %	Silt %	Clay %	Texture	Boron ppm	Phosphorus ppm	Selenium ppm	Nitrate(as N) ppm	TKN %
S1611038-001	WR2016-04	76.0	12.0	12.0	Sandy Loam	1.17	3	0.02	0.6	0.23

These results apply only to the samples tested.

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Lab ID	Sample ID	Available	Exchangeable	Total	
		Sodium	Sodium	Carbon	TOC
		meq/100g	meq/100g	%	%
S1611038-001	WR2016-04	0.53	0.34	9.5	6.7

These results apply only to the samples tested.

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Lab ID	Sample ID	Total Sulfur	T.S. AB	Neutral. Potential	T.S. ABP	Sulfate Sulfur	Pyritic Sulfur	Organic Sulfur	PyriticS AB	PyriticS ABP
		%	t/1000t	t/1000t	t/1000t	%	%	%	t/1000t	t/1000t
S1611038-001	WR2016-04	1.11	34.6	236	201	0.11	0.87	0.13	27.2	208

These results apply only to the samples tested.

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Karen Secor, Soil Lab Supervisor





Date: 1/12/2017

**CLIENT:** Canyon Fuel Company  
**Project:** Dugout Canyon Mine  
**Lab Order:** S1611461

**CASE NARRATIVE**  
**Report ID:** S1611461001

Sample WR 2016-05 was received on November 30, 2016.

Samples were analyzed using the methods outlined in the following references:

- U.S.E.P.A. 600/2-78-054 "Field and Laboratory Methods Applicable to Overburden and Mining Soils", 1978
- American Society of Agronomy, Number 9, Part 2, 1982
- USDA Handbook 60 "Diagnosis and Improvement of Saline and Alkali Soils", 1969
- Wyoming Department of Environmental Quality, Land Quality Division, Guideline No. 1, 1984
- New Mexico Overburden and Soils Inventory and Handling Guideline, March 1987
- State of Utah, Division of Oil, Gas, and Mining: Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining, April 1988
- Montana Department of State Lands, Reclamation Division: Soil, Overburden, and Regraded Spoil Guidelines, December 1994
- State of Nevada Modified Sobek Procedure
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

*Karen A Secor*



**Soil Analysis Report**  
**Canyon Fuel Company**

Report ID: S1611461001

Project: Dugout Canyon Mine

Dugout Canyon Mine  
P.O. Box 1029  
Wellington, UT 84542

Date Reported: 1/12/2017

Date Received: 11/30/2016

Work Order: S1611461

Lab ID	Sample ID	pH	Saturation	Electrical Conductivity	Field Capacity	Wilting Point	Calcium PE	Magnesium PE	Potassium PE	Sodium PE	SAR
		s.u.	%	dS/m	%	%	meq/L	meq/L	meq/L	meq/L	
S1611461-001	WR 2016-05	7.6	28.4	2.85	18.8	7.7	20.7	29.1	0.84	4.84	0.97

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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Report ID: S1611461001

Project: Dugout Canyon Mine

Date Received: 11/30/2016

Date Reported: 1/12/2017

Work Order: S1611461

Lab ID	Sample ID	Nitrogen								
		Sand %	Silt %	Clay %	Texture	Boron ppm	Phosphorus ppm	Selenium ppm	Nitrate(as N) ppm	TKN %
S1611461-001	WR 2016-05	56.0	29.0	15.0	Sandy Loam	0.62	5	0.04	0.6	0.21

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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Date Reported: 1/12/2017

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Work Order: S1611461

Lab ID	Sample ID	Available	Exchangeable	Total	
		Sodium	Sodium	Carbon	TOC
		meq/100g	meq/100g	%	%
S1611461-001	WR 2016-05	0.34	0.20	6.3	4.9

These results apply only to the samples tested.

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Lab ID	Sample ID	Total Sulfur	T.S. AB	Neutral. Potential	T.S. ABP	Sulfate Sulfur	Pyritic Sulfur	Organic Sulfur	PyriticS AB	PyriticS ABP
		%	t/1000t	t/1000t	t/1000t	%	%	%	t/1000t	t/1000t
S1611461-001	WR 2016-05	1.08	33.8	116	82.6	0.27	0.71	0.11	22.2	94.2

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

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

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