2007 ANNUAL REPORT
TO THE
UTAH DIVISION OF OIL, GAS AND MINING

DUGOUT CANYON MINE
C/007/039

Canyon Fuel Company, LLC
P.O. Box 1029
Wellington, UT 84542

*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

Permittee Name	Canyon Fuel Company, LLC
Mine Name	**Dugout Canyon Mine**
Operator Name (If other then Permittee)	NA
Permit Expiration Date	March 16, 2013
Permit Number	C/007/0039
Authorized Representative Title	Erwin Sass, General Manager
Phone Number	(435) 637-6360
Fax Number	(435) 636-2897
E-mail Address	esass@archcoal.com
Mailing Address	P.O.Box 1029, Wellington, Utah 84542
Designated Representative	
Resident Agent	C.T. Corporation Systems
Resident Agent Mailing Address	50 West Broadway, Salt Lake City, Utah 84101
Number of Binders Submitted	(1) Binder, Two Copies

IDENTIFICATION OF OTHER PERMITS

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

Permit Type	ID Number	Description	Expiration Date
MSHA Mine ID(s)	42-01890	Rock Canyon Seam	N/A
	42-01888	Gilson Seam	N/A
MSHA Impoundment(s)	N/A		
NPDES/UPDES Permit(s)	UT0025593	UPDES Discharge Permit and Storm Water Discharge Permit	November 20, 2009
PSD Permit(s) (Air)	DAQE-001-1999	Air Quality Permit	N/A
Other			
MSHA Mine ID(s)	1211-UT-09-01890-01	Refuse Pile	N/A

File in:
☐ Confidential
☒ Shelf
☐ Expandable
Refer to Record No 0005 Date 05/23/2008
In C/007/0034, 2008, Incoming
For additional information

CERTIFIED REPORTS

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

Certified Reports:	Required Yes	No	Included or DOGM file location Included Vol, Chapter, Page	Comments
Excess Spoil Piles				
Refuse Piles	X		X	
Impoundments	X		X	
Other				

COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the MRP 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 the particular section is blank, no commitment has been identified and no response is required for this report. If a written response is required, it should be filed under Appendix B to this report.

Admin R645-301-100	
Soils R645-301-200	
Has this commitment been acted on this year? Yes See Attachment 5-4 and included in Annual Report	**Duplicate commitment remove from this section and see identical commitment below under R645-301-500, which is sections where citation is recorded.** **Title: WASTE ROCK SAMPLING** **Objective:** protection of ground and surface water and potentially substantiate lesser cover at the waste rock site **Frequency:** One sample per 5,000 cu yds taken to the waste rock site. **Status:** Material stored at the mine site for a "short period of time". **Reports:** To be submitted with the annual report (*and to be included in RA Attachment 5-4?). Acid/toxic material to be buried within 30 days. **Citation:** Chap. 5, Sec. 513.400., Sec. 528.300, Sec. 536 and Refuse Pile Amendment. Volume Section 536.
Biology R645-301-300	

Has this commitment been acted on this year? Yes , 2007 follow up survey included in this Annual Report . Commitment has been completed, please remove from annual report format for 2008.	**Title: BATS.** **Objective:** Conduct a 2005 bat survey for Pace fan project. **Frequency:** One time event, but may conduct follow-up **Status:** Completed baseline 2005 and follow up 2007. **Reports:** Provide in Annual Report. Citation: Vol. Chap 3, Sec. 322, p. 3-19.
Has this commitment been acted on this year? Yes, drawing and data included to be incorporated into confidential binder with permit expansion – Lease U07064-027821. Data only included with annual report, not drawing.	**Title: ANNUAL OVERFLIGHT RAPTOR SURVEYS.** **Objective:** Obtain baseline data prior to mining disturbances including subsidence of cliff habitat. Conduct follow-up surveys within one year if nests were observed during the baseline surveys and if operations resulted in subsidence. **Frequency:** Annually. **Status:** On going. **Reports:** Annual Reports. Citation: Vol. Chap 3, Sec. 322, p. 3-13.
Has this commitment been acted on this year? Yes, drawing and data included to be incorporated into confidential binder with permit expansion – Lease U07064-027821. Data only included with annual report, not drawing.	**Title: RAPTOR NESTS AND SUBSIDENCE.** **Objective:** Permittee and agencies will determine, nine months or the summer period prior to potential subsidence, methods of avoidance, protection or removal, and mitigation plans for raptor nests within the subsidence zone. **Frequency:** Lease/project dependent. **Status:** On going. **Reports**: Annual Reports will provide over-flight results. Citation: Vol. Chap 3, Sec. 332, p. 3-21, Sec. 333.300, p. 3-33, 3-34; Vol. Degas Wells, Sec. 322.200, p. 3-6; Condition 10 of March 16, 1998 permit.
Has this commitment been acted on this year? No permit commitment to provide information in annual report.	No commitment in permit document concerning reporting in annual report, please remove from this annual report format. **Title: GOSHAWKS.** **Objective:** Conduct ground surveys for goshawks in areas with dense canopy habitat and areas planned for mining facilities or subsidence. **Frequency:** Project dependent. **Status:** On going. **Reports:** Annual Report. **Citation:** Vol. Chap 3, Sec. 322.200, p. 3-22, 3-21, 3-19, Sec 333.300, p. 3-34; Vol. Degas Wells, Sec. 322.200, p. 3-7.

Has this commitment been acted on this year? Only a requirement of 2004 annual report, not ongoing according to permit document.	No commitment in permit document concerning reporting in annual report for any year but 2004, please remove from this annual report format. **Title: NORTHERN SAW WHET OWLS** **Objective:** Conduct ground surveys for Northern saw whet owls in areas with Douglas fir, mixed conifer or aspen habitats at higher elevation and areas planned for mining facilities or subsidence. **Frequency:** Project dependent. Status: On going. **Reports:** Annual Report. **Citation:** Vol. Chap 3, Sec. 322.200, p. 3-22, 3-21, 3-19 Sec. 333.300, p. 3-34; Vol. Degas Wells, Sec. 322.200, p. 3-6.

Landuse, Cultural Resources, Air Quality R645-301- 400

Engineering R645-301-500

Has this commitment been acted on this year? Yes, included in annual report.	**Title: SUBSIDENCE MONITORING VISUAL INSPECTIONS.** **Objective:** Check for surface subsidence features. **Frequency:** Annually. **Status:** On going. **Reports:** Annual Report. **Citation:** 525.100 (Subsidence Monitoring)
Has this commitment been acted on this year? Yes See Attachment 5-4 and included in Annual Report.	**Title: WASTE ROCK SAMPLING.** **Objective:** protection of ground and surface water and potentially substantiate lesser cover at the waste rock site. **Frequency:** One sample per 5,000 cu yds taken to the waste rock site. **Status:** Material stored at the mine site for a "short period of time" **Reports:** To be submitted with the annual report (*and to be included in RA Attachment 5-4). Acid/toxic material to be buried within 30 days. **Citation:** Chap. 5, Sec. 513.400., Sec. 528.300, Sec. 536 and Refuse Pile Amendment Volume Section 536.

Geology R645-301-600

Hydrology R645-301-700

Has this commitment been acted on this year? Yes No Not Required for this year.	No commitment in permit document concerning reporting in annual report, please remove from this annual report format. **Title: SEDIMENT CONTROL** **Objective:** Construction activities will not occur during major precipitation events and siltation structures will be installed prior to beginning site construction. **Frequency:** After heavy precipitation events. **Status:** On-going. **Reports:** Annual. **Citation:** Methane Degasification Amendment, Chapter 7, Page 7-16.

Bonding & Insurance R645-301-800

Other Commitments

*Reminder: If equipment has been abandoned during 2007, an amendment must be submitted that includes a map showing its location, a description of what was abandoned, whether there were any hazardous or toxic materials and any revision to the PHC as necessary.

REPORTING OF OTHER TECHNICAL DATA

List other technical data and information as required under the approved plan, which must be periodically submitted to the Division. Specify whether the information is included as Appendix B to this report or currently on file with the Division.

LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

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

Legal / Financial Update	**Required** Yes	No	**Included or** Included	**DOGM File location** Vol, Chapter, Page	**Comments**
Department of Commerce, Annual Report Officers	X		No	General Chapter 1, Appendix 1-1	
Other					

MINE MAPS

Copies of mine maps, current and up-to-date through at least December 31, 2007, are to be provided to the Division as Appendix D to this report in accordance with the requirements of R 645-301-525.240. These map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Upon request, the Division shall keep mine maps confidential. Please provide a CD.

Map Number(s)	**Map Title/ Description**	**Confidential** Yes	No
	Gilson Seam 2007 Production Map	X	

OTHER INFORMATION

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

Additional attachment to this report? **Yes**

APPENDIX A

Certified Reports

Excess Spoil Piles
Refuse Piles
Impoundments

As required under R645-301-514

CONTENTS

*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 2, 2007
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 27, 2007
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

At the time of the inspection, approximately 78,222 tons of refuse had been hauled into the facility from the preparation plant at SCT. 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 abatment 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

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 8/2/07

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

[Cert. Stamp]

LICENSED PROFESSIONAL ENGINEER
No. 151610
DAVID G. SPILLMAN
STATE OF UTAH

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			Page 1 of 2
rmit Number	*ACT/007/039*	**Report Date**	*08/02/07*
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	*07/27/07*
Inspected By	*Dave Spillman*
Reason for Inspection (Annual, Quarterly or Other Periodic Inspection, Critical Installation, or Completion of Construction)	*Quarterly Inspection / Certification*

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

Construction of the Refuse Pile Sedimentation Pond has been completed in accordance with the approved plan. There were no signs tability, structural weakness or other hazardous conditions observed during this inspection.

Required for an impoundment which functions as a SEDIMENTATION POND.

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

Sediment Storage Capacity (as designed) - 100% = 0.78 acre-feet @ an elevation of 5,895.9 feet

- 60% = 0.47 acre-feet @ an elevation of 5,894.7 feet

.

3. Principle and emergency spillway elevations.

Emergency Spillway Elevation (as designed) - 5,902 feet

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

The pond water level was approximately 2 inches in depth at the time of the inspection. The accumulation of sediment has not yet reached the allowed 60% level.

This pond has never discharged.

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	
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. [Registered Professional Engineer] LICENSED PROFESSIONAL ENGINEER No. 151610 DAVID G. SPILLMAN STATE OF UTAH **By:** *David G. Spillman, Technical Services Manager* (Full Name and Title) **Signature:** *David G. Spillman* **Date:** 8/2/07 **P.E. Number & State:** *No. 151610, State of Utah*

IMPOUNDMENT INSPECTION AND CERTIFIED REPORT			Page 1 of 3
Permit Number	*ACT/007/039*	**Report Date**	*08/02/07*
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	*07/27/07*
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*

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.

Required for an impoundment which functions as a SEDIMENTATION POND.

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

Sediment Storage Capacity - 100% = 0.34 acre-feet @ an elevation of 6,953.56 feet

- 60% = 0.20 acre-feet @ an elevation of 6,951.66 feet

3. Principle and emergency spillway elevations.

Principal Spillway Elevation - 6,964.44 feet

Emergency Spillway Elevation - 6,964.5 feet

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

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 impounded water elevation was approximately 48 inches below the outlet elevation of the primary spillway vertical riser. The sediment level could not be observed during the inspection due to the water level, however, full sediment cleanout had been completed on June 1, 2007. It's not likely that sediment volume would be an issue due to the recent cleanout.

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

CERTIFIED REPORT

IMPOUNDMENT EVALUATION (If NO, explain under Comments)	YES	NO
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 Certification 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:** *David G. Spillman, Technical Services Manager* (Full Name and Title) **Signature:** *David Spillman* **Date:** *08/02/07* **P.E. Number & State:** *No. 151610, State of Utah*

LICENSED PROFESSIONAL ENGINEER
No. 151610
DAVID G. SPILLMAN
STATE OF UTAH

GENERAL INFORMATION

DOGM Permit Number	C/007/0039
Mine Name	Dugout Canyon

IMPOUNDMENT IDENTIFICATION

Impoundment Number	Outfall 006 – Sediment trap culvert discharge to Pace Creek
UPDES Permit Number	UT0025593

IMPOUNDMENT INSPECTION

Inspection Date	10/31/07, 11/28/07
Inspected by	Vicky Miller

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

Embankments show signs of water having been retained in the sediment trap. The pond structure appeared stable with not structural weakness or any other hazardous condition. On 11/28/07 bentonite mixed with gravel was placed in the bottom of the sediment trap as a precaution.

2. Field Information

Provide current water elevation, whether pond is discharging, 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, impounded water, estimated sediment or slurry volume and remaining storage capacity, etc.

Sediment Trap Spillway Elevation	6991.0'
Sediment Trap Clean Out Elevation	6990.7' (0.3' below spillway)

There was no water in the trap during either inspection. The inlet and outlet structure appeared to be in good condition. The available sediment storage capacity is estimated at 98%.

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 designs and meets or exceeds 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 condition of the structure affecting stability.

Signature: Vicky L Miller Date: 11-28-07

APPENDIX B

Reporting of Technical Data

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

In accordance with the requirement of R645-310-130 and R645-301-140

CONTENTS

DUGOUT CANYON MINE - Visual Checks for Subsidence - 2007

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."

Checks were performed on the following dates at the locations listed:

Pace Canyon Fan Portal Facilities and Degas Wells (Various Sites)

April 19, 20, 24, 27

May 1, 4, 6, 18, 26, 31 June 6, 7, 11 – 13, 22, 25

July 13, 16 – 20, 23, 26 August 2, 3, 10, 13 – 17, 22 – 24, 30 – 31

September 3, 6, 22, 24, 25 October 2 – 4, 9, 10, 15, 17 – 19, 23, 25, 30, 31

November 2, 5 - 7, 12, 19, 27, 28, 30 December 14, 19

No surface irregularities or surface cracks were observed.

Water Monitoring was Performed in the Following Areas

Dugout Creek Area and Pace Canyon Area - 3/16, 3/19, 5/14, 5/21, 5/30, 5/31, 6/11, 5/21, 7/05, 7/09, 7/11, 7/13, 7/17, 7/19, 7/20, 7/24, 7/25, 8/02, 8/07, 8/17, 8/30, 10/17, 10/19, 10/22, 10/23, 10/25

No surface irregularities or surface cracks were observed.

Subsidence cracks were observed running through the pad of Well G-7 (UDOGM Inspection Report, June 28, 2006). A subsidence crack repair plan was submitted, approved and implemented. The condition of repaired cracks was checked in June 2007 and October 2007, no additional cracking observed.

2007 Raptor Survey Data Results for Dugout

NEST_NO_	X_UTM_NAD27	Y_UTM_NAD27	X_UTM_NAD83	Y_UTM_NAD83	Date	SPECIES	TYPE	Status_07	EGGS	YNG	AGE	Comments07	Comments06
3	539126	4390806	539063.9	4391011.099	18-May-06	Golden Eagle	Cliff	Inactive		2			
4	538985	4390820	538922.903	4391025.1		Red-tailed Haw	Cliff	Not Found					
6	538469	4390923	538406.913	4391128.105	18-May-06	Prairie Falcon	Cliff	Inactive					
7	540367	4390585	540304.874	4390790.089	18-May-06	Golden Eagle	Cliff	Inactive					
8	540356	4390542	540293.875	4390747.089		Unknown	Cliff	Not Found					
9	540581	4391529	540518.861	4391734.095	18-May-06	Golden Eagle	Cliff	Tended					
10	540231	4390885	540168.875	4391090.092	18-May-06	Golden Eagle	Cliff	Not Found					2 nest together
11	540972	4390651	540909.86	4390856.086	18-May-06	Golden Eagle	Cliff	Inactive					
12	541029	4390525	540966.86	4390730.084	18-May-06	Golden Eagle	Cliff	Inactive					
13	541457	4390716	541394.849	4390921.083	18-May-06	Raven	Cliff	Not Found		2			
14	541495	4390700	541432.849	4390905.082	18-May-06	Raven	Cliff	Not Found					
17	533851	4393728	533789.002	4393933.153		Golden Eagle	Cliff	Inactive					
18	533690	4393631	533628.006	4393836.153		Golden Eagle	Cliff	Inactive					
20	533192	4392835	533130.021	4393040.152	18-May-06	Golden Eagle	Cliff	Tended					
21	532932	4392991	532870.027	4393196.154	18-May-06	Golden Eagle	Cliff	Tended		2	8		
23	538142	4392848	538079.906	4393053.12	18-May-06	Golden Eagle	Cliff	Inactive					
24	538192	4391889	538129.912	4392094.113	18-May-06	Raven	Cliff	Inactive					
27	535759	4393224	535696.959	4393429.138	18-May-06	Golden Eagle	Cliff	Inactive					
28	535648	4393312	535585.961	4393517.139	18-May-06	Golden Eagle	Cliff	Active					
31	533200	4392211	533138.024	4392416.148	18-May-06	Golden Eagle	Cliff	dilapidated					
32	533355	4392135	533293.021	4392340.146	18-May-06	Raven	Cliff	dilapidated					
34	534548	4391964	534485.994	4392169.137	18-May-06	Unknown	Cliff	Not Found					
35	531775	4393441	531713.052	4393646.164	18-May-06	Golden Eagle	Cliff	Not Surveyed					
424	543494	4393789	543431.773	4393994.095	18-May-06	Raven	Cliff	Active					2 nest together
425	541949	4389550	541886.85	4389755.071	18-May-06	Golden Eagle	Cliff	Inactive					
427	544876	4389373	544813.785	4389578.06	18-May-06	Falcon	Cliff	Inactive					
774	536293	4391834	536230.955	4392039.125	18-May-06	Golden Eagle	Cliff	Inactive				sediment on nest	
775	536339	4391818	536276.954	4392023.125	18-May-06	Golden Eagle	Cliff	Tended					
776	539515	4392608	539452.876	4392813.109	18-May-06	Golden Eagle	Cliff	Inactive					
777	534195	4392117	534133.002	4392322.141	18-May-06	Golden Eagle	Cliff	Not Found					
778	542872	4389362	542809.833	4389567.063	18-May-06	Raven	Cliff	Inactive					
779	543951	4388915	543888.812	4389120.058	18-May-06	Golden Eagle	Cliff	Inactive					
780	543981	4387820	543918.822	4388025.049	18-May-06	Golden Eagle	Cliff	Inactive					
781	543954	4387824	543891.823	4388029.05	18-May-06	Golden Eagle	Cliff	Inactive					
782	543908	4387830	543845.824	4388035.05	18-May-06	Golden Eagle	Cliff	Tended					dilapidated
783	544330	4388023	544267.811	4388228.051	18-May-06	Golden Eagle	Cliff	Inactive					2 nests above and below
1279	538739	4390786	538676.908	4390991.102		Red-tailed Haw	Cliff	Inactive					
1301	538469	4390846	538406.914	4391051.104	18-May-06	Raven	Cliff	Not Found					
1302	538423	4390963	538360.914	4391168.105	18-May-06	Raven	Cliff	Inactive					
1303	538582	4390851	538519.911	4391056.103	18-May-06	Raven	Cliff	Not Found					
1304	540267	4393126	540204.853	4393331.108	18-May-06	Red-tailed Haw	Cliff	Inactive					
1451	533993	4392267	533931.006	4392472.143	18-May-06	Golden Eagle	Cliff	Inactive					
1453	537950	4391911	537887.917	4392116.115	18-May-06	Golden Eagle	Cliff	Inactive					
1454	544045	4393559	543982.764	4393764.092	18-May-06	Red-tailed Haw	Cliff	Not Found					Changed from falcon
1455	545371	4392501	545308.746	4392706.082	18-May-06	Raven	Cliff	Inactive					
1552			542777.4833	4389577.31	18-May-06	Raven	Cliff	Inactive					2-30 off
1580			544545.4828	4389893.475	29-May-06	Golden Eagle	Cliff	Inactive					2 nests
1670			543312.34	4393927.7	20070516	Raven	Cliff	Active				not much debris	2 nests
1671			545893.38	4395604.7	20070516	Raven	Cliff	Tended					
1672			533574.26	4394309.15	20070516	Golden Eagle	Cliff	Inactive				No yng or eggs	
1673			533805.35	4393349.46	20070516	Raven	Cliff	Inactive					hen on nest, unkown number of chicks or e
1708			541738.91	4389801.75	20070523	Peregrine Falco	Cliff	Active				On nest - didn't fly off.	
1707			543692.19	4389129.95	20070523	Golden Eagle	Cliff	Inactive					

Comments05	COMMENTS_04	STATUS06	STATUS05	STATUS04	STATUS03	STATUS02	STATUS01	STATUS00	STATUS99
.	.	Not Found	Not Surveyed	Inactive	not surveyed	Not Found	Not Surveyed	Not Surveyed	Not Surveyed
.	.	Inactive	Inactive	Inactive	NA	NA	NA	NA	NA
.	hen on nest	Inactive	Tended	Activetive	NA	NA	NA	NA	NA
.	.	Inactive	Inactive	Inactive	NA	NA	NA	NA	NA
.	.	Not Surveyed	Not Surveyed	Inactive	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Not Surveyed
.	.	Not Surveyed	Not Surveyed	Inactive	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Not Surveyed
.	.	Inactive	Not Surveyed	not surveyed	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Not Surveyed
.	.	Not Found	Dilapidated	Inactive	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Not Surveyed
.	.	Not Found	Not Surveyed	Inactive	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Not Surveyed
.	2 nests 15 m apart	Inactive	Not Surveyed	Inactive	Inactive	Inactive	Inactive	Not Surveyed	Inactive
.	.	Inactive	Not Surveyed	Inactive	Inactive	Inactive	Inactive	Not Surveyed	Inactive
.	.	Inactive	Inactive	Dilapidated	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Inactive
.	.	Inactive	Not Surveyed	Dilapidated	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Dilapidatedida
.	.	Inactive	Inactive	not found	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Not Found
.	possibly mispIActiveed entered as new nest	Not Found	Not Found	not found	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Activetive
.	fallen on nest. On sloping outcrop, top of middle Cliff band. MaterInactivel	Not Found	Inactive	Inactive	Inactive	Inactive	Dilapidatedida	Not Surveyed	Dilapidatedida
.	Just around from GE #774	Inactive	Inactive	not surveyed	Inactive	Inactive	Inactive	Not Surveyed	Activetive
.	.	Active	Tended	Inactive	Inactive	Inactive	Inactive	Not Surveyed	Activetive
.	greenry	Inactive	Inactive	Inactive	Tended	Inactive	Inactive	Not Surveyed	Inactive
.	.	Inactive	Not Surveyed	not found	not found	Not Found	Inactive	Not Surveyed	Inactive
.	chick fledglings	Inactive	Not Surveyed	Activetive	Inactive	NA	NA	NA	NA
.	.	Inactive	Active	not found	Inactive	NA	NA	NA	NA
.	.	Active	Not Surveyed	Inactive	Activetive	NA	NA	NA	NA
.	.	Inactive	Not Surveyed	Inactive	Inactive	NA	NA	NA	NA
.	Greenry	Inactive	Tended	Tended	NA	NA	NA	NA	NA
.	.	Inactive	Inactive	Inactive	Tended	Inactive	Activetive	Not Surveyed	Inactive
.	.	Not Surveyed	Inactive	not surveyed	not found	Not Found	Inactive	Not Surveyed	Not Found
.	Hen on nest	Active	Inactive	Activetive	Activetive	Inactive	Activetive	Not Surveyed	Not Found
.	.	Not Found	Not Surveyed	Inactive	not surveyed	Inactive	Not Surveyed	Not Surveyed	Not Found
.	.	Inactive	Not Surveyed	Inactive	not surveyed	Dilapidatedida	Not Surveyed	Not Surveyed	Not Surveyed
2 nests	two nests, one above other	Tended	Active	Inactive	Tended	Inactive	Not Surveyed	Not Surveyed	Not Surveyed
.	.	Not Found	Not Surveyed	not found	not found	Not Found	Not Surveyed	Not Surveyed	Inactive
.	.	Inactive	Not Surveyed	Inactive	Inactive	Inactive	Not Surveyed	Not Surveyed	Inactive
.	.	Inactive	Not Surveyed	Inactive	Inactive	Inactive	Not Surveyed	Not Surveyed	Inactive
.	.	Inactive	Not Surveyed	not surveyed	Inactive	Not Found	Not Surveyed	Not Surveyed	Not Found
.	.	Active	Not Surveyed	not surveyed	Activetive	Not Found	Not Surveyed	Not Surveyed	Not Found
.	.	Not Surveyed	Dilapidated	not found	Inactive	Activetive	NA	NA	NA
kely a Red-tail not a falc	.	Inactive	Not Surveyed	not surveyed	not surveyed	Inactive	Not Surveyed	Not Surveyed	Inactive
.	.	Inactive	Tended	Inactive	not surveyed	Inactive	Not Surveyed	Not Found	Not Found
.	.	Active	Not Surveyed	not surveyed	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Activetive
.	Possibly 2 nests here.	Inactive	Inactive	Inactive	not surveyed	Inactive	Not Surveyed	Not Surveyed	Dilapidatedida
.	.	Inactive	Inactive	not surveyed	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Tended
.	.	Inactive	Inactive	not surveyed	not surveyed	Not Surveyed	Not Surveyed	Not Surveyed	Inactive
.	4 nests together.	Inactive	Inactive	not surveyed	not surveyed	Inactive	Not Surveyed	Not Surveyed	Inactive
ggs		Inactive							
.	.	Active							
		Inactive	Not Surveyed	not surveyed	not surveyed	Inactive	Not Surveyed	Not Surveyed	Inactive

STATUS98	ELEVATION	COMPANY	QUAD	X_SP4302_2	Y_SP4302_2	LAT_27	LONG_27	
Inactive	0	WestRidge	MtBartles	2283426	497449	39.6947239	110.4927284	
NA	0	Dugout						
NA	0	Dugout						
NA	0	Dugout						
Tended	7506	Dugout	Pine Canyon	2251782	497071	39.69461114	110.6051952	
Dilapidatedida	7227	Dugout	Pine Canyon	2251255	496750	39.69374351	110.6070779	
Tended	7011	Dugout	Pine Canyon	2249635	494129	39.68659087	110.6129259	
Tended	7325	Dugout	Pine Canyon	2248779	494636	39.68800653	110.6159501	
Dilapidatedida	7028	Dugout	DeadmanCyn	2244974	496091	39.69210499	110.629421	
		Dugout				39.6940958	-110.494839	
		Dugout				39.7090705	-110.46462	
		Dugout				39.6979713	-110.608394	
		Dugout				39.6893153	-110.605747	
Inactive	7600	Dugout	Pine Canyon	2258052	495452	39.6899922	110.58297	
Tended	7600	Dugout	Pine Canyon	2257686	495739	39.69078974	110.5842597	
Tended	0	Dugout	Pine Canyon	2249673	492081	39.68096816	110.612864	
Dilapidatedida	0	Dugout	Pine Canyon	2250183	491834	39.68027734	110.6110605	
Activetive	0	Dugout	Pine Canyon	2254101	491295	39.67868916	110.5971586	
NA	0	Dugout	Pine Canyon	2252940	491791	39.68008193	110.6012667	
NA	7160	Dugout	Pine Canyon	2259830	490901	39.67744547	110.576819	
NA	7160	Dugout	Pine Canyon	2259982	490849	39.67729935	110.5762835	
NA	7600	Dugout	Pine Canyon	2270390	493500	39.68427636	110.5392048	
Tended	7550	Dugout	Pine Canyon	2265880	494262	39.68650124	110.5552014	
Tended	7200	Dugout	Pine Canyon	2266061	491116	39.67785823	110.5546738	
NA	0	Dugout	PINE CANYON	2266990.057	487698.8367	39.66844816	110.5515048	
NA	0	Dugout	PINE CANYON	2266836.945	488081.951	39.66950442	110.5520343	
NA	0	Dugout	PINE CANYON	2267360.799	487717.3248	39.66848811	110.5501872	
NA	0	Dugout	PINE CANYON	2272848.623	495214.2237	39.68890849	110.5304042	
NA	0	Dugout						
Tended	7600	Dugout	Pine Canyon	2269146	487579	39.66805792	110.5438477	
Inactive	7700	Dugout	Pine Canyon	2268683	487623	39.66819051	110.5454907	
Activetive	7700	Dugout	Pine Canyon	2266988	487951	39.66914194	110.5515004	
Tended	7400	Dugout	Pine Canyon	2273223	486877	39.66600894	110.5293934	
Tended	7711	Dugout	Pine Canyon	2273188	486735	39.66562202	110.5295243	
Tended	7700	Dugout	Pine Canyon	2273908	489979	39.67450441	110.5268406	
Activetive	0	Dugout	Pine Canyon	2272771	487859	39.66871841	110.5309606	
Inactive	7300	Dugout	Pine Canyon	2275207	487104	39.66657482	110.5223364	
Inactive	7300	Dugout	Pine Canyon	2275397	486692	39.6654368	110.5216797	
Inactive	0	Dugout	Pine Canyon	2276798	487327	39.66713708	110.5166782	
Activetive	0	Dugout	Pine Canyon	2276923	487275	39.66699108	110.5162362	
NA	7600	Dugout	Pine Canyon	2267877	487506	39.66789535	110.5483606	
Tended	7400	Dugout	Pine Canyon	2278434	483509	39.65660722	110.5110165	
Inactive	7400	Dugout	MtBartles	2288043	482982	39.65486377	110.4769109	
NA	0	Dugout	Pine Canyon	2281466	482909	39.65486751	110.50027	
NA	7500	Dugout	MtBartles	2285015	481462	39.65078518	110.487723	
NA	0	Dugout	MtBartles	2285134	477869	39.64091752	110.4874462	
NA	0	Dugout	MtBartles	2285045	477882	39.64095494	110.4877606	
NA	7500	Dugout	MtBartles	2284894	477901	39.64101137	110.4882963	
NA	8100	Dugout	MtBartles	2286276	478542	39.64272856	110.4833655	
		Dugout				39.6569995	-110.51345	
		Dugout				39.650849	-110.490726	

Snotel Narrative

□

United States Department of Agriculture | Natural Resources Conservation Service | Water and Climate Center Portland, Oregon

S N O W - P R E C I P I T A T I O N U P D A T E

Based on Mountain Data from NRCS SNOTEL Sites
As of FRIDAY: FEBRUARY 29 , 2008

STATE / RIVER BASIN	Number of Sites	PERCENT OF AVERAGE Snow Water Equivalent	Accum Precip
ALASKA			
ANCHORAGE/SHIP CREEK BASIN	3 of 3	107	104
SUSITNA BASIN	3 of 5	48	61
NORTHERN KENAI MOUNTAINS	5 of 6	109	127
SOUTHERN KENAI	2 of 6	*	127
COPPER BASIN	1 of 4	*	*
PRINCE WILLIAM SOUND	0 of 6	*	104
CHENA BASIN	4 of 6	45	*
UPPER TANANA	1 of 2	84	99
KOYUKUK BASIN	1 of 3	*	72
CENTRAL YUKON BASIN	0 of 3	*	*
SEWARD PENNINSULA	0 of 3	*	133
KUPARUK RIVER BASIN	0 of 1	*	48
SOUTHEAST ALASKA BASIN	1 of 1	120	95
ARIZONA			
VERDE RIVER BASIN	5 of 5	181	164
SAN FRANCISCO PEAKS	1 of 1	246	95
CENTRAL MOGOLLON RIM	3 of 3	159	165
LITTLE COLORADO - SOUTHERN HEADWATERS	2 of 2	154	117
UPPER SALT RIVER BASIN / WHITE MOUNTAINS	6 of 6	162	125
SAN FRANCISCO RIVER BASIN	5 of 5	145	126
UPPER GILA RIVER BASIN	3 of 3	53	99
CALIFORNIA			
NORTHERN GREAT BASIN	4 of 4	94	105
TRUCKEE RIVER	8 of 8	102	93
LAKE TAHOE	8 of 8	117	90
CARSON RIVER	5 of 9	112	89
WALKER RIVER	5 of 6	115	100
KLAMATH	10 of 10	124	115
COLORADO			
GUNNISON RIVER BASIN	11 of 13	147	135
UPPER COLORADO RIVER BASIN	28 of 29	129	125
SOUTH PLATTE RIVER BASIN	14 of 15	111	110
LARAMIE AND NORTH PLATTE RIVER BASINS	12 of 13	111	115
YAMPA AND WHITE RIVER BASINS	16 of 19	112	115
ARKANSAS RIVER BASIN	6 of 9	160	136
UPPER RIO GRANDE BASIN	10 of 13	165	147
SAN MIGUEL, DOLORES, ANIMAS AND SAN JUAN RIVER BASINS	14 of 16	159	142
IDAHO			
IDAHO PANHANDLE REGION	12 of 17	111	107
CLEARWATER BASIN	14 of 15	116	112

SALMON BASIN	22 of 22	110	114
WEISER BASIN	3 of 4	120	129
PAYETTE BASIN	9 of 11	106	116
BOISE BASIN	10 of 11	99	113
BIG WOOD BASIN	9 of 9	103	109
LITTLE WOOD BASIN	4 of 5	101	121
BIG LOST BASIN	4 of 5	101	116
LITTLE LOST, BIRCH BASINS	4 of 4	113	113
MEDICINE LODGE, BEAVER, CAMAS BASINS	6 of 6	107	111
HENRYS FORK, TETON BASINS	9 of 10	105	114
SNAKE BASIN ABOVE PALISADES	17 of 18	96	104
WILLOW, BLACKFOOT, PORTNEUF BASINS	4 of 5	96	104
OAKLEY BASIN	3 of 3	105	123
SALMON FALLS BASIN	5 of 5	102	115
BRUNEAU BASIN	5 of 5	106	108
OWYHEE BASIN	7 of 8	103	109
BEAR RIVER BASIN	14 of 15	97	100
MONTANA			
KOOTENAI RIVER BASIN	8 of 8	113	103
FLATHEAD RIVER BASIN	14 of 15	101	94
UPPER CLARK FORK RIVER BASIN	13 of 15	96	95
BITTERROOT RIVER BASIN	7 of 7	118	111
LOWER CLARK FORK RIVER BASIN	8 of 8	115	106
JEFFERSON RIVER BASIN	19 of 19	103	109
MADISON RIVER BASIN	11 of 11	110	117
GALLATIN RIVER BASIN	6 of 7	108	113
MISSOURI HEADWATERS	30 of 31	107	113
HEADWATERS MISSOURI MAINSTEM	5 of 5	97	90
SMITH, JUDITH, AND MUSSELSHELL RIVER BASINS	9 of 9	98	93
SUN, TETON AND MARIAS RIVER BASINS	4 of 6	111	118
MISSOURI MAINSTEM RIVER BASIN	18 of 20	101	97
ST. MARY AND MILK RIVER BASINS	3 of 3	105	94
UPPER YELLOWSTONE RIVER BASIN	22 of 23	103	108
WIND RIVER BASIN (WYOMING)	12 of 12	93	108
SHOSHONE RIVER BASIN (WYOMING)	6 of 6	92	115
BIGHORN RIVER BASIN (WYOMING)	16 of 16	96	112
TONGUE RIVER BASIN (WYOMING)	6 of 6	97	119
POWDER RIVER BASIN (WYOMING)	6 of 6	109	107
LOWER YELLOWSTONE RIVER BASIN	32 of 32	95	110
NEVADA			
NORTHERN GREAT BASIN	4 of 4	94	105
SNAKE RIVER	3 of 3	101	109
OWYHEE RIVER	5 of 6	101	105
UPPER HUMBOLDT RIVER	5 of 5	102	113
LOWER HUMBOLDT RIVER	4 of 5	109	113
CLOVER VALLEY	1 of 1	114	130
EASTERN NEVADA	3 of 3	113	98
NEW MEXICO			
RIO CHAMA RIVER BASIN	4 of 4	167	153
UPPER RIO GRANDE BASIN	9 of 9	165	154
SANGRE DE CRISTO MOUNTAIN RANGE BASINS	8 of 9	149	129
JEMEZ RIVER BASIN	3 of 3	120	120
SAN FRANCISCO RIVER BASIN	3 of 3	123	123
GILA RIVER BASIN	3 of 3	53	99
MIMBRES RIVER BASIN	2 of 2	24	76
PECOS RIVER BASIN	1 of 1	131	114
SAN JUAN RIVER HEADWATERS	5 of 5	153	144
ANIMAS RIVER BASIN	6 of 7	156	138
CIMARRON RIVER BASIN	2 of 2	161	127
ZUNI/BLUEWATER RIVER BASIN	1 of 1	169	163

RIO HONDO BASIN	1 of 1	48	103
OREGON			
OWYHEE	7 of 8	103	109
MALHEUR	3 of 3	122	114
GRANDE RONDE, POWDER, BURNT, IMNAHA	14 of 14	114	117
UMATILLA, WALLA WALLA, WILLOW	7 of 8	124	109
JOHN DAY	14 of 14	115	112
UPPER DESCHUTES, CROOKED	14 of 14	140	119
HOOD, SANDY, LOWER DESCHUTES	8 of 8	185	113
COAST RANGE	2 of 2	248	79
WILLAMETTE	20 of 21	172	111
ROGUE, UMPQUA	12 of 13	137	116
KLAMATH	16 of 18	125	114
LAKE COUNTY, GOOSE LAKE	8 of 8	104	106
HARNEY	7 of 7	103	101
UTAH			
BEAR RIVER	8 of 10	102	100
WEBER-OGDEN RIVERS	13 of 17	114	111
PROVO R.-UTAH LAKE-JORDAN R.	12 of 15	120	117
TOOELE VALLEY-VERNON CREEK	3 of 3	114	114
GREEN RIVER	6 of 6	110	128
DUCHESNE RIVER	12 of 12	117	117
PRICE-SAN RAFAEL	5 of 6	108	121
DIRTY DEVIL	3 of 3	114	113
SOUTH EASTERN UTAH	3 of 3	160	119
SEVIER RIVER	14 of 16	133	119
BEAVER RIVER	2 of 2	115	123
ESCALANTE RIVER	2 of 3	86	91
VIRGIN RIVER	7 of 9	157	125
WASHINGTON			
PRIEST, COEUR D'ALENE, ST. JOE, SPOKANE, PALOUSE BASINS	11 of 13	111	107
COLUMBIA ABOVE METHOW	4 of 5	88	*
CHELAN, ENTIAT, WENATCHEE	8 of 8	99	100
UPPER YAKIMA	5 of 5	126	98
LOWER YAKIMA	7 of 7	120	105
WALLA WALLA, TOUCHET	2 of 2	133	121
LEWIS, COWLITZ	9 of 10	157	103
WHITE, GREEN, PUYALLUP	7 of 8	133	90
CEDAR, SNOQUALMIE, SKYKOMISH, TOLT	9 of 9	175	98
BAKER, SKAGIT, NOOKSACK	6 of 9	110	*
OLYMPIC	3 of 3	136	95
WYOMING			
SNAKE RIVER	14 of 16	98	106
UPPER YELLOWSTONE-MADISON	13 of 13	111	116
WIND RIVER	9 of 9	90	104
BIGHORN BASIN	16 of 16	96	112
SHOSHONE RIVER	7 of 7	93	117
POWDER-TONGUE	12 of 12	103	113
BELLE FOURCHE	3 of 3	92	100
UPPER N. PLATTE RIVER	10 of 11	117	122
LOWER N. PLATTE - SWEETWATER - LARAMIE	10 of 10	92	104
LITTLE SNAKE RIVER	5 of 5	119	121
UPPER GREEN RIVER	11 of 12	87	95
LOWER GREEN RIVER	7 of 7	94	109
UPPER BEAR RIVER	7 of 7	98	101

The Snow Water Equivalent Percent of Average represents the snow

water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day.

The Accumulated Precipitation Percent of Average represents the total precipitation (beginning October 1st) found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day.

* = Data are not available or data may not provide a valid measure of conditions for over half of the sites within the basin. Refer to the individual state reports for a complete data listing and basin analysis.

Units = inches for the Current and Average Snow Water Equivalent and Total Precipitation values

Reference period for average conditions is 1961-90.

Provisional data, subject to revision.

PRICE-SAN RAFAEL

SEELEY CREEK	9910	10.6	12.2	87	12.8	11.0	116
BUCK FLAT	9430	16.6	15.2	109	18.6	16.0	116
RED PINE RIDGE	9009	16.4	14.1	116	19.6	15.0	131
MAMMOTH-COTTONWOOD	8727	19.6	17.4	113	16.2	13.3	122
TIMBERLINE	8684	15.7	-M	*	15.4	-M	*
WHITE RIVER #1	8641	12.8	11.5	111	13.8	11.8	117
				-----			-----
Basin wide percent of average				108			121

Bat Survey Report
Canyon Fuel Company
Dugout Mine
Pace Creek Canyon, Northern Cliffs

Prepared by:
JBR Environmental Consultants
321 N Mall Drive #I-202
St. George, Utah 84790
435.652.8301

11 June 2007

Introduction

On the nights of 21 and 22 May 2007, JBR Environmental Consultants Inc. (JBR) conducted bat surveys along the northern cliffs of Pace Creek Canyon, Carbon County, Utah (**Figures 1 and 2**). These surveys were conducted as required under an existing Utah Division of Oil, Gas, and Mining permit, due to the potential for subsidence in the area as a result of activities at Canyon Fuel Company's Dugout Mine operation.

Inventory Area

The Inventory Area lies between 7,800 – 9,000 feet elevation and is characterized by steep sided canyon walls consisting of exposed rock outcrops (see cover photo). The vegetative community is dominated by mixed-age stands of pinyon, juniper, Douglas-fir, and aspen. Shrub species include mountain mahogany, maple, serviceberry, and sagebrush.

As a function of the vast expanses of rock outcrops and associated fissures and cracks, the Inventory Area appears to contain a virtually unlimited potential for day and night bat roosting sites. Snag habitat is also available. No known caves, open mine shafts, adits, or other man made structures that might provide additional habitats are known to exist in the Inventory Area. Perhaps the only habitat feature limiting bat presence within the Inventory Area is the availability of water for drinking and foraging.

Methodology

To record bat activity, JBR used an ANABAT II Bat Detector and an ANABAT CF Storage Zero Crossing Analysis Interface Module (ZCAIM) manufactured by Titley Electronics, Ltd., Ballina, NSW, Australia. Between the hours of approximately 20:30 – 22:30 on the nights of 21 and 22 May, JBR biologists ran the ANABAT at each of the 5 stops (**Figure 1**) for approximately 20 minutes.

In addition to the above surveys, the ANABAT was left unattended at stop #4, which contained a small cattle trough (see photo), on 21 and 22 May (2 nights). When left unattended, the bat detector and ZCAIM were enclosed in a weatherproof container. The bat detector's ultrasound transducer was positioned at a 45-degree angle to an acrylic reflector plate. This arrangement allowed the transducer to remain dry while recording bat calls unattended. Bat calls were recorded automatically; the equipment was programmed to turn on at 20:30 and to turn off at 06:00.

The ANABAT system records bat echolocation calls and stores them as digital format computer files. The file names specify the date and time the files were recorded. The recorded files were analyzed on a desktop computer using Analook software. The call identification process consists of visually comparing time-frequency displays of recorded call sequences against reference files (provided with the ANABAT system), which were recorded from known species that were hand released under controlled conditions. The analysis is somewhat subjective because it depends on making a visual comparison. The training and experience of the biologist doing the analysis is also important. At present, there is no objective, standardized procedure that can be used to analyze and identify the recorded calls.

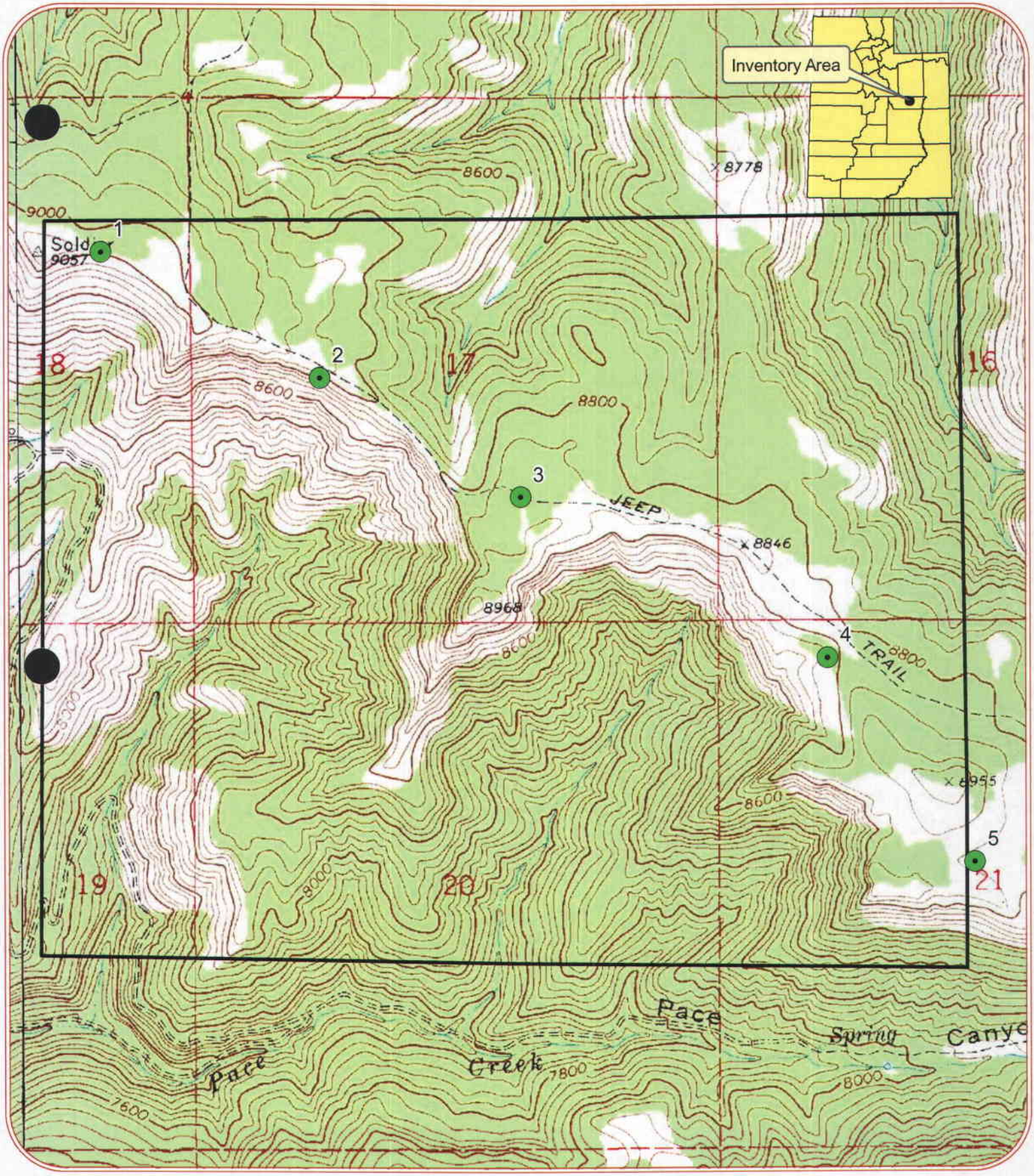

Figure 1. Inventory Area and Stops - Topo

B[redacted]ount Bartles, Utah - 1:24,000 (USGS)

T13S R13E Sections 16, 17, 18, 19, 20, and 21

ANABAT Stop

Inventory Area

Canyon Fuel Company

Pace Creek Canyon, Northern Cliffs

0 0.5 1 Miles

1:14,782

Created: 05 June 2007

Edited: Version 1

JBR\eah c:\\my documents\CFC\Dugout2007\Figure1a.mxd

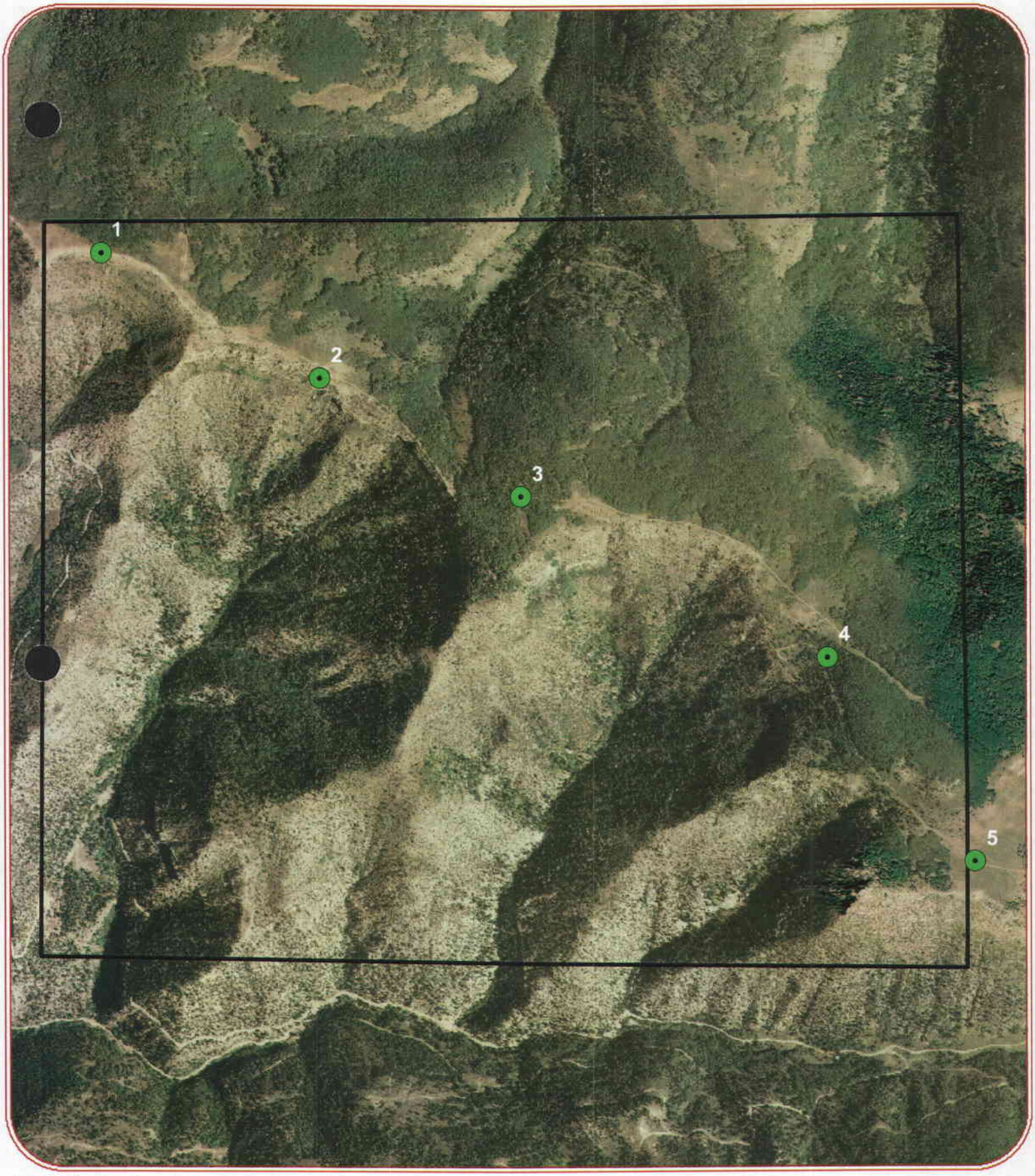

Figure 2. Inventory Area and Stops - Airial

B[redacted]006 NAIP (USDA)

T13S R13E Sections 16, 17, 18, 19, 20, and 21

ANABAT Stop

Inventory Area

Canyon Fuel Company

Pace Creek Canyon, Northern Cliffs

0 0.5 1 Miles

1:14,782

N

Created: 05 June 2007

Edited: Version 1

JBR\eah c:\\my documents\CFC\Dugout2007\Figure2.mxd

The ability of the ANABAT system to detect bat calls depends on factors such as the bat species, the call frequency, air temperature, relative humidity, distance from the bat, and orientation of the detector's transducer. Bat activity at a given location is known to be highly variable, both from one night to the next and at different times during the night.

The purpose of the bat investigation was to identify which species of bats utilize the Inventory Area, especially those considered a Species of Concern by the State of Utah: fringed myotis (*Myotis thysanodes*), western red bat (*Lasiurus blossevillii*), Townsend's big-eared bat (*Corynorhinus townsendii*), and spotted bat (*Euderma maculatum*), and to estimate relative abundance of bats in the area. Spotted bat calls are easily recognized because they are generally between 7 and 12 kHz, which is relatively low compared to other bats and still within the range of human hearing. Townsend's bat calls are not as distinctive but have one character that allows them to be identified with some confidence. Although bat calls normally consist of a fundamental frequency and one or more harmonics, the ANABAT system records only the most dominant frequency component. In Townsend's bat calls, the dominant frequency often switches between the fundamental and second harmonic, a character not usually observed in other species' calls.

Unfortunately, the calls of both spotted bats and Townsend's bats are more difficult to detect with the ANABAT system than most other species. Townsend's bats have relatively low

intensity calls, which means that the bat must be closer to the equipment to be detected. Spotted bats are reported to forage at higher elevations than most species, and the ANABAT ultrasound transducer is not as sensitive to their low-frequency calls. Placing the ANABAT system near a cattle trough where bat activity may be concentrated maximized the likelihood of detecting these two species.

Results

During the 2 nights of recording bat calls, no bat call files were produced. The lack of detecting bat calls does not infer that bats are not present in the Inventory Area; it simply means that no bats were active near the locations in which the ANABAT was used. It is unknown why bats were not active at the ANABAT stops, but it was likely a function of both the lack of good foraging habitat (water) and that a cold front had pushed through the area during the nights of the survey. In 2005, JBR conducted bat surveys along Pace Creek and left the ANABAT unattended for 4 nights at a relatively large pond located within 0.25 miles of the southeast corner of the 2007 Inventory Area (JBR 2005). During the 2005 survey, over 3,000 bat calls were recorded from at least 7 different species of bats. It is likely that many of the individual bats that forage over and/or drink from the pond, also utilize at least portions of the 2007 Inventory Area, but simply weren't active at the 2007 ANABAT stops during the survey.

References

JBR Environmental Consultants, Inc. (JBR). 2005. Bat survey report, Canyon Fuel Company, Dugout Mine, Pace Creek Canyon. Sandy, Utah.

APPENDIX C

Legal Financial, Compliance and Related Information

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

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

CONTENTS

Refer to General Chapter 1

APPENDIX D

Mine Maps

As required under R645-302-525-270

CONTENTS

APPENDIX E

Other Information

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

CONTENTS

Inter-Mountain Laboratories, Inc.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company, LLC.
HCR 35, Box 380
Helper, UT 84526

Report ID: S0704128001

Project: Dugout Canyon Mine
Date Received: 4/9/2007

Date: 5/28/2007
Work Order: S0704128

Lab ID	Sample ID	pH	Saturation	Electrical Conductivity	Field Capacity	Wilt Point	Calcium	Magnesium	Sodium	Potassium	SAR
		s.u.	%	dS/m	%	%	meq/L	meq/L	meq/L	meq/L	
S0704128-001	WS JAN	7.8	28.9	1.63	10.3	4.8	3.14	3.81	6.59	0.69	3.54
S0704128-002	WS FEB	8.5	28.0	0.94	9.7	4.9	0.75	0.87	6.14	0.45	6.82
S0704128-003	WS MARCH	7.9	28.3	2.25	12.4	3.5	7.43	12.3	3.41	0.96	1.09
S0704128-004	WS APRIL	7.1	28.9	2.46	14.3	5.1	8.50	11.5	4.35	1.02	1.37

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company, LLC.
HCR 35, Box 380
Helper, UT 84526

Report ID: S0704128001

Project: Dugout Canyon Mine
Date Received: 4/9/2007

Date: 5/28/2007
Work Order: S0704128

Lab ID	Sample ID	Available Sodium meq/100g	Exchangeable Sodium meq/100g	Sand %	Silt %	Clay %	Texture
S0704128-001	WS JAN	0.50	0.31	72.0	15.0	13.0	Sandy Loam
S0704128-002	WS FEB	0.82	0.64	70.0	17.0	13.0	Sandy Loam
S0704128-003	WS MARCH	0.19	0.10	81.0	13.0	6.0	Loamy Sand
S0704128-004	WS APRIL	0.33	0.20	75.0	14.0	11.0	Sandy Loam

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company, LLC.
HCR 35, Box 380
Helper, UT 84526

Report ID: S0704128001

Project: Dugout Canyon Mine
Date Received: 4/9/2007

Date: 5/28/2007
Work Order: S0704128

Lab ID	Sample ID	Boron	TKN	Nitrogen Nitrate	Phosphorus	Selenium
		ppm	%	ppm	ppm	ppm
S0704128-001	WS JAN	0.43	0.09	0.18	0.51	<0.02
S0704128-002	WS FEB	0.64	0.06	0.17	2.59	0.02
S0704128-003	WS MARCH	0.33	0.01	0.19	0.56	0.04
S0704128-004	WS APRIL	0.68	0.20	0.09	0.40	0.05

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company, LLC.

HCR 35, Box 380
Helper, UT 84526

Report ID: S0704128001

Project: Dugout Canyon Mine
Date Received: 4/9/2007

Date: 5/28/2007
Work Order: S0704128

Lab ID	Sample ID	Total Carbon %	TOC %	Total Sulfur %	T.S. AB t/1000t	Neut. Pot. t/1000t	T.S. ABP t/1000t
S0704128-001	WS JAN	7.7	6.7	1.28	39.8	82.9	43.1
S0704128-002	WS FEB	7.9	5.7	0.99	31.0	190	159
S0704128-003	WS MARCH	2.6	1.2	0.23	7.14	114	107
S0704128-004	WS APRIL	12.3	11.8	0.70	21.8	38.4	16.6

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company

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

Report ID: S0706035001

Project: Dugout Canyon Mine
Date Received: 6/4/2007

Date: 7/10/2007
Work Order: S0706035

Lab ID	Sample ID	pH	Saturation	Electrical Conductivity	Field Capacity	Wilt Point	Calcium	Magnesium	Sodium	Potassium	SAR
		s.u.	%	dS/m	%	%	meq/L	meq/L	meq/L	meq/L	
S0706035-001	WS May	8.2	26.5	1.86	12	10	4.29	4.75	9.25	0.85	4.35

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company

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

Report ID: S0706035001

Project: Dugout Canyon Mine
Date Received: 6/4/2007

Date: 7/10/2007
Work Order: S0706035

Lab ID	Sample ID	Available Sodium meq/100g	Exchangeable Sodium meq/100g	Sand %	Silt %	Clay %	Texture
S0706035-001	WS May	1.42	1.18	74.0	20.0	6.0	Sandy Loam

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

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

Report ID: S0706035001

Project: Dugout Canyon Mine
Date Received: 6/4/2007

Date: 7/10/2007
Work Order: S0706035

Lab ID	Sample ID	Boron	TKN	Nitrogen Nitrate	Phosphorus	Selenium
		ppm	%	ppm	ppm	ppm
S0706035-001	WS May	0.36	0.17	0.12	2.15	<0.02

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report
Canyon Fuel Company
Dugout Canyon Mine
P.O. Box 1029
Wellington, UT 84542

Report ID: S0706035001

Project: Dugout Canyon Mine
Date Received: 6/4/2007

Date: 7/10/2007
Work Order: S0706035

Lab ID	Sample ID	Total Sulfur %	T.S. AB t/1000t	Neut. Pot. t/1000t	T.S. ABP t/1000t	Sulfate Sulfur %	Pyritic Sulfur %	Organic Sulfur %	Total Carbon %	TOC %
S0706035-001	WS May	0.85	26.4	165	138	<0.01	0.70	0.15	17.3	15.3

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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 L ories, Inc.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report
Canyon Fuel Company
Dugout Canyon Mine
P.O. Box 1029
Wellington, UT 84542

Project: Dugout Canyon Mine
Date Received: 7/26/2007

Report ID: S0707474001
Date: 8/24/2007
Work Order: S0707474

Lab ID	Sample ID	Depths cm	pH s.u.	Saturation %	Electrical Conductivity dS/m	Field Capacity %	Wilt Point %
S0707474-001	Staging Area SP-1	0-18	6.4	48.4	0.54	17	14
S0707474-002	Staging Area SP-1	18-61	6.5	35.4	0.31	15	11
S0707474-003	Staging Area SP-1	61-162	6.8	37.1	0.28	15	12
S0707474-004	WR-July	-	7.4	25.4	2.12	9.4	5.5
S0707474-005	G-15 Topsoil	-	7.7	32.0	0.42	15	10

Staging Area SP-1 sampling site is located in E1/2SW1/4SW1/4 of Section 16, Township 13S Range 13E

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

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

Report ID: S0707474001

Project: Dugout Canyon Mine
Date Received: 7/26/2007

Date: 8/24/2007
Work Order: S0707474

Lab ID	Sample ID	Depths cm	Calcium meq/L	Magnesium meq/L	Sodium meq/L	Potassium meq/L	SAR	Available Sodium meq/100g	Exchangeable Sodium meq/100g
S0707474-001	Staging Area SP-1	0-18	4.03	1.40	0.27	0.75	0.17	0.02	<0.01
S0707474-002	Staging Area SP-1	18-61	2.14	0.74	0.29	0.42	0.25	0.02	0.01
S0707474-003	Staging Area SP-1	61-162	1.72	0.67	0.19	0.37	0.17	0.02	0.01
S0707474-004	WR-July	-	10.4	12.1	4.28	0.99	1.28	0.24	0.13
S0707474-005	G-15 Topsoil	-	2.73	0.98	0.86	0.25	0.63	0.03	<0.01

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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 La ories, Inc.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company

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

Project: Dugout Canyon Mine
Date Received: 7/26/2007

Report ID: S0707474001
Date: 8/24/2007
Work Order: S0707474

Lab ID	Sample ID	Depths cm	Sand %	Silt %	Clay %	Texture	Coarse Fragment %
S0707474-001	Staging Area SP-1	0-18	40.0	35.0	25.0	Loam	32.1
S0707474-002	Staging Area SP-1	18-61	45.0	29.0	26.0	Loam	40.5
S0707474-003	Staging Area SP-1	61-162	47.0	25.0	28.0	Sandy Clay Loam	30.4
S0707474-004	WR-July	-	76.0	15.0	9.0	Sandy Loam	76.8
S0707474-005	G-15 Topsoil	-	40.0	36.0	24.0	Loam	25.7

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

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

Report ID: S0707474001
Date: 8/24/2007
Work Order: S0707474

Project: Dugout Canyon Mine
Date Received: 7/26/2007

Lab ID	Sample ID	Depths cm	Boron ppm	TKN %	Nitrogen Nitrate ppm	Phosphorus ppm	Selenium ppm
S0707474-001	Staging Area SP-1	0-18	0.43	0.23	9.11	28.8	<0.02
S0707474-002	Staging Area SP-1	18-61	0.24	0.07	3.29	2.92	<0.02
S0707474-003	Staging Area SP-1	61-162	0.24	0.06	1.66	2.12	<0.02
S0707474-004	WR-July	-	0.94	0.19	0.24	0.51	0.03
S0707474-005	G-15 Topsoil	-	0.36	0.08	3.76	1.81	<0.02

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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 L[illegible]ories, Inc.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

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

Report ID: S0707474001

Project: Dugout Canyon Mine
Date Received: 7/26/2007

Date: 8/24/2007
Work Order: S0707474

Lab ID	Sample ID	Depths cm	Total Carbon %	TOC %	Total Sulfur %	T.S. AB t/1000t	Neut. Pot. t/1000t	T.S. ABP t/1000t
S0707474-001	Staging Area SP-1	0-18	3.0	2.9	0.02	0.72	5.41	4.69
S0707474-002	Staging Area SP-1	18-61	1.0	0.9	<0.01	<0.01	4.20	4.20
S0707474-003	Staging Area SP-1	61-162	0.6	0.5	0.01	0.40	6.57	6.17
S0707474-004	WR-July	-	11.7	11.0	0.63	19.7	54.1	34.4
S0707474-005	G-15 Topsoil	-	4.1	1.3	0.02	0.51	232	231

Staging Area SP-1 sampling site is located in E1/2SW1/4SW1/4 of Section 16, Township 13S Range 13E

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company

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

Report ID: S0711471001

Project: Dugout Canyon Mine
Date Received: 11/28/2007

Date Reported: 1/11/2008
Work Order: S0711471

Lab ID	Sample ID	pH	Saturation	Electrical Conductivity	Field Capacity	Wilt Point	Calcium	Magnesium	Sodium	Potassium	SAR
		s.u.	%	dS/m	%	%	meq/L	meq/L	meq/L	meq/L	
S0711471-001	WR Aug #1	8.0	28.2	1.47	10	4.8	2.90	3.48	8.04	0.86	4.50
S0711471-002	WR Aug #2	8.1	30.4	1.00	10	4.6	1.29	1.77	5.71	0.59	4.62
S0711471-003	WR Sept	7.8	26.4	1.52	10	4.5	2.56	3.10	8.32	0.69	4.95
S0711471-004	WR October	8.2	28.4	1.13	10	10	1.46	1.63	7.71	0.61	6.20
S0711471-005	WR Nov	8.0	31.3	2.52	11	10	6.46	7.21	12.2	2.17	4.66
S0711471-006	WR-Client	7.4	28.3	3.60	10	4.6	19.1	19.0	8.14	0.84	1.87

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company

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

Report ID: S0711471001

Project: Dugout Canyon Mine
Date Received: 11/28/2007

Date Reported: 1/11/2008
Work Order: S0711471

Lab ID	Sample ID	Sand %	Silt %	Clay %	Texture	Coarse Fragment %	Available Sodium meq/100g	Exchangeable Sodium meq/100g
S0711471-001	WR Aug #1	76.0	14.0	10.0	Sandy Loam	<0.01	0.82	0.59
S0711471-002	WR Aug #2	80.0	14.0	6.0	Loamy Sand	<0.01	0.69	0.52
S0711471-003	WR Sept	82.0	12.0	6.0	Loamy Sand	<0.01	0.73	0.51
S0711471-004	WR October	77.0	16.0	7.0	Loamy Sand	<0.01	1.02	0.80
S0711471-005	WR Nov	78.0	16.0	6.0	Loamy Sand	<0.01	1.46	1.08
S0711471-006	WR-Client	79.0	14.0	7.0	Loamy Sand	3.88	0.41	0.18

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company

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

Report ID: S0711471001

Project: Dugout Canyon Mine
Date Received: 11/28/2007

Date Reported: 1/11/2008
Work Order: S0711471

Lab ID	Sample ID	Nitrogen TKN %	Nitrogen Nitrate ppm	Phosphorus ppm	Boron ppm	Selenium ppm
S0711471-001	WR Aug #1	<0.01	0.10	1.90	0.47	<0.02
S0711471-002	WR Aug #2	<0.01	0.18	2.17	0.44	<0.02
S0711471-003	WR Sept	<0.01	<0.02	1.80	0.46	<0.02
S0711471-004	WR October	<0.01	<0.02	2.03	0.31	<0.02
S0711471-005	WR Nov	<0.01	0.05	2.30	0.17	<0.02
S0711471-006	WR-Client	0.04	<0.02	1.97	0.29	0.44

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company

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

Report ID: S0711471001

Project: Dugout Canyon Mine
Date Received: 11/28/2007

Date Reported: 1/11/2008
Work Order: S0711471

Lab ID	Sample ID	Total Sulfur %	T.S. AB t/1000t	Neut. Pot. t/1000t	T.S. ABP t/1000t	Sulfate Sulfur %	Pyritic Sulfur %	Organic Sulfur %	PyriticS AB t/1000t	PyriticS ABP t/1000t	Total Carbon %
S0711471-001	WR Aug #1	0.91	28.3	135	107	0.05	0.69	0.17	21.5	114	9.7
S0711471-002	WR Aug #2	0.39	12.3	124	111	<0.01	0.25	0.15	7.75	116	10.9
S0711471-003	WR Sept	0.78	24.2	80.2	56.0	0.10	0.46	0.22	14.4	65.8	9.2
S0711471-004	WR October	0.35	11.1	175	164	0.03	0.11	0.22	3.27	172	14.6
S0711471-005	WR Nov	0.45	13.9	198	184	0.06	0.22	0.17	6.85	191	19.2
S0711471-006	WR-Client	1.14	35.5	125	89.3	0.14	0.80	0.19	25.0	99.9	13.9

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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.
1673 Terra Avenue, Sheridan, Wyoming 82801
(307) 672-8945

Soil Analysis Report

Canyon Fuel Company

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

Report ID: S0711471001

Project: Dugout Canyon Mine
Date Received: 11/28/2007

Date Reported: 1/11/2008
Work Order: S0711471

Lab ID	Sample ID	TOC %
S0711471-001	WR Aug #1	8.1
S0711471-002	WR Aug #2	9.4
S0711471-003	WR Sept	8.3
S0711471-004	WR October	12.5
S0711471-005	WR Nov	16.8
S0711471-006	WR-Client	12.4

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H20Sol= water soluble,AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate
Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, 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