WEST RIDGE MINE

007/041

CHANGE TO
THE MINING AND RECLAMATION PLAN

TO INCLUDE FOUR (4)
CATCHMENT STRUCTURES
IN THE C CANYON DRAINAGE
BELOW THE WEST RIDGE MINE

THESE UNITS HAVE ALREADY BEEN CONSTRUCTED AND WERE INSTALLED INITIALLY AS PART OF THE ABATEMENT OF CITATION #10033, ISSUED 1/29/2009

SUBMITTED: JUNE 8, 2009

COPY

WEST RIDGE RESOURCES, INC.

P.O. Box 910, East Carbon, Utah 84520
Telephone (435) 888-4000 Fax (435) 888-4002

Utah Division of Oil, Gas & Mining
Utah Coal Program
1594 West North Temple, Suite 1210
P.O.Box 145801
Salt Lake City, UT 84114-5801

June 8, 2009

Attn: Daron Haddock
Permit Supervisor

Re: West Ridge Mine C/007/041
Permit Change to Include Catchment Structures
(Also, response to Task #3257)

Dear Mr. Haddock:

Enclosed are five (5 ea.) copies of an amendment to the West Ridge MRP to include the four catchment structures in the C canyon drainage below the minesite. As you are aware from previous conversations, these structures are already in-place and operational. They were constructed as part of the abatement of Citation #10033, issued on January 29, 2009. They were originally proposed as temporary structures, installed as part of the containment and clean-up of the coal fines accumulation from the mine. However, based on recent developments it now appears that the units may remain in place longer than originally anticipated. It is for this reason we now submit this proposal to include the structures in the existing MRP. It should also be noted that applicable deficiencies from the recently submitted mitigation and abatement plan (Task # 3257) have been addressed in this amendment submittal as well.

If you have questions or comments please contact me at (435) 888-4017.

Sincerely,

David Shaver
Resident Agent

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DIV. OF OIL, GAS & MINING

Form DOGM - C1 (Last Revised June 4, 2009)

File Folder # 3

APPLICATION FOR PERMIT PROCESSING

COPY

Permit Change ☐	New Permit ☐	Renewal ☐	Transfer ☐	Exploration ☐	Bond Release ☐

Permit Number: C/007/041

Title of Proposal: Change to the MRP to include four catchment structures in C Canyon drainage below the minesite

Mine: WEST RIDGE MINE

Permittee: **WEST RIDGE Resources, Inc.**

Description, include reason for application and timing required to implement:.

Instructions: *If you answer yes to any of the first 8 questions (gray), submit the application to the Salt Lake Office. Otherwise, you may submit it to your reclamation specialist.*

☒ Yes	☐ No	1. Change in the size of the Permit Area? 0.92 acres Disturbed Area? 0.92 acres ☒ increase ☐ decrease.
☐ Yes	☒ No	2. Is the application submitted as a result of a Division Order?
☐ Yes	☒ No	3. Does application include operations outside a previously identified Cumulative Hydrologic Impact Area?
☐ Yes	☒ No	4. Does application include operations in hydrologic basins other than as currently approved?
☒ Yes	☐ No	5. Does application result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes	☒ No	6. Does the application require or include public notice/publication?
☒ Yes	☐ No	7. Does the application require or include ownership, control, right-of-entry, or compliance information?
☐ Yes	☒ No	8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
☒ Yes	☐ No	9. Is the application submitted as a result of a Violation? 10033
☐ Yes	☒ No	10. Is the application submitted as a result of other laws or regulations or policies? Explain:
☒ Yes	☐ No	11. Does the application affect the surface landowner or change the post mining land use?
☐ Yes	☒ No	12. Does the application require or include underground design or mine sequence and timing?
☐ Yes	☒ No	13. Does the application require or include collection and reporting of any baseline information?
☐ Yes	☒ No	14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
☒ Yes	☐ No	15. Does application require or include soil removal, storage or placement?
☐ Yes	☒ No	16. Does the application require or include vegetation monitoring, removal or revegetation activities?
☒ Yes	☐ No	17. Does the application require or include construction, modification, or removal of surface facilities?
☒ Yes	☐ No	18. Does the application require or include water monitoring, sediment or drainage control measures?
☒ Yes	☐ No	19. Does the application require or include certified designs, maps, or calculations?
☐ Yes	☒ No	20. Does the application require or include subsidence control or monitoring?
☒ Yes	☐ No	21. Have reclamation costs for bonding been provided for?
☒ Yes	☐ No	22. Does application involve a perennial stream, a stream buffer zone or discharges to a stream?
☒ Yes	☐ No	23. Does the application affect permits issued by other agencies or permits issued to other entities?

☐ **Attach _3_ complete copies of the application.**

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein. (R645-301-123)

Signed - Name - Position - Date

agent

Subscribed and sworn to before me this 4th day of June, 2009

Notary Public

My Commission Expires: March 27, 2013

Attest: STATE OF Utah COUNTY OF Carbon

Notary Public
LINDA KERNS
Commission #578211
My Commission Expires
March 27, 2013
State of Utah

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JUN 0 8 2009

DIV. OF OIL, GAS & MINING

ASSIGNED TRACKING NUMBER

Form DOGM - C2 (Last Revised 6/93)

File Folder # 3

Application for Permit Processing
Detailed Schedule of Changes to the MRP

COPY

Title of Application: Change to the MRP to include four Catchment Structures in the C Canyon drainage below the mine

Permit Number: C/007/041

Mine: WEST RIDGE MINE

Permittee: WEST RIDGE RESOURCES

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit application. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	☒ REPLACE	☐ REMOVE	Chapter 1: all text
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☒ REPLACE	☐ REMOVE	Chapter 2: pgs 2-1, 2-1a, 2-1b
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☒ REPLACE	☐ REMOVE	Chapter 5: pgs 5-iv, 5-1, 5-1a, 5-1b,
☐ ADD	☐ REPLACE	☐ REMOVE	5-1c
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☒ REPLACE	☐ REMOVE	Chapter 7: pgs 7-1 thru 7-5
☐ ADD	☐ REPLACE	☐ REMOVE	
☒ ADD	☐ REPLACE	☐ REMOVE	Chapter 5: Appendix 5-15
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☒ REPLACE	☐ REMOVE	Map 1-0, Permit Map
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
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☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

RECEIVED
JUN 08 2009
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~WEST RIDGE MINE - PERMIT APPLICATION PACKAGE~

TABLE OF CONTENTS- CHAPTER 1
R645-301-100 PERMIT APPLICATION REQUIREMENTS: GENERAL CONTENTS

TABLE OF CONTENTS- APPENDICES
R645-301-100 CHAPTER 1

TABLE OF CONTENTS- MAP LIST
R645-301-100 CHAPTER 1

MAP NUMBER	DESCRIPTION	SCALE
MAP 1-1	Location Map	1" = 4000'

R645-301-100 PERMIT APPLICATION REQUIREMENTS: GENERAL CONTENTS

SCOPE

The objective of this chapter is to set forth all relevant information concerning ownership and control of WEST RIDGE Resources, Inc., the ownership and control of the property to be affected by mining activities and all other information and documentation required under Part UMC.

Historical Note: In the spring of 2009, the company constructed four small catchment structures in the C Canyon drainage below the minesite. The purpose of these structures was to contain coal-fines which had accumulated in the drainage channel as a result of non-compliance discharge water from the mine, and to assist in the subsequent clean-up project. After the units were constructed it was determined that they should be included within the Mining and Reclamation Plan. Please refer to Appendix 5-15 for a complete description of these catchment structures, including history, location, right-of-entry, as-built design, operational criteria, and reclamation information.

R645-301-112 IDENTIFICATION OF INTERESTS

112.100 WEST RIDGE Resources, Inc. is a corporation organized and existing under the laws of Utah and qualified to do business in Utah.

112.200 The applicant, WEST RIDGE Resources, Inc. will also be the operator.

WEST RIDGE Resources, Inc.
P.O. Box 1077
Price, Utah 84501
(435) 888-4000
Bruce Hill - President

Employer Identification Number: 87-0585129

112.220 The resident agent of the applicant, WEST RIDGE Resources, Inc., is:

Dave Shaver
WEST RIDGE Resources, Inc.
P.0. Box 1077
Price, Utah 84501

(435) 888-4000

112.230 WEST RIDGE Resources, Inc. will pay the abandoned mine land reclamation fee.

112.300 **Ownership and Control** - See Appendix 1-7

WEST RIDGE Resources, Inc. is the permittee and operator of the WEST RIDGE Mine. WEST RIDGE Resources, Inc. is a wholly owned subsidiary of ANDALEX Resources, Inc.. WEST RIDGE Resources, Inc. is a Utah corporation licensed to do business in the State of Utah. WEST RIDGE Resources, Inc. is the operating agent for the WEST RIDGE PROJECT. ANDALEX Resources, Inc. and the Intermountain Power Agency (I.P.A.) are tenants in common (co-owners) of the WEST RIDGE PROJECT, each having an undivided 50% ownership interest in the PROJECT. ANDALEX Resources, Inc. is a Delaware corporation and Intermountain Power Agency is a political subdivision of the State of Utah. All leases associated with the WEST RIDGE Mine are owned jointly (undivided 50% ownership) by ANDALEX Resources, Inc. and Intermountain Power Agency. ANDALEX Resources, Inc, is a wholly owned subsidiary of UtahAmerican Energy Inc., which in turn is a wholly owned subsidiary of Murray Energy Corporation.

112.340 See Appendix 1-5

112.350 See Appendix 1-5

112.410 See Appendix 1-5

112.420 See Appendix 1-7

112.500 Surface Owners:

Bureau of Land Management
Utah State Office
136 East South Temple
Salt Lake City, Utah 84111

Glen Wells
700 West U.S. Hwy 6
Price, Utah 84501

Penta Creek, LLC
140 S. Newton
Albert Lea, MN 56007

Dave Hinkins
155 West 100 South
Orangeville, Utah 84537

School and Institutional Trust
Lands Administration
355 West North Temple, Suite 400
Salt Lake City, Utah 84180-1204

Matt Rauhala
1236 East Main
Price, Utah 84501

Subsurface Owners:

Bureau of Land Management
Utah State Office
136 East South Temple
Salt Lake City, Utah 84111

Penta Creek, LLC
140 S. Newton
Albert Lea, MN 56007

School and Institutional Trust
Lands Administration
355 West North Temple, Suite 400
Salt Lake City, Utah 84180-1204

WEST RIDGE Resources, Inc. is the holder of record for federal lease SL-068754 and UTU 78562 (see Table 1-1), state lease ML 47711 and ML 49287 (see Table 1-2A) and the Penta Creek Fee lease (see Table 1-2B).

Proof of lease assignment for lease SL-068754 and UTU 78562 is provided in Appendix 1-4, lease ML 47711 and ML 49287 in Appendix 1-16, and the Penta Creek fee lease in Appendix 1-14.

112.600 Contiguous surface owners:

Bureau of Land Management
Utah State Office
136 East South Temple
Salt Lake City, Utah 84111

Dave Hinkins
155 West 100 South
Orangeville, Utah 84537

Glen Wells
700 West U.S. Hwy 6
Price, Utah 84501

Penta Creek, LLC
140 S. Newton
Albert Lea, MN 56007

School and Institutional Trust
Lands Administration
355 West North Temple, Suite 400
Salt Lake City, Utah 84180-1204

Contiguous subsurface owners:

School and Institutional Trust
Lands Administration
355 West North Temple, Suite 400
Salt Lake City, Utah 84180-1204

Penta Creek, LLC
140 S. Newton
Albert Lea, MN 56007

Dave Hinkins
155 West 100 South
Orangeville, Utah 84537

Bureau of Land Management
Utah State Office
136 East South Temple
Salt Lake City, Utah 84111

112.700 See Appendix 1-5

112.800 There are no pending interests or bids existing on lands contiguous to the present leased area.

112.900 After WEST RIDGE Resources, Inc. is notified that the application is approved, but before the permit is issued, WEST RIDGE Resources, Inc. will update, correct or indicate that no change has occurred in the information previously submitted under R645-301-112.100 through R645-301-112.800.

R645-301-113 VIOLATION INFORMATION

113.100 The applicant or any subsidiary, affiliate or persons controlled by or under common control with the applicant has not had a federal or state permit to conduct coal mining and reclamation operations suspended or revoked in the five years preceding the date of submission of the application.

113.120 The applicant etc. has not forfeited any performance bond or similar security

113.200 Not applicable

113.300 A listing of violations received by the applicant in connection with any coal mining and reclamation operation during the three year period preceding the application date is provided in Appendix 1-2. MSHA numbers for the operations can be found in Appendix 1-5. There have been no unabated violations or cessation orders issued to any affiliated companies during the previous three years.

113.400 After WEST RIDGE Resources, Inc. is notified that the application is approved, but before the permit is issued, WEST RIDGE Resources, Inc. will update, correct or indicate that no change has occurred in the information previously submitted under R645-301-113.

R645-301-114 RIGHT OF ENTRY INFORMATION

114.100 WEST RIDGE Resources, Inc., currently holds 4,297.01 acres of federal coal (2,650.67 acres leased under SL-068754 and 1646.34 acres leased under UTU 78562) in the Book Cliffs coal field (refer to Map 5-4A). WEST RIDGE currently holds 1682.34 acres of state coal (801.24 acres under ML 47711 and 881.10 under ML 49287. WEST RIDGE also holds a 382.08 acre lease on contiguous private (fee) coal lands located along the eastern side of the mineable reserve (see Appendix 1-14). Within this fee lease 124.92 acres are included in the permit area. These leases are not the subject of any pending litigation. WEST RIDGE Resources, Inc. bases its legal right to enter and conduct mining activities in the permit area pursuant to the language contained in the Federal Coal Lease, Part I Lease Rights Granted which reads as follows:

"That the lessor, in consideration of the rents and royalties to be paid and the covenants to be observed as hereinafter set forth, does hereby grant and lease to the lessee the exclusive right and privilege to mine and dispose of all the coal in, upon, or under the following described tracts of land, situated in the State of Utah... together with the right to construct all such works, buildings, plants, structures and appliances as may be necessary and convenient for the mining and preparation of the coal for market, the manufacture of coke or other products of coal, the housing and welfare of

employees, and subject to the conditions herein provided, to use so much of the surface as may reasonably be required in the exercise of the rights and privileges herein granted."

The substitute topsoil borrow area, which is also included within the permit area, is located on lands administered by the State of Utah, School and Institutional Trust Lands Administration (SITLA). This area is located within the SE1/4 of section 16, T 14 S, R 13 E. SITLA has issued a long term special use permit to WEST RIDGE Resources, Inc. which provides full assurance that the topsoil resource in this area will be available for (and, indeed dedicated to) final reclamation of the West Ridge minesite if needed. (See Appendix 1-4)

Coal lease SL-068754-U-01215 was modified by the BLM. Refer to Appendix 1-9 for the coal lease modification.

The C Canyon catchment structures are authorized under BLM Right-of Way 87100.

The permit area consists of federal coal leases SL-068754-U-01215 and UTU 78562 (4297.01 acres as described in Table1-1), state coal leases ML-47711 and ML-49287 (1,682.34 acres as described in Table 1-2A), the Penta Creek fee lease (124.92 acres as described in Table 1-2B). The permit area also includes a special use state surface lease (9.6 acres as described in Table I-2A). The two areas are not contiguous however. The 9.6 acre state surface lease is for a possible topsoil borrow site if it is needed at the time of final reclamation. This permit area also includes a 0.23 acre right-of-way issued by the BLM for a water pumping station (refer to Appendix 1-12). The permit area also includes a 0.79 acre area along the Carbon County C Canyon Road down to and including the security gate (refer to Appendix 1-13). The permit area also includes four catchment structures in the C Canyon drainage below the mine, and located on BLM land occupying a total of 0.92 acres (refer to Appendix 5-15). The total permit area is 6115.81 acres. Refer to Map 1-1 for the permit area location. Refer to Table 1-4 for the legal description of the permit area.

114.200 Not applicable, the fee lease mineral estate is not severed from the surface estate.

TABLE 1-1
FEDERAL COAL LEASE PROPERTIES

LEASE SERIAL NUMBER	DATE ISSUED	LEASE ACREAGE	LEGAL DESCRIPTION+	ASSIGNMENT
SL-068754-U-01215	3-27-97	2,570.67	T 14 S, R 13 E	See Note 1
			Section 10: NE¼, N½SE¼, E½NW¼	
			Section 11: All	
			Section 12: S½SW¼, NW¼SW¼	
			Section 13: NW¼,, S½, S½NE¼, NW¼NE¼	
			Section 14: E½, N½NW¼, SE¼NW¼	
			Section 24: N½SE¼, N½, NE¼SW¼	
SL-068754 (Lease Modification)	9/1/98	80.0	T 14 S, R 13 E	
			Section 10: SE¼ SE¼	
			Section 15: NE¼ NE¼	
UTU-78562	12/12/01	1,646.34	T 13 S, R13 E	
			Section 35: SE¼, S½ SW¼	
			T 14 S, R 13 E	
			Section 1: Lots 2-7 S½NW¼, SW¼, W ½SE¼, SW¼ NE¼	
			Section 12: Lots 1-4 S½ N½, SE¼, NE¼ SW¼	
			Section 13: NE¼ NE¼	
			T 14 S, R 14 E	
			Section 6: Lot 6	
			Section 7: Lots 3 and 4	
			Section 18: Lot 1 E½ NW¼	

TOTAL FEDERAL LEASE ACREAGE - 4,297.01

+ Utah State legal description utilizing Salt Lake Base and Meridian.
Note 1: Coal lease assigned from The Standard Oil Company to AMCA Coal Leasing on March 27, 1997.

TABLE I-2A
STATE COAL LEASE PROPERTIES*

LEASE SERIAL NUMBER	DATE ISSUED	LEASE ACREAGE	LEGAL DESCRIPTION+
ML 47711	04/01/2003	641.24	T 14 S, R 13 E Sec. 2: Lots 1-4, S½N½, S½ (all)
		160.0	T 13 S, R 13 E Sec. 36: SW¼
TOTAL		**801.24**	
ML 49287	04/01/2004	881.10	T 14 S, R 13 E Section 3: Lots 1-3, S½ N ½, S½ Section 10: W½ NW¼, SW¼, SW¼SE¼
TOTAL		**881.10**	

STATE SURFACE LEASE

SPECIAL USE LEASE

LEASE NUMBER	DATE ISSUED	LEASE ACREAGE	LEGAL DESCRIPTION+
Special Use Lease Agreement #1163		9.6	T 14 S, R 13 E Sec. 16: (9.6 acres within the NE¼SE¼)
TOTAL		**9.6**	
TOTAL STATE		**1691.94**	

+ Utah State legal description utilizing the Salt Lake Base and Meridian.

TABLE I-2B
PENTA CREEK FEE LEASE PROPERTY
ACQUIRED JANUARY 1, 2003

LEGAL DESCRIPTION (TOTAL LEASE)		ACREAGE
T 14 S, R 14 E S.L.B.& M		
Section 6:	Lot 7, SE¼SW¼	76.56
Section 7:	Lot 1*, Lot 2*, NE¼NW¼,* E½SW¼,* SW¼SE¼	190.60
Section 18:	Lots2, Lot 3, NW¼NE¼	114.92

Less and excepting from the portion of the above legal subdivisions in Section 7 (marked with *), those lands under and around Grassy Trail Dam and Reservoir owned by East Carbon City and Sunnyside City, such lands being more accurately described in Appendix 1-15.

Total Penta Creek Fee Lease:	**382.08**

LEGAL DESCRIPTION (PERMIT AREA ONLY)		ACREAGE
T 14 S, R 14 E S.L.B.& M		
Section 7:	SE¼SW¼, SW¼NE¼SW¼	50.00
Section 18:	Lot 2, Lot 3	74.92
Total Penta Creek Fee Lease Within Permit Area:		**124.92**

TABLE 1-3
SURFACE OWNERSHIP OF PERMIT AREA

T(S)/R(E)	Section	BLM	Penta Creek	Hinkins	Wells	Rauhala	SITLA	Total
13/13	35	-	-	148.16	91.84	-	-	240.00
13/13	36	-	160	-	-	-	-	160.00
14/12	25	0.23	-	-	-	-	-	0.23
14/13	1	283.75	285.77	-	-	39.92	-	609.44
14/13	2	-	641.24	-	-	-	-	641.24
14/13	3	-	-	-	80.66	-	520.44	601.10
14/13	10	360	-	-	-	-	280	640.00
14/13	11	650.87	-	-	-	-	-	650.87
14/13	12	-	648.96	-	-	-	-	648.96
14/13	13	640	-	-	-	-	-	640.00
14/13	14	440	-	-	-	-	-	440.00
14/13	15	41.02	-	-	-	-	-	41.02
14/13	16	-	-	-	-	-	9.6	9.60
14/13	21	0.23	-	-	-	-	-	0.23
14/13	24	440	-	-	-	-	-	440.00
14/13	28	0.23	-	-	-	-	-	0.23
14/14	6	36.41	-	-	-	-	-	36.41
14/14	7	74.08	50.00	-	-	-	-	124.08
14/14	18	117.25	74.92	-	-	-	-	192.17
15/12	3	0.23	-	-	-	-	-	0.23
		3084.30	1860.89	148.16	172.50	39.92	810.04	6115.81

TABLE 1-4
LEGAL DESCRIPTION OF PERMIT AREA

PARCEL	ACREAGE	LEGAL DESCRIPTION
FEDERAL LEASE SL-068754-U-01215	2,570.67	T 14 S, R 13 E
		Section 10: NE¼, N½SE¼, E½NW¼
		Section 11: All
		Section 12: S½SW¼, NW¼SW¼
		Section 13: NW¼,, S½, S½NE¼, NW¼NE¼
		Section 14: E½, N½NW¼, SE¼NW¼
		Section 24: N½SE¼, N½, NE¼SW¼
FEDERAL LEASE SL-068754 (Lease Modification)	80.0	T 14 S, R 13 E
		Section 10: SE¼ SE¼
		Section 15: NE¼ NE¼
FEDERAL LEASE UTU-78562	1,646.34	T 13 S, R13 E
		Section 35: SE¼, S½ SW¼
		T 14 S, R 13 E
		Section 1: Lots 2-7 S½NW¼, SW¼, W ½SE¼, SW¼ NE¼
		Section 12: Lots 1-4 S½ N½, SE¼, NE¼ SW¼
		Section 13: NE¼ NE¼
		T 14 S, R 14 E
		Section 6: Lot 6
		Section 7: Lots 3 and 4
		Section 18: Lot 1 E½ NW¼

TABLE 1-4 (CONTINUED)
LEGAL DESCRIPTION OF PERMIT AREA

PARCEL	ACREAGE	LEGAL DESCRIPTION
STATE LEASE ML 47711	801.24	T 14 S, R 13 E Section 2: Lots 1 thru 4, S½N½, S½ T 13 S, R 13 E Section 36: SW¼
STATE LEASE ML 49287	881.10	T 14 S, R 13 E Section 3: Lots 1,2,3, S½N½, S½ Section 10: W½NW¼, SW¼, SW¼SE¼
PENTA CREEK FEE LEASE	124.92	T 14 S, R 14 E Section 7: SE¼SW¼,* SW¼NE¼SW¼* Section 18: Lots 2, 3
PUMPING STATION (BLM R.O.W. UTU-77120	0.23	T 14 S, R 13 E Section 21: NE¼NE¼
TOPSOIL SALVAGE AREA (SITLA special use agreement #1163)	9.6	T 14 S, R 13 E Section 16: NE¼SE¼
SECURITY GATE (Carbon County authorization)	0.79	T 14 S, R 13 E Section 15: NW¼SE¼NE¼
CATCHMENT STRUCTURES (BLM R.O.W. UTU-87110)		
a) Structure A	0.23	T 14 S, R 13 E Section 15: SESW (0.23 acres therein)
b) Structure C	0.23	T 14 S, R 13 E Section 28: NWNW (0.23 acres therein)
c) Structure E	0.23	T 14 S, R 12 E Section 25: SESE (0.23 acres therein)
d) Structure F	0.23	T 15 S, R 12 E Section 3: NENE (0.23 acres therein)
TOTAL PERMIT AREA	6115.81	

TABLE 1-5
DISTURBED AREA WITHIN PERMIT AREA

1) Minesite surface facilities: portions of the following, containing a total of 29.82 acres (all BLM)

T14S, R13E	Section 10	SESESE
		NESESE
T14S, R13E	Section 11	SWNESW
		NWSESW
		NESWSW
		NWSWSW
		SWSWSW
		SESWSW
T14S, R13E	Section 15	NENENE
		NWNENE
		SWNENE
		SENENE
		NWSENE

2) Pumphouse: portion of the following, containing 0.23 acres (all BLM)

T14S, R13E	Section 21	NESENE

3) Gob gas vent hole (GVH) installation: portion of the following, containing 0.24 acres (all SITLA)

T14S, R13E	Section 3	NESWSE

3) Gob gas vent hole (GVH) topsoil pile: portion of the following, containing 0.1 acres (all SITLA)

T14S, R13E	Section 10	SENWNW

4) Catchment Structures: portion of the following, containing a total of 0.92 acres (all BLM)

a)	Structure A	T 14 S, R 13 E	Section 15:	SESW
b)	Structure C	T 14 S, R 13 E	Section 28:	NWNW
c)	Structure E	T 14 S, R 12 E	Section 25:	SESE
d)	Structure F	T 15 S, R 12 E	Section 3:	NENE

TOTAL DISTURBED AREA = 31.31 acres

R645-301-115 STATUS OF UNSUITABILITY CLAIMS

115.100 The proposed permit area is not within an area designated as unsuitable for mining. WEST RIDGE Resources, Inc. is not aware of any petitions currently in progress to designate the area as unsuitable for coal mining and reclamation activities.

The area in which the proposed facility will be located has been evaluated within area management plans. It has not been found unsuitable for mining activities under any categories of examination.

115.200 Not applicable.

115.300 WEST RIDGE Resources, Inc. will not be conducting mining operations within 100 feet of an occupied dwelling. WEST RIDGE Resources, Inc. has received permission from Carbon County to construct facilities and operate coal mining activities within 100 feet of a public road. Refer to the letter from Carbon County in Appendix 1-8.

R645-301-116 PERMIT TERM

116.100The anticipated starting and termination dates of the coal mining and reclamation operation are as follows

	Begin	Complete
Construction of Mining Pad, Mining Support Structures, and Portals	Apr. 1999	Dec. 1999
Begin Mining	Jan. 2000	
Terminate Mining		Dec. 2017*
Remove Facilities	Jan. 2018*	June 2018*
Regrade Area	July 2018*	Sept. 2018*
Revegetate Site	Oct. 2018*	Nov. 2018*

*This assumes mine life extended through acquisition of adjacent state and federal coal reserves.

16.200 The initial permit application will be for a five year term with successive five year permit renewals.

R645-301-117 INSURANCE, PROOF OF PUBLICATION AND FACILITIES OR STRUCTURES USED IN COMMON

117.100 The Certificate of Liability Insurance is included as Attachment 1-1 in Appendix 1-1.

117.200 A copy of the newspaper advertisement of the application for a permit and proof of publication are included as Attachment 1-2 and 1-3 respectively, in Appendix 1-1. A copy of the newspaper advertisement for the Whitmore lease revision is included as Attachment 1-3 in Appendix 1-1.

117.300 Not applicable.

R645-301-118 FILING FEE

Verification of filing fee payment is included as Attachment 1-4 in Appendix 1-1.

R645-301-123 NOTARIZED STATEMENT

A notarized statement attesting to the accuracy of the information submitted can be referenced as Attachment 1-5 in Appendix 1-1.

R645-301-130 REPORTING OF TECHNICAL DATA

Technical reports prepared by consultants specifically for WEST RIDGE Resources, Inc. are typically presented in an appendix format and, in general, provide the name and address of the person or company (consultant) preparing the report, the name of the report, the date of collection and analysis of the data, and descriptions of the methodology used to collect and analyze the data. The body of the report usually will provide the date the actual field work was conducted and a description of the methodology used to collect and analyze the data. The format of each report may vary depending on the contents of the report and organization preparing it.

For laboratory analyses, such as Appendix 7-2 and 7-3, the company performing the analyses as well as the date of the analyses, is presented on the laboratory report rather than the cover page.

A list of consultants and their appended reports is contained in Appendix 1-6, Consultation and Coordination. Sources used in the preparation of the permit application are referenced in Appendix 1-3. References in all chapters are keyed to this main reference list.

Mining and exploration activities had been conducted in the currently proposed disturbed area prior to August 3, 1977. A road existed into C Canyon in 1952 when drill hole B-6 was drilled in the right fork. A road was also constructed up the left fork of C Canyon to a drill hole site during the same year. In addition to the drill holes, the coal outcrop in the left fork of C Canyon was exposed for sampling purposes. A small pad was built at the outcrop location and it was left in place as were the roads.

In 1986, another drill hole, 86-2, was drilled west of the first drill hole in the right fork. A minor amount of road work was done in conjunction with this second drill hole. Kaiser Coal Company obtained permission from the BLM to grade the existing road and make it passable for the drill rig. The drill hole site was reclaimed but the road, a public road, was left in place.

Through use of aerial photography and site evaluations, it is possible to document previous mining related disturbances in C Canyon. Refer to Map 5-1 for delineation of the disturbance prior to August 3, 1977.

The total of all the previously disturbed areas within the proposed disturbed area is estimated to be as follows:

roads in right and left forks	=	1.27 acres
road culvert	=	.05 acres
water monitoring well	=	.05 acres
material storage pad	=	.05 acres
		1.62 acres

WEST RIDGE Resources, Inc. is proposing to utilize the entire previously disturbed area in their current proposal and to reclaim it upon cessation of mining operations.

ATTACHMENT 1-5
VERIFICATION STATEMENT

I hereby certify that I am a responsible official (Resident Agent) of the applicant (ANDALEX and IPA for WEST RIDGE Resources, Inc.) and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein

David Shaver, Resident Agent

Signed - Name - Position - Date

Subscribed and sworn to before me this 4TH day of June, 2009

Notary Public

Notary Public
LINDA KERNS
Commission #578211
My Commission Expires
March 27, 2013
State of Utah

My commission Expires: March 27, 2013)

Attest: STATE OF Utah) ss:

COUNTY OF Carbon)

CHAPTER 2
R645-301-200 SOILS

Historical Note: In the spring of 2009, the company constructed four small catchment structures in the C Canyon drainage below the minesite. The purpose of these structures was to contain coal-fines which had accumulated in the drainage channel as a result of non-compliance discharge water from the mine, and to assist in the subsequent clean-up project. After the units were constructed it was determined that they should be included within the Mining and Reclamation Plan. Please refer to Appendix 5-15 for a complete description of these catchment structures, including history, location, right-of-entry, as-built design, operational criteria, and reclamation information.

R645-301-200 SOILS

NOTE: The following discussion for the remainder of R645-301-200 applies specifically to the Gob Gas Vent Hole (GVH) installation proposed in Bear Canyon. In order to facilitate the review it is presented here in its entirety rather than interspersed throughout the chapter. A more detailed and complete discussion of the Bear Canyon GVH proposal can be found in Appendix 5-14. Unless specifically noted in this following discussion, nothing related to the Bear Canyon GVH proposal affects the contents of the existing approved MRP as described hereinafter.

The location of the GVH in Bear Canyon is adjacent to the end of the existing road in the canyon. Construction of the GVH facilities will involve disturbing about 0.24 acres in the east side of the bottom of the canyon. Before any excavation begins at the GVH site, all available topsoil will be salvaged. Bob Long, CPSS, of Long Resource Consultants, Inc., has conducted an Order 1 soils survey of the site. His report is included in Appendix 2-10, and also Attachment 2 of Appendix 5-14. Three test pits were dug in the hillside and the soil resources were measured and catalogued. There is a significant layer of soil material present, which will be salvaged and stored nearby for final reclamation. Due to its location in the bottom of the canyon, and the varying steepness of the sideslope, the thickness of the soil varies considerably over the site. Also, as is typical for the Book Cliff canyons, there are a number of large boulders lying on the surface, surrounded by pockets of topsoil. Based on the results of the survey, the average depth of topsoil at the site is about 16". The area of the GVH site, including both the pad and the adjacent cutslope, is approximately 0.24 acres. Therefore, according to the soils survey, at least 515 cu. yds., or 13,878 cu. ft. of topsoil should be salvaged from the site.

Soils samples were taken by Mr. Long and have been sent to the laboratory for analysis. Once the analysis results are obtained they will be submitted to the Division and inserted as part of Appendix 2-10. Soil profile field descriptions are included in this Attachment as well. If laboratory analysis of the soils indicates a need for additives, fertilizers, or enhancement of other kinds, the Company commits to providing such at the time of final reclamation as determined by the Division . However, it is felt that this soil in its

existing condition should be adequate for final reclamation because it appears to be well developed and of sufficient quantity. In fact, it is the identical same soil removed from the site which will be replaced at the time of reclamation. The Order 1 Soils Reports concludes that *"the potential for successfully reclaiming the Bear Canyon GVH location is good based on the estimated quality and quantity of topsoil that may be salvaged."*

The topsoil will be carefully removed using a trackhoe which can reach up the slope from the road surface below. Large boulders will be separated from the material, and the topsoil will then be loaded into rock-trucks and hauled off-site for storage. The storage site is located approximately 3300' down-canyon from the GVH site, in a flat area adjacent to the road. This storage area is located on SITLA surface and SITLA coal lease ML49287 (see Attachment 1 of Appendix 5-14 for location). The pile will be constructed with overall dimensions of approximately 100' long, 40' wide, and 8' high, with 2:1 sideslopes (see Appendix 2-10 and/or Attachment 3 of Appendix 5-14 for details of the pile configuration). The pile will be kept low to prevent unnecessary compaction, and to help maintain viable micro-organisms. Attachment 3 shows that a pile configuration with a capacity in excess of 700 cu. yds. can easily be stored at this site.

Upon completion of topsoil salvage, the storage pile will be pocked (roughened) and reseeded with a previously approved seed mix as shown in Table 3-3, and is also included in Attachment 13 of Appendix 5-14 for ready reference. As an alternate, Attachment 13 also includes a seed mix which was used on the Crandall Canyon East Mountain drillhole reclamation project and is readily available, subject to Division concurrence of its use. A layer of wood straw will then be scattered over the surface. The pocking, re-seeding and wood straw are all measures to help minimize erosion, and promote a healthy interim re-vegetation until the time of final reclamation. A containment berm made of sub-soil material, and a siltation control structure (such as excelsior logs) will be installed around the perimeter of the pile to prevent erosional loss of topsoil material from the pile. A topsoil identification sign will be installed on the pile upon completion. An as-built drawing of the pile will be prepared and supplied to the Division, and a final assessment of the volume of salvaged material will be updated in the MRP.

During topsoil salvaging and stockpiling, the Company commits to having an monitor on site at all times. The purpose of this person will be to make sure that all topsoil resources are properly salvaged, to maintain accurate truck count of material, take photos, and generally make sure that the salvage and stockpiling operations are done according to the plan. The monitor will be someone familiar with topsoil salvaging and pre-approved by the Division.

R645-301-220 ENVIRONMENTAL DESCRIPTION

The West Ridge Mine is located in eastern Carbon County, Utah on the east side of the Price River drainage basin at the western edge of the Book Cliffs. The Book Cliffs are oriented northwest-southeast in the vicinity of the proposed permit area. The mine site surface facilities is located in C Canyon (just north of B Canyon) in an east-west trending canyon incised down through the cliff face. The elevation differences in the area of the mine site range from approximately 6,800 feet amsl at the mouth of C Canyon to over 8,800 feet on top of West Ridge. Elevations of the mine site area range from 6,900 feet amsl to 7,200 feet amsl.

In addition to the mine site, a substitute topsoil borrow area has been permitted as backup soil material for reclamation at the proposed mine site. This site is located approximately 1 ½ miles west of the mine site and would only be used to supplement existing soil resources at the mine site if reclamation efforts do not prove successful utilizing the materials on site. The elevation of the proposed borrow site is about 6,500-6,600 feet. Refer to Map 2-3 for details of the proposed borrow site disturbed area and soil mapping information.

The average annual precipitation in the area of the mine site is 12-14 inches with the majority of the precipitation occurring from October to March. The mean annual air temperature is 45-47 degrees F and the average frost-free period is 80 to 120 days.

No shallow water table is present as evidenced through the soil pits dug throughout the proposed mine site area. The ephemeral streams flow only in direct response to heavy rainfall events. Valley bottoms are narrow and comprised of sands and coarse alluvial soil materials with low organic matter content. Steep hillslopes and narrow benches have been formed in the alternating sedimentary lithologic units, primarily sandstones and shales. The majority of the soils are shallow and well drained.

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R645-301-500 CHAPTER 5

CHAPTER 5
R645-301-500 ENGINEERING

Historical Note: In the spring of 2009, the company constructed four small catchment structures in the C Canyon drainage below the minesite. The purpose of these structures was to contain coal-fines which had accumulated in the drainage channel as a result of non-compliance discharge water from the mine, and to assist in the subsequent clean-up project. After the units were constructed it was determined that they should be included within the Mining and Reclamation Plan. Please refer to Appendix 5-15 for a complete description of these catchment structures, including history, location, right-of-entry, as-built design, operational criteria, and reclamation information.

R645-301-511 GENERAL REQUIREMENTS

Chapter 5 contains information regarding the proposed coal mining operation and reclamation plans, a discussion of its potential impact to the environment and methods to achieve compliance with design criteria.

Reclamation plans and estimates are presented for postmining restoration of the area.

NOTE: The following discussion for the remainder of R645-301-511 applies specifically to the Gob Gas Vent Hole (GVH) installation proposed in Bear Canyon. In order to facilitate the review it is presented here in its entirety rather than interspersed throughout the chapter. A more detailed and complete discussion of the Bear Canyon GVH proposal can be found in Appendix 5-14. Unless specifically noted in this following discussion, nothing related to the Bear Canyon GVH proposal affects the contents of the existing approved MRP as described hereinafter.

The GVH facility will consist of three drillholes, four methane extractor units, and interconnecting piping. A detailed description of the drillhole installation, and the assembly and operation of the methane extractor units can be found in Attachment 7 of Appendix 5-14. The site pad will consist of a narrow strip (approximately 35' wide x 300' long) located adjacent to and parallel with the road. The drillholes will be located at the southern (down-canyon) end of the site pad. The extractor units will be located in a serial arrangement along the northern (up-canyon) end of the site pad. The total facility area will be about 0.24 acres, including the adjacent cutslopes.

Three angled holes will be drilled at angles ranging from 20 degrees to 45 degrees from vertical. Drilling will be conducted using tri-cone rotary and/or hammer. Drilling fluid will be primarily compressed air (600-800 psi) with water and Baroid Quick Foam and EZ Mud (see Attachment 15 for MSDS sheets for these products). Cuttings will pass up the annulus and be diverted to the reserve pit on the surface. Each hole will be spudded with a 19" diameter hole into which a 16" diameter conductor casing will be set and grouted to an approximate depth of 20'. Thereafter, a 12.25" hole will be drilled to within 200' of the Lower Sunnyside coal seam (an inclined depth of 200'-300'). A 9.625"

T&C casing will be set and grouted to total depth of the 12.25" bore. An 8.75" bit will be tripped in to drill out the shoe and will continue about 175' to within 25' of the coal seam horizon. Sections of 7" slotted casing will be tripped in from bottom of hole to about 40' above the bottom of the upper casing, but will not be grouted so that it can move with any additional subsidence.

Before construction starts identification signs will be posted at the site. These signs will list the company name as permit holder, the permit number, address and phone number. During the initial phase of construction, topsoil will be salvaged. Based on a recent Order 1 soils survey the current estimate of topsoil to be salvaged is approximately 515 cubic yds. (See Appendix 2-10 and also Attachment 2 of Appendix 5-14.). After the topsoil has been removed, the slope will be excavated back for a distance of about 20', leaving a 1:1 cutslope against the hillside. Based on current surveys it is estimated that about 1,357 total yds of material will be excavated from the bank. This includes the estimated 515 yds of topsoil, so the remaining amount of excavated material will be about 842 yds (see Cut Slope Excavation Volumes, Attachment 1 of Appendix 5-14 for details). Material excavated from the cutslope will be used to level off the area for the drillhole (for the drilling operation) and for the individual methane extractor units. Excess material may be used to raise the grade of the adjacent roadway. All fill areas will then be compacted for stability.

During the drilling phase of the GVH installation, the pad area will be used as an equipment lay-down area for drill steel, drill casing, drilling mud, concrete, etc. The pad will also be used to accommodate the mud pits needed during the drilling operation. The mud pit will measure approximately 30' long x 10' wide x 10' deep, and will be located immediately down-canyon, i.e., southwest of, the drillholes, as shown in Attachment 1. The pit will be lined with a 12 mil plastic liner, with a 20 mil felt underlayment. Based on the diameter and total combined length of the drillholes, and assuming a swell factor of 40% for the cuttings, the estimated volume of cuttings is 1283 cubic feet, or 47 yds. This would result in a total depth of cuttings remaining in the bottom of the pit of 4.28 ft. After the drillholes have been completed the remaining cuttings will be mixed with native material until it can be handled with heavy machinery. It will then be removed from the pit and hauled off-site to an approved disposal facility.. After the cuttings have been removed, the pit will be backfilled and eliminated. The site will then be cleaned up and fine-graded prior to installing the methane extractor units (see Attachments 1 and 7 of Appendix 5-14 for details).

After the cutslopes have been excavated, the slopes with be reclaimed (interim reclamation) by pocking, re-seeding and applying a layer of wood straw as described above. A disturbed area drainage ditch will be constructed along the toe of the cut. This ditch will be designed to handle the flow from the up-slope undisturbed area, the reclaimed cutslope, the drillpad, and the adjacent section of road. Runoff from the ditch will be routed through a series of sediment-control structures (silt fences, excelsior logs, etc.) to effectively remove sediment. (A more detailed description of the sediment

control measures associated with the site can be found in the Chapter 7, Hydrology discussion of Appendix 5-14.)

A security fence may be installed around the perimeter of the pad between the facilities and the road.. The facilities will not encroach upon nor affect the road nor the road turn-around, and neither will public use of the road be affected. The Company will provide the Division with an as-built drawing of the facility upon completion of construction.

Operation of the GVH facility is expected to continue for the life of the West Ridge operation. Therefore, reclamation of the site will be done at the same time and under the same conditions as for the minesite surface facilities in C Canyon. However, if temporary cessation of mining operations occurs, the GVH well will continue to function.

Prior to final reclamation, all drillholes will be plugged and sealed in accordance with State and Federal regulations. The casings will be plugged at the bottom to hold the concrete. A lean concrete mixture will be poured into the casing until the concrete is within five (5) feet of the surface. At that time the casing will be cut off at ground level and the rest of the casing will be filled with lean concrete. The concrete will be allowed to harden before final reclamation is completed. There will be three drillholes installed and therefore plugged at reclamation. (This commitment is identical to the currenty approved plan for the Tower (Centennial, C/007/014) GVH reclamation plan.) Based on current projections the holes will be drilled at 45 degree angles into the mine, and will have individual depths (lengths) of 504', 376', and 502', for a combined total depth of 1382'. Using 9-5/8" casing for all holes, the volume of concrete needed to plug all three holes would be 26 cu. yds.

On final reclamation, the pad area and cutslopes will be backfilled to approximate original contour (see Reclamation Contours, Attachment 1 of Appendix 5-14). Fill material will be obtained from the adjacent roadway and leveling pads. This is the exact same material that was excavated from the cutslope during initial construction. The cutslope will be backfilled in 18"-24" lifts and compacted with rubber-tired vehiclesand/or vibratory mechanical equipment. The reclaimed slopes, at approximate original contour, will average about 1.5: 1, so slope stability will not be an issue. Because of the compaction in lifts, and the rocky nature of the backfill material (one and the same as the original native material), stability of the reclaimed slopes is sufficient to achieve approximate original contour and eliminate the potential for remnant cutslope exposures. A slope stability analysis prepared by Blackhaek Engineering concludes that *"calculations show safety factors well in excess of the required 1.3 for the reclaimed cut slopes of 1.5H:1V and up to 30' in height. This is not inconsistent with the natural conditions of the area, and will allow for complete reclamation of all cut slopes created by the emergency drilling pads."* (See Attachment 8 of Appendix 5-14 for the complete slope stability analysis report.) The slope will then be re-topsoiled and re-vegetated according to the same existing approved plan for the minesite in nearby Canyon, as specified in R645-301-341, and as described in the Chapter 3, Biology discussion in

Appendix 5-14.

The amount of backfill material is estimated to be up to 842 cubic yards, and the amount of replaced topsoil is estimated at about 515 cubic yards. Total reclaimed area, including both pad and cutslopes will be approximately 0.24 acres. Because the cutslopes are only about 20' maximum high, all work, both backfilling and topsoil replacement, can easily be done from the existing adjacent road-pad surface, using trackhoes with sufficient boom reach. After the reclaimed slopes have been topsoiled and reseeded, a row of excelsior logs will be installed along the full length of the toe of the slope between the slope and the remaining road. The purpose of this row of excelsior logs is to control sediment of the site until the revegetation has become established.

Bonding and reclamation costs for the Bear Canyon GVH installation can be found in Appendix 5-14 in the Chapter 8, Bonding discussion.

R645-301-512 CERTIFICATION

512.100 Cross Sections And Maps

Maps, cross sections, figures and tables which require certification will be certified by a qualified, registered, professional engineer or land surveyor.

Cross sections, maps and drawings will be certified prior to determination of completeness for the permit application.

512.200 Plans And Engineering Designs

A qualified registered professional engineer will certify plans and designs for impoundments and primary roads. No excess spoil or durable rock fill designs are proposed.

R645-301-513 COMPLIANCE WITH MSHA REGULATIONS AND APPROVALS

513.100 MSHA regulations 30 CFR 77.216-1 & 30 CFR 77.216-2 do not apply as no coal processing dams or embankments are being proposed.

513.200 MSHA regulation 30 CFR 77.216 (a) does not apply because of the restricted size of the sediment ponds and low hazard potential.

513.300 No coal processing waste is proposed to be disposed of in underground workings. Refer to R645-301-528.321.

513.400 No refuse piles are being proposed.

CHAPTER 7
R645-301-700 HYDROLOGY

Historical Note: In the spring of 2009, the company constructed four small catchment structures in the C Canyon drainage below the minesite. The purpose of these structures was to contain coal-fines which had accumulated in the drainage channel as a result of non-compliance discharge water from the mine, and to assist in the subsequent clean-up project. After the units were constructed it was determined that they should be included within the Mining and Reclamation Plan. Please refer to Appendix 5-15 for a complete description of these catchment structures, including history, location, right-of-entry, as-built design, operational criteria, and reclamation information.

R645-301-711 General Requirements

This chapter includes a description of hydrology and hydrogeology of the West Ridge permit area. Specifically, this permit application includes:

711.100 Existing hydrologic resources according to R645-301-720.

711.200 Proposed operations and potential impacts to the hydrologic balance according to R645-301-730.

711.300 The methods and calculations utilized to achieve compliance with the hydrologic design criteria and plans according to R645-301-740.

711.400 Applicable hydrologic performance standards according to R645-301-750.

711.500 Reclamation activities according to R645-301-760.

NOTE: The following discussion for the remainder of R645-301-711 applies specifically to the Gob Gas Vent Hole (GVH) installation proposed in Bear Canyon. In order to facilitate the review it is presented here in its entirety rather than interspersed throughout the chapter. A more detailed and complete discussion of the Bear Canyon GVH proposal can be found in Appendix 5-14. Unless specifically noted in this following discussion, nothing related to the Bear Canyon GVH proposal affects the contents of the existing approved MRP as described hereinafter.

The GVH site will be located on the opposite side of the road (southeast side) from the primary canyon drainage channel. Therefore, construction and operation of the GVH facility will have no affect on the natural canyon drainage. Because of the limited size of the site (0.24 acres) and the narrow configuration within the

confines of the narrow ledges of the canyon, there is insufficient room to construct a sediment control pond. Therefore the company intends to employ a combination of alternate sediment control methods at the site. During the construction phase of the pad site, adequate rows of excelsior logs will be placed downgrade from the site to prevent construction sediment from entering the channel. Once the pad site is finished, which should take less than two weeks, a disturbed area drainage ditch will be constructed along the toe of the cut. This ditch will be designed to handle the flow from the up-slope undisturbed area, the reclaimed cutslope, the drillpad, and the adjacent section of road. This ditch will discharge into the natural drainage channel a short distance below the drillhole location. This ditch will be armored with adequately-sized rip-rap for its entire length. This rip-rap will decrease the potential for erosion in the ditch, and will also act initially as a siltation trap as a certain amount of sediment is allowed to settle into the rip-rap voids.

The total length of the drainage ditch will be approximately 350'. At 50' intervals along its length energy dissipaters will be installed in the ditch. These energy dissipaters will consist of excelsior logs laid in the ditch perpendicular to the flow direction, and anchored securely with stakes. These dissipaters will reduce the flow velocity to help reduce erosion, and will also serve as siltation filters to help remove sediment prior to reaching the natural channel. In addition, a terminal set of excelsior logs will be installed in the ditch immediately above the point where it discharges into the natural channel. The installation, consisting of four (4 ea.) closely-spaced rows of excelsior logs will serve primarily as sediment traps, rather than energy dissipaters. This set will be located conveniently close to the road to facilitate regular cleaning and maintenance. The sediment traps will be inspected routinely to make sure they are functioning properly. There will be mine personnel attending to the GVH units on a daily basis, and will be instructed to check the sediment traps on a regular basis, and especially after storm events. If they are in need of repair and/or cleaning such maintenance will be done immediately. Sediment cleaned from the traps will be hauled off-site and disposed of at an approved facility, such as the permitted Wildcat Loadout Coal Mine Refuse Disposal Site (DOGM permit C/007/033). All excelsior logs will be installed according to the manufacture's instructions.

Immediately after the cutslopes have been excavated to create the pad-site, the slopes will be pocked, and reseeded. A layer of woodstraw will then be spread over the reseeded slopes. This straw serves to not only provide microclimate conditions to encourage seed germination, it also absorbs some of the energy from falling raindrops, and therefore helps control erosion on the slopes until revegetation can become established. The pocking, which consists of irregular depressions measuring about 24" x 36" x 18" deep, helps revegetation by holding the seed and water in place, and thereby helps minimize erosion as well.

During the drilling phase of the GVH installation, the pad area will be used as an equipment lay-down area for drill steel, drill casing, drilling mud, concrete, etc. The pad will also be used to accommodate the mud pits needed during the drilling operation. The mud pit will measure approximately 30' long x 10' wide x 10' deep, and will be located immediately down-canyon, i.e., southwest of, the drillholes, as shown in Attachment 1. The pit will be lined with a 12 mil plastic liner, with a 20 mil felt underlayment. Based on the diameter and total combined length of the drillholes, and assuming a swell factor of 40% for the cuttings, the estimated volume of cuttings is 1283 cubic feet, or 47 yds. This would result in a total depth of cuttings remaining in the bottom of the pit of about 4.28 ft. After the drillholes have been completed the remaining cuttings will be mixed with native material until it can be handled with heavy machinery. It will then be removed from the pit and hauled off-site to an approved disposal facility. After the cuttings have been removed, the pit will be backfilled and eliminated. The site will then be cleaned up and fine-graded prior to installing the methane extractor units (see Attachments 1 and 7 for details). A period of approximately two weeks will be required to construct the drillpad and to drill the holes. During this time interim sediment control will be provided by several rows of excelsior logs installed at the lower end of the construction site. Sediment is not expected to be a problem because of the short construction time involved (approx. 2 weeks), the low probability of rainfall events in late November at this elevation, and the temporary installation of the excelsior logs.

After the site has been constructed the entire operational pad area, as well as the adjacent road area and turnaround, will be graveled from the channel crossing up to the end of the road . This gravel will consist of a crushed rock 1.5" x 0" road base material, laid down and then compacted to a tight surface. This graveled surface will also serve to reduce erosion on the pad (and adjacent road segment) and thereby decrease sedimentation to the natural drainage.

In summary, the site will be an alternate sediment control area. Sediment will be controlled by the following combination of treatment methods:

1) Armoring the entire length of the drainage ditch with rip-rap.

2) Installation of energy dissipaters within the ditch to slow the flow velocity.

3) Installation of set of sediment control excelsior logs in the ditch ahead of the discharge point.

4) Pocking and revegetating the cutslope, including a layer of protective wood straw.

5) Graveling the pad-site and adjacent roadway

Refer to the site plan in Attachment 1 of Appendix 5-14 for the location of the drainage ditch, energy dissipaters, excelsior log siltation controls, and graveled area. See Attachment 11 of Appendix 5-14 for the drainage control calculations determined by Blackhawk Engineering. This report concludes that with *"....installation of the proposed sediment and erosion controls, there should be no adverse effects to the surface hydrology of this area."*

The GVH installation and operation should have no adverse affect on ground-water hydrology. The GVH site is located close to the area where the depth of cover over the longwall panels is the shallowest within the permit area. As a result, this area has been an area of interest in previous MRP amendments, resulting in enhanced water monitoring and subsidence monitoring requirements both above and below the GVH site. A more detailed discussion of the area hydrology can be found in R645-301-322.100 and R645-301-738 of the approved MRP. It should be noted that this area has been now been completely undermined since November, 2006, subsidence has stabilized, and no adverse affects to underground or surface hydrologic resources have been observed. Prior to final reclamation, all drillholes will be plugged and sealed in accordance with State and Federal regulations, as discussed in the Chapter 5 section of Appendix 5-14. See Attachment 10 of Appendix 5-14, prepared by Petersen Hydrologic, for a discussion of the potential hydrologic affects from the GVH installation and operation. This report concludes that *"adverse impacts to the hydrologic balance resulting from the installation and operation of the Bear Canyon GVH system are not anticipated."* The probable hydrologic consequences (PHC) section of the MRP (645-301-738) has been updated to include a discussion of the Bear Canyon GVH installation.

During drilling operations, as well as during the remainder of the operational life of the GVH installation, noncoal mine waste will be stored in suitable containers, and then disposed of off-site at an approved waste disposal facility. Hydrocarbons, including Diesel fuel, gasoline, oil and grease, will be stored in the factory supplied containment mounted within the machinery. If any stand-alone storage tanks are used they will be equipped with built-in containment capable of holding the entire contents of the tank. Absorbent pads and bags of absorbent granules will be kept on hand during the drilling operation, and later during the GVH operation, to be used in case of a spill of oil, fuel or grease. Used absorbent material will be disposed of at an approved disposal facility. All operations will be subject to the current Spill Prevention Control and Countermeasure Plan (SPCC) for the West Ridge Mine currently on file with the Division, and included in Attachment 14 for ready reference.

Prior to final reclamation, all drillholes will be plugged and sealed in accordance with State and Federal regulations, as discussed in the Chapter 5 section above. Upon final reclamation, any portion of the gravel surface that is stained or contaminated in any way with hydrocarbons will be dug up and hauled off the site to an approved waste disposal facility. After removing any contaminated gravel, the pad area and cutslopes will then be backfilled to approximate original contour, using fill material obtained from the adjacent roadway and leveling pads, and covering up the diversion ditch and the remaining gravel in the process. The slopes will then be re-topsoiled. The surface will then be pocked and re-seeded with an approved seed mix as described in the Chapter 2 discussion. A layer of wood straw will also be spread over the reclaimed slopes to help minimize erosion, and promote vegetation growth. After the reclaimed slopes have been topsoiled and reseeded, a row of excelsior logs will be installed along the full length of the toe of the slope between the slope and the remaining road, as shown on the Reclamation Plan, Attachment 1. The purpose of this row of excelsior logs is to control sediment off the site until the revegetation has become established. These sediment control logs will remain in place until vegetation has been established adequate for Phase 2 bond release.

APPENDIX 5-15

COAL-FINES CATCHMENT STRUCTURES
C CANYON DRAINAGE

APPENDIX 5-15

COAL-FINES CATCHMENT STRUCTURES
C CANYON DRAINAGE

ATTACHMENTS

Attachment 1	BLM Memo Regarding Clean-Up Plan
Attachment 2	Location Map
Attachment 3	BLM Right-of-Way Grants
Attachment 4	SITLA Right of Entry Permit
Attachment 5	Div. Water Rights Channel Alteration Permit
Attachment 6	Cultural Resource Report, Senco-Phenix Archeological Consultants
Attachment 7	BLM NEPA Document (CX)
Attachment 8	Pre-Construction Photos of Catchment Areas
Attachment 9	As-Constructed Photos of Catchment Areas
Attachment 10	As-Built Drawings of Catchment Structures
Attachment 11	Laboratory Analysis of Accumulation Material
Attachment 12	MSDS Information for Flocculant
Attachment 13	BLM Seed Mix
Attachment 14	Underground Mine Water Treatment Facilities
Attachment 15	Capacity Analysis of Wildcat Sediment Pond C, Interim Disposal Site, Blackhawk Engineering

COAL-FINES CATCHMENT STRUCTURES
C CANYON DRAINAGE

1) Introduction:

West Ridge Resources became aware of excessive coal fines in the discharge water from the West Ridge Mine, and subsequent accumulations in the C Canyon drainage beyond the permit area below the minesite, in late January, 2009. The company immediately notified the various state and federal agencies involved, namely Division of Oil, Gas & Mining (DOGM), Division of Water Quality (DWQ), Bureau of Land Management (BLM), Utah School & Institutional Trust Lands Administration (SITLA), and Utah Division of Water Rights (DWRights). On January 29, 2009, DOGM issued Citation No. 10033 for offsite sediment. After that there were a number of on-site meetings to assess the situation, followed by several planning meetings designed to come to a consensus agreement among all the agencies as to the best plan to mitigate the discharge problem from the mine and the accumulations situation in the drainage. At the request of the various regulatory agencies, the accumulation material was sampled and analyzed for RCRA metals, volatile organic compounds, semi-volatile organics, as well as other analytes requested specifically by the DOGM, to make sure that the material was not toxic, hazardous, or acid-forming. These analyses are presented in Attachment 11. These analyses were then factored into the formulation of an acceptable containment and clean-up plan. Based on these site inspections and planning meetings, and the results of the analyses, a conceptual plan was then agreed upon. This plan consists of an initial containment phase (Phase 1), followed later by a clean-up phase (Phase 2), followed by a maintenance phase (Phase 3), and finally site reclamation (Phase 4). The elements of this plan are described below. The essence of this plan was summarized in a BLM memo, and is included in Attachment 1.

2) Containment:

Containment was accomplished by constructing four catchment structures at selected locations within the C Canyon drainage below the mine. These catchments are located at various intervals over a seven-mile stretch of the drainage, and all are accessible by way of pre-existing roads. The location of these structures, at sites A, C, E and F, is shown on Attachment 2. (It was subsequently determined that the catchments at sites B and D would not be utilized at this time.)

Due to the urgency of the situation, it was agreed early-on by all parties that a containment plan should be implemented as soon as possible in order to prevent the coal-fines material from migrating any further down the C Canyon drainage. Towards this end, BLM, DWRights, and SITLA all issued expedited approvals to allow immediate construction of the catchment structures. BLM issued a right-of-way for catchment Site A on Feb. 9, and for the other sites and access roads on Feb. 23; DWRights issued channel alteration permits on Feb. 3; and SITLA issued right-of-entry agreements for the access roads on Feb. 17.

In preparation for issuing the necessary rights-of-way for the catchments, BLM determined under the NEPA review that the sites qualified for a Catagorical Exclusion (CX). The following reasons contributed to this determination

a) The fact that all catchment construction was to be done within the existing drainage channel and adjacent flood-plain, therefore within the zone that is subject to regular flashflood scouring events.

b) The fact that each unit was of relatively small size, i.e., less than 10,000sq ft (0.23 acres).

c) The fact that each site was accessed by an existing road which required no upgrade or additional disturbance.

d) The fact that the BLM's current management plan did not identify any environmental issues in the area, such as T&E, visual resources, recreational resources, etc.

** Refer to Attachment 3 for BLM rights-of-way grants for the various catchment sites and access roads.

** Refer to Attachment 4 for the SITLA right-of-entry permit.

** Refer to Attachment 5 for the DWRights channel alteration permits.

** Refer to Attachment 6 for the cultural resources surveys prepared by Senco-Phenix Archeological Consultants for the various components of the project.

** Refer to Attachment 7 for the BLM NEPA documentation, Catagorical Exclusion.

Because of prior road authorizations, work was commenced first sat Site A on Feb. 11, 2009. Work then moved to Site F, the lowest unit downstream. It was felt that this site represented a reasonable line of defense against future downstream fines migration, and was therefore assigned an elevated priority. This facility was completed on March 16. Construction at Site E was completed on March 23, and at Site C was completed in mid-April.

Each catchment structure consists of a small stilling basin excavated out of the natural drainage channel, a small low-lying impoundment dam to contain the basin, and a series of siltation filtering devices installed within the dam. Therefore, each catchment is designed to employ elements of both settling and filtration. A bypass culvert, consisting of a 12" dia. poly-pipe, was constructed around each unit to allow the stream flow to be diverted around the stilling basin and filter boxes at times when the basins are being cleaned or the filters are being replaced. Attachment 10 shows the as-built drawings of the catchment structures at A, C, E, and F. Attachment 9 shows as-constructed photos of the units.

As coal-fines material accumulates in the stilling basins it will be cleaned out using a backhoe and/or a slurry pump. As the catchment basins are being cleaned out, the material will be sampled and analyzed for the parameters outlined in Table 3 and Table 7 of the Division's January 2008 Guidelines for Management of Topsoil and Overburden. The material will then be hauled off-site and disposed of at the company-owned Wildcat Loadout. If the material is solid enough, it will be placed directly on the permitted refuse pile. However, if it is more of a liquid slurry, which is more probable, it will be pumped into Sediment Pond C, where it can dry out and

then later be scooped out and moved to the refuse pile. As shown in Attachment 15, Sediment Pond C is a very large pond with ample capacity to contain more than 2.5 acre-ft (108,900 cu. ft.) of material and still have sufficient volume to contain a 10-year/24-hour precipitation event. This is far more volume than will be needed to accommodate the clean-up material. However, under no circumstance will the pond level be allowed to exceed the 10-year/24-hour capacity level.

The filtration devices consist of a series of excelsior log sediment traps, contained within steel holding boxes. These boxes are designed to hold the filter logs firmly in place and prevent the streamflow from bypassing under the logs or around the ends. The holding boxes are also designed to allow the logs to be quickly and easily replaced as needed with new ones as they fill up with accumulations. All clogged up, dirty logs will be removed from the site and will be disposed of at an approved facility, such as ECDC, as part of a regular on-going maintenance program.

3) Clean-up:

Prior to clean-up operations, the entire C Canyon drainage channel was inspected by representatives of the various state and federal regulatory agencies and company representatives. This inspection tour took place in late April, after all the catchment structures were in place. The purpose of this inspection tour was to assess the extent and magnitude of the coal-fines accumulation material as part of formulating the final clean-up plan. The accumulations are greater closer to the West Ridge minesite and lessen exponentially downstream. Most of the accumulations are between the mine and Site A. Based on the results of the inspection tour it was determined that active cleaning techniques would be more appropriate in the channel immediately below the mine in the area of highest concentrations, while passive, non-invasive natural cleaning processes would be more appropriate in the remaining channel where the accumulations are less.

It is anticipated that cleanup operations will begin in late June, 2009 and proceed through the remaining summer months as necessary. The clean-up operations will be conducted under complete oversite from the various regulatory agencies, at least initially when the operating parameters of the clean-up are being developed. Active cleaning will begin at the minesite and proceed downstrem from there. Cleaning will involve hand crews utilizing household sweeping brooms to dislodge and break up the accumulated material. The stream-flow will then carry the material down to the first catchment structure at Site A, where it can be be captured and later removed. Various test sections will be evaluated to determine the effectiveness of the in-stream clean-up techniques within differing channel morphologies, as well as the effectiveness of the catchment structures to capture the coal-fines for ultimate disposal. Alterations and adjustments to the cleanup plan can be made based on the results of the test sections.

In order to facilitate the clean-up effort, the company proposes to utilize a flocculant chemical

additive during the active portion of clean-up. This would involve metering the chemical into the stream-flow immediately above catchment unit A. The flocculant will be metered into the flow at a rate determined by the previous bench testing on the material, and will only be utilized during active portions of the clean-up. This is intended to drop the suspended solids out into the stilling basin of Catchment A, and/or allow them to be more easily captured in the filter logs. Full details of the flocculant, including MSDS sheet, are found in Attachment 12.

It is hoped that a majority of the material will be captured at the first (up-stream) catchment site (Site A) through a combination of settling in the stilling basin and filtration in the excelsior log sediment traps. As the stilling basin fills up and/or as the excelsior logs become loaded, upstream cleanup efforts will be temporarily halted until the basin has been cleaned out and/or the loaded logs have been replaced with new ones. The operation will be finely co-ordinated using walkie-talkie communications to make sure that the rate of cleaning does not overwhelm the ability of the catchment units to adequately capture the suspended material. As mentioned previously, the collected material from the basins and the sediment logs will be hauled offsite to approved disposal facilities. Coal-fines material which has accumulated in the stilling basins will be cleaned out using a backhoe and/or a slurry pump. As the basins are being cleaned out, the material will be sampled and analyzed for the parameters outlined in Table 3 and Table 7 of the Division's January 2008 Guidelines for Management of Topsoil and Overburden. The material will then be hauled off-site and disposed of at the company-owned Wildcat Loadout. If the material is solid enough, it will be placed directly on the refuse pile. However, if it is more of a liquid slurry, which is more probable, it will be pumped into Sediment Pond C, where it can dry out and then later be scooped out and moved to the refuse pile. As shown in Attachment 15, Sediment Pond C is a very large pond with ample capacity to store more than 100,000 cubic feet of material and still have enough volume to contain a 10-year/24-hour precipitation event. All clogged up, dirty logs will be removed from the site and will be disposed of at an approved facility, such as ECDC located nearby at East Carbon. Clean filter logs will stored nearby and will be re-installed prior to continuing the clean-up process.

4) Maintenance:

After the clean-up phase is completed, the company will maintain the catchment units as long as it is deemed necessary by the regulatory agencies (see discussion below regarding reclamation). As part of the maintenance phase the company will inspect, maintain and repair the catchment units on a regular basis. The excelsior log filters will be removed as they become silted up, and will be replaced with new clean ones. As the stilling basins fill up with fines material, the stream-flow will be temporarily bypassed (through the by-pass pipe), the impound water will be decanted, and the accumulated settled material will be removed, either with a backhoe or with a slurry pump. The basin material will the be hauled off-site and disposed of at the Wildcat Loadout facility as described above. The dirty filter logs will also be hauled off-site and disposed of at an approved facility, such as ECDC.

5) Reclamation:

The term of the BLM right-of-way grants for the catchment structures is three years, ending in December 12, 2012. However, the rights-of-way can be extended under the terms of the grant. It should be noted that these catchment structures were initially proposed as temporary installations, to be utilized primarily for Phase 1 containment, and also as part of the Phase 2 clean-up operations. However, after the unit were installed it was determined by discussion between BLM and DOGM that there is some merit in keeping one or more units in place longer and removing them as a consequence of the success of the clean-up effort. Leaving one or more units in place may be warranted if it is determined that additional clean-up efforts are needed in the following summers, as required by BLM and/or DOGM. Leaving one or more catchment units in place could also provide an element of insurance against unforeseen upset conditions while the mine is implementing the underground piping/pumping system needed to properly treat the discharge water on a long-term basis. It should be noted that the mine is currently projected to finish coal extraction in the north end of the mine (where discharge water is now accumulating) in June, 2012. After that time the water will no longer have to be pumped out of the mine, and the channel should return to its original ephemeral condition.

Once the clean-up project is completed to the satisfaction of the agencies, the company would propose to remove and reclaim the catchment units at E and F as soon as practicable. These units are the farthest units downstream from the mine and are therefore least capable of offering quick containment of a possible upset discharge from the mine in the future. That function could be better provided by units A and C which are much closer to the mine. If the new mine-water discharge treatment system presently under construction is functioning properly as it should and the discharge water remains in compliance with the UPDES permit, and units A and C remain in place as emergency back-up, then there should be no further need for maintaining units E and F. Because units E and F are located farther down-stream in the Mancos Shale flatlands, and pick up a larger drainage area, they are much more prone to destructive flash-flood events, especially in the late summer months. Trying to maintain and repair, and even re-construct these units in this environment on a long-term basis could be very difficult. Under these conditions, most, if not all of the material captured in the stilling basins and the filter logs at these lower locations will be naturally occurring sediment in the stream-flow. Units A and C, by comparison, are better situated to continue to function effectively as an emergency back-up for the mine-water discharge system, and it is reasonable to consider leaving them in place for a longer period of time. Because of their location higher up in the juniper-pinyon pediment benchland, they are less susceptible to flash-flood destruction. The company proposes to remove and reclaim these upper units within the next several years after it is determined that they are no longer needed as part of any future clean-up effort, and after the underground mine-water treatment facilities has proven to be effective and reliable. The schedule for removal and reclamation of these units would only be done after consultation with and agreement from BLM and DOGM.

Once begun, reclamation of the various sites will be done in accordance with the terms of the BLM right-of-way grant, at a minimum. These terms are re-printed below for ease of reference:

a. *The holder shall re-contour the disturbed area and obliterate all earthwork by removing embankments, backfilling excavations, and grading to re-establish the approximate contours of the land in the right-of-way.*

b. *The holder shall prepare a seedbed by either scarifying the disturbed area, distributing topsoil uniformly, or discing the topsoil.*

c. *The holder shall seed all disturbed areas that have been or are being reclaimed with a seed mixture(s) submitted to and approved by the authorized officer.*

d. *Prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a pre-termination conference. This conference will be held to review the termination provisions of the grant.*

Prior to constructing each of the catchment units, the areas were photographed. The purpose of these pre-construction photographs was to provided a basis of comparison for reclaiming each of the areas as much as practicable to its pre-existing condition. These photographs are included in Attachment 8. Undisturbed segments of the channel above and below the catchment sites will also be used as a basis of comparison in restoring the areas to an acceptable reclaimed condition. It should be noted that all the units were constructed totally within the natural flood-plain of the drainage channel. This was one of the reasons the BLM issued the rights-of-way under Catagorical Exclusion (CX), without requiring more extensive environmental analysis. These areas are subject to cyclic regular inundations from high-intensity high volume runoff events which add a natural dynamics to augment successful future reclamation. By confining the disturbance to the existing channel and flood plain, periodic flash-flood precipitation events in the future will also continue to maintain the areas in their near-original condition.

After concurrence from the agencies reclamation of the sites will begin and will proceed in the following order:

1) The channel flow will be temporarily diverted through the by-pass pipe, the impounded water in the stilling basin will be drained off, and any remaining accumulation material will be cleaned out of the basin and hauled off-site to an approved disposal facility as specified above.

2) The steel containment structures for the filter logs will be removed and hauled off-site to an approved disposal site, such as a scrap-metal recycle facility.

3) The low-lying outlet dams (where the filter boxes were located) will be excavated out to the original stream bottom elevation and configuration. The excavated material will be used to help fill up the stilling basin.

4) The rest of the stilling basin will be backfilled with the material from the adjacent

equipment access ramp. In this manner the stream channel surface can be restored as it is filled back up, and the configuration of the adjacent channel flanks will be restored as the access ramp material is removed.

5) As the re-contouring process continues, boulders and large rocks will be arranged within the channel and along the channel flanks in an attempt to mimic the pre-existing channel morphology as much as possible, and to blend in with the visual appearance of the natural channel above and below the reclamation site.

6) The boulder placement will be done not only for visual appearance, but also for erosional control. This will be done by placing boulders in and along the reclaimed channel to slow and control the water-flow velocity. Boulders will also be placed along the outer banks (primarily at sites E and F which are located at areas where the channel forms a bend) to provide armoring to lessen the potential for future bank erosion. An attempt will be made to reach a balance between restoring the sites to approximate original appearance and providing longer-term erosion control. Input from both BLM and DOGM will be requested at this time in order to achieve to best restoration scenario.

7) After the channel has been restored, and the channel flanks have been reclaimed by removing the access ramp, the by-pass pipe will be removed. (At all sites, the bypass pipe has been installed parallel with the channel buried under the access ramp. Therefore, after the access ramp material has been reclaimed, the bypass pipe will be easily accessible.) Once the channel water-flow has been returned to the newly-reclaimed channel, and the bypass pipe removed, the final re-contouring of the channel flanks will be done.

8) All reconstructed bank areas and flanks will be roughened and scarified in preparation for re-seeding. It should be noted that since these sites were all constructed within the channel and the immediate flood plain, there was no topsoil salvaging done during initial construction. In most cases, there was little definable topsoil in the pre-existing sites, consisting primarily of flash-flood alluvial debris, and vegetation was sparse. However, after the access ramp material is removed and backfilled into the basin area as part of the channel restoration, the original pre-existing flood-plain material will be re-exposed, since none of this area was excavated as part of the basin construction. In other words, following restoration of the channel, the adjacent flood-plain material will be essentially the same original material now re-exposed on the surface.

9) The disturbed areas will then be re-seeded using a seed mix recommended by the BLM. See Attachment 13 for the proposed seed mix. Seed will be hand-broadcast and then raked in. After the areas have been re-seeded, a layer of wood straw will be scattered over the reclaimed areas. Re-seeding will be done in to fall

of the year to increase the potential for successful germination. It should be noted that the BLM has prescribed two different seed mixes, one for Sites A and C, and another for Sites E and F, to reflect the different nature of the sites.

Underground water treatment:

In order to minimize the potential for future discharge of coal fines from the mine, an underground treatment system is now being constructed. When completed, the system will utilize a chemical treatment where a coagulant is mixed with the dirty mine water to help settle out TSS particles as well as iron particulates. The water will then be pumped into a sealed-up district of the mine (a worked-out area of extracted longwall panels) where the coagulated solids will be allowed to settle out. Within this sealed district the company has previously constructed a series of catchment dams which are designed to provide a detention area for the coagulated solids, so that the water which is then discharged to the surface should continue to meet UPDES Total Suspended Solids (TSS) and iron effluent limits. Attachment 14 shows the basic components of this underground treatment facility. Under the existing construction schedule, the new treatment facility, including piping, pumps, retention dams, and chemical injection, is scheduled to completed and operational during the summer of 2009.

Bonding:

The following bonding calculations are provided:

1) Demolition: a) Remove the steel filter boxes. There are a total of twenty-two (22) of these boxes at the various catchment units. They measure 15' long x 2' wide x 2.5' high. They are equipped with lifting lugs and can easily by removed from the site, loaded on a flatbed truck, and hauled off. They are valuable for scrap, and can easily be properly disposed of. Demolition cost is estimated to be about the same as for the powder magazines (bond item 04) at the West Ridge Mine, which have been determined at $154 each. Therefore, the demolition cost associated with the filter boxes is estimated at 22 x $154 = $3,388.

2) Demolition: b) Removal of the bypass pipes. There is a total of 400' of 12" poly pipe installed at these units. This pipe is put together in 40' lengths with victaulic couplers. It is easy to dis-assemble, and can be re-used after being removed from the sites. Demolition and removal cost of this pipe is estimated to be about the same as for similar culverts (bond item 27) at the West Ridge Mine, which has been determined to be $442.

3) Earthwork: Based on the estimated quantities from the as-built

drawings and surveys, and the time required for initial construction, the estimated time required to backfill and grade the combined sites is about 12 days or 96 hours. Similar earthwork cost for the West Ridge Mine (i.e., "establish rubbleland surface" bond item) is estimated to be $19,230/111 hrs = $173/hr. Therefore, it is estimated to cost about $173 x 96 hrs = $16,608 for earthwork reclamation of the catchment sites.

4) Revegetation: The total area of the catchment sites is 4 x 0.23 acres = 0.92 acres. The existing West Ridge pumphouse, which is located nearby in a similar area, is also 0.9 acres, and its re-vegetation cost is presently bonded at $4506. Therefore, the re-vegetation cost for the catchment site is estimated to be about the same.

The total reclamation cost for the catchment sites is estimated at:

Demolition	$3830
Earthwork	$16,608
Re-vegetation	$4506
Direct Cost	$24,944
Indirect Cost (26.8%)	$6685
TOTAL	$31,628

The present West Ridge Mine reclamation bond amount is $1,966,000 (as of November 12, 2008), and the bond posted is $2,117,000. In other words, there is presently $151,000 excess bonding currently in place. Therefore, the existing bond should be adequate to include the reclamation of the catchment sites.

ATTACHMENT 1

BLM MEMO REGARDING CLEAN-UP PLAN

BLM's response to the West Ridge Mine discharge

Objectives:

1. Effectively remediate the discharge for the West Ridge Mine per agency guidelines
2. Determine a verifiable clean-up threshold
3. Make no decisions that would necessitate long-term permitting or NEPA analysis
4. Develop a realistic time table for completion

Suggested Implementation of Objectives:

1. Predetermine verification points on the stream for comparison; e.g. 5 logical locations on section 1, 3 locations for section 2, and 2 locations each for the remaining 4 sections of the stream. Objective 2
2. Photograph, verbally describe, and measure several "worst case scenarios" to which will still be considered acceptable for later comparisons. Objective 2
3. Broom the section between the mine portal and catch-basin #1. (The BLM would suggest that brooming be restricted to areas with the most intense impacts and areas with little or no vegetation) Objectives 1, 3
4. Catch-basins would be cleaned as needed during and after the brooming. Objective 1.
5. The initial brooming should be completed before July- the beginning of the desert monsoon season. Objective 4
6. Photograph the stream at each verification point and evaluate for success. Objectives 1, 2
7. If satisfied begin the removal of each catch-basin starting with basin #1 and progressing down-gradient at a rate appropriate to the project's success but not less-than 2 basins per year. Objectives 1, 4
8. If not satisfied with the initial brooming a second brooming event may be initiated in May 2010 in an attempt to maximize natural attenuation.
9. Possible Time Table. Objective 4

May 2009	Brooming
July 2009	Evaluation, possible removal of 2or more basins
May 2010	Second Brooming if necessary. Evaluation and possible removal of 2 or more basins
Oct 2010	Evaluate and remove 2 additional basins
May 2011	Remove the last basins

BLM's response to the West Ridge Mine discharge

Objectives:

1. Effectively remediate the discharge for the West Ridge Mine per agency guidelines
2. Determine a verifiable clean-up threshold
3. Make no decisions that would necessitate long-term permitting or NEPA analysis
4. Develop a realistic time table for completion

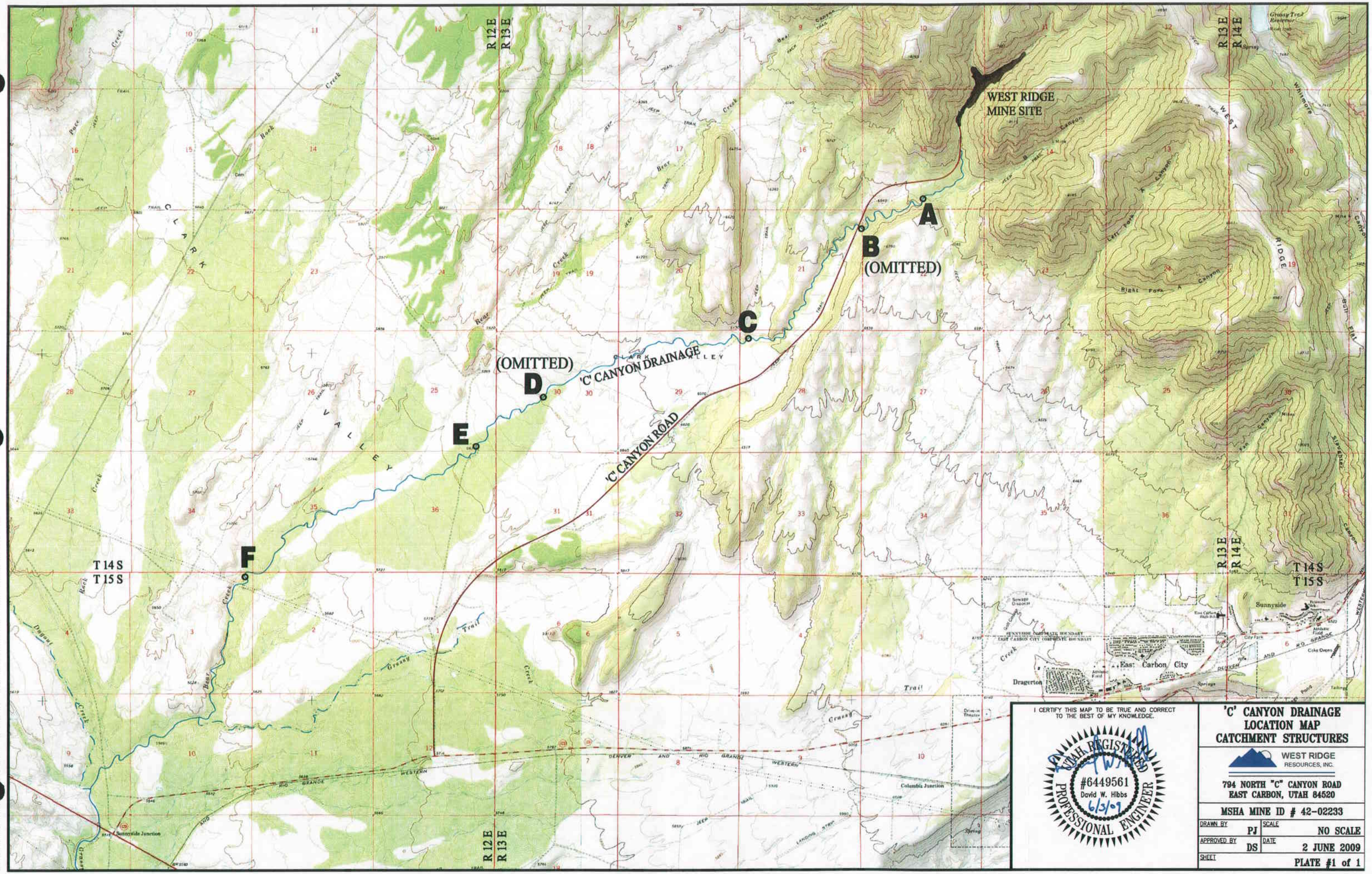
Suggested Implementation of Objectives:

1. Predetermine verification points on the stream for comparison; e.g. 5 logical locations on section 1, 3 locations for section 2, and 2 locations each for the remaining 4 sections of the stream. Objective 2
2. Photograph, verbally describe, and measure several "worst case scenarios" to which will still be considered acceptable for later comparisons. Objective 2
3. Broom the section between the mine portal and catch-basin #1. (The BLM would suggest that brooming be restricted to areas with the most intense impacts and areas with little or no vegetation) Objectives 1, 3
4. Catch-basins would be cleaned as needed during and after the brooming. Objective 1.
5. The initial brooming should be completed before July- the beginning of the desert monsoon season. Objective 4
6. Photograph the stream at each verification point and evaluate for success. Objectives 1, 2
7. If satisfied begin the removal of each catch-basin starting with basin #1 and progressing down-gradient at a rate appropriate to the project's success but not less-than 2 basins per year. Objectives 1, 4
8. If not satisfied with the initial brooming a second brooming event may be initiated in May 2010 in an attempt to maximize natural attenuation.
9. Possible Time Table. Objective 4

May 2009	Brooming
July 2009	Evaluation, possible removal of 2or more basins
May 2010	Second Brooming if necessary. Evaluation and possible removal of 2 or more basins
Oct 2010	Evaluate and remove 2 additional basins
May 2011	Remove the last basins

ATTACHMENT 2

LOCATION MAP



I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

UTAH REGISTERED
#6449561
David W. Hibbs
6/3/09
PROFESSIONAL ENGINEER

'C' CANYON DRAINAGE LOCATION MAP CATCHMENT STRUCTURES

WEST RIDGE RESOURCES, INC.

794 NORTH "C" CANYON ROAD
EAST CARBON, UTAH 84520

MSHA MINE ID # 42-02233

DRAWN BY	PJ	SCALE	NO SCALE
APPROVED BY	DS	DATE	2 JUNE 2009
SHEET			PLATE #1 of 1

G:\Current Drawings\Maps\West Ridge Mine\Minewater Issue\Permit Areas.dwg, 11x17, 6/2/2009 3:28:21 PM

ATTACHMENT 3

BLM RIGHT-OF-WAY GRANTS

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Green River District-Price Field Office
125 South 600 West
Price, Utah 84501
Phone: (435) 636-3600 Fax: (435) 636-3657
http://www.blm.gov/ut/st/en/fo/price.html

TAKE PRIDE IN AMERICA

Hand Delivered

2/23/09
Date

In Reply Refer to:
UTU-87110, UTU-87111
2800 (LLUTG02000)

David Shaver
West Ridge Resources, Inc.
PO Box 910
East Carbon, UT 84520

Re: West Ridge - Sediment Catchment Structures and Access Roads

DECISION

:
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Amendment Approved UTU-87110
Right-of-way Issued UTU-87111
Rental Determined

Enclosed is a copy of right-of-way (R/W) grant (serial number UTU-87111) which has been approved by the Bureau of Land Management and issued under authority of Title V of the Federal Land Policy and Management Act, as amended.

The rental due for UTU-87111 for the term of the grant is $164.66.

UTU-87110 is hereby amended to authorize sites B, C, E and F sediment catchment structures, in accordance with the enclosed map. This amendment will be 80-feet wide by 120-feet long for site B, 50-feet wide by 200-feet long for site C, 70-feet wide by 140-feet long for site E, 60-feet wide by 165-feet long for Site F, and encumber an additional .903 acres for a right-of-way total of 1.133 acres.

The amendment is legally described as:

T. 14 S., R. 13 E., SLM, Carbon County, Utah
Section 22: NW¼NW¼;
Section 28: NW¼NW¼,NE¼NE¼,SE¼NE¼.
Section 29: NE¼

T. 14 S., R. 12 E., SLM, Carbon County, Utah
Section 25: SE¼SE¼.

T. 15 S., R. 12 E., SLM, Carbon County, Utah
Section 03: NE¼NE¼.

This amendment is granted under the authority of Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776 43 U.S.C. 1761). It is amended subject to all valid existing rights, the terms and conditions of the original grant approved and 43 CFR 2800. The rental for the amendment was figured to coincide with the original grant. The rental due through December 31, 2012, is $29.78 (sites B, C, E and F).

Additional terms and conditions contained in the enclosed Plan of Development and the map are made a part of this amendment. Additional Terms and Conditions to the right-of-way grant are attached as well. The term of this amendment to the right-of-way grant is being established to coincide with the original grant and expires on 12/31/2012.

The cost reimbursement provisions of 43 CFR 2804.14 and 2884.12, establish a cost recovery fee schedule for processing fees. It has been determined that both your applications fall under Category II. Under this category, you are required to pay a non-refundable application processing fee in the amount of $386.00 each application.

The cost reimbursement provisions of 43 CFR 2805.16 and 2885.23, establish a cost recovery fee schedule for monitoring fees. It has been determined that both your applications fall under Category II. Under this category, you are required to pay a non-refundable monitoring fee in the amount of $386.00 each application.

Catchment

UTU-87110 (Amendment)	
CR Processing	$386.00
CR Monitioring	$386.00
Rent for term	$ 29.78
Total Due	$801.78

Road

UTU-87111	
CR Processing	$386.00
CR Monitioring	$386.00
Rent for term	$164.66
Total Due	$936.66

Therefore, the total payment required at this time is $1,738.44.

The issuance of this R/W grant constitutes a final decision by the Bureau of Land Management in this matter.

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4, and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within

30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993) or 43 CFR 2801.10 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay **must** also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied;

(2) The likelihood of the appellant's success on the merits;

(3) The likelihood of immediate and irreparable harm if the stay is not granted; and

(4) Whether the public interest favors granting the stay.

Should you appeal, you must still pay the rental requested. Failure to pay on time may result in termination of the right-of-way [see 43 CFR 2805.12(f) and 2806.13(c) or 2885.17(c)].

Please note, however, that under the regulations in 43 CFR Group 2800, this decision is effective even if an appeal is filed.

You have 30 days from receipt of this letter to submit the above-mentioned rental payment. Should the rental not be received within the time allowed, the application will be rejected.

If you have any questions, please contact Connie Leschin, Realty Specialist, at the above address or call (435) 636-3610.

Sincerely,

Michael Stiewig
Field Manager

Enclosures

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Green River District-Price Field Office
125 South 600 West
Price, Utah 84501
Phone: (435) 636-3600 Fax: (435) 636-3657
http://www.blm.gov/ut/st/en/fo/price.html

TAKE PRIDE IN AMERICA

Hand Delivered

2/9/04
Date

IN REPLY REFER TO:
UTU-87110
2800 (LLUTG02000)

David Shaver
West Ridge Resources, Inc.
PO Box 910
East Carbon, UT 84520

Re: West Ridge - Sediment Catchment Structures (Site A)

DECISION
:
:
Right-of-Way Grant UTU-87110 Issued
Rental Determined

Enclosed is a copy of right-of-way (R/W) grant (serial numbers UTU-87110) which has been approved by the Bureau of Land Management and issued under authority of Title V of the Federal Land Policy and Management Act, as amended. The rental for a linear R/W is determined according to regulations found at 43 CFR 2806.20(b). The rental for the above-referenced R/W is $20.33 for the life of the grant, adjusted for calendar year billing. These lands are located in Carbon County, Utah.

The cost reimbursement provisions of 43 CFR 2804.14 and 2884.12, establish a cost recovery fee schedule for processing fees. It has been determined that your application falls under Category II. Under this category, you are required to pay a non-refundable application processing fee in the amount of $386.00.

The cost reimbursement provisions of 43 CFR 2805.16 and 2885.23, establish a cost recovery fee schedule for monitoring fees. It has been determined that your application falls under Category II. Under this category, you are required to pay a non-refundable monitoring fee in the amount of $386.00.

Therefore, the total payment required at this time is $792.33.

The issuance of this R/W grant constitutes a final decision by the Bureau of Land Management in this matter.

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4, and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993) or 43 CFR 2801.10 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay **must** also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied;

(2) The likelihood of the appellant's success on the merits;

(3) The likelihood of immediate and irreparable harm if the stay is not granted; and

(4) Whether the public interest favors granting the stay.

Should you appeal, you must still pay the rental requested. Failure to pay on time may result in termination of the right-of-way [see 43 CFR 2805.12(f) and 2806.13(c) or 2885.17(c)].

Please note, however, that under the regulations in 43 CFR Group 2800, this decision is effective even if an appeal is filed.

You have 30 days from receipt of this letter to submit the above-mentioned rental payment. Should the rental not be received within the time allowed, the amendment will be revoked.

If you have any questions, please contact Connie Leschin, Realty Specialist, at the above address or telephone (435) 636-3610.

Sincerely,

Michael Stiewig
Field Manager

Enclosures

FORM 2800-14
(August 1985)

Issuing Office
Price Field Office

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
RIGHT-OF-WAY GRANT

SERIAL NUMBER UTU-87110

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1. A right-of-way is hereby granted pursuant to Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761).

2. Nature of Interest:

   a. By this instrument, the holder:

   West Ridge Resources, Inc.
   PO Box 910
   East Carbon, UT 84520

   receives a right to construct, operate, maintain, and terminate a sediment catchment structure (site A) as described in the Plan of Development and Map attached, on public lands described as follows:

   T 14 S., R 13 E., Salt Lake Meridian, Carbon County, Utah
   Section 15: SE¼SW¼,SW¼SE¼.

   b. The right-of-way or permit area granted herein is 100 feet wide, 100 feet long and contains 0.230 acres, more or less.

   c. This instrument shall terminate 3 years from its effective date unless, prior thereto, it is relinquished, abandoned, terminated, or modified pursuant to the terms and conditions of this instrument or of any applicable Federal law or regulation.

   d. This instrument may be renewed. If renewed, the right-of-way or permit shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the authorized officer deems necessary to protect the public interest.

   e. Notwithstanding the expiration of this instrument or any renewal thereof, early relinquishment, abandonment, or termination, the provisions of this instrument, to the extent applicable, shall continue in effect and shall be binding on the holder, its successors, or assigns, until they have fully satisfied the obligations and/or liabilities accruing herein before or on account of the expiration, or prior termination, of the grant.

3. Rental:

   For and in consideration of the rights granted, the holder agrees to pay the Bureau of Land Management fair market value rental as determined by the authorized officer unless specifically exempted from such payment by regulation. Provided, however, that the rental may be adjusted by the authorized officer, whenever necessary, to reflect changes in the fair market rental value as determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices.

Terms and Conditions:

4. Standard

   a. This grant or permit is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations part 2800.

   b. Upon grant termination by the authorized officer, all improvements shall be removed from the public lands within 90 days, or otherwise disposed of as provided in paragraph (4)(d) or as directed by the authorized officer.

   c. Each grant issued for a term of 10 years or more shall, at a minimum, be reviewed by the authorized officer at the end of the 10th year and at regular intervals thereafter not to exceed 10 years. Provided, however, that a right-of-way or permit granted herein may be reviewed at any time deemed necessary by the authorized officer.

   d. The stipulations, plans, maps, or designs set forth in Exhibits A (Plan of Development) and B (Map), attached hereto, are incorporated into and made a part of this grant instrument as fully and effectively as if they were set forth herein in their entirety.

   e. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the plan of development which was approved and made part of this grant. Any relocation, additional construction, or use that is not in accord with the approved plan of development, shall not be initiated without the prior written approval of the authorized officer. A copy of the complete right-of-way grant, including all stipulations and approved plan of development, shall be made available on the right-of-way area during construction, operation, and termination to the authorized officer. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

   f. The map, site plan, building design, floor plan, tower design, and electrical drawings submitted with the original proposal shall be made a part of this right-of-way grant. All construction must conform to these drawings and maps.

   g. Failure of the holder to comply with applicable law or any provision of this right-of-way grant or permit shall constitute grounds for suspension or termination thereof.

5. Applicable Laws

   a. The holder shall comply with all Federal, State, and local regulations whether or not specifically mentioned within this grant.

   b. Use of pesticides shall comply with the applicable Federal and state laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, the holder shall obtain from the authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer. Emergency use of pesticides shall be approved in writing by the authorized officer prior to such use.

   c. The holder of this right-of-way grant or the holder's successor in interest shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of the Interior issued pursuant thereto.

   d. The holder shall meet Federal, State, and local emission standards for air quality.

   e. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by

any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

f. The holder shall comply with the construction practices and mitigating measures established by 33 CFR 323.4, which sets forth the parameters of the "nationwide permit" required by Section 404 of the Clean Water Act. If the proposed action exceeds the parameters of the nationwide permit, the holder shall obtain an individual permit from the appropriate office of the Army Corps of Engineers and provide the authorized officer with a copy of same. Failure to comply with this requirement shall be cause for suspension or termination of this right-of-way grant.

g. The holder of Right-of-Way No. UTU-87110 agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901 et seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

h. If during any phase of the construction, operation, or termination any oil or other pollutant should be discharged from containers or vehicles and impact Federal lands, the control and total removal, disposal, and cleanup of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of holder to control, cleanup, or dispose of such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the authorized officer may take such measures as he deems necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the authorized officer shall not relieve the holder of any liability or responsibility.

i. The holder is prohibited from discharging oil or other pollutants into or upon the navigable waters of the United States, adjoining shorelines, or the waters of the contiguous zone in violation of Section 311 of the Clean Water Act as amended, 33 U.S.C. 1321, and the regulations issued there under, or applicable laws of the State and regulations issued there under. Holder shall give immediate notice of any such discharge to the authorized officer and such other Federal and State officials as are required by law to be given such notice.

6. Miscellaneous

a. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.

b. The holder shall designate a representative who shall have the authority to act upon and to implement instructions from the authorized officer. The holder's representative shall be available for communication with the authorized officer within a reasonable time when construction or other surface disturbing activities are underway.

c. All design, material, and construction, operation, maintenance, and termination practices shall be in accordance with safe and proven engineering practices.

d. The holder shall provide for the safety of the public entering the right-of-way. This includes, but is not limited to barricades for open trenches, flagmen/women with communication systems for single-lane roads without intervisible turnouts, and attended gates for blasting operations.

e. The holder shall permit free and unrestricted public access to and upon the right-of-way for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock or facilities constructed within the right-of-way.

f. Construction-related traffic shall be restricted to routes approved by the authorized officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the authorized officer. Authorized roads used by the holder shall be rehabilitated or maintained when construction activities are complete as approved by the authorized officer.

g. The holder shall inform the authorized officer within 48 hours of any accidents on federal lands.

h. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

i. The holder shall protect all survey monuments found within the right-of-way. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands in the United States, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.

j. The holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations).

k. The holder shall restore drainages, to the greatest extent possible, to the original bank configuration, stream bottom width, and channel gradient. Loose soil, fill, and culverts shall be removed from drainage channels as directed by the authorized officer.

7. Construction

a. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

b. The holder shall survey and clearly mark the centerline and/or exterior limits of the right-of-way.

c. If any clearing is needed, the right-of-way will be brush-hogged to prevent unnecessary disturbance. Only those areas where safety, absolute need for construction or other regulations may warrant the use of topsoil removal by blading or scalping. This right-of-way clearing shall be limited to the limits of the right-of-way. Suitable topsoil material removed in conjunction with clearing and stripping shall be conserved in stockpiles within the right-of-way.

d. Holder shall remove only the minimum amount of vegetation necessary for the construction of structures and facilities. Topsoil shall be conserved during excavation and reused as cover on disturbed areas to facilitate regrowth of vegetation.

e. Prior to fill construction, the existing surface shall be sloped to avoid sharp banks and allow equipment operations. No fills shall be made with frozen or water saturated soils. Construction equipment shall be routed evenly over the entire width of the fill to obtain a thorough compaction.

f. Construction holes left open over night shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through and into a hole.

g. Holder shall limit excavation to the areas of construction. No borrow areas for fill material will be permitted on the site. All off-site borrow areas must be approved in writing by the authorized officer in advance of excavation. All waste material resulting from construction or use of the site by holder shall be removed from the site. All waste disposal sites on public land must be approved in writing by the authorized officer in advance of use.

h. Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

i. Fences, gates, brace panels and any other range improvements shall be reconstructed to appropriate Bureau standards and/or specifications as determined by the authorized officer.

j. When construction activity in connection with the right-of-way breaks or destroys a natural barrier used for livestock control, the gap, thus opened, shall be fenced to prevent the drift of livestock. The subject natural barrier shall be identified by the authorized officer and fenced by the holder as per instruction of the authorized officer.

k. Existing roads and trails on public lands that are blocked as the result of the construction project shall be rerouted or rebuilt as directed by the authorized officer.

l. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of four inches deep, the soil shall be deemed too wet to adequately support construction equipment.

m. The holder shall construct waterbars on all disturbed areas as needed. Waterbars are to be constructed to: (1) simulate the imaginary contour lines of the slope (ideally with a grade of one or two percent); (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock whenever possible.

8. Maintenance

a. A litter policing program shall be implemented by the holder, and approved of in writing by the authorized officer, which covers all roads and sites associated with the right-of-way.

b. Holder shall maintain the right-of-way in a safe, usable condition, as directed by the authorized officer.

9. Reclamation, Rehabilitation and Termination

a. The holder shall re-contour the disturbed area and obliterate all earthwork by removing embankments, backfilling excavations, and grading to re-establish the approximate original contours of the land in the right-of-way.

b. The holder shall prepare a seedbed by either scarifying the disturbed area, distributing topsoil uniformly, or disking the topsoil.

c. The holder shall seed all disturbed areas that have been or are being reclaimed with a seed mixture(s) submitted to and approved by the authorized officer.

d. Prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a pre-termination conference. This conference will be held to review the termination provisions of the grant.

IN WITNESS WHEREOF, The undersigned agrees to the terms and conditions of this right-of-way grant or permit.

(Signature of Holder)

Project Engineer
(Title)

2/9/09
(Date)

(Signature of BLM Authorized Officer)

Field Manager, Price Field Office
(Title)

2/9/09
(Effective Date of Grant)

EXHIBIT A

Facility Plan or Development Outline
(Short Term Use Permit for Catchment Structures)

1) Purpose and Need for the Facility
   a) Actual purpose and/or need for the proposal

The West Ridge Mine has recently been issued a violation by the Utah Division of Oil, Gas & Mining for discharging coal fines (mixed in with the mine discharge water) which have accumulated along the banks of the C Canyon drainage below the mine. The mine water discharge is covered under approved UPDES permit UT0025640 issued by th Utah Division of Water Quality. West Ridge Resources proposes to remedy the situation by the following means:

1) Make adjustments to the underground pumping system to allow greater settling time to bring the discharge water back into compliance. This new system is expected to be installed and operational by April, 2009.

2) As soon as possible, under Phase 1 (Containment), install a series of in-stream catchment structures to prevent additional migration of coal fines down the drainage.

3) Under Phase 2 (Clean-up), install a series of sediment basins to collect the coal fines as part of the channel clean-up program scheduled for spring and summer of 2009.

This application applies specifically to item 2), the Phase 1 (Containment) in-stream catchment structures. The Phase 2 (Clean-up) sediment basins referred to in item 3) will be subject to a separate permitting application.

It should be noted that the C Canyon drainage is an ephemeral stream. The mine water discharge normally is the only component of flow. The mine is presently discharging about 700 gpm continuously into the drainage

   b) What will be constructed
      i New construction, reconstruction, or improvement,

West Ridge proposes to construct up to six (6 ea.) catchment structures within the drainage channel at points A, B, C, D, E and F as shown on the attached map. All points are located where there is existing road access to (and across) the drainage channel. The typical catchment structure will consist of the following:

1) A series of sediment control devices installed across the channel immediately downstream from the road crossing. Sediment control devices could include any combination of silt fence, straw bales, excelsior logs, etc.

2) A series of sediment control devices installed across the channel immediately upstream from the road crossing.

3) A shallow depression excavated in the channel above the road crossing. This depression will measure approximately 4' deep x 40' long for the width of the channel at that particular spot. This depression could be constructed through a combination of excavating down into the channel bottom, and also constructing a low dam (impoundment structure) across the channel at the downstream end of the catchment. The purpose of the depression is to allow the mine water discharge to slow down and deposit some of the existing coal fines. The catchment basin's proximity to the road crossing will also allow a tanker truck to position itself in the road-channel crossing and, with the use of a slurry pump, remove excess accumulations of coal fines deposited in the catchments.

A typical catchment structure is shown on the attached drawing. The primary purpose of these catchment structures is to prevent down-stream migration of the coal fines until the clean-up effort can begin later in the spring. A secondary purpose is to provide staging areas during the clean-up process itself, for deployment of hand crews, slurry pump trucks, vacuum trucks, and/or other operational requirements.

All sites have existing road access, although these roads would need minor upgrade to make them serviceable to the catchments.

c) Estimated needs

NA

d) Type of facility (communications site, compressor site, well pad, etc...)

In-stream catchment structures (as described above) and access road upgrade.

e) Length and width of the right-of-way and the area needed for related facilities

The size of the typical catchment structures would be about 100' long by 20' wide, which includes both the basins and the siltation control structures located downstream from the catchments.

f) Is this ancillary to an existing right-of-way

Access to all sites will be from the existing C Canyon Road, which is owned and maintained by Carbon County. Site A is located within road right-of-way UTU-01756 controlled by AMCA Coal Leasing. Site F is near the Helper-Columbia powerline which is held by Rocky Mountain Power. Due to its linear nature, there may be a right-of-way associated with the road leading to (and past) point D.

g) Is there any existing facilities (abandoned or otherwise) being used

All points are located where there is existing road access to (and across) the drainage channel.

h) List alternative locations

There are numerous other points along the drainage that could accomodate the catchment structures, but these would all require new road construction.

i) Is the use temporary or permanent

All structures and usage is temporary. The catchment structures need to be installed as soon as possible to contain the accumulations, and to facilitate the clean-up effort. Clean-up (Phase 2) is expected to begin in the spring of 2009, and should be finished by the end of the summer OF 2009.

j) Any future development that is anticipated in the area or on the site

None, other than the Phase 2 clean-up effort mentioned above.

2) Design Factors
   a) Layout of facility(containing boundaries and all development proposed)
      i Cut and fill diagrams

The catch basins will be approximately 4' deep by 30' long as shown in the attached drawing.

      ii Special engineering requirements

The siltation control devices will be of an acceptable type normally associated with sediment control, such as silt fences, filter fabric, straw bales, and/or excelsior logs.

   b) Schematics of buildings, yards, units, etc

See attached drawing

   c) Permanent width or size

There will be no permanent structures associated with this proposal, other than minor upgrade of existing roadways.

   d) New construction vs. existing

New catchment structures, upgrade of existing roads into all sites.

   e) Temporary areas needed

Catchment structures at sites A through F, and road access thereto.

3) Additional Components of the Right-of-way
   a) Connection to an existing Right-of-way

See answer to 1)f) above

i Existing components on or off public land
ii Possible future components
iii ROW case file numbers and references

b) Sand/Gravel supplies
i Source location and contact

Any sand/gravel utilized with this proposal will be obtained from a commercial source, and will be certified weed-free.

4) Government Agencies Involved
a) Other Federal offices, i.e. FERC or USFW

BLM (land ownership), possibly EPA (DWQ oversite), possibly OSM (DOGM oversite)

b) State Government

Division of Oil, Gas and Mining (violation administration)
Division of Water Quality
Division of Water Rights (Stream channel alteration)

c) County and other local governments

none required

5) Right-of-way location

Refer to the attached map for the proposed locations of the catchment structures

a) Legal description

Site A	T14S,R13E	Sec 15	SESW	
Site A access road	T14S,R13E	Sec 15	SESW, SWSW	(ROW UTU-01756)
Site B	T14S,R13E	Sec 22	NWNW	
Site B access road	T14S,R13E	Sec 22	NWNW	
Site C	T14S,R13E	Sec 28	NWNW	
Site C access road	T14S,R13E	Sec 28 Sec 29	NWNW NENE, SENE	
Site D	T14S,R13E	Sec 30	NESW	

Site D access road	T14S,R13E	Sec 30	NESW, SESW
		Sec 31	NWNE, SWNE, NWSE
Site E	T14S,R12E	Sec 25	SESE
Site E access road	T14S,R12E	Sec 25	SESE
		Sec 36***	NENE, NWNE, SWNE, NWSE, SWSE
	T15S,R12E	Sec 1	NWNE, SWNE
Site F	T15S,R12E	Sec 3	NENE
Site F access road	T15S,R12E	Sec 1	SENW, SWNW
		Sec 2***	NWNW, NENW, NWNE, SWNE, SENE
		Sec 3	NENE

*** denotes SITLA land ownership

b) Acre calculation of the right-of-way by land status(federal, private, etc…)

The overall dimensions of each catchment site will vary somewhat depending on the specific of the site. However, in general, the average length of the facility would be about 70', and the average width approximately 20', for an average area of about 0.03 acres.

c) Site specific engineering surveys for critical areas (note: in addition to normal centerline survey)
   i Offsets
   ii Layout designs

d) Maps
   i USGS Topographic maps

See attached map, which is a seamless, joined version of the Sunnyside, Sunnyside Junction, and Mount Bartles USGS topo maps

- USGS Topo map name
- 1:24000 scale
- Depicts the project and any other development that could be affected or might affect the proposal in the immediate area of the project

e) Anticipated conflicts with resources
   i Public health and safety

None anticipated

   ii Air, noise, geologic hazards, mineral and energy resources, paleontological resources, soils, water, vegetation,

The C canyon drainage is a naturally ephemeral drainage and as such does not support any fish or aquatic wildlife, nor any riparian vegetation. However, the mine has been

discharging water at a steady rate for the past six years and the discharge water itself may now support some plant life along the banks in various sections. The coal fines in the mine discharge water, which has accumulated over time, is now a problem.

iii Wildlife, threatened and endangered species,

There are no known wildlife or T&E species which would be affected by this proposal

iv Cultural resources

All activity will take place along existing roads and within the natural drainage channel, so impacts to cultural resources should not be a factor.

- Cultural Survey widths are determined by the scope of projects-
  1) Check with the BLM Office for details.
  2) Certified Archaeologists need to call our office before surveying

v Visual resources, recreation activities, wilderness,

All activity will take place along existing roads and within the natural drainage channel, so impacts to visual resources, recreation or wilderness should not be a factor.

vi BLM projects,

N/A

6) Construction of the Facility
   a) General overview of facility construction

Refer to discussion above, and see attached map and drawing

   b) Equipment needed for construction

Grader, backhoe, small dozer, pick-up trucks, pumps

   c) Site specific problems relating to surface use or special mitigation
      i Engineering drawings and specifications (if required)
      ii Special equipment
      iii Additional construction materials needed (sand, gravel, etc.) and their sources

   d) Diagrams, drawings, and cross sections to help visualize the scope of the project

See attached drawing

   e) Is the topography such that additional surface disturbance would occur

No

7) Describe Stabilization, Rehabilitation and Reclamation

After the Phase 1 stabilization and Phase 2 clean-up operations are completed to the satisfaction of all state and federal regulatory agencies, the catcment structures will be removed and the channel will be restored and reclaimed to its original condition. Areas disturbed along the banks will be re-seeded according to BLM requirements if needed. Siltation control devises are part of the operational plan of the catchments, and siltation control will continue to be utilized during any subsequent reclamation activities as well.

a) Soil and ground preparation
b) Seed mixes
c) Additional preparation and procedures
d) Erosion control structures
e) Any other reclamation planned

8) Operation and Maintenance
   a) Will new or expanded access be needed for operation and maintenance

   No

   b) Will all maintenance activities be confined to the right-of-way

   Yes

   c) How will snow removal be handled (if needed)

   Snow along the access roads will be push aside with a grader or truck plow if needed.

Roads

FORM 2800-14
(August 1985)

Issuing Office
Price Field Office

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
RIGHT-OF-WAY GRANT

SERIAL NUMBER UTU-87111

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1. A right-of-way is hereby granted pursuant to Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761).

2. Nature of Interest:

   a. By this instrument, the holder:

   West Ridge Resources, Inc.
   PO Box 910
   East Carbon, UT 84520

   receives a right to operate and terminate access roads to site E and site F and construct, operate and terminate roads to site B and site C sediment catchment structures as described in the Plan of Development and Map attached, on public lands described as follows:

Project Location:

T. 14 S., R. 13 E., SLM, Carbon County, Utah
Section 22: NW¼NW¼;
Section 28: NW¼;
Section 29: NE¼.

T. 14 S., R. 12 E., SLM, Carbon County, Utah
Section 25: SE¼SE¼.

T. 15 S., R. 12 E., SLM, Carbon County, Utah
Section 03: NE¼NE¼.

   b. The right-of-way or permit area granted herein is 20 feet wide, 8,100 feet long and contains 3.72 acres, more or less.

   c. This instrument shall terminate 3 years from its effective date unless, prior thereto, it is relinquished, abandoned, terminated, or modified pursuant to the terms and conditions of this instrument or of any applicable Federal law or regulation.

   d. This instrument may be renewed. If renewed, the right-of-way or permit shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the authorized officer deems necessary to protect the public interest.

   e. Notwithstanding the expiration of this instrument or any renewal thereof, early relinquishment, abandonment, or termination, the provisions of this instrument, to the extent applicable, shall continue in effect and shall be binding on the holder, its successors, or assigns, until they have fully satisfied the obligations and/or liabilities accruing herein before or on account of the expiration, or prior termination, of the grant.

3. Rental:

   For and in consideration of the rights granted, the holder agrees to pay the Bureau of Land Management fair market value rental as determined by the authorized officer unless specifically exempted from such payment by regulation. Provided, however, that the rental may be adjusted by the authorized officer, whenever necessary, to reflect changes in the fair market rental value as

determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices.

Terms and Conditions:

4. Standard

   a. This grant or permit is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations part 2800.

   b. Upon grant termination by the authorized officer, all improvements shall be removed from the public lands within 90 days, or otherwise disposed of as provided in paragraph (4)(d) or as directed by the authorized officer.

   c. Each grant issued for a term of 10 years or more shall, at a minimum, be reviewed by the authorized officer at the end of the 10th year and at regular intervals thereafter not to exceed 10 years. Provided, however, that a right-of-way or permit granted herein may be reviewed at any time deemed necessary by the authorized officer.

   d. The stipulations, plans, maps, or designs set forth in Exhibits A (Plan of Development) and B (Map), attached hereto, are incorporated into and made a part of this grant instrument as fully and effectively as if they were set forth herein in their entirety.

   e. The holder shall operate and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the plan of development which was approved and made part of this grant. Any relocation, additional construction, or use that is not in accord with the approved plan of development, shall not be initiated without the prior written approval of the authorized officer. A copy of the complete right-of-way grant, including all stipulations and approved plan of development, shall be made available on the right-of-way area during construction, operation, and termination to the authorized officer. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

   f. The map, site plan, building design, floor plan, tower design, and electrical drawings submitted with the original proposal shall be made a part of this right-of-way grant. All construction must conform to these drawings and maps.

   g. Failure of the holder to comply with applicable law or any provision of this right-of-way grant or permit shall constitute grounds for suspension or termination thereof.

5. Applicable Laws

   a. The holder shall comply with all Federal, State, and local regulations whether or not specifically mentioned within this grant.

   b. Use of pesticides shall comply with the applicable Federal and state laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, the holder shall obtain from the authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer. Emergency use of pesticides shall be approved in writing by the authorized officer prior to such use.

   c. The holder of this right-of-way grant or the holder's successor in interest shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of the Interior issued pursuant thereto.

   d. The holder shall meet Federal, State, and local emission standards for air quality.

   e. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by

any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

f. The holder shall comply with the construction practices and mitigating measures established by 33 CFR 323.4, which sets forth the parameters of the "nationwide permit" required by Section 404 of the Clean Water Act. If the proposed action exceeds the parameters of the nationwide permit, the holder shall obtain an individual permit from the appropriate office of the Army Corps of Engineers and provide the authorized officer with a copy of same. Failure to comply with this requirement shall be cause for suspension or termination of this right-of-way grant.

g. The holder of Right-of-Way No. UTU-87111 agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901 et seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

h. If during any phase of the construction, operation, or termination any oil or other pollutant should be discharged from containers or vehicles and impact Federal lands, the control and total removal, disposal, and cleanup of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of holder to control, cleanup, or dispose of such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the authorized officer may take such measures as he deems necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the authorized officer shall not relieve the holder of any liability or responsibility.

i. The holder is prohibited from discharging oil or other pollutants into or upon the navigable waters of the United States, adjoining shorelines, or the waters of the contiguous zone in violation of Section 311 of the Clean Water Act as amended, 33 U.S.C. 1321, and the regulations issued there under, or applicable laws of the State and regulations issued there under. Holder shall give immediate notice of any such discharge to the authorized officer and such other Federal and State officials as are required by law to be given such notice.

6. Miscellaneous

a. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.

b. The holder shall designate a representative who shall have the authority to act upon and to implement instructions from the authorized officer. The holder's representative shall be available for communication with the authorized officer within a reasonable time when construction or other surface disturbing activities are underway.

c. All operation, maintenance, and termination practices shall be in accordance with safe and proven engineering practices.

d. The holder shall provide for the safety of the public entering the right-of-way. This includes, but is not limited to barricades for open trenches, flagmen/women with communication systems for single-lane roads without intervisible turnouts, and attended gates for blasting operations.

e. The holder shall permit free and unrestricted public access to and upon the right-of-way for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock or facilities constructed within the right-of-way.

f. Construction-related traffic shall be restricted to routes approved by the authorized officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the authorized officer. Authorized roads used by the holder shall be rehabilitated or maintained when construction activities are complete as approved by the authorized officer.

g. The holder shall inform the authorized officer within 48 hours of any accidents on federal lands.

h. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

i. The holder shall protect all survey monuments found within the right-of-way. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands in the United States, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.

j. The holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations).

k. The holder shall restore drainages, to the greatest extent possible, to the original bank configuration, stream bottom width, and channel gradient. Loose soil, fill, and culverts shall be removed from drainage channels as directed by the authorized officer.

7. Construction

a. The holder shall conduct all activities associated with the operation and termination of the right-of-way within the authorized limits of the right-of-way.

b. The holder shall furnish and apply water or other means satisfactory to the authorized officer for dust control.

c. No routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of four inches deep, the soil shall be deemed too wet to adequately support construction equipment.

8. Maintenance

a. A litter policing program shall be implemented by the holder, if requested and approved of in writing by the authorized officer, which covers all roads and sites associated with the right-of-way.

9. Reclamation, Rehabilitation and Termination

a. The holder shall seed all disturbed areas that have been or are being reclaimed with a seed mixture(s) submitted to and approved by the authorized officer.

b. Prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a pre-termination conference. This conference will be held to review the termination provisions of the grant.

IN WITNESS WHEREOF, The undersigned agrees to the terms and conditions of this right-of-way grant or permit.

(Signature of Holder)

Project Eng

(Title)

2/23/09

(Date)

(Signature of BLM Authorized Officer)

Field Manager, Price Field Office

(Title)

2/23/09

(Effective Date of Grant)

ATTACHMENT 4

SITLA RIGHT OF ENTRY PERMIT

State of Utah
School & Institutional
Trust Lands Administration

675 East 500 South, Suite 500
Salt Lake City, UT 84102-2818
801-538-5100
801-355-0922 (Fax)
www.trustlands.com

Jon M. Huntsman, Jr.
Governor

Kevin S. Carter
Director

March 5, 2009

Dave Shaver
West Ridge Resources, Inc.
P.O. Box 910
East Carbon, UT 84520

RE: Easement No. 1464 – Bear Canyon Power Line
Easement No. 1465 - Fiber Optics Communications Line
Right of Entry No. 5281 – Temporary Access Permit

Dear Dave,

Enclosed for your files are fully executed originals of the above referenced documents.

Sincerely,

Chris Fausett
Trust Lands Resource Specialist

Enclosures

RIGHT OF ENTRY NO. 5281

This Right of Entry Agreement is entered into as of the 17th day of February, 2009, between the State of Utah, through its School and Institutional Trust Lands Administration, (the "Trust Lands Administration") and West Ridge Resources, Inc., 794 North 'C' Canyon Road, P.O. Box 910, East Carbon, Utah, 84520 (hereinafter "Permittee").

Now therefore, in consideration of the payment of $300.00, which includes a $50.00 processing charge and a $50.00 application fee, receipt of which is hereby acknowledged, and the performance of the parties' respective obligations hereunder, the Trust Lands Administration authorizes Permittee to occupy the state trust land described below for the following express uses: utilization of existing access roads (the "Permitted Uses"):

The Property subject to this right of entry is described as follows (the "Permitted Property") and is depicted in Exhibit "C", attached hereto and incorporated by reference:

CARBON COUNTY

Township 14 South, Range 12 East, SLB&M
Section 36: W½E½, NE¼NE¼ (within)
Township 15 South, Range 12 East, SLB&M
Section 2: S½NE¼, Lots 2-4 (within)

Containing 4.09 acres, more or less

The terms upon which this permit is issued are as follows:

1. In consideration of the grant of this permit, Permittee shall pay to the Trust Lands Administration the following amounts, payable as hereinafter stated: $50.00 application fee, $50.00 processing charge, and a $200.00 rental, totaling $300.00.

2. The term of this right of entry shall be for a term of one year, commencing February 17, 2009 and expiring February 16, 2010.

3. Permittee shall be responsible to notify holders of state issued interests in the Permitted Property, as shown on Exhibit "A" attached hereto, of Permittee's rights and plans hereunder. Permittee accepts this agreement subject to all such existing interests and accepts responsibility for coordination of its activities with such other interested parties.

4. Permittee shall be responsible for all damages and claims incurred in connection with the activities conducted by it on or about the Permitted Property. Accordingly, Permittee agrees

to indemnify, defend and hold the Trust Lands Administration harmless from any and all claims, suits, damages, losses, expenses, costs and liabilities (including interest, penalties and attorneys fees) arising out of or in any way related to the use of the Permitted Property by Permittee, its servants, employees, agents, sublessees, assignees, or invitees, including but not limited to claims for personal injury, death, property damage, and including without limitation, any such injuries or damages caused in whole or in part by the negligence of the Trust Lands Administration and regardless of whether liability without fault is sought to be imposed upon the Trust Lands Administration, except to the extent that such injury or damage was caused by the willful misconduct of the Trust Lands Administration. In addition, Permittee agrees to indemnify and hold the Trust Lands Administration harmless from any and all claims, suits, damages, losses, expenses, costs and liabilities (including interest, penalties and attorneys fees) arising out of or in any way related to any noncompliance by Permittee, its servants, employees, agents, sublessees, assignees, or invitees with any environmental law, rule or regulation or any other law, rule or regulation of any county, state or federal authority.

5. Permittee acknowledges that it has been afforded an opportunity to inspect the Permitted Property and, based upon such inspection, hereby accepts the Permitted Property in its existing, as is condition, subject to all existing hazards to person or property - whether natural or manmade. Based on such acknowledgment and acceptance and in consideration for the grant of this Right of Entry, Permittee does hereby release and forever discharge the Trust Lands Administration, and its officers and employees, from any and all liability, claims, damages, causes of action or expenses for any bodily injury, death or property damage which is suffered by Permittee or any person claiming by, through or under Permittee and occurs in connection with the use of the Permitted Property.

6. Permittee agrees that it will only conduct those activities expressly authorized in the Permitted Uses stated above. It is expressly understood that there will be no permanent structures constructed nor shall any surface-disturbing activities be committed upon the Permitted Property unless specifically authorized in this agreement. Use of existing roads within the Permitted Property is expressly permitted unless stated otherwise herein; provided that any damage done to existing roads within the Permitted Property shall be repaired at Permittee's expense and all roads used shall be left in good condition.

7. In the event Permittee shall observe any site or specimen appearing to be a potential paleontological or archaeological resource (hereinafter a "Site or Specimen"), Permittee shall promptly notify the Division of State History and the Trust Lands Administration and shall not damage or disturb such Site or Specimen. In the event one of the Permitted Uses of this right of entry is the conduct of seismic survey activity, Permittee, prior to conducting any such activities shall first cause an archaeological survey to be conducted of the Permitted Property. In the event at any time during the term of this Right of Entry a Site or Specimen is identified, Permittee will cease all seismic activity in regards to the line associated with the known Site or Specimen until granted written permission otherwise from the Trust Lands Administration.

8. Permittee acknowledges that scraping and removing trees or vegetation is prohibited unless specifically authorized by this agreement. In any area wherein scraping is done or the natural condition of the soil is materially disturbed, upon completion of the activity, the soils shall be returned to their natural condition with seeding of grasses and/or native plants as required by the Trust Lands Administration.

9. Permittee agrees to reimburse the Trust Lands Administration for the costs of suppressing fires caused by Permittee or its servants, employees, agents, sublessees, assignees, or invitees. In the event a fire should occur, Permittee shall take all immediate action necessary to suppress and control the fire. The actions will be at no cost to the Trust Lands Administration. In the event it is necessary that the Administration take action to suppress the fire, all costs associated therewith shall be borne by the Permittee.

10. Permittee will maintain the Permitted Property in a clean, well maintained condition at all times. Upon completion of activities, Permittee will remove all trash and debris from the Permitted Property.

11. If drilling is authorized by this agreement, any mud used must be properly contained in pits, and upon completion, these pits must be filled and restored to their natural contour with the land left in a restored condition with seeding of grass and native plants as required by the Trust Lands Administration.

12. The Trust Lands Administration reserves the right to inspect the Permitted Property subsequent to the expiration of this agreement and to recall Permittee for correction of any violations of any of the covenants set forth herein. All provisions of this agreement pertaining to the Permittee's responsibilities hereunder shall be deemed to survive the expiration or earlier termination of this agreement.

13. The Permittee agrees that, for reasonable cause shown, at any time during the term of this permit, the Trust Lands Administration may require that the amount of an existing bond be increased or if a bond has not been previously required, Trust Lands Administration may require Permittee to post with the Trust Lands Administration a bond with an approved corporate surety company authorized to transact business in the State of Utah, or such other surety as may be acceptable to the Trust Lands Administration, in a penal sum to be determined by the Trust Lands Administration, said bond to be conditioned upon full compliance with all terms and conditions of this permit and the rules relating hereto. The amount of this bond shall not be deemed to limit any liability of Permittee. Any bond issued hereunder shall be for a term expiring at least ninety (90) days following the expiration of this agreement.

14. Permittee agrees that no firewood will be used on or removed from the Permitted Property described in the agreement unless authorized by a small forest products permit issued by the Trust Lands Administration.

15. Permittee shall carry public liability insurance covering bodily injury, loss of life or property damage arising out of or in any way related to Permittee's activities on the Permitted Property, with coverage in a "Combined Single Limit" of not less than One Million Dollars ($1,000,000) for total claims for any one occurrence. The insurance may be in the form of a blanket liability coverage so long as such blanket policy does not act to reduce the limits or diminish the coverage required hereunder. The Permittee must maintain a current authenticated certificate of insurance on file with the Trust Lands Administration. Failure to do so is cause for suspension and termination of the right-of-entry. In addition, the policy shall:

(a) state that the insurance company shall have no right of subrogation against the Trust Lands Administration.
(b) name the Trust Lands Administration as an insured and expressly provide for specific coverage of the Permittee's assumed obligation to indemnify the Trust Lands Administration.
(c) stipulate that the Trust Lands Administration shall be notified thirty (30) days in advance of the termination or modification of the policy. The name of the insured on the insurance policy must be the same as the name on the right-of-entry.

16. Permittee(s) shall comply with all applicable County, State and Federal laws and regulations existing or hereafter enacted or promulgated which pertains in any regard to Permittee's activities to be conducted upon the Permitted Property.

17. Proof of liability insurance coverage is attached as Exhibit "B".

18. A map of the permitted area is attached as Exhibit "C".

This agreement is entered into as of the day first above written.

THE STATE OF UTAH
SCHOOL AND INSTITUTIONAL
TRUST LANDS ADMINISTRATION

By: _____

Its: Director

WEST RIDGE RESOURCES, INC.

By: _____

Its: Project Engineer

APPROVED AS TO FORM:
MARK L. SHURTLEFF
ATTORNEY GENERAL
By: /s:/ John W. Andrews
Special Assistant Attorney General

RIGHT OF ENTRY NO. 5281
Exhibit "A"

Grazing Permit No. 21714-01	James Allen Staker P.O. Box 26 Elmo, UT 84521
Mineral Lease No. 48065	Henry A. Alker 5360 Vine Hill Road Sebastopol, CA 95472
Mineral Lease No. 49465	Newfield RMI, LLC 1001 17th Street, Suite 2000 Denver, CO 80202
Right of Way No. 318	PacifiCorp DBA Rocky Mountain Power Right of Way Services 1407 West North Temple, Suite 110 Salt Lake City, UT 84116

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 2/6/2009

PRODUCER (724)349-1300, Fax(724)349-1446
Peschini Agency Inc
22 Philadelphia Street
P.O. Box 449
Indiana PA 15701

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED
West Ridge Resources, Inc.
A Subsidiary of UtahAmerican Energy, Inc.
6750 N. Airport Road
Price UT 84501

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: Federal Insurance Company	
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A		GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR [X] Includes XCU GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [ ] PRO-JECT [X] LOC	37104410	06/01/2008	06/01/2009	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 10,000 $ 1,000,000 $ 3,000,000 $ 2,000,000
		AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [ ] HIRED AUTOS [ ] NON-OWNED AUTOS				COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $
		GARAGE LIABILITY [ ] ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
		EXCESS/UMBRELLA LIABILITY [ ] OCCUR [ ] CLAIMS MADE [ ] DEDUCTIBLE [ ] RETENTION $				EACH OCCURRENCE AGGREGATE	$ $ $ $ $
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				[ ] WC STATUTORY LIMITS [ ] OTHER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ $ $
		OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

CERTIFICATE HOLDER

Utah School & Institutional Trust Lands A
Attn: Chris Fausett, Realty Specialist
675 East 500 South
Suite 500
Salt Lake City, UT 84102

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
Karen Williams/KAREN Karen Williams

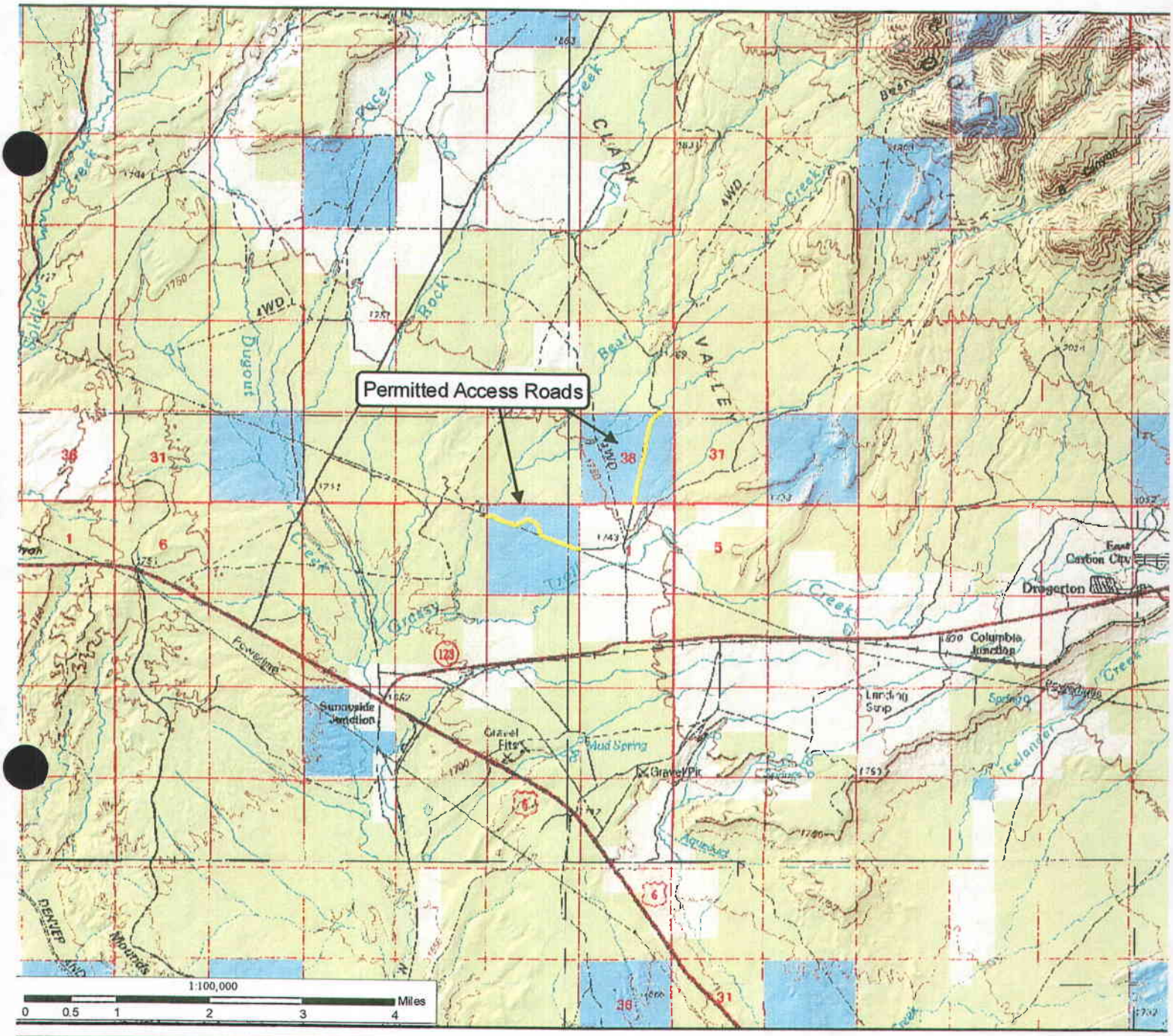
IMPORTANT

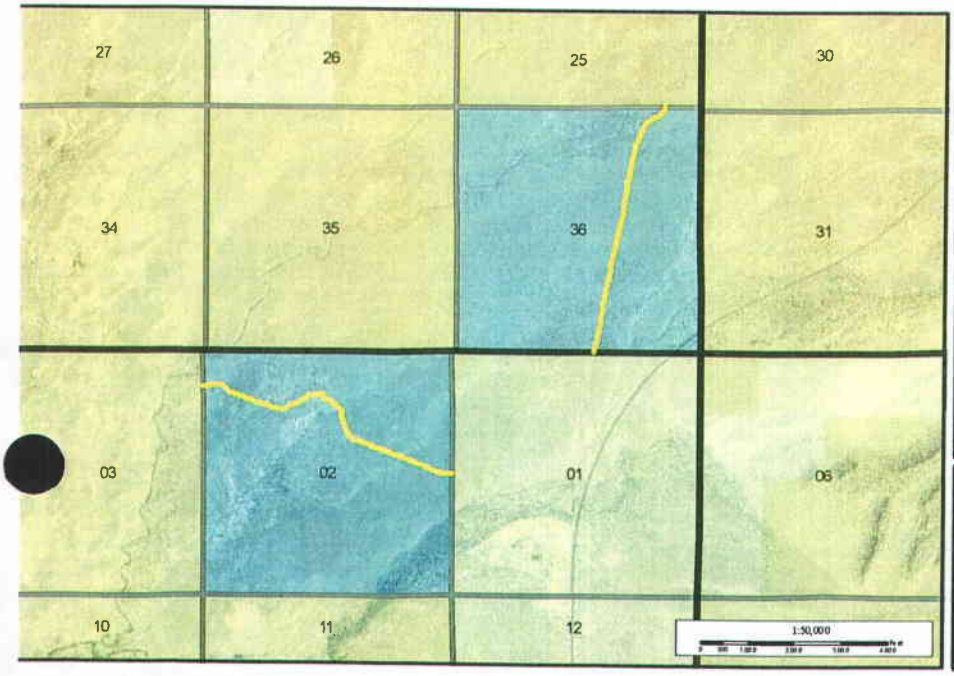
If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

The Certificate of Insurance on the reverse side of this form does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.





RIGHT OF ENTRY NO. 5281
Existing Access Roads

Township 15 South, Range 12 East, SLB&M
Section 2: S2NE4, Lots 2-4 (within)
Township 14 South, Range 12 East, SLB&M
Section 36: W2E2, NE4NE4 (within)
Carbon County

February 4, 2009

Legend
- Permitted Access Roads

Land Ownership
- BLM
- Bankhead Jones
- Military Reservations and Corps of Engineers
- National Parks, Monuments & Historic Sites
- National Recreation Area
- National Forest Land
- National Wilderness Area
- National Wildlife Refuge
- State Trust Land
- State Sovereign Land
- State Parks and Recreation
- State Wildlife Reserve/Management Area
- Other State Land
- Private
- Tribal Land

ATTACHMENT 5

DIVISION OF WATER RIGHTS
CHANNEL ALTERATION PERMIT

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Water Rights
KENT L. JONES
State Engineer/Division Director

ORDER OF THE STATE ENGINEER
FOR STREAM ALTERATION APPLICATION NUMBER **09-91-02SA**

This **ORDER** is issued pursuant to statute and in accord with the statutory criteria for approval of a stream alteration application that are described at UTAH CODE ANN. § 73-3-29. The State Engineer has determined that this application does meet the necessary legal criteria to **ORDER** the approval of the application based upon the following information and reasoning set forth in the Facts and Discussion.

FACTS

1. The application was received by the Division of Water Rights ("Division") on February 10, 2009, and made available for comment on the Division's webpage, provided to adjacent property owners or other individuals who may be affected by this project as identified in the application, pertinent governmental agencies, and to other entities as warranted, for a period of at least 20 calendar days, said period concluding prior to March 2, 2009.

2. The application contains the following information:
   - The stated purpose of the proposed project is: Containment and cleanup of coal fines accumulation in drainage.
   - The stated description of the proposed project is: Coal fines from the West Ridge Mine discharge water have accumulated along the C Canyon drainage below the mine. Catchment facilities are proposed to be constructed to facilitate containment and cleanup of the coal fines.
   - The stated alternatives to the proposed project are: This plan represents the consensus of BLM and DOGM as the most reasonable option for the containment and cleanup operations.

3. The following observations were made by the Division. Based on our review, it has been determined that there does not appear to be any adverse impacts to cultural resources associated with this Stream Alteration.

4. The Division received comments or objections on the proposed project from:
   - State Historic Preservation Office (SHPO), Lori Hunsaker

   The comments or objections received by the Division are summarized as follows:
   - SHPO concurs with a determination of No Historic Properties Affected.

DISCUSSION

1. Based on a review of the Division's water rights records and/or a review of the application by personnel of the Division's regional office, it is the opinion of the State Engineer that the project will not impair vested water rights.

2. It is the opinion of the State Engineer that the project will not unreasonably or unnecessarily affect recreational use or the natural stream environment.

3. It is the opinion of the State Engineer that the project will not unreasonably or unnecessarily endanger aquatic wildlife.

4. It is the opinion of the State Engineer that the project will not unreasonably or unnecessarily diminish the natural channel's ability to conduct high flows.

ORDER

Stream Alteration Application No. 09-91-02SA, submitted in the name of West Ridge Resources, Inc. / David Shaver, applicant, for installation of instream structures and channel rehabilitation associated with C Canyon drainage (tributary to Grassy Trail Creek in Clark Valley), a natural stream located in Carbon County, Utah, is hereby APPROVED, contingent upon the conditions outlined in this **ORDER**. This approval also constitutes compliance with Section 404 (e) of the Clean Water Act (33 USC 1344) pursuant to General Permit 040 issued to the State of Utah by the U.S. Army Corp of Engineers on May 14, 2004. The applicant is hereby authorized to conduct the work detailed in the application and supporting documentation, as described in this **ORDER**. Any modification or addition to the work may require additional authorization and/or application resubmittal.

1. The expiration date of this order is **March 4, 2010**. Work affecting the bed and/or banks of the stream may not be conducted after this date. The expiration date may be extended, at the State Engineer's discretion, by submitting a written request outlining the need for the extension and the reasons for the delay in completing the proposed stream alteration.

2. A copy of this order must be kept onsite at any time the work authorized under this order is in progress.

3. Disturbed areas must be planted with a variety of appropriate vegetation (especially woody vegetation where feasible) to help hold the soil around riprap, prevent excessive erosion, and to help maintain other riverine functions. Successful revegetation efforts must be monitored and reported to this office.

4. Best Management Practices should be implemented and maintained during any streamside or instream work to minimize sedimentation, temporary erosion of stream banks, and needless damage or alteration to the streambed.

5. Approval of this application does not authorize trespass, easements, rights-of-way, or any other access and land use permits. It is the responsibility of the applicant to obtain any such authorizations as may be necessary for this proposal.

6. Excavated material and construction debris may not be wasted in any stream channel or placed in flowing waters, this will include material such as grease, oil, joint coating, or any other possible pollutant. Excess materials must be wasted at an upland site well away from any channel. Construction materials, bedding material, excavated material, etc. may not be stockpiled in riparian or channel areas.

7. Whenever an applicant causes the water turbidity in an adjacent surface water to increase 10 NTU's or more, the applicant shall notify the Division of Water Quality.

8. Erosion control, revegetation, and noxious weed control must be implemented and monitored until revegetation becomes well established. Success of these measures must also be reported prior to the compliance inspection. This is especially important for all disturbed areas, including fill, in order to prevent sediments from entering flowing water. Particular attention is required to assure that silt fencing is properly installed and left in place until after revegetation becomes established at which time the silt fence can then be carefully removed.

9. If historical or archaeological resources such has human remains (skeletons), prehistoric arrowheads/spear points, waste flakes from stone tool production, pottery, ancient fire pits, historical building foundations/remains, historical artifacts (glass, ceramic metal, etc.) are found during construction, the permit holder is advised to cease work and contact the Division of State History at 801-533-3555.

10. Ingress and egress access should be kept to a minimum.

11. Riprap must consist of only clean, properly sized angular rock, which must be keyed deeply into the streambed to prevent undercutting. A filter must be placed behind if necessary (i.e., if soils are fine grained, non-cohesive, and/or erodible). Demolition debris or refuse will not be allowed, nor material such as bricks, concrete, asphaltic material [either natural (tar sand, oil shale, etc.) or man made].

12. Cement is toxic to aquatic organisms, and its introduction into waters of the United States would constitute a violation of the Clean Water Act. Cement or concrete may not be allowed to enter stream flows. Water must be excluded from areas where concrete or cement is used until it has set. Contaminated water pumped from the construction area may not be discharged in a manner that will allow it to enter flows. Equipment used during this type of work must be washed well away from the channel.

13. The construction of small dams also falls within the State Engineer's authority to regulate dams under 73-5a of the Utah Code. The instream structure(s) may need to be reviewed for dam safety concerns. David Marble can be contacted at 801-538-7376 for more information.

14. Within 30 days after the completion of this project, the attached compliance certification form must be completed and returned to the U.S. Army Corps of Engineers. Failure to return this compliance certification form would invalidate U.S. Army Corps of Engineers General Permit 040, thereby placing the applicant in violation of Section 404 of the Clean Water Act.

15. Please submit photos at the completion of the project.

Your contact with the Division is Daren Rasmussen, who can be reached at telephone number 801-538-7414.

This **ORDER** is subject to the provisions of UTAH ADMIN. CODE R. 655-6-17 of the Division of Water Rights and to UTAH CODE ANN. §§ 63-46b-13 and 73-3-14, which provide for persons or parties with legal standing to file either a Request for Reconsideration with the State Engineer or an appeal with the appropriate District Court. A Request for Reconsideration must be filed with the State Engineer within 20 days of the date of this **ORDER**. However, a Request for Reconsideration is not a prerequisite to filing a court appeal. A court appeal must be filed within 30 days after the date of this **ORDER**, or if a Request for Reconsideration has been filed, within 30 days after the date the Request for Reconsideration is denied. A Request for Reconsideration is considered denied when no action is taken within 20 days after the Request is filed.

Dated this 4 day of March, 200_.

David K. Marble, P.E.
Assistant State Engineer

Enclosure

Mailed a copy of the foregoing Order this 4 day of March, 2009, to:

DAVID SHAVER
WEST RIDGE RESOURCES INC
PO BOX 910
EAST CARBON UT 84520

Corps of Engineers
Marc Stilson - Regional Engineer
Richard Clark - EPA
Kelly Beck – RDCC Coordinator
Chris Wood - Regional Wildlife Habitat Manager
State History

By: Judy Mattson
Judy Mattson
Secretary

COMPLIANCE CERTIFICATION

Regional General Permit Number: 40

Stream Alteration Number: 09-91-02SA

Corps Project Identification Number: _____
(Corps Use Only)

Permittee's Name and Address: West Ridge Resources, Inc
PO Box 910
East Carbon, UT 84520

County Location of Permitted Activity: Carbon County, UT

Within 30 days after completion of the activity authorized by this permit, please sign and return this certification to the following address:

U.S. Army Corps of Engineers
Intermountain Regulatory Section
533 West 2600 South, Suite 150
Bountiful, UT 84010

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers' representative. If you fail to comply with the terms and conditions of the permit, your authorization may be suspended, modified or revoked. If you have any questions about this certification, please contact the Corps of Engineers at 801-295-8380.

* * *

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

David S Shaw 3/9/09
Signature of Permittee **Date**

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Water Rights

JERRY D. OLDS
State Engineer/Division Director

February 3, 2009

Dave Shaver
Project Engineer
West Ridge Resources, Inc.
PO Box 910
East Carbon, UT 84520

RE: EMERGENCY AUTHORIZATION: C CANYON DRAINAGE CHANNEL.

The information and stream alteration permit you submitted yesterday to our office in regards to the coal fines discharge into the C Canyon drainage has been reviewed. Due to the urgent need to construct catchment structures in the stream channel to prevent the further migration of coal fines down the drainage and the possible hazardous nature of the material, you are hereby **GRANTED** emergency authorization to begin work on this project.

The stream alteration permit will continue to be processed and any concerns submitted by other federal and state agencies with regards to the work will need to be addressed forthwith.

If you have any questions, please contact Marc Stilson at (435) 613-3750 or Daren Rasmussen at (801) 538-7377.

Sincerely,

Marc Stilson, P.E.
Southeastern Regional Engineer

Southeastern Region, Price Office, 319 N Carbonville Road, Suite B, P.O. Box 718, Price, UT 84501-0718
telephone (435) 613-3750 • facsimile (435) 613-3755 • *www.waterrights.utah.gov*

UTAH DNR WATER RIGHTS

ATTACHMENT 6

CULTURAL RESOURCE SURVEY

NOTE: THIS DOCUMENT IS FILED IN THE CONFIDENTIAL BINDER

ATTACHMENT 7

BLM NEPA DOCUMENT

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PRICE FIELD OFFICE

CATEGORICAL EXCLUSION REVIEW AND APPROVAL

A. Background

BLM Office: Price Field Office **Lease/Serial/Case File No.:** UTU-87110 and UTU-87111

NEPA Number: DOI-BLM-UT-G021-2009-0046-CX

Proposed Action Title/Type: West Ridge Sediment Catchment Structures and Access Roads.

Project Description: The applicant proposes to develop coal fines alleviation catchment structures and use existing roads for access within the C Canyon channel. The existing roads for B and C would be upgraded as needed and the roads for E and F would be as is where is.

Project Location: T. 14 S., R. 13 E., SLM, Carbon County, Utah
Section 22: NW¼NW¼;
Section 28: NW¼NW¼,NE¼NE¼,SE¼NE¼.
Section 29: NE¼

T. 14 S., R. 12 E., SLM, Carbon County, Utah
Section 25: SE¼SE¼.

T. 15 S., R. 12 E., SLM, Carbon County, Utah
Section 03: NE¼NE¼.

B. Land Use Plan Conformance

Land Use Plan Name: Price Field Office Resource Management Plan
Date Approved/Amended: Approved October 31, 2008
The proposed action is in conformance with the LUP, even though it is not specifically provided for, because it is clearly consistent with the following LUP decision(s) (objectives, terms, and conditions): This is shown on page 123 of the plan and reads as follows: "Additional ROWs could be granted consistent with RMP goals and objectives".

C. Compliance with NEPA:

The Proposed Action is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with 516 DM 11.9, E. Realty (19.), "Issuance of short-term (3 years or less) rights-of-way or land use authorizations for such uses as storage sites, apiary sites, and constructions sites where the proposal includes rehabilitation to restore the land to its natural or original condition". This categorical exclusion is appropriate in this situation because there are no extraordinary circumstances potentially having effects that may significantly affect the environment. The proposed action was reviewed by Connie Leschin on Friday, February 20, 2009 and none of the extraordinary circumstances described in 516 DM 2 apply.

Approval and Decision

Based on a review of the project described above and field office staff recommendations attached, I have determined that the project is in conformance with the land use plan and is categorically excluded from further environmental analysis. It is my decision to approve the action as proposed.

D. Signature
Authorizing Official: _____ Date: 2/20/09
(Signature)

Name: Michael Stiewig

Title: Field Manager

Contact Person

For additional information concerning this CX review contact:

Connie Leschin
Realty Specialist
BLM Price Field Office
125 South 600 West
Price, Utah 84501
Phone: (435) 636-3610
Fax: (435) 636-3657

Attachments:

ID Team Checklist

INTERDISCIPLINARY TEAM ANALYSIS RECORD CHECKLIST

Project Title: West Ridge Sediment Catchment Structures and Access Roads

NEPA Log Number: DOI-BLM-UT-070-2009-0046-CX 6621

File/Serial Number: UTU-87110, UTU-87111

Project Leader: Connie Leschin

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions
NI = present, but not affected to a degree that detailed analysis is required
PI = present with potential for significant impact analyzed in detail in the EA; or identified in a DNA as requiring further analysis
NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section C of the DNA form.

Determination	Resource	Rationale for Determination*	Signature	Date
		CRITICAL ELEMENTS		
NI	Air Quality	Sort term impact, no impact in the long term	Connie Leschin	2/20/2009
NP	Areas of Critical Environmental Concern			2/20/09
NI	Cultural Resources	Archaeologist must be present during work on sites E and F	Blair Miller	2/19/2009
NP	Environmental Justice		Connie Leschin	2/20/2009
NP	Farmlands (Prime or Unique)	Prime Farmlands not in Area	Daniel Kenner	2/20/09
NI	Floodplains		Jeffrey Brower	2/05/2009
NP	Invasive, Non-native Species	No Concerns	Karl Ivory	2/05/2009
NP	Native American Religious Concerns	No Known Concern	Blair Miller	2/19/2009
NP	Threatened, Endangered or Candidate Plant Species	No Concerns	Karl Ivory	2/05/2009
NP	Threatened, Endangered or Candidate Animal Species	No Concerns	David Waller	2/19/2009
NP	Wastes (hazardous or solid)	No Concerns	Jeffrey Brower	2/05/2009
NP	Water Quality (drinking/ground)	No Concerns	Jeffrey Brower	2/05/2009
NI	Wetlands/Riparian Zones	No Concerns	Karl Ivory	2/05/2009
NP	Wild and Scenic Rivers			2/20/09
NP	Wilderness			2/20/09

Determination	Resource	Rationale for Determination*	Signature	Date
		OTHER RESOURCES / CONCERNS**		
NI	Rangeland Health Standards and Guidelines		W Tweddell	2/20/09.
NI	Livestock Grazing		W Tweddell	2/20/09
NP	Woodland / Forestry	No Concerns	Karl Ivory	02/05/2009
NP	Vegetation including Special Status Plant Species other than FWS candidate or listed species	No Concerns	Karl Ivory	02/05/2009
NP	Fish and Wildlife Including Special Status Species other than FWS candidate or listed species e.g. Migratory birds.	No Concerns	David Waller	02/19/2009
NI	Soils	Construction activities will use weed free items, BLM will have input on seed mix and reclamation efforts	Dana Truman	2/17/2009
NI	Recreation	Limited dispersed rec. unaffected	[signature]	2/20/09
NI	Visual Resources	VRM III	[signature]	2/20/09
NI	Geology / Mineral Resources/Energy Production	This action will not negatively affect Mineral Resources or Energy Production	Chris Conrad	2/10/2009
NP	Paleontology		Michael Leschin	02/17/2009
NI	Lands / Access	ROW will be issued	Connie Leschin	02/20/2009
NI	Fuels / Fire Management	Project will not affect Fuels / Management	[signature]	2/20/09
NP	Socio-economics	No Concerns	C. Leschin	2/20/09
NP	Wild Horses and Burros		W Tweddell	2/20/09
NP	Wilderness characteristics		[signature]	2/20/09

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
NEPA / Environmental Coordinator	[signature]	02/20/09	
Authorized Officer	[signature]	2/20/09	

ATTACHMENT 8

PRE-CONSTRUCTION PHOTOS OF CATCHMENT AREAS

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03-17-2009

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04 01 2009

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ATTACHMENT 9

AS-CONSTRUCTED PHOTOS OF CATCHMENT AREAS


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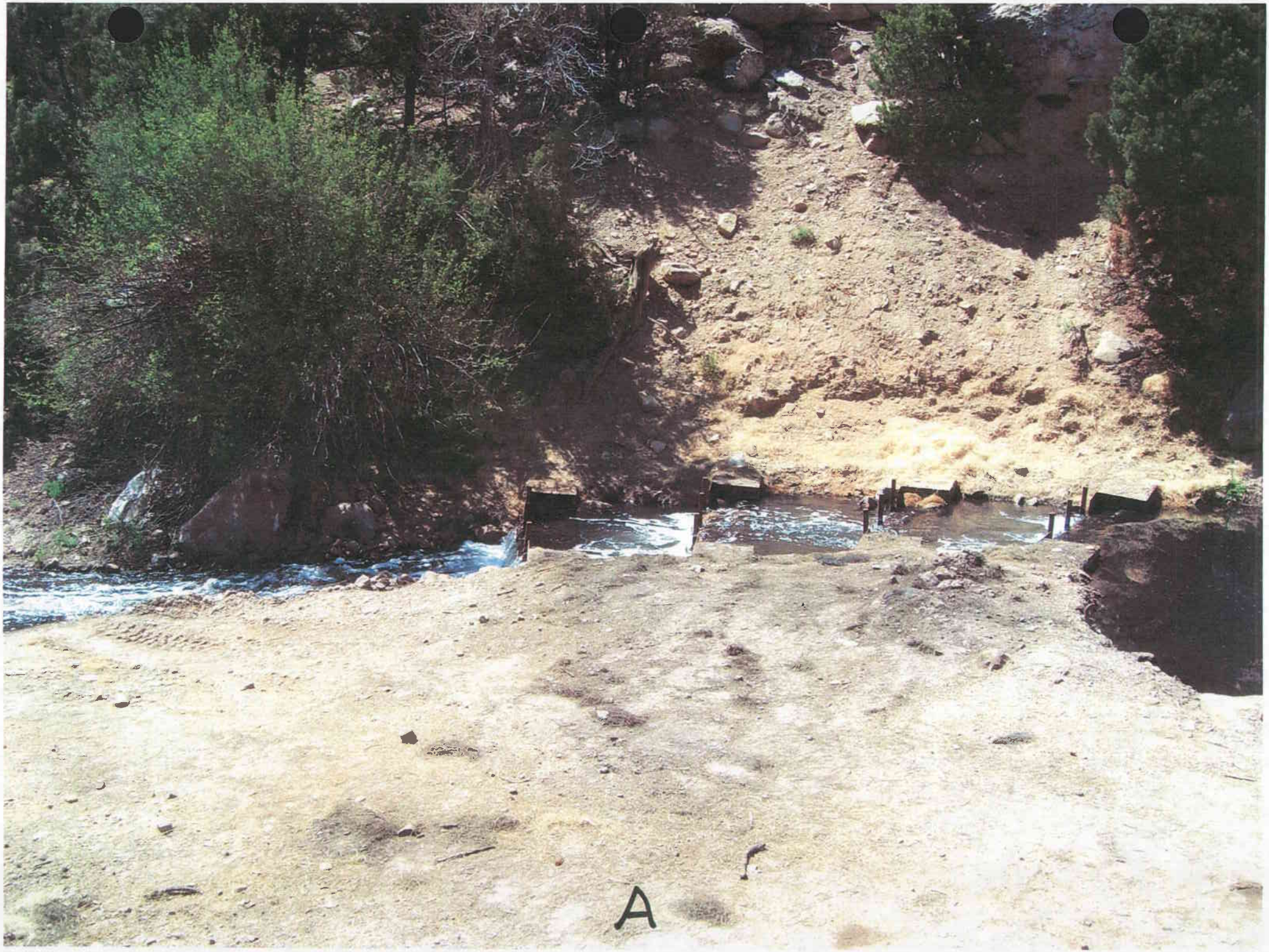
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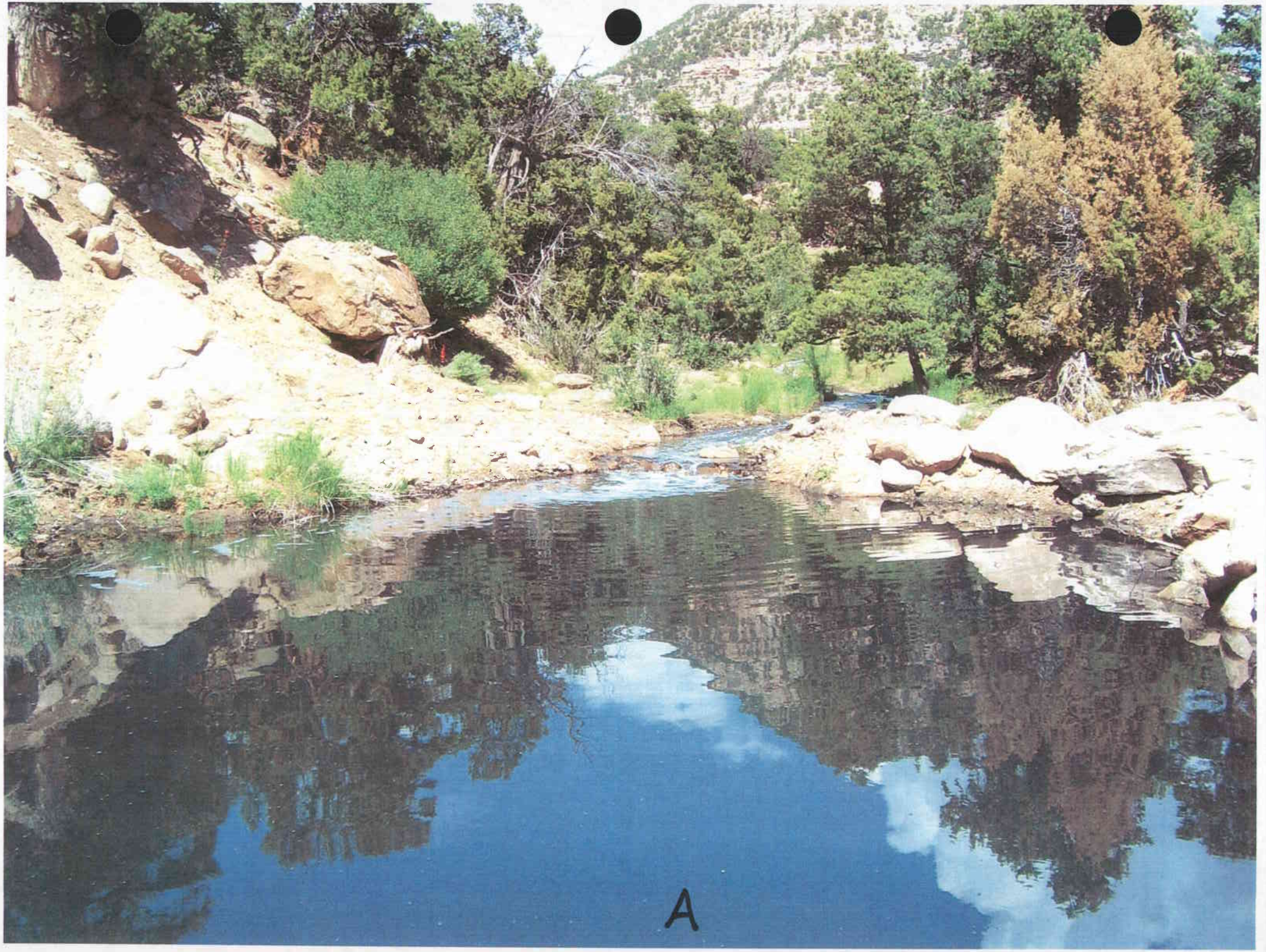
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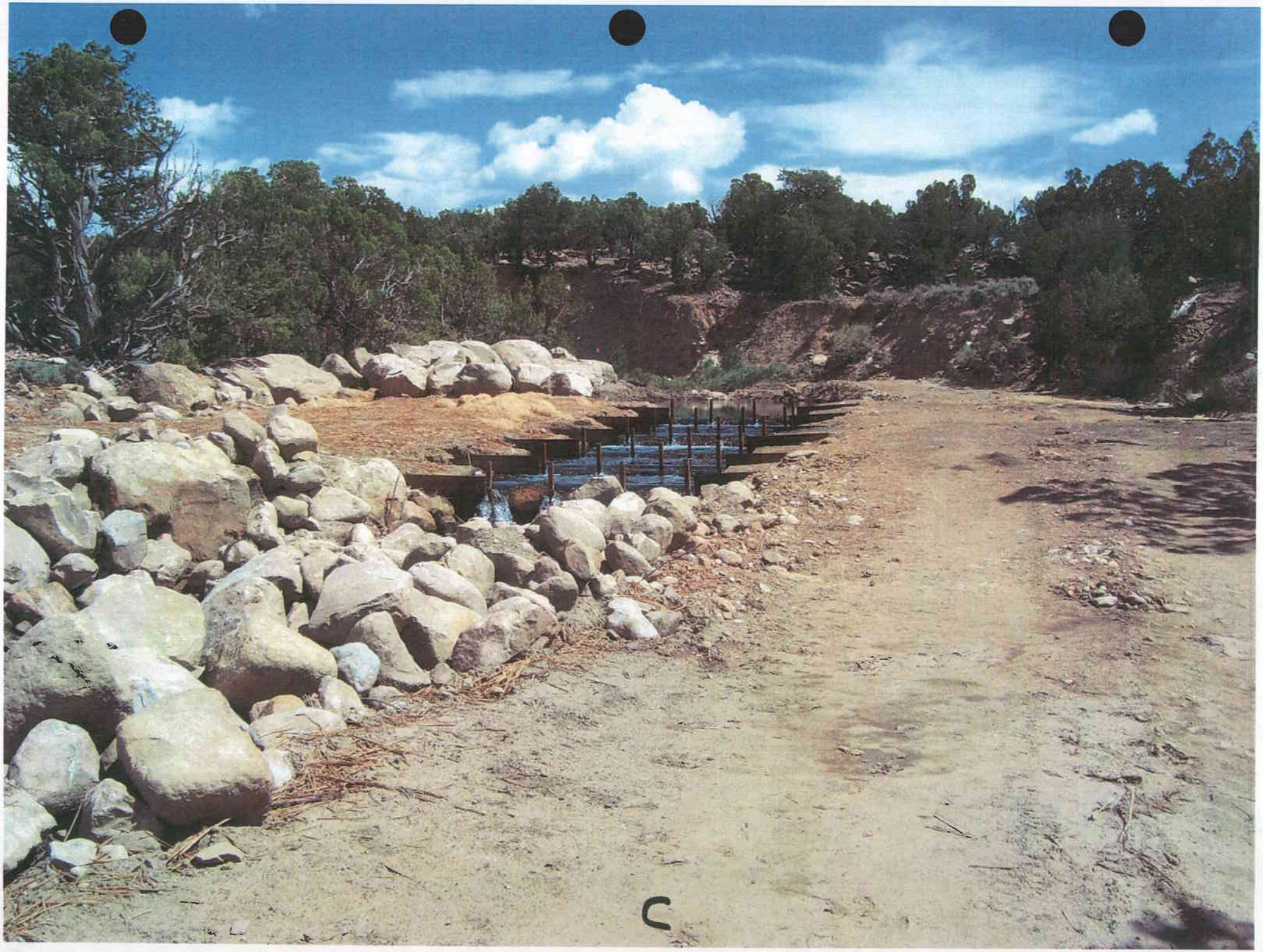
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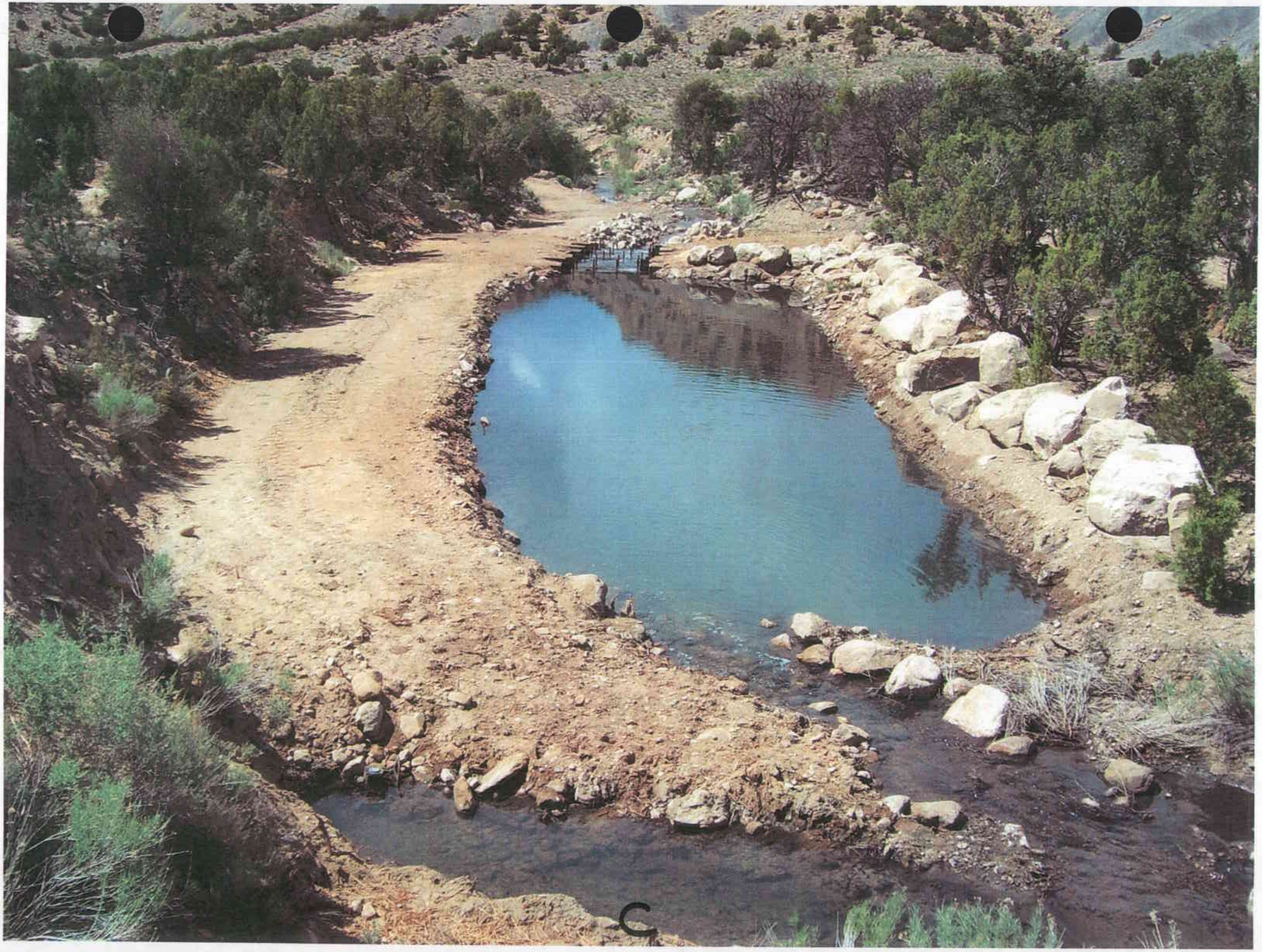


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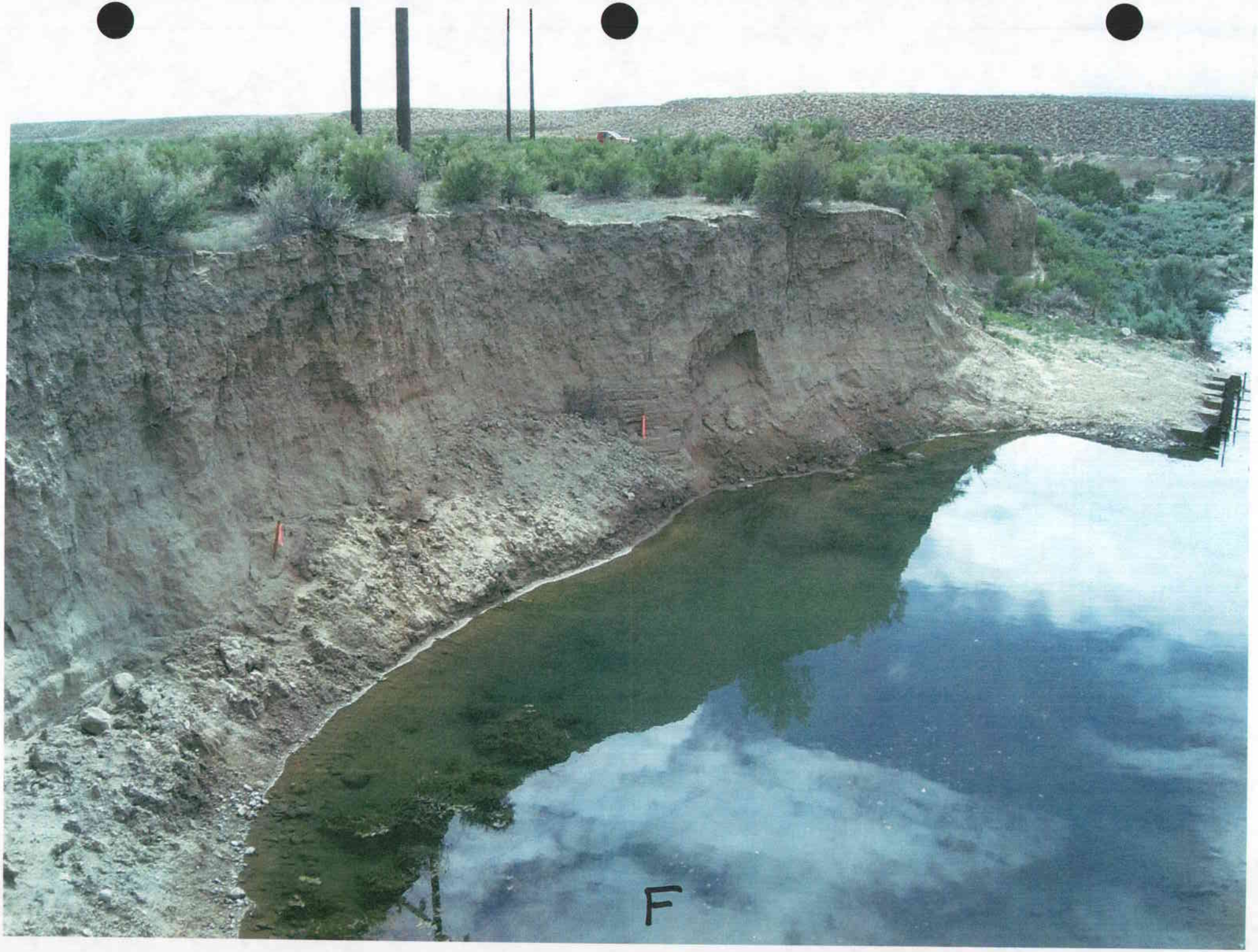
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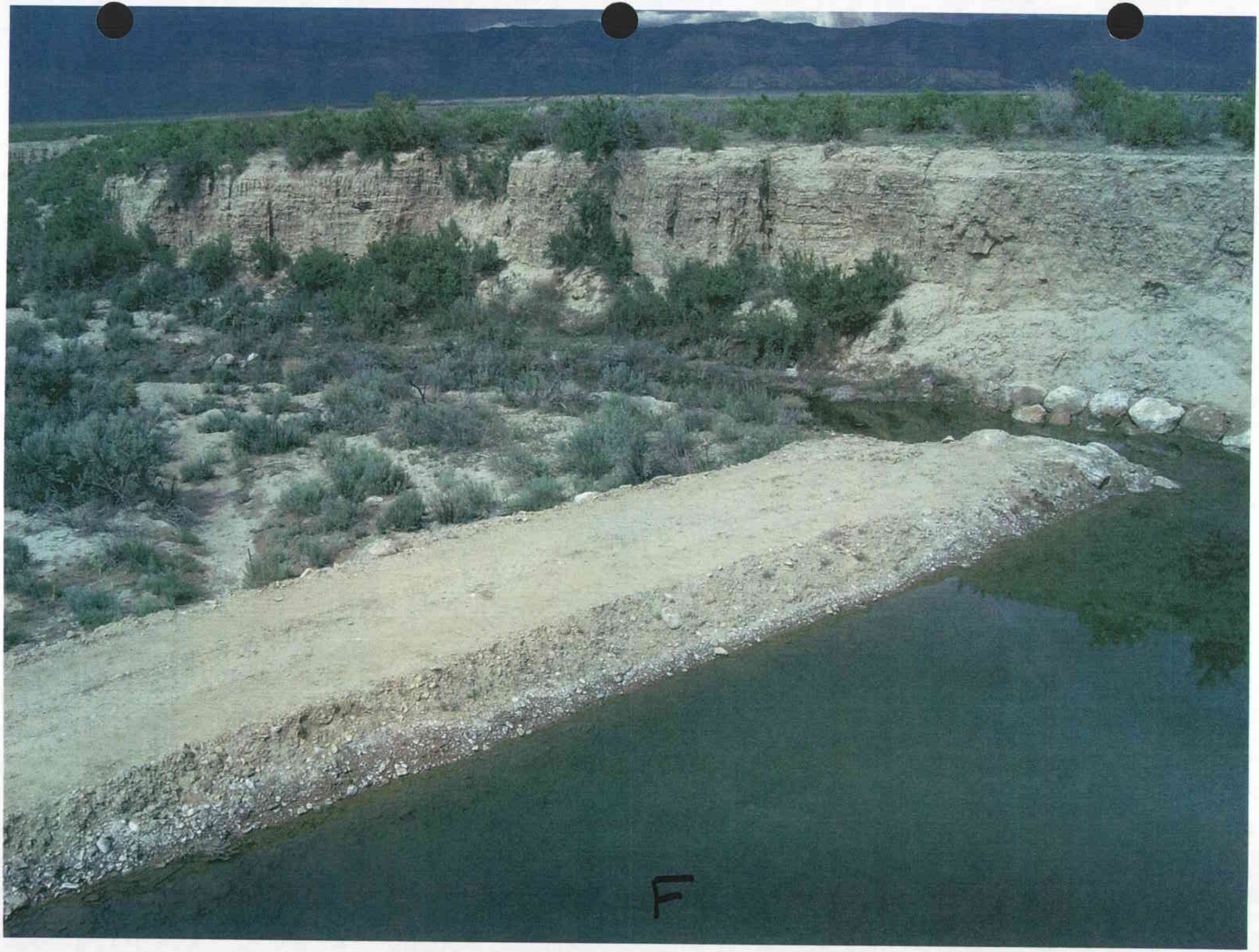
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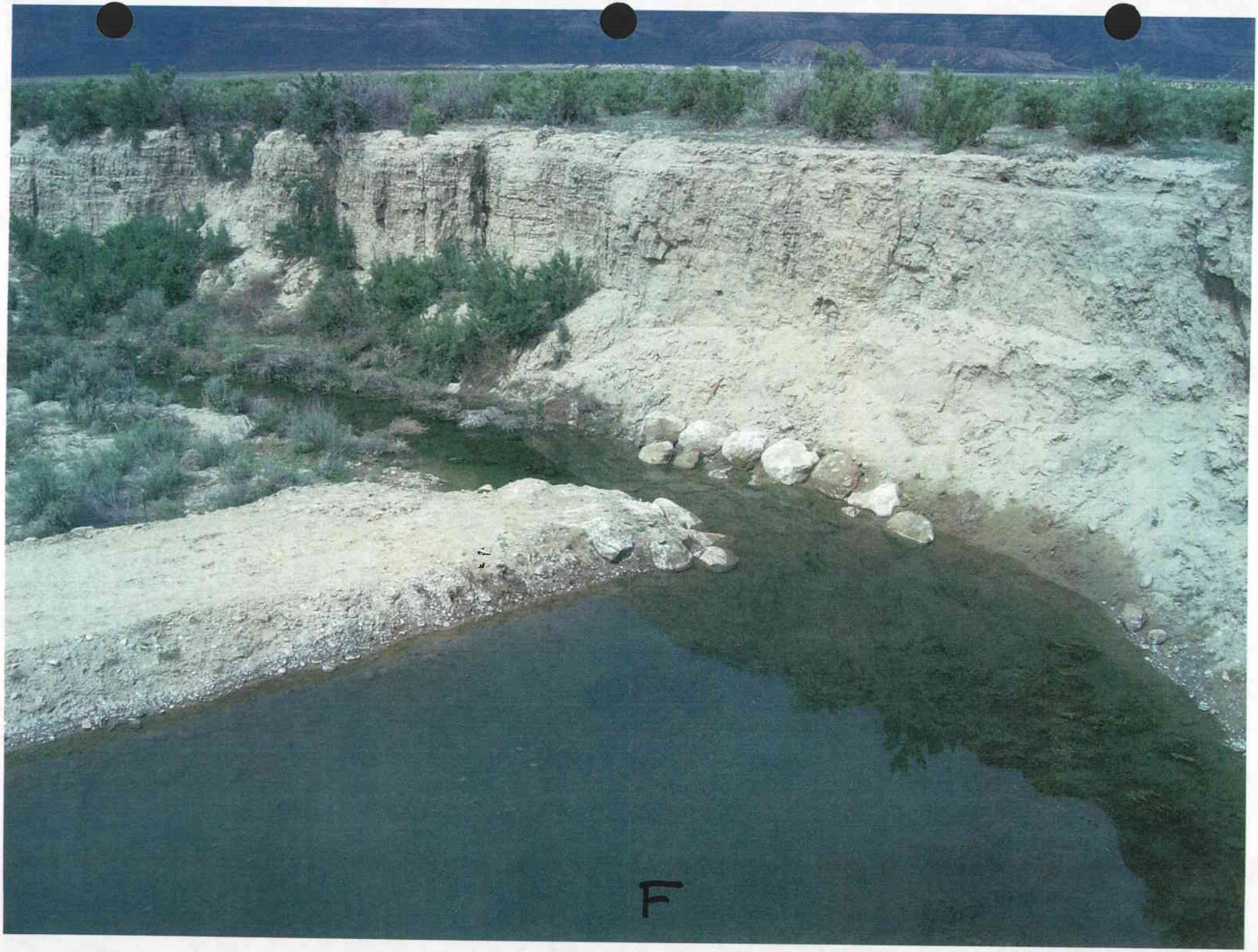
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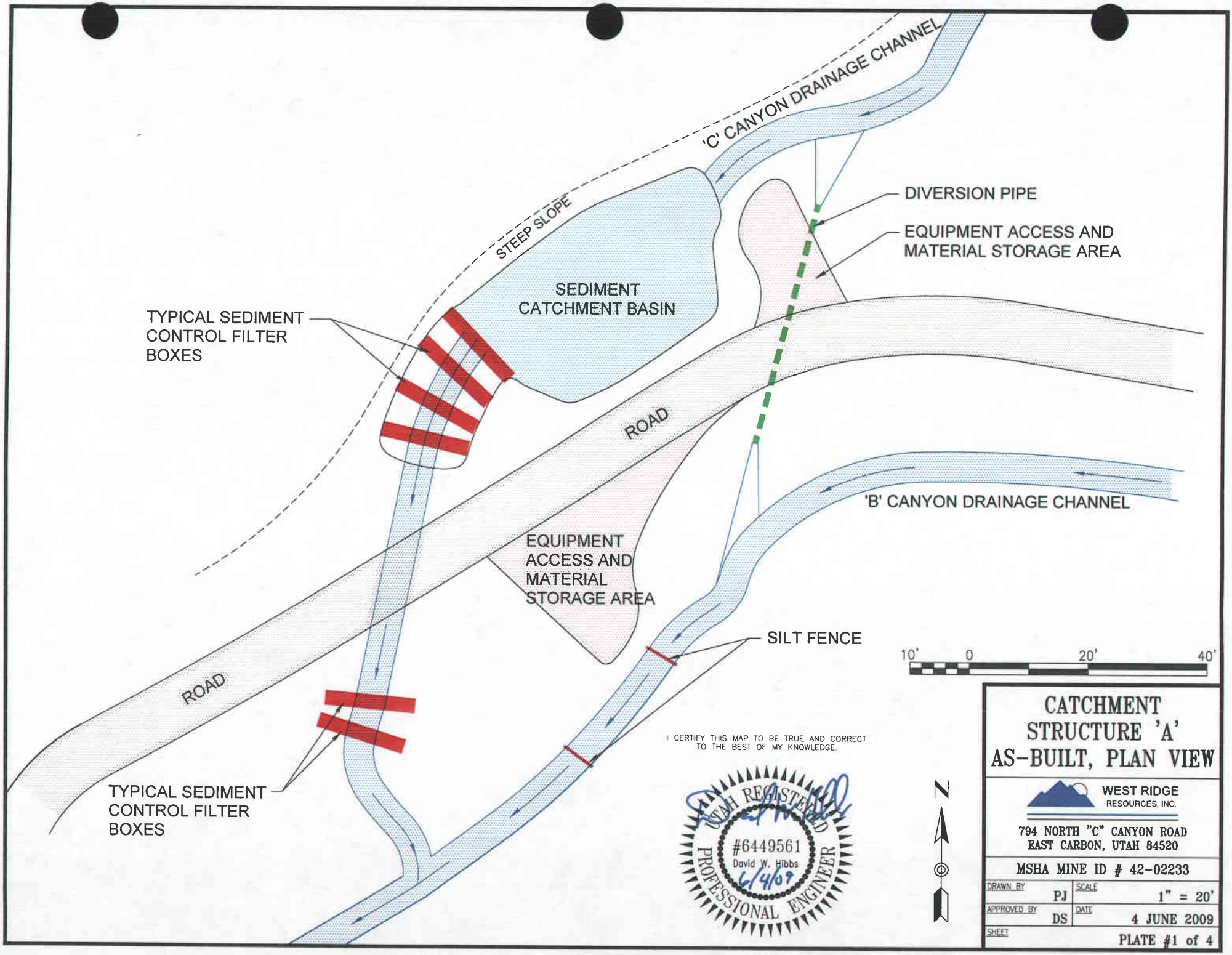
ATTACHMENT 10

AS-BUILT DRAWINGS OF CATCHMENT STRUCTURES



I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

UTAH REGISTERED #6449561 David W. Hibbs PROFESSIONAL ENGINEER 6/4/09

CATCHMENT STRUCTURE 'A' AS-BUILT, PLAN VIEW

WEST RIDGE RESOURCES, INC.

794 NORTH "C" CANYON ROAD
EAST CARBON, UTAH 84520

MSHA MINE ID # 42-02233

DRAWN BY: PJ	SCALE: 1" = 20'
APPROVED BY: DS	DATE: 4 JUNE 2009
SHEET:	PLATE #1 of 4

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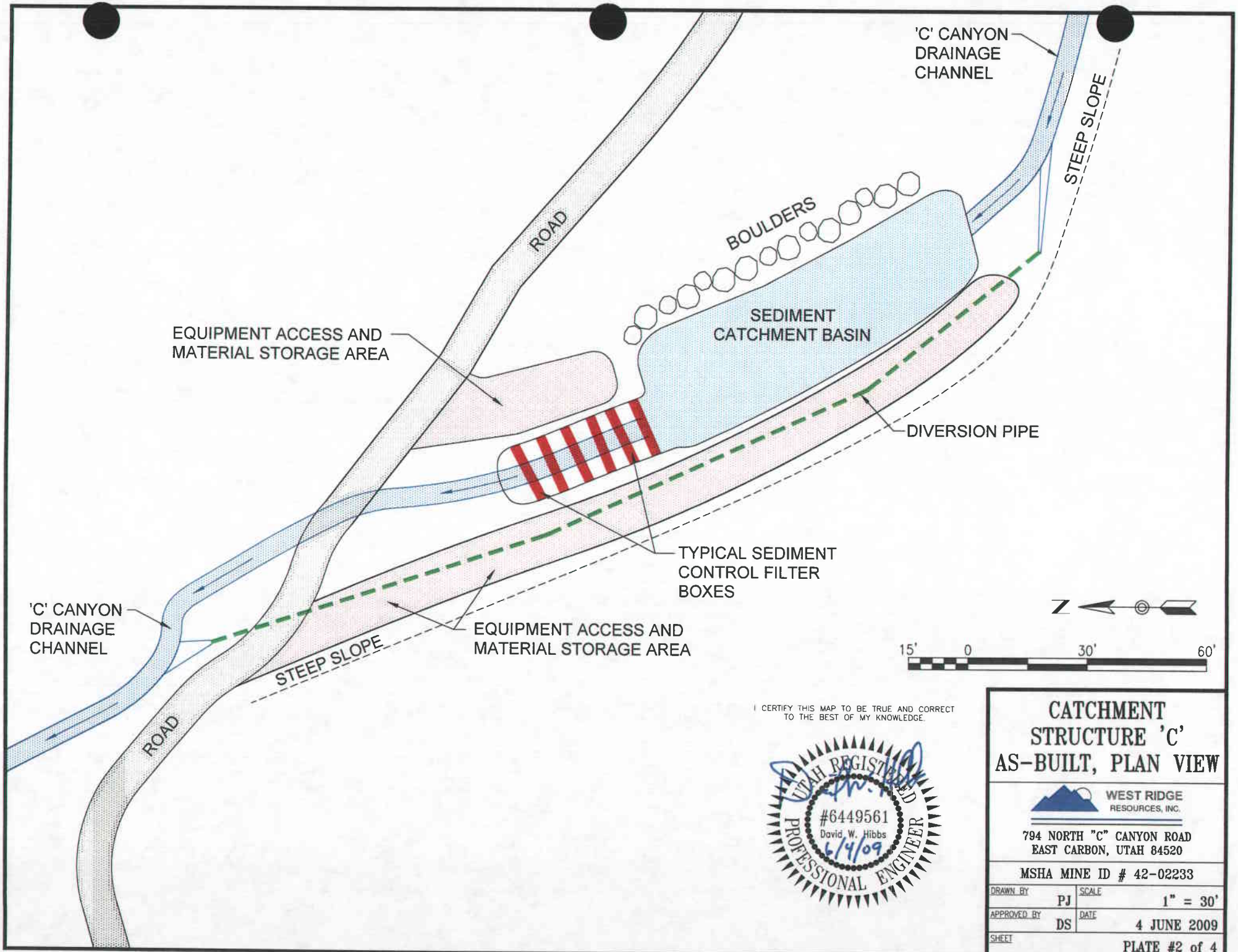

I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

UTAH REGISTERED PROFESSIONAL ENGINEER
#6449561
David W. Hibbs
6/4/09

CATCHMENT STRUCTURE 'C' AS-BUILT, PLAN VIEW

WEST RIDGE RESOURCES, INC.

794 NORTH "C" CANYON ROAD
EAST CARBON, UTAH 84520

MSHA MINE ID # 42-02233

DRAWN BY	PJ	SCALE	1" = 30'
APPROVED BY	DS	DATE	4 JUNE 2009
SHEET			PLATE #2 of 4

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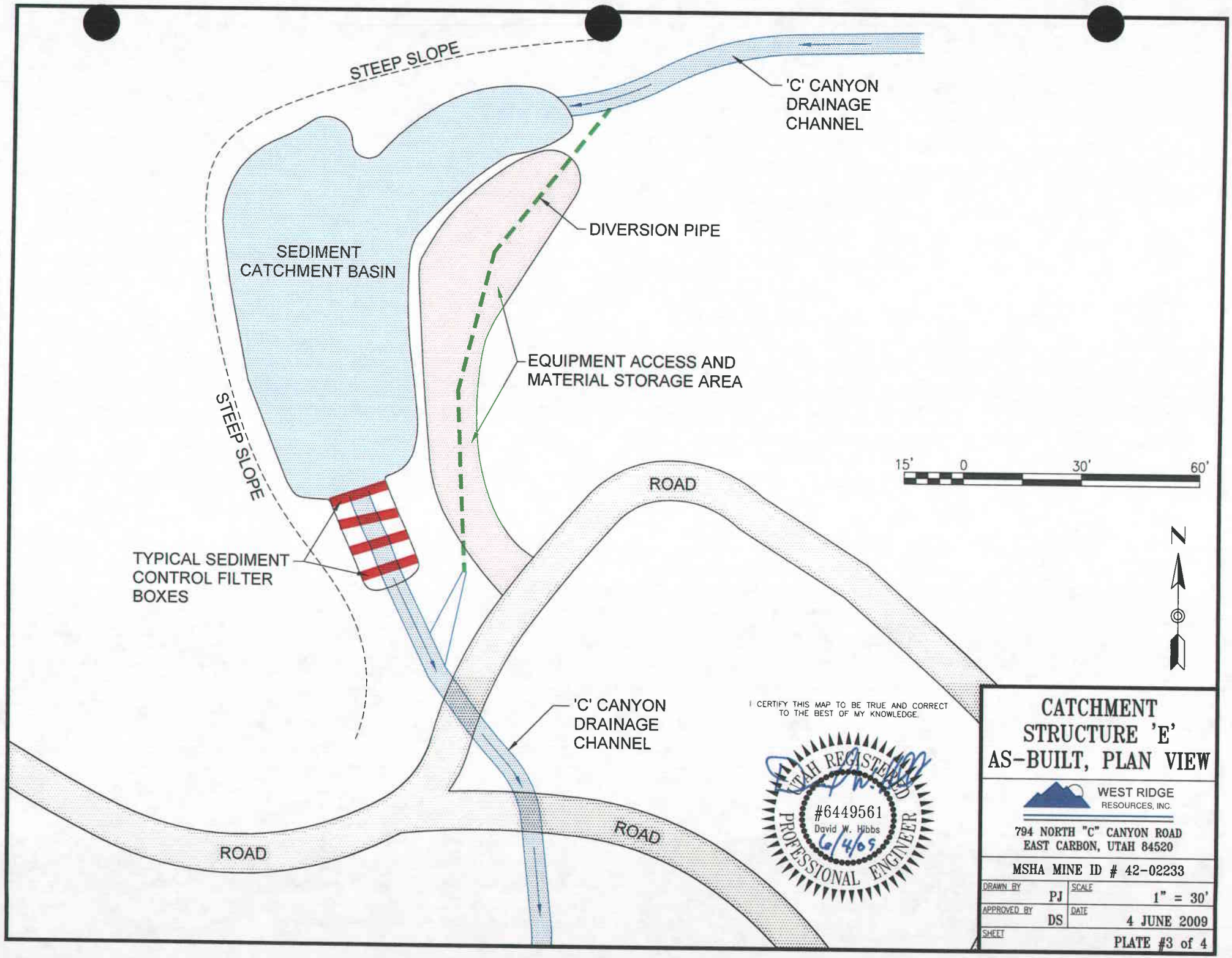

I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

UTAH REGISTERED #6449561 David W. Hibbs 6/4/09 PROFESSIONAL ENGINEER

CATCHMENT STRUCTURE 'E' AS-BUILT, PLAN VIEW

WEST RIDGE RESOURCES, INC.

794 NORTH "C" CANYON ROAD
EAST CARBON, UTAH 84520

MSHA MINE ID # 42-02233

DRAWN BY: PJ	SCALE: 1" = 30'
APPROVED BY: DS	DATE: 4 JUNE 2009
SHEET:	PLATE #3 of 4

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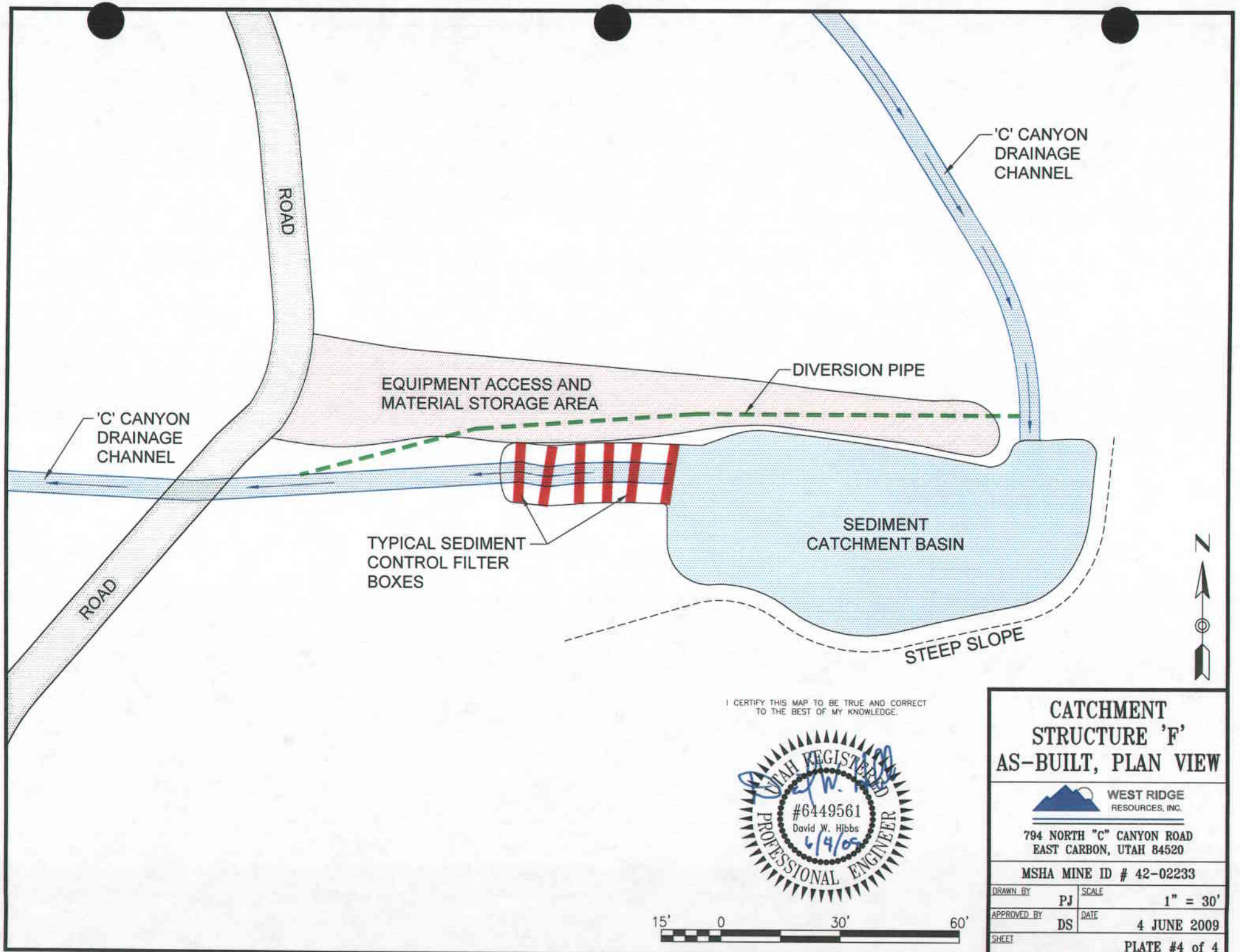

I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

UTAH REGISTERED
#6449561
David W. Hibbs
6/4/09
PROFESSIONAL ENGINEER

CATCHMENT STRUCTURE 'F' AS-BUILT, PLAN VIEW

WEST RIDGE
RESOURCES, INC.

794 NORTH "C" CANYON ROAD
EAST CARBON, UTAH 84520

MSHA MINE ID # 42-02233

DRAWN BY: PJ	SCALE: 1" = 30'
APPROVED BY: DS	DATE: 4 JUNE 2009
SHEET:	PLATE #4 of 4

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ATTACHMENT 11

LABORATORY ANALYSES OF ACCUMULATION MATERIAL

AMERICAN WEST ANALYTICAL LABORATORIES

463 West 3600 South
Salt Lake City, Utah
84115

(801) 263-8686
Toll Free (888) 263-8686
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

February 06, 2009

Karla Knoop
JBR Environmental Consultants, Inc.
8160 So. Highland Dr. Ste A-4
Sandy, UT 84093

TEL: (801) 943-4144
FAX: (801) 942-1852

RE: West Ridge

Lab Set ID: L88693

Dear Karla Knoop:

American West Analytical Labs received 1 sample on 1/28/2009 for the analyses presented in the following report.

All analyses were performed in accordance to National Environmental Laboratory Accreditation Program (NELAP) protocols unless noted otherwise. If you have any questions or concerns regarding this report please feel free to call. The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction and/or purging efficiency.

Thank you.

Approved by: _____
Laboratory Director or designee

INORGANIC ANALYSIS REPORT

Client: JBR Environmental Consultants, Inc. Contact: Karla Knoop
Project ID: West Ridge

AMERICAN WEST ANALYTICAL LABORATORIES

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Salt Lake City, Utah
84115

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e-mail: awal@awal-labs.com

Lab Sample ID: L88693-01B
Field Sample ID: **Sludge**
Collected: 1/28/2009 12:15:00 PM
Received: 1/28/2009

TOTAL METALS

Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Results	
Boron	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	150	< 150	
Calcium	mg/kg-dry	2/4/2009 6:19:00 PM	6010B	2900	**85000**	²~
Magnesium	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	290	**12000**	²
Potassium	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	290	**1500**	
Selenium	mg/kg-dry	2/2/2009 8:53:21 PM	6020	2.5	**3.7**	
Sodium	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	290	**1200**	

² - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.
~ - The reporting limits were raised due to high analyte concentrations.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYSIS REPORT

Client: JBR Environmental Consultants, Inc. Contact: Karla Knoop
Project ID: West Ridge

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Lab Sample ID: L88693-01
Field Sample ID: **Sludge**
Collected: 1/28/2009 12:15:00 PM
Received: 1/28/2009

Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Result	
Carbonate (As CaCO3)	mg/kg-dry	1/29/2009 6:20:00 AM	310.1	29	< 29	
Conductivity	µmhos/cm	1/29/2009 5:30:00 AM	9050A	10	**870**	&
Nitrate (as N)	mg/kg-dry	1/29/2009 3:34:02 PM	353.2	0.029	< 0.029	&
pH @ 25° C	pH Units	1/28/2009 10:30:00 PM	9045D	1.00	**7.92**	
Phosphorus, Total (as P)	mg/kg-dry	2/2/2009 10:59:32 AM	4500(P)F/B	7.4	**290**	1
Total Volatile Solids	% of TS	2/3/2009 6:30:00 PM	160.4	0.010	**16**	

& - Analysis is performed on a 1:1 DI water extract for soils.
1 - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYSIS REPORT

Client: JBR Environmental Consultants, Inc.
Project ID: West Ridge

Contact: Karla Knoop

AMERICAN WEST ANALYTICAL LABORATORIES

Lab Sample ID: L88693-01D
Field Sample ID: **Sludge**
Collected: 1/28/2009 12:15:00 PM
Received: 1/28/2009

Extracted: 1/29/2009
Analyzed: 1/29/2009 9:59:00 PM

Analysis Requested: TPH by SW8015B

463 West 3600 South
Salt Lake City, Utah
84115

Analytical Results — **TPH-DRO by 8015B/3545**

Units = mg/kg-dry
Dilution Factor = 1

% Moisture: 66

Compound	Reporting Limit	Analytical Result
Total Petroleum Hydrocarbon (DRO - C10-28)	59	**3600**
Surr: 4-Bromofluorobenzene	10-169	**56.0**

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QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: GC
SampType: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
LCS-44633	Total Petroleum Hydrocarbon (DR	mg/kg	TPH by SW8	1630	2000	0	81.5	25-121				1/29/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: GC
SampType: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
MB-44633	Total Petroleum Hydrocarbon (DR	mg/kg	TPH by SW8	< 20				-				1/29/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: GC
SampType: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88693-01D MS	Total Petroleum Hydrocarbon (DR	mg/kg-dry	TPH by SW8	6882	5882	3629	55.3	10-230				1/29/2009

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QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: GC
SampType: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88693-01D MSD	Total Petroleum Hydrocarbon (DR	mg/kg-dry	TPH by SW8	7176	5882	3629	60.3	10-230	4.18	98		1/29/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: ME
SampType: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
LCS-44680	Selenium	mg/kg	6020	19.06	20	0	95.3	85-115				1/30/2009
LCS-44680	Boron	mg/kg	6010B	92.03	100	0.487	91.5	75-125				2/4/2009
LCS-44680	Calcium	mg/kg	6010B	956.0	1000	0	95.6	75-125				2/4/2009
LCS-44680	Magnesium	mg/kg	6010B	937.8	1000	0	93.8	75-125				2/4/2009
LCS-44680	Potassium	mg/kg	6010B	969.9	1000	0	97.0	75-125				2/4/2009
LCS-44680	Sodium	mg/kg	6010B	946.8	1000	5.019	94.2	75-125				2/4/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: ME
SampType: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
MB-44680	Selenium	mg/kg	6020	< 0.85				-				1/30/2009
MB-44680	Boron	mg/kg	6010B	< 50				-				2/4/2009
MB-44680	Calcium	mg/kg	6010B	< 100				-				2/4/2009
MB-44680	Magnesium	mg/kg	6010B	< 100				-				2/4/2009
MB-44680	Potassium	mg/kg	6010B	< 100				-				2/4/2009
MB-44680	Sodium	mg/kg	6010B	< 100				-				2/4/2009

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Kyle F. Gross
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Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: ME
SampType: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88693-01BMS	Selenium	mg/kg-dry	6020	55.15	58.6	0	94.1	70-130				1/30/2009
L88693-01BMS	Boron	mg/kg-dry	6010B	306.0	293	37.16	91.8	75-125				2/4/2009
L88693-01BMS	Magnesium	mg/kg-dry	6010B	13700	2930	12060	55.8	75-125			[2]	2/4/2009
L88693-01BMS	Potassium	mg/kg-dry	6010B	5046	2930	1468	122	75-125				2/4/2009
L88693-01BMS	Sodium	mg/kg-dry	6010B	4630	2930	1169	118	75-125				2/4/2009
L88693-01BMS	Calcium	mg/kg-dry	6010B	90590	2930	84860	196	75-125			[2]	2/4/2009

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.
[2] - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: ME

SampType: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88693-01BMSD	Selenium	mg/kg-dry	6020	57.91	59.88	0	96.7	70-130	4.88	20		1/30/2009
L88693-01BMSD	Boron	mg/kg-dry	6010B	321.7	299.4	37.16	95.0	75-125	5.01	20		2/4/2009
L88693-01BMSD	Magnesium	mg/kg-dry	6010B	13840	2994	12060	59.2	75-125	0.995	20	[2]	2/4/2009
L88693-01BMSD	Potassium	mg/kg-dry	6010B	4650	2994	1468	106	75-125	8.17	20		2/4/2009
L88693-01BMSD	Sodium	mg/kg-dry	6010B	4193	2994	1169	101	75-125	9.90	20		2/4/2009
L88693-01BMSD	Calcium	mg/kg-dry	6010B	84410	2994	84860	-15.1	75-125	7.07	20	[2]	2/4/2009

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

[2] - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: WC
SampType: DUP

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88693-01ADUP	Conductivity	µmhos/cm	9050A	868.0	0	867		-	0.115	10	&	1/29/2009
L88693-01ADUP	pH @ 25° C	pH Units	9045D	7.940	0	7.92		-	0.252	10		1/28/2009
L88693-01ADUP	Total Volatile Solids	% of TS	160.4	15.10	0	16.1		-	6.41	20		2/3/2009

& - Analysis is performed on a 1:1 DI water extract for soils.

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Kyle F. Gross
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Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: WC
SampType: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
LCS-R91312	Alkalinity,(As CaCO3)	mg/kg	310.1	50050	50000	0	100	90-110				1/29/2009
LCS-R91310	Conductivity	µmhos/cm	9050A	999.0	1000	0	99.9	98-102				1/29/2009
LCS-44647	Nitrate (as N)	mg/kg	353.2	1.043	1	0.0063	104	90-110				1/29/2009
LCS-R91302	pH @ 25° C	pH Units	9045D	8.960	9	0	99.6	98-102				1/28/2009
LCS-44657	Phosphorus, Total (as P)	mg/kg	4500(P)F/B	51.04	50	0	102	90-110				2/2/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: WC

SampType: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
MB-R91312	Carbonate (As CaCO3)	mg/kg	310.1	< 10				-				1/29/2009
MB-R91310	Conductivity	µmhos/cm	9050A	< 10				-				1/29/2009
MB-44647	Nitrate (as N)	mg/kg	353.2	< 0.010				-				1/29/2009
MB-44657	Phosphorus, Total (as P)	mg/kg	4500(P)F/B	< 2.5				-				2/2/2009
MB-R91507	Total Volatile Solids	% of TS	160.4	< 0.010				-				2/3/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc. **Dept:** WC
Work Order: L88693
Project: West Ridge **SampType:** MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88693-01AMS	Alkalinity,(As CaCO3)	mg/kg-dry	310.1	59420	14710	44430	102	80-120			&	1/29/2009
L88693-01CMS N	Nitrate (as N)	mg/kg-dry	353.2	3.505	2.941	0	119	80-120			&	1/29/2009
L88693-01CMS	Phosphorus, Total (as P)	mg/kg-dry	4500(P)F/B	428.8	147.1	293.6	91.9	80-120				2/2/2009

& - Analysis is performed on a 1:1 DI water extract for soils.

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Jose Rocha
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QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88693
Project: West Ridge

Dept: WC
SampType: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88693-01AMSD	Alkalinity,(As CaCO3)	mg/kg-dry	310.1	58350	14710	44430	94.6	80-120	1.82	10	&	1/29/2009
L88693-01CMSD	Nitrate (as N)	mg/kg-dry	353.2	3.104	2.941	0	106	80-120	12.1	20	&	1/29/2009
L88693-01CMSD	Phosphorus, Total (as P)	mg/kg-dry	4500(P)F/B	475.6	147.1	293.6	124	80-120	10.4	20	1	2/2/2009

& - Analysis is performed on a 1:1 DI water extract for soils.

1 - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

American West Analytical Labs

WORK ORDER Summary

29-Jan-09

Work Order L88693

Client ID: JBR400 **QC Level:** QC 2+

Project: West Ridge **Location:** HdCB DB **Contact:** Karla Knoop

Comments: PA Rush; QCLevel: QC 2+ / Sample sent to: IGES & ACZ labs for tests which we do not perform.

Sample ID	Client Sample ID	Collection Date	Date Received	Date Due	Matrix	Test Code	Storage	
L88693-01A	Sludge	1/28/2009 12:15:00 PM	1/28/2009	2/6/2009	Sludge	ALK-S	jan 28 wc	1
				2/6/2009		COND-A-S	jan 28 wc	1
				2/6/2009		PH-9045D	jan 28 wc	1
				2/6/2009		Soil_Prep	jan 28 wc	1
				2/6/2009		TVS-S	jan 28 wc	1
L88693-01B				2/6/2009		3051A-ICPMS	jan 28 metals	1
				2/6/2009		6020-S	jan 28 metals	1
				2/6/2009		ICP-S	jan 28 metals	1
				2/6/2009		PMOIST	jan 28 metals	1
L88693-01C				2/6/2009		NO3-S	jan 28 no3 - po4	1
				2/6/2009		Phos-S_Prep	jan 28 no3 - po4	1
				2/6/2009		PMOIST	jan 28 no3 - po4	1
				2/6/2009		PO4-TS-4500PF	jan 28 no3 - po4	1
				2/6/2009		Soil_Prep	jan 28 no3 - po4	1
L88693-01D				2/6/2009		3545-TPH	hall - tph	1
				2/6/2009		8015-S-TPH	hall - tph	1
				2/6/2009		PMOIST	hall - tph	1
L88693-01E				2/6/2009		OUTSIDE LAB	IGES	2
L88693-01F							hold	3
L88693-01G				2/6/2009		OUTSIDE LAB	azc	1

Karla - 435-851-9645

Client JBR ENVIRONMENTAL

Address 8160 SO HIGHLAND DR.

SANDY (City) UT (State) 84093 (Zip)

Phone 801.943.4144 Fax 801.942.1852

Contact Karla Knoop

E-mail KKnoop@jbrenv.com

Project Name WEST RIDGE

Project Number/P.O.#

Sampler Name J. SAGE

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CHAIN OF CUSTODY

Lab Sample Set # S8693

Page _____ of _____

Turn Around Time (Circle One)

1 day 2 day 3 day 4 day 5 day Standard

Sample ID	Date/Time Collected	Matrix	Number of Containers (Total)	SEE ATTACHED SHEETS	COMMENTS
SLUDGE	1/28/09 1215	S		X	

QC LEVEL: 1 2 2+ 3 3+ 4

LABORATORY USE ONLY

SAMPLES WERE:
1 Shipped or hand delivered
Notes:
2 Ambient or Chilled
Notes:
3 Temperature 3.8°
4 Received Broken/Leaking (Improperly Sealed) Y N
Notes:
5 Properly Preserved Y N
Notes:
6 Received Within Holding Times Y N
Notes:

COC Tape Was:
1 Present on Outer Package Y N NA
2 Unbroken on Outer Package Y N NA
3 Present on Sample Y N NA
4 Unbroken on Sample Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record? Y N
Notes:

Relinquished By: Signature	Date	Received By: Signature
PRINT NAME: JAMES R SAGE	Time: 1551	PRINT NAME: Elena Hayes
Relinquished By: Signature	Date	Received By: Signature
PRINT NAME	Time	PRINT NAME
Relinquished By: Signature	Date	Received By: Signature
PRINT NAME	Time	PRINT NAME
Relinquished By: Signature	Date	Received By: Signature
PRINT NAME	Time	PRINT NAME

Special Instructions:

* SEE ATTACHED SHEETS

Needs by Thurs. Feb 6th

For Westridge sludge - Jamey Sage

Table 3. Analytical Methods For Baseline Soil Characterization

Test to be Performed	Reported As	Suggested Methods[1]
already done → -pH	saturated paste standard units	Soil Science Society of America. 1996. Series No. 5. Methods of Soil Analysis: Part 3 - Chemical Methods. Chapter 14, page 420 and Chapter 16, page 487.
IGES Saturation %	%	USDA-NRCS.1996. Soil Survey Laboratory Methods Manual.(SSIR No 42) ver. 3.0, Method 8A, page 402.
-EC.	dS/m @ 25°C (or mmhos/cm)	Ibid. Chapter 14, pp 420 - 422 and pp 427 - 431.
-Soluble Na, K, Mg, Ca	meq/L	Ibid. Chapters 14 pp 420-422 (saturation extract);Chapter 19 pp 555-557; Chapter 20 pp586-590 (spectroscopic methods).
-Available NO_3-N	mg/Kg	Soil Science Society of America. 1996. Series No. 5. Methods of Soil Analysis: Part 3 - Chemical Methods. Chapter 38. p 1129 (KCl extraction). For analysis follow: Sims, J.R. and G.D. Jackson. 1971. Rapid Analysis of Soil Nitrate with Chromotropic Acid. Soil Sci. Soc. Am. Proc. 35-603-606.
-Available Phosphorus	mg/Kg	Soil Science Society of America. 1996. Series No. 5. Methods of Soil Analysis: Part 3 - Chemical Methods. Chapter 32, page 895. ($NaHCO_3$ Extraction.)
IGES Particle Size Analysis	% very fine sand, sand, silt, clay	Soil Science Society of America. 1986. Series No. 5. Methods of Soil Analysis: Part 1 - Physical and Mineralogical Methods. Chapter 15 pp 398 and 404-409 (Hydrometer Method).
-Organic Matter	%	Western States Laboratory Proficiency Testing Program Soil and Plant Analytical Methods. 1998. v 4.10. p 86. (Loss on Ignition, convert %LOI to OM by regression intercept value as noted in method)
-$CaCO_3$ %	%	Ibid. p. 99 (Soil Carbonates, Gravimetric Determination after extraction with 3 M HCl.) Total Inorganic Carbon = %$CaCO_3$ x 0.12.
-Extractable Potassium	meq/100 g^{-1}	Western States Laboratory Proficiency Testing Program Soil and Plant Analytical Methods. 1998. v 4.10. p 73

[1] Laboratories vary in their capabilities. Specify these recommended methods to the laboratory. Use of other methods should be discussed with the Division.

Table 7. Additional Analyses Required for Substitute Topsoil, Overburden, Spoil, and Coal Mine Waste.

PARAMETERS	Reported As	RECOMMENDED METHOD
Total Organic Carbon (already doing A2c)	%	Western States Laboratory Proficiency Testing Program Soil and Plant Analytical Methods. 1998. v 4.10. p 88. (Combustion Method)
Soluble Selenium (+ AWAL will do this)	mg/kg	Soil Science Society of America. Methods of Soil Analysis: Part 3 - Chemical Methods. Series No. 5, 1996.Chapter 30. pp 805 - 811. (Hydride Generation Atomic Absorption-Spectrometry and Fluorimetry of water extractable selenium)
Available Boron (+ AWAL will do this)	mg/kg	Soil Science Society of America. Methods of Soil Analysis: Part 3 - Chemical Methods. Series No. 5, 1996.Chapter 21. p 611 (saturation extract).
Acid Potential (already doing)	% pyritic S	U.S. EPA, 1978, EPA 600/278-054. Method 3.2.6, pg 60
Neutralization Potential (already doing A2c)	Tons $CaCO_3$ equivalent/1000 tons	U.S. EPA, 1978, EPA 600/278-054. Method 3.2.3, pg 47

Noah,
we need to have results by Feb 6th.
If this incurrs a rush fee, that's ok.
Thanks for your time,
Elma

Noah S@ACZ labs.com

Karla Knoop

From: Karla Knoop [kknoop@jbrenv.com]
Sent: Monday, January 26, 2009 11:42 AM
To: 'darwinsage@gmail.com'
Subject: West Ridge goop sampling

Jamey,

Thanks for the help!

What we know is the material is sludgy/goopy/and most probably comprised in part of coal fines. It has been conveyed in the water that is pumped out of the mine and become deposited/accumulated on the banks to a depth of a couple inches. It would be hard to get gallons of it, but we could get a few ounces fairly easily. The consistency is like sloppy mud and the particles are very fine.

We would want to analyze for:
pH, total organic carbon (TOC), total petroleum hydrocarbons (TPH), acid potential (% pyritic sulfur), neutralization potential (% calcium carbonate).

What we need to know:
Sample containers, volume needed, protocol for collection.
Protocol for storage (iced, etc.), holding times.

We would probably want a rush analysis.

Thanks,

Karla

Karla Knoop, Hydrologist
jbr Environmental Consultants, Inc.
phone (435) 637-9645
fax (435) 637-8679
kknoop@jbrenv.com

West Ridge Solids Discharge (sampled 1/28/09)
Initial Analysis

Analyte	Units	Analytical Result
pH	saturated paste standard units	7.92
Total Organic Carbon	%	16.3
Total Petroleum Hydrocarbons (DRO C10-28)	mg/Kg	3600
Total Volatile Solids	% of total solids	16
Acid Generation Potential	Tons $CaCO_3$ equivalent/1000 tons	53
Acid Neutralization Potential	Tons $CaCO_3$ equivalent/1000 tons	293
Acid-Base Potential	Tons $CaCO_3$ equivalent/1000 tons	240
Neutralization Potential	%	29.3
Sulfur (organic)	%	0.92
Sulfur (pyritic sulfide)	%	0.35
Sulfur (sulfate)	%	0.44
Total sulfur	%	1.71
Specific Gravity (of solids)	Gs	2.052

DOGM-Requested Table 3 Analytes

Analyte	Units	Analytical Result
pH	saturated paste standard units	7.92
Saturation %	%	96.55
EC_e	µmhos/cm	870
Sodium	mg/Kg	1200
Potassium	mg/Kg	1500
Magnesium	mg/Kg	12000
Calcium	mg/Kg	85000
Nitrate (as N)	mg/Kg	<0.029
Total Phosphorus (as P)	mg/Kg	290
Particle Size Analysis	% <200 sieve	75.5
$CaCO_3$	mg/Kg	<29

DOGM-Requested Table 7 Analytes

Analyte	Units	Analytical Result
Total Organic Carbon	%	16.3
Selenium	mg/kg	3.7
Boron	mg/kg	<150
Acid Generation Potential	Tons $CaCO_3$ equivalent/1000 tons	53
Neutralization Generation Potential	Tons $CaCO_3$ equivalent/1000 tons	293

Saturation of Soil

Project: AWAL
No: M00754-004 (P.O.# 88693)
Location:
Date: 2/3/2009
By: NB

Sample Info.	Boring No.								
	Sample:	Sludge							
	Depth:								
Unit Weight Data	Mass jar + moist soil (g)	271.85							
	Mass jar (g)	119.71							
	Moist soil, Ms (g)	152.14							
	Mass. jar + water (g)	247.16							
	Water temperature (°C)	19.0							
	Mass water (g)	127.45							
	Dens. of wat. at T (g/cc)	0.998410							
	Sample volume, V (cc)	127.65							
	Dens. soil (g/cc)	1.192							
	Dry dens. soil (g/cc)	0.4274							
Moisture Data	Wet soil + tare (g)	363.20							
	Dry soil + tare (g)	244.81							
	Tare (g)	178.62							
	Moisture content (%)	178.86							
Specific gravity of solids, Gs		2.052							
Volume of solids, Vs (cc)		26.59							
Volume of water, Vw (cc)		97.58							
Volume of voids, Vv (cc)		101.07							
Volume of air, Va (cc)		3.48							
Void ratio, e		3.801							
Porosity, n		0.792							
Saturation (%)		**96.55**							

Entered by:_____
Reviewed:_____

Particle-Size Analysis of Soils

(ASTM D422)

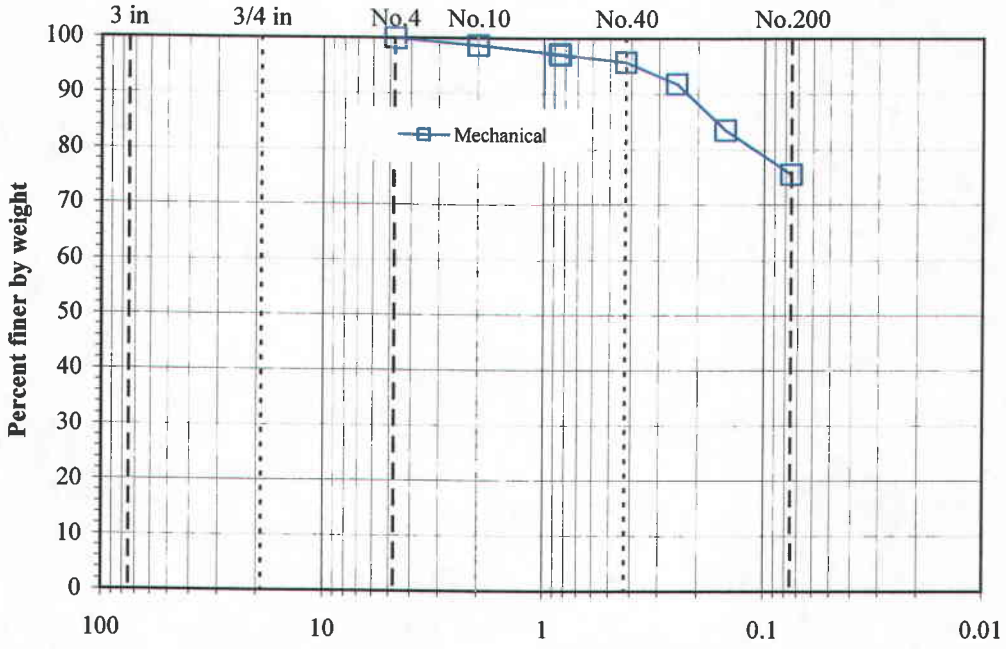
Project: AWAL
No: M00754-004 (P.O. 88693)
Location:
Date: 1/30/2009
By: NB

Boring No.:
Sample: Sludge
Depth:
Description: Dark brown silt with sand

Split:	No	
	-	
	Moist	Dry
Total sample wt. (g):	184.58	66.2
Split fraction:	1.000	

Moisture data		
Moist soil + tare (g):	-	363.20
Dry soil + tare (g):	-	244.81
Tare (g):	-	178.62
Moisture content (%):	0.0	178.9

Sieve	Accum. Wt. Ret. (g)	Grain Size (mm)	Percent Finer
12"	-	300	-
8"	-	200	-
6"	-	150	-
4"	-	100	-
3"	-	75	-
1.5"	-	37.5	-
3/4"	-	19	-
3/8"	-	9.5	-
No.4	-	4.75	100.0
No.10	0.88	2	98.7
No.20	1.89	0.85	97.1
No.40	2.82	0.425	95.7
No.60	5.45	0.25	91.8
No.100	10.92	0.15	83.5
No.200	16.21	0.075	75.5



Entered by:_____
Reviewed:_____

Z:\PROJECTS\M00754_AWAL\004\[GSDv1.xls]1

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

February 06, 2009

Report to:
Elona Hayward
American West Analytical Labs
463 West 3600 South
Salt Lake City, UT 84115

Bill to:
Lynn Turner
American West Analytical Labs
463 West 3600 South
Salt Lake City, UT 84115

Project ID: 88693
ACZ Project ID: L74216

Elona Hayward:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 02, 2009. This project has been assigned to ACZ's project number, L74216. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L74216. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 06, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Tony Antalek has reviewed and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

American West Analytical Labs
Project ID: 88693
Sample ID: SLUDGE

ACZ Sample ID: ***L74216-01***
Date Sampled: *01/28/09 12:15*
Date Received: *02/02/09*
Sample Matrix: *Sludge*

Soil Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	M600/2-78-054 1.3	53			t CaCO3/Kt	1	5	02/06/09 11:15	calc
Acid Neutralization Potential (calc)	M600/2-78-054 1.3	293			t CaCO3/Kt	1	5	02/06/09 11:15	calc
Acid-Base Potential (calc on Sulfur total)	M600/2-78-054 1.3	240			t CaCO3/Kt	1	5	02/06/09 11:15	calc
Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	16.3	*		%	0.1	0.5	02/05/09 15:00	lwt
Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	29.3	*		%	0.1	0.5	02/05/09 19:30	mjc/brd
Solids, Percent	CLPSOW390, PART F, D-98	43.8	*		%	0.1	0.5	02/03/09 0:30	lwt
Sulfur Forms	M600/2-78-054 3.2.4								
Sulfur Organic Residual		0.92	*		%	0.01	0.1	02/06/09 0:00	lwt
Sulfur Pyritic Sulfide		0.35	*		%	0.01	0.1	02/06/09 0:00	lwt
Sulfur Sulfate		0.44	*		%	0.01	0.1	02/06/09 0:00	lwt
Sulfur Total		1.71	*		%	0.01	0.1	02/06/09 0:00	lwt
Total Sulfur minus Sulfate		1.27	*		%	0.01	0.1	02/06/09 0:00	lwt

Soil Preparation

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972							02/02/09 16:15	lwt

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic QC Summary

American West Analytical Labs
Project ID: 88693

ACZ Project ID: ***L74216***

Carbon, total organic (TOC) ASA No.9 29-2.2.4 Combustion/IR

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG259444													
WG259444PBS	PBS	02/05/09 15:00				U	%		-0.3	0.3			
L74216-01DUP	DUP	02/05/09 15:00			16.3	17.7	%				8.2	20	

Neutralization Potential as CaCO3 M600/2-78-054 3.2.3

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG259445													
WG259445LCSS	LCSS	02/05/09 17:00	PCN20880	100		83.5	%	83.5	80	120			
L74216-01DUP	DUP	02/05/09 22:00			29.3	28.4	%				3.1	20	

Solids, Percent CLPSOW390, PART F, D-98

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG259262													
WG259262PBS	PBS	02/02/09 16:00				U	%		99.9	100.1			
L74216-01DUP	DUP	02/03/09 9:00			43.8	43.08	%				1.7	20	

Sulfur Organic Residual M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG259443													
L74216-01DUP	DUP	02/06/09 10:00			.92	.92	%				0	20	

Sulfur Pyritic Sulfide M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG259443													
L74216-01DUP	DUP	02/06/09 10:00			.35	.4	%				13.3	20	

Sulfur Sulfate M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG259443													
L74216-01DUP	DUP	02/06/09 10:00			.44	.49	%				10.8	20	

Sulfur Total M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG259443													
WG259443PBS	PBS	02/05/09 15:00				U	%		-0.03	0.03			
WG259443LCSS	LCSS	02/05/09 21:20	PCN31560	4.24		3.93	%	92.7	80	120			
L74216-01DUP	DUP	02/06/09 10:00			1.71	1.81	%				5.7	20	

Total Sulfur Minus Sulfate M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG259443													
L74216-01DUP	DUP	02/06/09 10:00			1.27	1.32	%				3.9	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

American West Analytical Labs

ACZ Project ID: ***L74216***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

Soil Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ

Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR
Neutralization Potential as CaCO3	M600/2-78-054 3.2.3
Solids, Percent	CLPSOW390, PART F, D-98
Sulfur Forms	M600/2-78-054 3.2.4

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

American West Analytical Labs
88693

ACZ Project ID:	L74216
Date Received:	2/2/2009
Received By:	
Date Printed:	2/2/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA7821	6.4	13

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

American West Analytical Labs
88693

ACZ Project ID: L74216
Date Received: 2/2/2009
Received By:

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L74216-01	SLUDGE									X		☐

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

American West Analytical Laboratories

Chain of Custody

Lab Sample Set # L742116

Page 1 of 1

Client: American West Analytical Laboratories
Address: 463 W. 3600 S.
Salt Lake City, UT 84115

Project Name:
PO#: **88693**

Contact: Elona Hayward
Phone: (801) 263-8686
Fax: (801) 263-8687
Email: elona@awal-labs.com
rebekah@awal-labs.com

QC Level:
Turn Around Time
need results by 2/6/09

	Sample ID:	Date Sampled	Time	# of Containers	Sample Matrix	**Acid Potential**	**Neutralization Potential**	**% Pyritic Sulfur**	**TOC (total organic carbon)**	Comments
1	**Sludge**	1/28/2009	12:15	1	sl	x	x	x	x	
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Please contact Elona Hayward at AWAL with questions (888) 263-8686.

Appropriate Utah state certifications required.

Sample sent to ACZ Labs

Samples Were:
1 Shipped or hand delivered
2 Ambient or Chilled
3 Temperature
4 Received Broken/Leaking (Improperly Sealed) Y N
5 Properly Preserved Y N
6 Received Within Holding Times Y N

COC Tape Was:
1 Present on Outer Package Y N NA
2 Unbroken on Outer Package Y N NA
3 Present on Sample Y N NA
4 Unbroken on Sample Y N NA

Discrepancies Between Sample Labels and COC Record? Y N

Special Instructions: **Include project name and PO# on final report and Invoice. Email results to both Elona and Rebekah.**

Relinquished by: *Signature*	Date: 1-29-09	Received by: *Signature*	Date: 2.2.09
Print Name Elma Hayward	Time: 1400	*Print Name* L. Graham	Time: 10:39
Relinquished by: *Signature*	Date:	Received by: *Signature*	Date:
Print Name	Time:	*Print Name*	Time:

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Elona Hayward
American West Analytical Labs
463 West 3600 South
Salt Lake City, UT 84115

1/30/2009

Quote Number: SLUDGE-ANP-TOC

Matrix: Sludge American West: TOC and ANP (1) Sample

Parameter	Method	Detection Limit	Cost/Sample
Misc.			
Electronic Data Deliverable			$0.00
Quality Control Summary			$0.00
Sample Preparation			
Air Dry at 34 Degrees C	USDA No. 1, 1972		$21.00
Soil Analysis			
Acid Generation Potential (calc on S	M600/2-78-054 1.3	Calculation	$0.00
Acid Neutralization Potential (calc)	M600/2-78-054 1.3	Calculation	$0.00
Acid-Base Potential (calc on Sulfur t	M600/2-78-054 1.3	Calculation	$0.00
Carbon, total organic (TOC)	ASA No.9 29-2.2.4 Combustion/IR	0.1 %	$108.00
Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	0.1 %	$42.00
Solids, Percent	CLPSOW390, PART F, D-98	0.1 %	$21.00
Sulfur Forms	M600/2-78-054 3.2.4	0.01 %	$174.00
		Cost/Sample:	**$366.00**

This quote is based on an expedited turn around time of 3-5 business days upon sample receipt. Additional sample preparation may be necessary depending on sample characteristics. Tony Antalek is your project manager at ACZ. Please contact him at tonya@acz.com or 970-879-6590 x107.

AMERICAN
WEST
ANALYTICAL
LABORATORIES

463 West 3600 South
Salt Lake City, Utah
84115

(801) 263-8686
Toll Free (888) 263-8686
Fax (801) 263-8687
e-mail: awal@awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

February 16, 2009

Karla Knoop
JBR Environmental Consultants, Inc.
8160 So. Highland Dr. Ste A-4
Sandy, UT 84093

TEL: (801) 943-4144
FAX: (801) 942-1852

RE: Westridge

Lab Set ID: L88921

Dear Karla Knoop:

American West Analytical Labs received 1 sample on 2/12/2009 for the analyses presented in the following report.

All analyses were performed in accordance to National Environmental Laboratory Accreditation Program (NELAP) protocols unless noted otherwise. If you have any questions or concerns regarding this report please feel free to call. The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction and/or purging efficiency.

Thank you.

Approved by: Jose G. Rocha
Laboratory Director or designee

AMERICAN WEST ANALYTICAL LABORATORIES

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYSIS REPORT

Client: JBR Environmental Consultants, Inc.
Project ID: Westridge

Contact: Karla Knoop

Lab Sample ID: L88921-01B
Field Sample ID: **Sludge #2**
Collected: 2/12/2009 3:07:00 PM
Received: 2/12/2009

Extracted: 2/13/2009
Analyzed: 2/13/2009 2:43:00 PM

Analysis Requested: Semi-Volatiles by SW 8270C

Analytical Results — **Semivolatile Organics by 8270C/3580A**

Units = mg/kg-dry
Dilution Factor = 1

% Moisture: 56

Compound	Reporting Limit	Analytical Result
Benzoic acid	340	< 340
Benzyl alcohol	140	< 140
2-Chlorophenol	110	< 110
2,4-Dichlorophenol	110	< 110
2,4-Dimethylphenol	110	< 110
4,6-Dinitro-2-methylphenol	340	< 340
2,4-Dinitrophenol	340	< 340
2-Methylphenol	110	< 110
3 & 4-Methylphenol	110	< 110
2-Nitrophenol	110	< 110
4-Nitrophenol	340	< 340
4-Chloro-3-methylphenol	140	< 140
Pentachlorophenol	340	< 340
Phenol	110	< 110
2,4,6-Trichlorophenol	110	< 110
2,4,5-Trichlorophenol	110	< 110
Acenaphthene	110	< 110
Acenaphthylene	110	< 110
Aniline	110	< 110
Anthracene	110	< 110
Benzidine	110	< 110
Benz(a)anthracene	110	< 110
Benzo(a)pyrene	110	< 110
Benzo(b)fluoranthene	110	< 110
Benzo(g,h,i)perylene	110	< 110
Benzo(k)fluoranthene	110	< 110
Bis(2-chloroethoxy)methane	110	< 110
Bis(2-chloroethyl)ether	110	< 110
Bis(2-chloroisopropyl)ether	110	< 110

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Lab Sample ID: L88921-01B
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Analyzed: 2/13/2009 2:43:00 PM

Analysis Requested: Semi Volatiles by SW 8270C

Analytical Results — **Semivolatile Organics by 8270C/3580A**

Units = mg/kg-dry
Dilution Factor = 1

% Moisture: 56

Compound	Reporting Limit	Analytical Result
Bis(2-ethylhexyl)phthalate	110	< 110
4-Bromophenyl phenyl ether	110	< 110
4-Chloroaniline	110	< 110
Butyl benzyl phthalate	110	< 110
2-Chloronaphthalene	110	< 110
4-Chlorophenyl phenyl ether	110	< 110
Chrysene	110	< 110
Dibenz(a,h)anthracene	110	< 110
Dibenzofuran	110	< 110
1,2-Dichlorobenzene	110	< 110
1,3-Dichlorobenzene	110	< 110
1,4-Dichlorobenzene	110	< 110
3,3'-Dichlorobenzidine	110	< 110
Diethyl phthalate	110	< 110
Dimethyl phthalate	110	< 110
Di-n-butyl phthalate	110	< 110
2,4-Dinitrotoluene	110	< 110
2,6-Dinitrotoluene	110	< 110
Di-n-octyl phthalate	110	< 110
Fluoranthene	110	< 110
Fluorene	110	< 110
Hexachlorobenzene	110	< 110
Hexachlorobutadiene	110	< 110
Hexachlorocyclopentadiene	110	< 110
Hexachloroethane	110	< 110
Indene	110	< 110
Indeno(1,2,3-cd)pyrene	110	< 110
Isophorone	110	< 110
1-Methylnaphthalene	110	< 110
2-Methylnaphthalene	110	< 110
Naphthalene	110	< 110
2-Nitroaniline	110	< 110
3-Nitroaniline	110	< 110

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Lab Sample ID: L88921-01B
Field Sample ID: **Sludge #2**
Collected: 2/12/2009 3:07:00 PM
Received: 2/12/2009

Extracted: 2/13/2009
Analyzed: 2/13/2009 2:43:00 PM

Analysis Requested: Semi Volatiles by SW 8270C

Analytical Results — **Semivolatile Organics by 8270C/3580A**

Units = mg/kg-dry
Dilution Factor = 1

% Moisture: 56

Compound	Reporting Limit	Analytical Result
4-Nitroaniline	110	< 110
Nitrobenzene	110	< 110
N-Nitrosodimethylamine	110	< 110
N-Nitrosodi-n-propylamine	110	< 110
N-Nitrosodiphenylamine	110	< 110
Phenanthrene	110	< 110
Pyrene	110	< 110
Pyridine	340	< 340
Quinoline	110	< 110
1,2,4-Trichlorobenzene	110	< 110
Surr: 2,4,6-Tribromophenol	10-228	**62.6**
Surr: 2-Fluorobiphenyl	10-179	**130**
Surr: 2-Fluorophenol	10-178	**93.2**
Surr: 4-Terphenyl-d14	10-143	**87.5**
Surr: Nitrobenzene-d5	10-328	**83.1**
Surr: Phenol-d6	10-218	**100**

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ORGANIC ANALYSIS REPORT

Client: JBR Environmental Consultants, Inc.
Project ID: Westridge

Contact: Karla Knoop

Lab Sample ID: L88921-01A
Field Sample ID: **Sludge #2**
Collected: 2/12/2009 3:07:00 PM
Received: 2/12/2009

Analyzed: 2/14/2009 7:06:00 PM

Analysis Requested: 8260B/5030B

Analytical Results — **VOCs (AWAL) by GC/MS 8260B**

Units = µg/kg-dry
Dilution Factor = 50

% Moisture: 56

Compound	Reporting Limit	Analytical Result
Dichlorodifluoromethane	230	< 230
Chloromethane	570	< 570
Vinyl chloride	110	< 110
Bromomethane	570	< 570
Chloroethane	230	< 230
Trichlorofluoromethane	230	< 230
1,1-Dichloroethene	230	< 230
1,1,2-Trichloro-1,2,2-trifluoroethane	230	< 230
Acetone	1100	< 1100
Carbon disulfide	230	< 230
Methyl Acetate	570	< 570
Methylene chloride	570	< 570
trans 1,2-Dichloroethene	230	< 230
Methyl tert-butyl ether	230	< 230
1,1-Dichloroethane	230	< 230
cis 1,2-Dichloroethene	230	< 230
2-Butanone	1100	< 1100
Chloroform	230	< 230
1,1,1-Trichloroethane	230	< 230
Cyclohexane	230	< 230
Carbon tetrachloride	230	< 230
Benzene	230	< 230
1,2-Dichloroethane	230	< 230
Trichloroethene	230	< 230
Methylcyclohexane	230	**400**
1,2-Dichloropropane	230	< 230
Bromodichloromethane	230	< 230
cis 1,3-Dichloropropene	230	< 230
4-Methyl-2-pentanone	570	< 570

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Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: L88921-01A
Field Sample ID: **Sludge #2**
Collected: 2/12/2009 3:07:00 PM
Received: 2/12/2009

Analyzed: 2/14/2009 7:06:00 PM

Analysis Requested: 8260B/5030B

Analytical Results — **VOCs (AWAL) by GC/MS 8260B**

Units = µg/kg-dry
Dilution Factor = 50

% Moisture: 56

Compound	Reporting Limit	Analytical Result
Toluene	230	< 230
trans 1,3-Dichloropropene	230	< 230
1,1,2-Trichloroethane	230	< 230
Tetrachloroethene	230	< 230
2-Hexanone	570	< 570
Dibromochloromethane	230	< 230
1,2-Dibromoethane	230	< 230
Chlorobenzene	230	< 230
Ethylbenzene	230	< 230
Xylenes, Total	230	**330**
Styrene	230	< 230
Bromoform	230	< 230
Isopropylbenzene	230	< 230
1,1,2,2-Tetrachloroethane	230	< 230
1,3-Dichlorobenzene	230	< 230
1,4-Dichlorobenzene	230	< 230
1,2-Dichlorobenzene	230	< 230
1,2-Dibromo-3-chloropropane	570	< 570
1,2,4-Trichlorobenzene	230	< 230
Naphthalene	230	**270**
Surr: 1,2-Dichloroethane-d4	72-139	**101**
Surr: 4-Bromofluorobenzene	71-144	**97.3**
Surr: Dibromofluoromethane	73-126	**98.5**
Surr: Toluene-d8	72-129	**99.6**

The reporting limits were raised due to sample matrix interferences.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSSEMI
SampType: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
LCS-44894	1,2,4-Trichlorobenzene	mg/kg	Semi Volatil	75.80	100	0	75.8	35-109				2/13/2009
LCS-44894	1,4-Dichlorobenzene	mg/kg	Semi Volatil	96.10	100	0	96.1	40-116				2/13/2009
LCS-44894	2,4,6-Trichlorophenol	mg/kg	Semi Volatil	55.10	100	0	55.1	46-141				2/13/2009
LCS-44894	2,4-Dimethylphenol	mg/kg	Semi Volatil	76.80	100	0	76.8	30-133				2/13/2009
LCS-44894	2,4-Dinitrotoluene	mg/kg	Semi Volatil	63.70	100	0	63.7	54-156				2/13/2009
LCS-44894	2-Chloronaphthalene	mg/kg	Semi Volatil	90.50	100	0	90.5	45-132				2/13/2009
LCS-44894	2-Chlorophenol	mg/kg	Semi Volatil	89.90	100	0	89.9	33-119				2/13/2009
LCS-44894	4,6-Dinitro-2-methylphenol	mg/kg	Semi Volatil	< 150	100	0	59.2	57-132				2/13/2009
LCS-44894	4-Chloro-3-methylphenol	mg/kg	Semi Volatil	60.40	100	0	60.4	31-125				2/13/2009
LCS-44894	4-Nitrophenol	mg/kg	Semi Volatil	< 150	100	0	72.5	10-136				2/13/2009
LCS-44894	Acenaphthene	mg/kg	Semi Volatil	99.70	100	0	99.7	37-119				2/13/2009
LCS-44894	Benzo(a)pyrene	mg/kg	Semi Volatil	64.40	100	0	64.4	58-109				2/13/2009
LCS-44894	N-Nitrosodi-n-propylamine	mg/kg	Semi Volatil	80.50	100	0	80.5	32-122				2/13/2009
LCS-44894	Pentachlorophenol	mg/kg	Semi Volatil	< 150	100	0	41.5	21-131				2/13/2009
LCS-44894	Phenol	mg/kg	Semi Volatil	84.50	100	0	84.5	31-111				2/13/2009
LCS-44894	Pyrene	mg/kg	Semi Volatil	100.5	100	0	101	38-116				2/13/2009

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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSSEMI
SampType: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
MB-44894	1,2,4-Trichlorobenzene	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	1,2-Dichlorobenzene	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	1,3-Dichlorobenzene	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	1,4-Dichlorobenzene	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	1-Methylnaphthalene	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2,4,5-Trichlorophenol	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2,4,6-Trichlorophenol	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2,4-Dichlorophenol	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2,4-Dimethylphenol	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2,4-Dinitrophenol	mg/kg	Semi Volatil	< 150				-				2/13/2009
MB-44894	2,4-Dinitrotoluene	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2,6-Dinitrotoluene	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2-Chloronaphthalene	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2-Chlorophenol	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2-Methylnaphthalene	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2-Methylphenol	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2-Nitroaniline	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	2-Nitrophenol	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	3 & 4-Methylphenol	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	3,3'-Dichlorobenzidine	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	3-Nitroaniline	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	4,6-Dinitro-2-methylphenol	mg/kg	Semi Volatil	< 150				-				2/13/2009
MB-44894	4-Bromophenyl phenyl ether	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	4-Chloro-3-methylphenol	mg/kg	Semi Volatil	< 60				-				2/13/2009
MB-44894	4-Chloroaniline	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	4-Chlorophenyl phenyl ether	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	4-Nitroaniline	mg/kg	Semi Volatil	< 50				-				2/13/2009
MB-44894	4-Nitrophenol	mg/kg	Semi Volatil	< 150				-				2/13/2009
MB-44894	Acenaphthene	mg/kg	Semi Volatil	< 50				-				2/13/2009

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Jose Rocha
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QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSSEMI
SampType: MBLK

MB-44894	Acenaphthylene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Aniline	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Anthracene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Benz(a)anthracene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Benzidine	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Benzo(a)pyrene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Benzo(b)fluoranthene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Benzo(g,h,i)perylene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Benzo(k)fluoranthene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Benzoic acid	mg/kg	Semi Volatil	< 150	-	2/13/2009
MB-44894	Benzyl alcohol	mg/kg	Semi Volatil	< 60	-	2/13/2009
MB-44894	Bis(2-chloroethoxy)methane	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Bis(2-chloroethyl)ether	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Bis(2-chloroisopropyl)ether	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Bis(2-ethylhexyl)phthalate	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Butyl benzyl phthalate	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Chrysene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Di-n-butyl phthalate	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Di-n-octyl phthalate	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Dibenz(a,h)anthracene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Dibenzofuran	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Diethyl phthalate	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Dimethyl phthalate	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Fluoranthene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Fluorene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Hexachlorobenzene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Hexachlorobutadiene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Hexachlorocyclopentadiene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Hexachloroethane	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Indene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Indeno(1,2,3-cd)pyrene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Isophorone	mg/kg	Semi Volatil	< 50	-	2/13/2009

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Laboratory Director

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QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSSEMI
SampType: MBLK

MB-44894	N-Nitrosodi-n-propylamine	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	N-Nitrosodimethylamine	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	N-Nitrosodiphenylamine	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Naphthalene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Nitrobenzene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Pentachlorophenol	mg/kg	Semi Volatil	< 150	-	2/13/2009
MB-44894	Phenanthrene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Phenol	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Pyrene	mg/kg	Semi Volatil	< 50	-	2/13/2009
MB-44894	Pyridine	mg/kg	Semi Volatil	< 150	-	2/13/2009
MB-44894	Quinoline	mg/kg	Semi Volatil	< 50	-	2/13/2009

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QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSSEMI

SampType: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88921-01B MS	1,2,4-Trichlorobenzene	mg/kg-dry	Semi Volatil	198.6	226.1	0	87.8	43-117				2/13/2009
L88921-01B MS	1,4-Dichlorobenzene	mg/kg-dry	Semi Volatil	246.7	226.1	0	109	42-118				2/13/2009
L88921-01B MS	2,4,6-Trichlorophenol	mg/kg-dry	Semi Volatil	136.8	226.1	0	60.5	11-215				2/13/2009
L88921-01B MS	2,4-Dimethylphenol	mg/kg-dry	Semi Volatil	201.7	226.1	0	89.2	10-206				2/13/2009
L88921-01B MS	2,4-Dinitrotoluene	mg/kg-dry	Semi Volatil	172.3	226.1	0	76.2	10-270				2/13/2009
L88921-01B MS	2-Chloronaphthalene	mg/kg-dry	Semi Volatil	245.1	226.1	0	108	70-130				2/13/2009
L88921-01B MS	2-Chlorophenol	mg/kg-dry	Semi Volatil	229.3	226.1	0	101	46-114				2/13/2009
L88921-01B MS	4,6-Dinitro-2-methylphenol	mg/kg-dry	Semi Volatil	< 340	226.1	0	78.5	70-130				2/13/2009
L88921-01B MS	4-Chloro-3-methylphenol	mg/kg-dry	Semi Volatil	162.1	226.1	0	71.7	21-125				2/13/2009
L88921-01B MS	4-Nitrophenol	mg/kg-dry	Semi Volatil	< 340	226.1	0	83.1	10-127				2/13/2009
L88921-01B MS	Acenaphthene	mg/kg-dry	Semi Volatil	267.5	226.1	0	118	45-123				2/13/2009
L88921-01B MS	Benzo(a)pyrene	mg/kg-dry	Semi Volatil	198.3	226.1	0	87.7	70-130				2/13/2009
L88921-01B MS	N-Nitrosodi-n-propylamine	mg/kg-dry	Semi Volatil	217.5	226.1	0	96.2	21-155				2/13/2009
L88921-01B MS	Pentachlorophenol	mg/kg-dry	Semi Volatil	< 340	226.1	0	44.6	10-148				2/13/2009
L88921-01B MS	Phenol	mg/kg-dry	Semi Volatil	214.8	226.1	0	95.0	37-119				2/13/2009
L88921-01B MS	Pyrene	mg/kg-dry	Semi Volatil	264.6	226.1	0	117	33-129				2/13/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSSEMI

SampType: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88921-01B MSD	1,2,4-Trichlorobenzene	mg/kg-dry	Semi Volatil	200.1	226.1	0	88.5	43-117	0.794	35		2/13/2009
L88921-01B MSD	1,4-Dichlorobenzene	mg/kg-dry	Semi Volatil	245.8	226.1	0	109	42-118	0.367	35		2/13/2009
L88921-01B MSD	2,4,6-Trichlorophenol	mg/kg-dry	Semi Volatil	139.5	226.1	0	61.7	11-215	1.96	35		2/13/2009
L88921-01B MSD	2,4-Dimethylphenol	mg/kg-dry	Semi Volatil	202.6	226.1	0	89.6	10-206	0.447	35		2/13/2009
L88921-01B MSD	2,4-Dinitrotoluene	mg/kg-dry	Semi Volatil	175.3	226.1	0	77.5	10-270	1.69	35		2/13/2009
L88921-01B MSD	2-Chloronaphthalene	mg/kg-dry	Semi Volatil	245.1	226.1	0	108	70-130	0	35		2/13/2009
L88921-01B MSD	2-Chlorophenol	mg/kg-dry	Semi Volatil	229.5	226.1	0	102	46-114	0.0986	35		2/13/2009
L88921-01B MSD	4,6-Dinitro-2-methylphenol	mg/kg-dry	Semi Volatil	< 340	226.1	0	79.9	70-130	0	35		2/13/2009
L88921-01B MSD	4-Chloro-3-methylphenol	mg/kg-dry	Semi Volatil	168.7	226.1	0	74.6	21-125	3.96	35		2/13/2009
L88921-01B MSD	4-Nitrophenol	mg/kg-dry	Semi Volatil	< 340	226.1	0	87.1	10-127	0	35		2/13/2009
L88921-01B MSD	Acenaphthene	mg/kg-dry	Semi Volatil	274.5	226.1	0	121	45-123	2.59	35		2/13/2009
L88921-01B MSD	Benzo(a)pyrene	mg/kg-dry	Semi Volatil	203.8	226.1	0	90.1	70-130	2.70	35		2/13/2009
L88921-01B MSD	N-Nitrosodi-n-propylamine	mg/kg-dry	Semi Volatil	227.0	226.1	0	100	21-155	4.27	35		2/13/2009
L88921-01B MSD	Pentachlorophenol	mg/kg-dry	Semi Volatil	< 340	226.1	0	40.1	10-148	0	35		2/13/2009
L88921-01B MSD	Phenol	mg/kg-dry	Semi Volatil	213.0	226.1	0	94.2	37-119	0.846	35		2/13/2009
L88921-01B MSD	Pyrene	mg/kg-dry	Semi Volatil	271.1	226.1	0	120	33-129	2.45	35		2/13/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSVOA
SampType: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
LCS-44910	1,1,1-Trichloroethane	µg/kg	8260B/5030	918.0	1000	0	91.8	64-144				2/14/2009
LCS-44910	1,1-Dichloroethene	µg/kg	8260B/5030	772.5	1000	0	77.2	36-184				2/14/2009
LCS-44910	1,2-Dichlorobenzene	µg/kg	8260B/5030	912.0	1000	0	91.2	70-134				2/14/2009
LCS-44910	1,2-Dichloroethane	µg/kg	8260B/5030	958.5	1000	0	95.8	55-146				2/14/2009
LCS-44910	1,2-Dichloropropane	µg/kg	8260B/5030	984.5	1000	0	98.4	70-130				2/14/2009
LCS-44910	Benzene	µg/kg	8260B/5030	898.0	1000	0	89.8	60-130				2/14/2009
LCS-44910	Chlorobenzene	µg/kg	8260B/5030	920.5	1000	0	92.0	75-130				2/14/2009
LCS-44910	Chloroform	µg/kg	8260B/5030	896.0	1000	0	89.6	70-130				2/14/2009
LCS-44910	Ethylbenzene	µg/kg	8260B/5030	917.5	1000	0	91.8	69-147				2/14/2009
LCS-44910	Isopropylbenzene	µg/kg	8260B/5030	932.0	1000	0	93.2	65-147				2/14/2009
LCS-44910	Methyl tert-butyl ether	µg/kg	8260B/5030	941.5	1000	0	94.2	42-156				2/14/2009
LCS-44910	Methylene chloride	µg/kg	8260B/5030	808.5	1000	0	80.8	39-164				2/14/2009
LCS-44910	Naphthalene	µg/kg	8260B/5030	696.5	1000	0	69.6	40-131				2/14/2009
LCS-44910	Toluene	µg/kg	8260B/5030	850.5	1000	0	85.0	61-140				2/14/2009
LCS-44910	Trichloroethene	µg/kg	8260B/5030	897.5	1000	0	89.8	69-138				2/14/2009
LCS-44910	Xylenes, Total	µg/kg	8260B/5030	2775	3000	0	92.5	78-147				2/14/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSVOA
SampType: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
MB-44910	1,1,1-Trichloroethane	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,1,2,2-Tetrachloroethane	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,1,2-Trichloro-1,2,2-trifluoroetha	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,1,2-Trichloroethane	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,1-Dichloroethane	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,1-Dichloroethene	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,2,4-Trichlorobenzene	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,2-Dibromo-3-chloropropane	µg/kg	8260B/5030	< 250				-				2/14/2009
MB-44910	1,2-Dibromoethane	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,2-Dichlorobenzene	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,2-Dichloroethane	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,2-Dichloropropane	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,3-Dichlorobenzene	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	1,4-Dichlorobenzene	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	2-Butanone	µg/kg	8260B/5030	< 500				-				2/14/2009
MB-44910	2-Hexanone	µg/kg	8260B/5030	< 250				-				2/14/2009
MB-44910	4-Methyl-2-pentanone	µg/kg	8260B/5030	< 250				-				2/14/2009
MB-44910	Acetone	µg/kg	8260B/5030	< 500				-				2/14/2009
MB-44910	Benzene	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	Bromodichloromethane	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	Bromoform	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	Bromomethane	µg/kg	8260B/5030	< 250				-				2/14/2009
MB-44910	Carbon disulfide	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	Carbon tetrachloride	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	Chlorobenzene	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	Chloroethane	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	Chloroform	µg/kg	8260B/5030	< 100				-				2/14/2009
MB-44910	Chloromethane	µg/kg	8260B/5030	< 250				-				2/14/2009
MB-44910	cis 1,2-Dichloroethene	µg/kg	8260B/5030	< 100				-				2/14/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc. **Dept:** MSVOA
Work Order: L88921
Project: Westridge **SampType:** MBLK

MB-44910	cis 1,3-Dichloropropene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Cyclohexane	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Dibromochloromethane	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Dichlorodifluoromethane	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Ethylbenzene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Isopropylbenzene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Methyl Acetate	µg/kg	8260B/5030	< 250	-	2/14/2009
MB-44910	Methyl tert-butyl ether	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Methylcyclohexane	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Methylene chloride	µg/kg	8260B/5030	< 250	-	2/14/2009
MB-44910	Naphthalene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Styrene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Tetrachloroethene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Toluene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	trans 1,2-Dichloroethene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	trans 1,3-Dichloropropene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Trichloroethene	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Trichlorofluoromethane	µg/kg	8260B/5030	< 100	-	2/14/2009
MB-44910	Vinyl chloride	µg/kg	8260B/5030	< 50	-	2/14/2009
MB-44910	Xylenes, Total	µg/kg	8260B/5030	< 100	-	2/14/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSVOA
SampType: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88921-01AMS	1,1,1-Trichloroethane	µg/kg-dry	8260B/5030	1686	2261	0	74.6	20-144				2/14/2009
L88921-01AMS	1,1-Dichloroethene	µg/kg-dry	8260B/5030	1486	2261	0	65.7	24-174				2/14/2009
L88921-01AMS	1,2-Dichlorobenzene	µg/kg-dry	8260B/5030	1806	2261	0	79.8	10-148				2/14/2009
L88921-01AMS	1,2-Dichloroethane	µg/kg-dry	8260B/5030	1931	2261	0	85.4	54-133				2/14/2009
L88921-01AMS	1,2-Dichloropropane	µg/kg-dry	8260B/5030	1861	2261	0	82.3	28-140				2/14/2009
L88921-01AMS	Benzene	µg/kg-dry	8260B/5030	1671	2261	0	73.9	17-138				2/14/2009
L88921-01AMS	Chlorobenzene	µg/kg-dry	8260B/5030	1724	2261	0	76.2	13-150				2/14/2009
L88921-01AMS	Chloroform	µg/kg-dry	8260B/5030	1728	2261	0	76.4	21-147				2/14/2009
L88921-01AMS	Ethylbenzene	µg/kg-dry	8260B/5030	1750	2261	0	77.4	10-164				2/14/2009
L88921-01AMS	Isopropylbenzene	µg/kg-dry	8260B/5030	1749	2261	0	77.4	26-146				2/14/2009
L88921-01AMS	Methyl tert-butyl ether	µg/kg-dry	8260B/5030	1990	2261	0	88.0	28-137				2/14/2009
L88921-01AMS	Methylene chloride	µg/kg-dry	8260B/5030	1593	2261	0	70.4	10-217				2/14/2009
L88921-01AMS	Naphthalene	µg/kg-dry	8260B/5030	1828	2261	271.4	68.8	13-156				2/14/2009
L88921-01AMS	Toluene	µg/kg-dry	8260B/5030	1635	2261	0	72.3	23-168				2/14/2009
L88921-01AMS	Trichloroethene	µg/kg-dry	8260B/5030	1643	2261	0	72.6	14-161				2/14/2009
L88921-01AMS	Xylenes, Total	µg/kg-dry	8260B/5030	5424	6784	331.3	75.1	10-160				2/14/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88921
Project: Westridge

Dept: MSVOA

SampType: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88921-01AMSD	1,1,1-Trichloroethane	µg/kg-dry	8260B/5030	1858	2261	0	82.2	20-144	9.70	35		2/14/2009
L88921-01AMSD	1,1-Dichloroethene	µg/kg-dry	8260B/5030	1642	2261	0	72.6	24-174	9.98	35		2/14/2009
L88921-01AMSD	1,2-Dichlorobenzene	µg/kg-dry	8260B/5030	1961	2261	0	86.7	10-148	8.23	35		2/14/2009
L88921-01AMSD	1,2-Dichloroethane	µg/kg-dry	8260B/5030	2075	2261	0	91.8	54-133	7.17	35		2/14/2009
L88921-01AMSD	1,2-Dichloropropane	µg/kg-dry	8260B/5030	2025	2261	0	89.6	28-140	8.44	35		2/14/2009
L88921-01AMSD	Benzene	µg/kg-dry	8260B/5030	1853	2261	0	82.0	17-138	10.3	35		2/14/2009
L88921-01AMSD	Chlorobenzene	µg/kg-dry	8260B/5030	1904	2261	0	84.2	13-150	9.91	35		2/14/2009
L88921-01AMSD	Chloroform	µg/kg-dry	8260B/5030	1887	2261	0	83.4	21-147	8.82	35		2/14/2009
L88921-01AMSD	Ethylbenzene	µg/kg-dry	8260B/5030	1970	2261	0	87.1	10-164	11.8	35		2/14/2009
L88921-01AMSD	Isopropylbenzene	µg/kg-dry	8260B/5030	1930	2261	0	85.4	26-146	9.83	35		2/14/2009
L88921-01AMSD	Methyl tert-butyl ether	µg/kg-dry	8260B/5030	2126	2261	0	94.0	28-137	6.59	35		2/14/2009
L88921-01AMSD	Methylene chloride	µg/kg-dry	8260B/5030	1736	2261	0	76.8	10-217	8.56	35		2/14/2009
L88921-01AMSD	Naphthalene	µg/kg-dry	8260B/5030	2152	2261	271.4	83.2	13-156	16.2	35		2/14/2009
L88921-01AMSD	Toluene	µg/kg-dry	8260B/5030	1814	2261	0	80.2	23-168	10.4	35		2/14/2009
L88921-01AMSD	Trichloroethene	µg/kg-dry	8260B/5030	1808	2261	0	80.0	14-161	9.57	35		2/14/2009
L88921-01AMSD	Xylenes, Total	µg/kg-dry	8260B/5030	6000	6784	331.3	83.6	10-160	10.1	35		2/14/2009

American West Analytical Labs

RUSH

WORK ORDER Summary

13-Feb-09

Work Order L88921

Client ID: JBR400 **QC Level:** 2+

Project: Westridge **Location:** **Contact:** Karla Knoop

Comments: Next Day Rush; QCLevel: 2+

Sample ID	Client Sample ID	Collection Date	Date Received	Date Due	Matrix	Test Code	Storage	
L88921-01A	Sludge #2	2/12/2009 3:07:00 PM	2/12/2009	2/16/2009	Sludge	8260-S-AWAL	VOCFridge	1
				2/16/2009		PMOIST	VOCFridge	1
L88921-01B				2/16/2009		3580_Semi	hall - semi	1
				2/16/2009		8270-O-SEMI	hall - semi	1
				2/16/2009		PMOIST	hall - semi	1

Client JBR ENVIRONMENTAL

Address 8160 SO HIGHLAN DRIVE

SANDY (City) UT (State) 84093 (Zip)

Phone 801 943 4144 Fax 801 9421852

Contact KARLA KNOOP

E-mail knoop@jbrenv.com jsage@jbrenv.com

Project Name WESTRIDGE

Project Number/P.O.#

Sampler Name J SAGE

AMERICAN WEST ANALYTICAL LABORATORIES
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Salt Lake City, Utah 84115

CHAIN OF CUSTODY

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Lab Sample Set # 88921

Page 1 of 1

Turn Around Time (Circle One)

(1 day) 2 day 3 day 4 day 5 day Standard

Sample ID	Date/Time Collected	Matrix	Number of Containers (Total)	VOC 8260	SVOC 8270	QC LEVEL	COMMENTS
SLUDGE #2	2/12/09 1507	S	2	X	X	1 2 2+ 3 3+ 4	

LABORATORY USE ONLY

SAMPLES WERE:
1 Shipped or hand delivered
Notes:

2 Ambient or Chilled
Notes: on ice

3 Temperature 3.6

4 Received Broken/Leaking (Improperly Sealed) Y (N)
Notes:

5 Properly Preserved (Y) N
Notes:

6 Received Within Holding Times (Y) N
Notes:

COC Tape Was:
1 Present on Outer Package Y (N) NA
2 Unbroken on Outer Package Y N (NA)
3 Present on Sample Y (N) NA
4 Unbroken on Sample Y N (NA)
Notes:

Discrepancies Between Sample Labels and COC Record? Y (N)
Notes:

Relinquished By: Signature	Date	Received By: Signature
PRINT NAME JAMES P SAGE	Time 1824	PRINT NAME Samantha Broadhead
Relinquished By: Signature	Date	Received By: Signature
PRINT NAME	Time	PRINT NAME
Relinquished By: Signature	Date	Received By: Signature
PRINT NAME	Time	PRINT NAME
Relinquished By: Signature	Date	Received By: Signature
PRINT NAME	Time	PRINT NAME

Special Instructions:

RUSH
Results by
Monday
2/16/09

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February 16, 2009

Karla Knoop
JBR Environmental Consultants, Inc.
8160 So. Highland Dr. Ste A-4
Sandy, UT 84093

TEL: (801) 943-4144
FAX: (801) 942-1852

RE: West Ridge

Lab Set ID: L88902

Dear Karla Knoop:

American West Analytical Labs received 1 sample on 1/28/2009 for the analyses presented in the following report.

All analyses were performed in accordance to National Environmental Laboratory Accreditation Program (NELAP) protocols unless noted otherwise. If you have any questions or concerns regarding this report please feel free to call.

Thank you.

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Approved by: Jose G. Rocha
Laboratory Director or designee

INORGANIC ANALYSIS REPORT

Client: JBR Environmental Consultants, Inc. Contact: Karla Knoop
Project ID: West Ridge

AMERICAN WEST ANALYTICAL LABORATORIES

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: L88902-01A
Field Sample ID: **Sludge**
Collected: 1/28/2009 12:15:00 PM
Received: 1/28/2009

TOTAL METALS

Analytical Results	Units	Date Analyzed	Method Used	Reporting Limit	Analytical Results	
Aluminum	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	30	**6100**	[2]
Antimony	mg/kg-dry	2/12/2009 10:42:44 PM	6020	1.2	**1.8**	
Arsenic	mg/kg-dry	2/12/2009 10:42:44 PM	6020	0.73	**11**	
Barium	mg/kg-dry	2/12/2009 9:34:00 PM	6020	13	**280**	~
Beryllium	mg/kg-dry	2/12/2009 10:42:44 PM	6020	0.58	< 0.58	
Cadmium	mg/kg-dry	2/12/2009 10:42:44 PM	6020	0.25	< 0.25	
Chromium	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	3.0	**18**	
Cobalt	mg/kg-dry	2/12/2009 10:42:44 PM	6020	0.39	**4.6**	
Copper	mg/kg-dry	2/12/2009 10:42:44 PM	6020	4.5	**15**	
Iron	mg/kg-dry	2/4/2009 6:19:00 PM	6010B	150	**18000**	[2] ~
Lead	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	15	< 15	
Manganese	mg/kg-dry	2/12/2009 9:34:00 PM	6020	12	**350**	~
Mercury	mg/kg-dry	2/13/2009 7:52:00 AM	7471A	0.12	< 0.12	
Molybdenum	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	12	< 12	
Nickel	mg/kg-dry	2/12/2009 10:42:44 PM	6020	5.8	**17**	
Silver	mg/kg-dry	2/12/2009 10:42:44 PM	6020	0.44	< 0.44	
Thallium	mg/kg-dry	2/12/2009 10:42:44 PM	6020	1.2	< 1.2	
Tin	mg/kg-dry	2/12/2009 10:42:44 PM	6020	1.7	< 1.7	
Titanium	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	1.5	**120**	
Vanadium	mg/kg-dry	2/4/2009 6:54:00 PM	6010B	1.5	**10**	
Zinc	mg/kg-dry	2/12/2009 9:34:00 PM	6020	150	**350**	~

[2] - *Analyte concentration is too high for accurate matrix spike recovery and/or RPD.*
~ - *The reporting limits were raised due to high analyte concentrations.*

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88902
Project: West Ridge

Dept: ME
SampType: LCS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
LCS-44883	Antimony	mg/kg	6020	18.15	20	0	90.7	85-115				2/12/2009
LCS-44883	Arsenic	mg/kg	6020	18.20	20	0	91.0	85-115				2/12/2009
LCS-44883	Barium	mg/kg	6020	18.32	20	0	91.6	85-115				2/12/2009
LCS-44883	Beryllium	mg/kg	6020	20.39	20	0	102	85-115				2/12/2009
LCS-44883	Cadmium	mg/kg	6020	17.83	20	0	89.2	85-115				2/12/2009
LCS-44883	Cobalt	mg/kg	6020	18.64	20	0	93.2	85-115				2/12/2009
LCS-44883	Copper	mg/kg	6020	18.72	20	0	93.6	85-115				2/12/2009
LCS-44883	Manganese	mg/kg	6020	18.12	20	0	90.6	85-115				2/12/2009
LCS-44883	Nickel	mg/kg	6020	18.68	20	0	93.4	85-115				2/12/2009
LCS-44883	Selenium	mg/kg	6020	18.16	20	0	90.8	85-115				2/12/2009
LCS-44883	Silver	mg/kg	6020	18.77	20	0	93.9	85-115				2/12/2009
LCS-44883	Thallium	mg/kg	6020	19.47	20	0	97.3	85-115				2/12/2009
LCS-44883	Tin	mg/kg	6020	94.77	100	0	94.8	85-115				2/12/2009
LCS-44883	Zinc	mg/kg	6020	88.39	100	0	88.4	85-115				2/12/2009
LCS-44888	Mercury	mg/kg	7471A	0.2060	0.2	0	103	80-120				2/13/2009
LCS-44680	Aluminum	mg/kg	6010B	90.39	100	0	90.4	75-125				2/4/2009
LCS-44680	Boron	mg/kg	6010B	92.03	100	0.487	91.5	75-125				2/4/2009
LCS-44680	Calcium	mg/kg	6010B	956.0	1000	0	95.6	75-125				2/4/2009
LCS-44680	Chromium	mg/kg	6010B	19.31	20	0	96.6	75-125				2/4/2009
LCS-44680	Iron	mg/kg	6010B	97.69	100	0	97.7	75-125				2/4/2009
LCS-44680	Lead	mg/kg	6010B	18.68	20	0	93.4	75-125				2/4/2009
LCS-44680	Magnesium	mg/kg	6010B	937.8	1000	0	93.8	75-125				2/4/2009
LCS-44680	Molybdenum	mg/kg	6010B	19.50	20	0.1407	96.8	75-125				2/4/2009
LCS-44680	Potassium	mg/kg	6010B	969.9	1000	0	97.0	75-125				2/4/2009
LCS-44680	Sodium	mg/kg	6010B	946.8	1000	5.019	94.2	75-125				2/4/2009
LCS-44680	Aluminum	mg/kg	6010B	90.39	100	0	90.4	75-125				2/4/2009
LCS-44680	Boron	mg/kg	6010B	92.03	100	0.487	91.5	75-125				2/4/2009
LCS-44680	Calcium	mg/kg	6010B	956.0	1000	0	95.6	75-125				2/4/2009
LCS-44680	Chromium	mg/kg	6010B	19.31	20	0	96.6	75-125				2/4/2009

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88902
Project: West Ridge

Dept: ME
SampType: LCS

LCS-44680	Iron	mg/kg	6010B	97.69	100	0	97.7	75-125	2/4/2009
LCS-44680	Lead	mg/kg	6010B	18.68	20	0	93.4	75-125	2/4/2009
LCS-44680	Magnesium	mg/kg	6010B	937.8	1000	0	93.8	75-125	2/4/2009
LCS-44680	Molybdenum	mg/kg	6010B	19.50	20	0.1407	96.8	75-125	2/4/2009
LCS-44680	Potassium	mg/kg	6010B	969.9	1000	0	97.0	75-125	2/4/2009
LCS-44680	Sodium	mg/kg	6010B	946.8	1000	5.019	94.2	75-125	2/4/2009
LCS-44680	Titanium	mg/kg	6010B	95.22	100	0	95.2	75-125	2/4/2009
LCS-44680	Vanadium	mg/kg	6010B	19.56	20	0	97.8	75-125	2/4/2009

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QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88902
Project: West Ridge

Dept: ME
SampType: MBLK

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
MB-44883	Antimony	mg/kg	6020	< 0.40				-				2/12/2009
MB-44883	Arsenic	mg/kg	6020	< 0.25				-				2/12/2009
MB-44883	Barium	mg/kg	6020	< 0.45				-				2/12/2009
MB-44883	Beryllium	mg/kg	6020	< 0.20				-				2/12/2009
MB-44883	Cadmium	mg/kg	6020	< 0.085				-				2/12/2009
MB-44883	Cobalt	mg/kg	6020	< 0.14				-				2/12/2009
MB-44883	Copper	mg/kg	6020	< 1.6				-				2/12/2009
MB-44883	Manganese	mg/kg	6020	< 0.40				-				2/12/2009
MB-44883	Nickel	mg/kg	6020	< 2.0				-				2/12/2009
MB-44883	Selenium	mg/kg	6020	< 0.85				-				2/12/2009
MB-44883	Silver	mg/kg	6020	< 0.15				-				2/12/2009
MB-44883	Thallium	mg/kg	6020	< 0.40				-				2/12/2009
MB-44883	Tin	mg/kg	6020	< 0.60				-				2/12/2009
MB-44883	Zinc	mg/kg	6020	< 5.0				-				2/12/2009
MB-44888	Mercury	mg/kg	7471A	< 0.040				-				2/13/2009
MB-44680	Aluminum	mg/kg	6010B	< 10				-				2/4/2009
MB-44680	Boron	mg/kg	6010B	< 50				-				2/4/2009
MB-44680	Calcium	mg/kg	6010B	< 100				-				2/4/2009
MB-44680	Chromium	mg/kg	6010B	< 1.0				-				2/4/2009
MB-44680	Iron	mg/kg	6010B	< 5.0				-				2/4/2009
MB-44680	Lead	mg/kg	6010B	< 5.0				-				2/4/2009
MB-44680	Magnesium	mg/kg	6010B	< 100				-				2/4/2009
MB-44680	Molybdenum	mg/kg	6010B	< 4.0				-				2/4/2009
MB-44680	Potassium	mg/kg	6010B	< 100				-				2/4/2009
MB-44680	Sodium	mg/kg	6010B	< 100				-				2/4/2009
MB-44680	Aluminum	mg/kg	6010B	< 10				-				2/4/2009
MB-44680	Boron	mg/kg	6010B	< 50				-				2/4/2009
MB-44680	Calcium	mg/kg	6010B	< 100				-				2/4/2009
MB-44680	Chromium	mg/kg	6010B	< 1.0				-				2/4/2009

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QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88902
Project: West Ridge

Dept: ME
SampType: MBLK

MB-44680	Iron	mg/kg	6010B	< 5.0	-	2/4/2009
MB-44680	Lead	mg/kg	6010B	< 5.0	-	2/4/2009
MB-44680	Magnesium	mg/kg	6010B	< 100	-	2/4/2009
MB-44680	Molybdenum	mg/kg	6010B	< 4.0	-	2/4/2009
MB-44680	Potassium	mg/kg	6010B	< 100	-	2/4/2009
MB-44680	Sodium	mg/kg	6010B	< 100	-	2/4/2009
MB-44680	Titanium	mg/kg	6010B	< 0.50	-	2/4/2009
MB-44680	Vanadium	mg/kg	6010B	< 0.50	-	2/4/2009

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QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88902
Project: West Ridge

Dept: ME
SampType: MS

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88902-01AMS	Barium	mg/kg-dry	6020	288.0	57.67	282	10.3	70-130			1	2/12/2009
L88902-01AMS	Manganese	mg/kg-dry	6020	459.7	57.67	350.8	189	70-130			2	2/12/2009
L88902-01AMS	Tin	mg/kg-dry	6020	281.7	288.4	0	97.7	70-130				2/12/2009
L88902-01AMS	Zinc	mg/kg-dry	6020	646.3	288.4	349.4	103	70-130				2/12/2009
L88902-01AMS	Antimony	mg/kg-dry	6020	56.31	57.67	1.824	94.5	70-130				2/12/2009
L88902-01AMS	Arsenic	mg/kg-dry	6020	68.89	57.67	10.95	100	70-130				2/12/2009
L88902-01AMS	Beryllium	mg/kg-dry	6020	62.90	57.67	0	109	70-130				2/12/2009
L88902-01AMS	Cadmium	mg/kg-dry	6020	54.93	57.67	0.1999	94.9	70-130				2/12/2009
L88902-01AMS	Cobalt	mg/kg-dry	6020	58.76	57.67	4.583	93.9	70-130				2/12/2009
L88902-01AMS	Copper	mg/kg-dry	6020	73.26	57.67	14.73	101	70-130				2/12/2009
L88902-01AMS	Nickel	mg/kg-dry	6020	73.16	57.67	17.46	96.6	70-130				2/12/2009
L88902-01AMS	Silver	mg/kg-dry	6020	56.49	57.67	0	97.9	70-130				2/12/2009
L88902-01AMS	Thallium	mg/kg-dry	6020	55.27	57.67	0	95.8	70-130				2/12/2009
L88902-01AMS	Mercury	mg/kg-dry	7471A	0.6265	0.5882	0.02353	102	80-120				2/13/2009
L88693-01BMS	Aluminum	mg/kg-dry	6010B	9711	293	6067	1240	75-125			2	2/4/2009
L88693-01BMS	Boron	mg/kg-dry	6010B	306.0	293	37.16	91.8	75-125				2/4/2009
L88693-01BMS	Chromium	mg/kg-dry	6010B	77.38	58.6	18.25	101	75-125				2/4/2009
L88693-01BMS	Lead	mg/kg-dry	6010B	54.82	58.6	3.46	87.7	75-125				2/4/2009
L88693-01BMS	Magnesium	mg/kg-dry	6010B	13700	2930	12060	55.8	75-125			2	2/4/2009
L88693-01BMS	Molybdenum	mg/kg-dry	6010B	60.51	58.6	2.636	98.8	75-125				2/4/2009
L88693-01BMS	Potassium	mg/kg-dry	6010B	5046	2930	1468	122	75-125				2/4/2009
L88693-01BMS	Sodium	mg/kg-dry	6010B	4630	2930	1169	118	75-125				2/4/2009
L88693-01BMS	Calcium	mg/kg-dry	6010B	90590	2930	84860	196	75-125			2	2/4/2009
L88693-01BMS	Iron	mg/kg-dry	6010B	21440	293	17840	1230	75-125			2	2/4/2009
L88902-01AMS	Aluminum	mg/kg-dry	6010B	9792	290.7	6117	1260	75-125			2	2/4/2009
L88902-01AMS	Chromium	mg/kg-dry	6010B	78.02	58.15	18.4	103	75-125				2/4/2009
L88902-01AMS	Lead	mg/kg-dry	6010B	55.28	58.15	3.489	89.1	75-125				2/4/2009
L88902-01AMS	Molybdenum	mg/kg-dry	6010B	61.02	58.15	2.658	100	75-125				2/4/2009
L88902-01AMS	Titanium	mg/kg-dry	6010B	366.4	290.7	118.4	85.3	75-125				2/4/2009

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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc. **Dept:** ME
Work Order: L88902
Project: West Ridge **SampType:** MS

L88902-01AMS	Vanadium	mg/kg-dry	6010B	67.96	58.15	10.41	99.0	75-125		2/4/2009
L88902-01AMS	Iron	mg/kg-dry	6010B	21440	288.4	17840	1250	75-125	[2]	2/4/2009

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

[2] - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

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QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc.
Work Order: L88902
Project: West Ridge

Dept: ME
SampType: MSD

Sample ID	Analyte	Units	Method	Result	Amount Spiked	Original Amount	%REC	Limits	%RPD	RPD Limit	Qualifiers	Analysis Date
L88902-01AMSD	Barium	mg/kg-dry	6020	281.9	58.74	282	-0.273	70-130	2.15	20	1	2/12/2009
L88902-01AMSD	Manganese	mg/kg-dry	6020	493.6	58.74	350.8	243	70-130	7.11	20	2	2/12/2009
L88902-01AMSD	Tin	mg/kg-dry	6020	280.9	293.7	0	95.6	70-130	0.275	20		2/12/2009
L88902-01AMSD	Zinc	mg/kg-dry	6020	605.4	293.7	349.4	87.1	70-130	6.54	20		2/12/2009
L88902-01AMSD	Antimony	mg/kg-dry	6020	57.00	58.74	1.824	93.9	70-130	1.22	20		2/12/2009
L88902-01AMSD	Arsenic	mg/kg-dry	6020	71.08	58.74	10.95	102	70-130	3.13	20		2/12/2009
L88902-01AMSD	Beryllium	mg/kg-dry	6020	63.32	58.74	0	108	70-130	0.654	20		2/12/2009
L88902-01AMSD	Cadmium	mg/kg-dry	6020	55.48	58.74	0.1999	94.1	70-130	0.995	20		2/12/2009
L88902-01AMSD	Cobalt	mg/kg-dry	6020	59.80	58.74	4.583	94.0	70-130	1.75	20		2/12/2009
L88902-01AMSD	Copper	mg/kg-dry	6020	76.31	58.74	14.73	105	70-130	4.07	20		2/12/2009
L88902-01AMSD	Nickel	mg/kg-dry	6020	76.26	58.74	17.46	100	70-130	4.15	20		2/12/2009
L88902-01AMSD	Silver	mg/kg-dry	6020	57.02	58.74	0	97.1	70-130	0.938	20		2/12/2009
L88902-01AMSD	Thallium	mg/kg-dry	6020	55.34	58.74	0	94.2	70-130	0.127	20		2/12/2009
L88902-01AMSD	Mercury	mg/kg-dry	7471A	0.6147	0.5882	0.02353	101	80-120	1.90	20		2/13/2009
L88693-01BMSD	Aluminum	mg/kg-dry	6010B	9676	299.4	6067	1210	75-125	0.361	20	2	2/4/2009
L88693-01BMSD	Boron	mg/kg-dry	6010B	321.7	299.4	37.16	95.0	75-125	5.01	20		2/4/2009
L88693-01BMSD	Chromium	mg/kg-dry	6010B	77.75	59.88	18.25	99.4	75-125	0.475	20		2/4/2009
L88693-01BMSD	Lead	mg/kg-dry	6010B	57.67	59.88	3.46	90.5	75-125	5.06	20		2/4/2009
L88693-01BMSD	Magnesium	mg/kg-dry	6010B	13840	2994	12060	59.2	75-125	0.995	20	2	2/4/2009
L88693-01BMSD	Molybdenum	mg/kg-dry	6010B	60.92	59.88	2.636	97.3	75-125	0.674	20		2/4/2009
L88693-01BMSD	Potassium	mg/kg-dry	6010B	4650	2994	1468	106	75-125	8.17	20		2/4/2009
L88693-01BMSD	Sodium	mg/kg-dry	6010B	4193	2994	1169	101	75-125	9.90	20		2/4/2009
L88693-01BMSD	Calcium	mg/kg-dry	6010B	84410	2994	84860	-15.1	75-125	7.07	20	2	2/4/2009
L88693-01BMSD	Iron	mg/kg-dry	6010B	25160	299.4	17840	2450	75-125	16.0	20	2	2/4/2009
L88902-01AMSD	Aluminum	mg/kg-dry	6010B	9676	299.4	6117	1190	75-125	1.19	20	2	2/4/2009
L88902-01AMSD	Chromium	mg/kg-dry	6010B	77.75	59.88	18.4	99.1	75-125	0.351	20		2/4/2009
L88902-01AMSD	Lead	mg/kg-dry	6010B	57.67	59.88	0	96.3	75-125	4.24	20		2/4/2009
L88902-01AMSD	Molybdenum	mg/kg-dry	6010B	60.92	59.88	0	102	75-125	0.153	20		2/4/2009
L88902-01AMSD	Titanium	mg/kg-dry	6010B	385.8	299.4	118.4	89.3	75-125	5.16	20		2/4/2009

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QA Officer

QC SUMMARY REPORT

CLIENT: JBR Environmental Consultants, Inc. **Dept:** ME
Work Order: L88902
Project: West Ridge **SampType:** MSD

L88902-01AMSD	Vanadium	mg/kg-dry	6010B	70.30	59.88	10.41	100	75-125	3.38	20		2/4/2009
L88902-01AMSD	Iron	mg/kg-dry	6010B	25160	299.4	17840	2450	75-125	16.0	20	[2]	2/4/2009

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

[2] - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

American West Analytical Labs

RUSH

WORK ORDER Summary

12-Feb-09

Work Order L88902

Client ID: JBR400 **QC Level:** 2+

Project: West Ridge **Location:** HOLD

Contact: Karla Knoop

Comments: 3 Day Rush; QCLevel: 2+. Previously received as 88693. Use pmoist data from 88693.

DB

Sample ID	Client Sample ID	Collection Date	Date Received	Date Due	Matrix	Test Code	Storage	
L88902-01A	Sludge	1/28/2009 12:15:00 PM	1/28/2009	2/16/2009	Sludge	6020-S	feb 11 - metals	1
				2/16/2009		Hg-prep-S	feb 11 - metals	1
				2/16/2009		HG-S	feb 11 - metals	1
				2/16/2009		ICP-S	feb 11 - metals	1
				2/16/2009		PMOIST	feb 11 - metals	1

Karla - 435-637-9645

88902

AMERICAN WEST ANALYTICAL LABORATORIES
463 West 3600 South
Salt Lake City, Utah 84115

CHAIN OF CUSTODY

(801) 263-8686
(888) 263-8686
Fax (801) 263-8687
Email: awal@awal-labs.com

Client: JBR ENVIRONMENTAL
Address: 8160 SO HIGHLAND DR.
City: SANDY State: UT Zip: 84093
Phone: 801.943.4144 Fax: 801.942.1852
Contact: Karla Knoop
E-mail: KKnoop@jbrenv.com
Project Name: WEST RIDGE
Project Number/P.O.#:
Sampler Name: J. SAGE

Lab Sample Set #: ~~88693~~ DB 2/11/09
Page ____ of ____
Turn Around Time (Circle One): 1 day, 2 day, 3 day, 4 day, 5 day, Standard

Sample ID	Date/Time Collected	Matrix	Number of Containers (Total)	SEE ATTACHED SHEETS	Product ID (Added at Next-Day Rush per Karla. SB 2/10/09)	* RCRA metals (Added on 3-Day Rush per Karla DB 2/11/09)	QC LEVEL: 1, 2, (2+), 3, 3+, 4 / COMMENTS
SLUDGE	1/28/09 1215	S		X	X	X	

Relinquished By: Signature	Date	Received By: Signature
[signature] PRINT NAME: JAMES R SAGE	1/28/09 Time: 1551	[signature] PRINT NAME: Elma [signature]
Relinquished By: Signature PRINT NAME	Date Time	Received By: Signature PRINT NAME
Relinquished By: Signature PRINT NAME	Date Time	Received By: Signature PRINT NAME
Relinquished By: Signature PRINT NAME	Date Time	Received By: Signature PRINT NAME

Special Instructions:
* SEE ATTACHED SHEETS
Needs by Thurs. Feb 6th
* Added ICP-Scan per Karla (they want ICP-Scan plus those in the RCRA Metals) SB 2/11/09

LABORATORY USE ONLY

SAMPLES WERE:
1. Shipped or (hand delivered) Notes:
2. Ambient or (Chilled) Notes:
3. Temperature 3.8°
4. Received Broken/Leaking (Improperly Sealed) Y (N) Notes:
5. Properly Preserved (Y) N Notes:
6. Received Within Holding Times (Y) N Notes:

COC Tape Was:
1. Present on Outer Package Y N NA
2. Unbroken on Outer Package Y N NA
3. Present on Sample Y N NA
4. Unbroken on Sample Y N NA Notes:

Discrepancies Between Sample Labels and COC Record? Y (N) Notes:

ENERGY LABORATORIES, INC. • 2393 Salt Creek Highway (82601) • P.O. Box 3258 • Casper, WY 82602
Toll Free 888.235.0515 • 307.235.0515 • Fax 307.234.1639 • casper@energylab.com • www.energylab.com

ANALYTICAL SUMMARY REPORT

March 02, 2009

JBR Environmental
8160 S Highland Dr
Sandy, UT 84093

Workorder No.: C09020633

Project Name: Westridge

Energy Laboratories, Inc. received the following 1 sample for JBR Environmental on 2/14/2009 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C09020633-001	Sludge #2	02/12/09 15:07	02/14/09	Sludge	Selenium, Saturated Paste Metals, Soluble Soluble Metals from Paste Saturation Percentage Saturated Paste Sodium Adsorption Ratio in Soil

As appropriate, any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these tests results, please call.

Report Approved By: Stephanie Waldrop

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LABORATORY ANALYTICAL REPORT

Client: JBR Environmental
Project: Westridge
Lab ID: C09020633-001
Client Sample ID: Sludge #2

Report Date: 03/02/09
Collection Date: 02/12/09 15:07
DateReceived: 02/14/09
Matrix: Sludge

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
AGRONOMIC PROPERTIES							
Saturation Percentage	81.8	%		0.1		USDA27a	02/23/09 14:07 / cm
Boron	ND	mg/L		1		SW6010B	02/24/09 13:40 / cp
Boron, soluble	0.35	mg/kg-dry		0.10		SW6010B	02/27/09 16:28 / sec
Calcium	78.2	mg/L		0.5		SW6010B	02/24/09 13:40 / cp
Calcium, soluble	64.0	mg/kg-dry		0.10		SW6010B	02/27/09 16:28 / sec
Calcium, sat. paste	3.91	meq/L		0.02		SW6010B	02/24/09 13:40 / cp
Magnesium	69.3	mg/L		0.5		SW6010B	02/24/09 13:40 / cp
Magnesium, soluble	56.7	mg/kg-dry		0.10		SW6010B	02/27/09 16:28 / sec
Magnesium, sat. paste	5.77	meq/L		0.04		SW6010B	02/24/09 13:40 / cp
Potassium	16.7	mg/L		0.5		SW6010B	02/24/09 13:40 / cp
Potassium, soluble	13.7	mg/kg-dry		0.10		SW6010B	02/27/09 16:28 / sec
Selenium	ND	mg/L		0.001		SW7742	02/26/09 10:51 / aae
Selenium, soluble	ND	mg/kg-dry		0.10		SW6010B	02/27/09 16:28 / sec
Sodium	395	mg/L	D	0.5		SW6010B	02/24/09 13:40 / cp
Sodium, soluble	323	mg/kg-dry		0.10		SW6010B	02/27/09 16:28 / sec
Sodium, sat. paste	17.2	meq/L	D	0.02		SW6010B	02/24/09 13:40 / cp
Sodium Adsorption Ratio (SAR)	7.83	unitless		0.01		Calculation	02/26/09 19:19 / sec

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix interference.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: JBR Environmental
Project: Westridge

Report Date: 03/02/09
Work Order: C09020633

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B									Batch: 21583
Sample ID: MB-21583	Method Blank				Run: ICP2-C_090224A				02/24/09 13:32
Boron	0.05	mg/L	0.01						
Calcium	ND	mg/L	0.3						
Magnesium	ND	mg/L	0.4						
Potassium	ND	mg/L	0.2						
Sodium	ND	mg/L	0.5						
Sample ID: LCS1-21583	Laboratory Control Sample				Run: ICP2-C_090224A				02/24/09 13:36
Boron	0.599	mg/L	1.0	67	70	130			S
Calcium	699	mg/L	0.50	89	70	130			
Magnesium	167	mg/L	0.50	91	70	130			
Potassium	34.0	mg/L	0.50	87	70	130			
Sodium	540	mg/L	0.53	97	70	130			
Sample ID: C09020633-001AMS2	Sample Matrix Spike				Run: ICP2-C_090224A				02/24/09 13:44
Boron	2.58	mg/L	1.0	106	75	125			
Calcium	184	mg/L	0.50	104	75	125			
Magnesium	176	mg/L	0.50	105	75	125			
Potassium	103	mg/L	0.50	85	75	125			
Sodium	475	mg/L	0.54	79	75	125			
Sample ID: C09020633-001AMSD2	Sample Matrix Spike Duplicate				Run: ICP2-C_090224A				02/24/09 13:48
Boron	2.60	mg/L	1.0	107	75	125	0.8	20	
Calcium	181	mg/L	0.50	101	75	125	1.8	20	
Magnesium	174	mg/L	0.50	102	75	125	1.3	20	
Potassium	104	mg/L	0.50	85	75	125	0.8	20	
Sodium	479	mg/L	0.54	82	75	125	0.8	20	
Method: SW7742									Batch: 21583
Sample ID: MB-21583	Method Blank				Run: CVAA-C202_090226B				02/26/09 10:40
Selenium	ND	mg/L	0.0005						
Sample ID: LCS1-21583	Laboratory Control Sample				Run: CVAA-C202_090226B				02/26/09 10:45
Selenium	0.0249	mg/L	0.0010	100	90	110			
Sample ID: C09020633-001ADUP	Sample Duplicate				Run: CVAA-C202_090226B				02/26/09 10:56
Selenium	ND	mg/L	0.0010					10	
Method: USDA27a									Batch: R115063
Sample ID: LCS-21583	Laboratory Control Sample				Run: SARTORIUS_090219A				02/23/09 14:06
Saturation Percentage	32.0	%	0.10	64	80	120			S

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

Chain of Custody and Analytical Request Record

Page ____ of ____

PLEASE PRINT- Provide as much information as possible.

Company Name: JBR ENVIRONMENTAL	Project Name, PWS, Permit, Etc. WESTRIDGE	Sample Origin State: UT	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: 674 No. 100E PRICE, UT 84501	Contact Name: KARLA KNOOP Phone/Fax: 435-637-9645 435-637-8679	Email: KKnoop@jbrenv.com	Sampler: (Please Print)
Invoice Address: 8160 SO HIGHLAN DRIVE SANDY, UT 84043	Invoice Contact & Phone: WENDY DERBY JBR ENVIRONMENTAL	Purchase Order: B.A97001.00	Quote/Bottle Order:

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: _____
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Number of Containers (Sample Type: A Air, W Water, S Soils/Solids, V Vegetation, B Bioassay, O Other)	BORON	SELENIUM	SODIUM	MAGNESIUM	CALCIUM	POTASSIUM	SEE ATTACHED	Normal Turnaround (TAT)	RUSH
1 Sludge #2	Feb 12 2009	15:07	SLUDGE	1	✓	✓	✓	✓	✓	✓			X
2													
3													
4													
5													
6													
7													
8													
9													
10													

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Please rush for analysis results in 5 days. See attached letter w/ methods described and narratives needed

Shipped by: Fed Ex

Cooler ID(s): Client

Receipt Temp: 0.4 °C

On Ice: (Yes) No

Custody Seal Intact Signature Match: Y N

LABORATORY USE ONLY C09020633

Custody Record MUST be Signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	JAMES R SAGE	2/13/09 1430		Krista Elder	2/14/09 10:00	Krista Elder
	Sample Disposal: Return to Client: _____ Lab Disposal: _____			Received by Laboratory:	Date/Time:	Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

The chain of custody is attached. Please expedite the analysis of this sample so we have results in 5 days. We understand this will cost 50% more than the base cost of analysis, which Steve estimated to be $100 for one sample.

If you have any questions, please call Karla Knoop at 435-647-9645 or Jamey Sage or Marit Sawyer at 801-943-4144.

Thank you.

Sincerely,

Ms Marit Sawyer
Environmental Permitting Specialist
JBR Environmental Consultants

ec: Karla Knoop, Linda Matthews – JBR Environmental Consultants

Energy Laboratories Inc
Workorder Receipt Checklist

C09020633

JBR Environmental

Login completed by: Kristina Ward

Reviewed by:

Reviewed Date:

Date and Time Received: 2/14/2009 10:00 AM

Received by: kre

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature:	0.4°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Contact and Corrective Action Comments:

None

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CLIENT: JBR Environmental
Project: Westridge
Sample Delivery Group: C09020633

Date: 02-Mar-09

CASE NARRATIVE

LABORATORY NOTES:
The methodology used in the analysis of this sample is consistent with the Methods of Soil Analysis, Part 3, Chemicial Methods, Soil Science Society of America, © 1996.

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS
Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

RADON IN AIR ANALYSIS
The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

ATRAZINE, SIMAZINE AND PCB ANALYSIS USING EPA 505
Data for Atrazine and Simazine are reported from EPA 525.2, not from EPA 505. Data reported by ELI using EPA method 505 reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT
eli-r - Energy Laboratories, Inc. - Rapid City, SD
eli-t - Energy Laboratories, Inc. - College Station, TX

CERTIFICATIONS:
USEPA: WY00002; FL-DOH NELAC: E87641; California: 02118CA
Oregon: WY200001; Utah: 3072350515; Virginia: 00057; Washington: C1903

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.

THIS IS THE FINAL PAGE OF THE LABORATORY ANALYTICAL REPORT

ATTACHMENT 12

MSDS INFORMATION FOR FLOCCULANT

Shaver, Dave

From: Jeffrey Studenka [jstudenka@utah.gov]

Sent: Monday, June 01, 2009 10:21 AM

To: Shaver, Dave

Cc: Christopher_Conrad@blm.gov; Hibbs, David; William B - Mining Schnieders Jr; Daron Haddock; Ingrid Wieser; Steve Christensen

Subject: Re: flocculant

Dave,

I have reviewed the information on the proposed flocculant for use at the West Ridge Mine site. In short and based upon our discussion this morning I am ok with you utilizing this material, on a limited basis as proposed, to further settle out the coal fines and/or TSS from your mine dewatering operations so long as the concentrations do not exceed a 1% aqueous solution as the MSDS reports in the Ecological Information section for acute toxicity. Seeing that the bench testing only utilized a 5 ppm dose, this should not be a problem.

From our discussion, I understand that this material will be introduced just upstream of Catchment Basin A and will be utilized only during the cleanup operations, which at this point looks to be from Late June thru July of this summer.

Thanks for the update and let me know if you have any questions or comments. I look forward to a successful clean up operation this summer and I appreciate the coordination efforts of all agencies and personnel involved thus far.

Sincerely,

Jeff Studenka
Environmental Scientist
Division of Water Quality
288 North 1460 West
PO Box 144870
Salt Lake City, UT 84114-4870
phone (801)-538-6779
fax (801) 538-6016
www.waterquality.utah.gov

>>> "Shaver, Dave" <dshaver@coalsource.com> 5/29/2009 9:25 AM >>>
Gentlemen (and Ingrid)....Attached is the MSDS sheet for the flocculant we propose to use in the cleanup of the coal fines. Also attached is a summary of the bench test. The results are very encouraging. Please review this material and let me know if you are OK with using this floc, since I need to order it as soon as possible so that we can begin the cleanup test by the earliest day possible. Please note that the "potential environmental hazard" is rated as Low. It will take several weeks to deliver the chemical and the pumping equipment, and another week to get it all set up. I have scheduled to take my daughter back to Philadelphia during the week of June 15 – 19, and will need the following week to get everything ready for the test run. Therefore, I would like to propose that we begin the clean-up test early in the week of June 29, on whatever day suits everyone's schedule the best. Please let me know if this works for you. Thanks

Dave

POL-E-Z® 83400

Quick Inverting Latex Flocculant

NALCO

Product Bulletin

PRODUCT BENEFITS

POL-E-Z 83400 has the following advantages over traditional latex flocculants:

- Inverts quickly, achieving 100% activity in seconds
- Requires no makeup equipment, saving thousands of dollars in capital costs
- Can be fed neat into solution and slurry lines
- Can be used in remote areas
- Minimal application labor required
- Dust-free handling

PRINCIPAL USES

POL-E-Z 83400 can be used in any application where traditional latex or powder flocculants are being used. This includes:

- Thickening
- Filtration and dewatering
- Clarification

POL-E-Z 83400 can be used to treat ore and waste in the following industries:

- Aggregates
- Coal
- Precious Metals
- Copper
- Iron Ore
- Phosphate
- Kaolin

GENERAL DESCRIPTION

POL-E-Z 83400 is a liquid anionic flocculant, which requires no makeup equipment, inverting quickly in most process solutions and slurries. This represents substantial cost savings in chemical makeup systems to the user. **POL-E-Z 83400** is a high molecular weight moderately anionic charged flocculant for use in liquid/solid separation applications. For typical chemical and physical properties, refer to the **POL-E-Z 83400** Material Safety Data Sheet.

DOSAGE AND FEEDING

Dosage requirements for feeding **POL-E-Z 83400** will vary greatly depending on application, required results, ore type and size. Your Nalco representative will be able to customize your flocculant program to achieve the optimum benefits. Your Nalco representative can also automate most feed systems, resulting in minimum operator involvement and maximum process throughput.

SHIPPING AND HANDLING

POL-E-Z 83400 is shipped in bulk quantities, one-way disposable totes and drums. Your Nalco representative can recommend the best program for your process and give valuable advice on storage and handling.

Read the label and Material Safety Data Sheet for complete handling information before using this product.

REMARKS

If you need assistance or more information on this product, please call your nearest Nalco Representative. For more news about Nalco, visit our Web site at www.nalco.com.

For Medical and Transportation Emergencies involving Nalco products, please see the Material Safety Data Sheet for the phone number.

Nalco Company 1601 West Diehl Road • Naperville, Illinois 60563-1198

SUBSIDIARIES AND AFFILIATES IN PRINCIPAL LOCATIONS AROUND THE WORLD

NALCO

MATERIAL SAFETY DATA SHEET

PRODUCT

POL-E-Z® 83400

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **POL-E-Z® 83400**

COMPANY IDENTIFICATION : Nalco Company
1601 W. Diehl Road
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING
HEALTH : 1 / 1 FLAMMABILITY : 1 / 1 INSTABILITY : 0 / 0 OTHER :
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Based on our hazard evaluation, none of the substances in this product are hazardous.

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

CAUTION
May cause irritation with prolonged contact.
Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soap and water. Protect product from freezing.
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
Can cause mild to moderate irritation.

SKIN CONTACT :
Can cause mild irritation.

INGESTION :
Not a likely route of exposure. No adverse effects expected.

INHALATION :
Not a likely route of exposure. No adverse effects expected.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
Frequent or prolonged contact with product may defat and dry the skin, leading to discomfort and dermatitis.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

EYE CONTACT :
Immediately flush eye with water for at least 15 minutes while holding eyelids open. If irritation persists, repeat flushing. Get immediate medical attention.

SKIN CONTACT :
Immediately flush with plenty of water for at least 15 minutes. If symptoms persist, call a physician.

INGESTION :
Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. Get medical attention.

INHALATION :
Remove to fresh air, treat symptomatically. Get medical attention.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : > 200 °F / > 93 °C (PMCC)

EXTINGUISHING MEDIA :
Foam, Dry powder, Carbon dioxide, Other extinguishing agent suitable for Class B fires

UNSUITABLE EXTINGUISHING MEDIA :
Do not use water unless flooding amounts are available.

FIRE AND EXPLOSION HAZARD :
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Notify appropriate government, occupational health and safety and environmental authorities. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Do not take internally. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labelled. Avoid eye and skin contact.

STORAGE CONDITIONS :
Store separately from oxidizers. Store the containers tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES :
General ventilation is recommended.

RESPIRATORY PROTECTION :
Due to its low volatility and toxicity, the hazard potential associated with this material is relatively low. Respiratory protection is not normally needed.

HAND PROTECTION :
Nitrile gloves, PVC gloves

SKIN PROTECTION :
Wear standard protective clothing.

EYE PROTECTION :
Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Keep an eye wash fountain available. Keep a safety shower available.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Viscous liquid
APPEARANCE	Opaque Off-white
ODOR	Citrus oranges
SPECIFIC GRAVITY	1.051 @ 74 °F / 23 °C
DENSITY	8.8 lb/gal
SOLUBILITY IN WATER	Miscible
pH (100 %)	6.6
FREEZING POINT	-20 °F /

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Addition of water results in gelling. Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

No toxicity studies have been conducted on this product.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: Low

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for a 1% aqueous solution.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	150 mg/l	Product

Rating : Essentially non-toxic

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

X	Immediate (Acute) Health Hazard
-	Delayed (Chronic) Health Hazard
-	Fire Hazard
-	Sudden Release of Pressure Hazard
-	Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :
Substances known to the State of California to cause cancer are present as an impurity or residue.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
None of the substances are specifically listed in the regulation.

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
Not considered a WHMIS controlled product.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department
Date issued : 02/23/2004
Version Number : 1.9

ONDEO Nalco

Material Safety Data Sheet Description and Explanation of Terms

Emergency Telephone Number **(24 hours)**

Medical 1-800-424-9300

Overview

The Material Safety Data Sheet (MSDS) is the major media for transmitting health and safety information on chemical products. It is the communication tool to comply with OSHA's Hazard Communication Standard (29CFR 1910.1200) in providing hazard and safety information to our employees and our customers.

These OSHA regulations require chemical manufacturers to evaluate each chemical produced to determine if it is hazardous. The definition of "hazardous" is expanded from the usual "flammable, corrosive, oxidizer, explosive, toxic or highly toxic agents, carcinogen, etc." to include combustibles as well as irritants.

The regulations require chemical manufacturers and importers to prepare and distribute an MSDS for all hazardous chemicals and that each container of hazardous chemical leaving the workplace be labeled. In addition, the chemical manufacturer is to provide a copy of the MSDS to the purchaser at the time of shipment or before.

We have a computerized program to send MSDS's to each purchaser upon receipt of a **first order**. The MSDS will automatically be sent to the attention of the Purchasing Agent at the "ship to address." A **revised** MSDS will also be sent to that same address when a change has been made to the MSDS. Our system allows MSDS's to be sent to alternate locations and/or to additional recipients. You should contact your sales representative or Environmental Health and Safety at 630-305-1449 to customize your distribution requirements. MSDS's continue to be available through your Sales Representative.

Our MSDS complies with all of the requirements of the OSHA regulation. We also provide you with information regarding the safe handling of our product, recommended protection measures, toxicological data, and the status of our product under various federal, state, international, state right-to-know, and environmental and safety regulations. We have put all of this information, that is in compliance with the U.S. and European approved ANSI Z400.1, 1993 Standard, into one document for your convenience.

While the OSHA regulations require that an MSDS is prepared only for hazardous chemicals, as a commitment to product safety, we provide MSDS's on all our chemical products.

As additional commitment to the safe use of our products, we have characterized the human and environmental risk associated with our products so that our sales representatives and our customers can safely use our products.

This MSDS ***Description and Explanation of Terms*** brochure is designed to assist with your interpretation of the MSDS so that you may receive additional customer value from the document.

Section 1 — Chemical Product Identification

This section identifies our product by Trade Name and/or Product Number. This is the same trade name or product number that will appear on the product container allowing you to match the product label with the MSDS.

We provide a generic chemical description of all major ingredients, both hazardous and nonhazardous. This gives your health and safety personnel information on the class of chemistry(s) in our product without compromising the proprietary nature of the formulation.

The third part of this section is the National Fire Protection Association (NFPA) 704M and Hazardous Materials Identification System (HMIS) rating designations. These popular rating systems are used to give you a quick summary of the hazards of the product regarding health, flammability, reactivity and other hazards. Based on HMIS definition, an organic product will always have a flammability rating of at least (1) with inorganics generally having a rating of (0).

Section 2 — Composition/ Ingredient Information

We have evaluated our formulation for hazardous properties and identify those chemical ingredients which cause or contribute to the hazard. As required by OSHA, the substances are identified if present in quantities of 1% or greater, or in the case of carcinogens, of 0.1% or greater, or if our hazard evaluation determines a hazard exists at lower concentrations. The hazardous ingredients are identified by specific chemical name and their CAS number (the Chemical Abstract Service number for that specific chemical).

To assist your industrial hygiene and safety personnel, we identify concentration ranges into which the exact percentage of the hazardous ingredient falls. This should enable your safety professional to evaluate the need for air sampling, employee monitoring, or other protective measures. Since our product formulation is proprietary, exact percentages will be given only when there is no trade secret concerns.

Where disclosure of specific chemical name and CAS number of a hazardous ingredient would release trade secrets, we have identified the chemical as "proprietary" as permitted by OSHA and State Right To Know regulations. In the event of an injury or accident, we will communicate the specific identity and concentration to health professionals who may have need for this information.

Section 3 — Hazard Identification

An emergency overview statement is provided. This warning statement, which is also found on all product containers, provides basic hazard and proper handling practices including the use of protective equipment.

This section also provides the likely routes of exposure when handling the product. If the product does not have a volatile ingredient that can be an inhalation concern during use, the primary routes of exposure are eye and skin contact. The effects from single and repeated exposure are identified.

Section 4 — First Aid Information

This section is designed to provide first aid information for the typical routes of exposure. The recommendations should be followed in all cases. If exposure causes unexpected or delayed effects, or severe reaction or injury, you should immediately consult a physician. Our **ALERT®** (Alert Link Emergency Response Team), **1-800-424-9300** should be called by the attending physician or others. Our **ALERT®** system operates 24 hours/day, seven days/week and is staffed by trained professionals.

Section 5 — Fire Fighting Measures

If the product exhibits flammable characteristics, information is provided on the recommended method for fighting fire. Unusual fire or explosion hazards are also given. OSHA 29CFR 1910.1200 considers products with flash points of less than 100 degrees Fahrenheit (F) as flammable materials. Chemicals with flash points between 100 degrees F and 200 degrees F are classified as combustible. The Department of Transportation (DOT) 49CFR 173.120 considers products with a flash point less than or equal to 141 degrees F to be flammable. Products of 142 degrees F to 200 degrees F are classified as combustible. The Resource Conservation and Recovery Act (RCRA) - 40CFR 261 subpart C and D define those chemicals with flash points of less than 140 degrees F as ignitable. These differences result from different requirements and definitions from different federal agencies.

Section 6 — Accidental Release Measures

This section provides information on how to handle and clean up product spills. If reporting of the spill requires notification to the **National Response Center (800) 424-8802,** the requirements will be explained in Section 15 — Regulatory Information.

Section 7 — Handling and Storage

Guidance on safe handling and storage practices is provided. General practices are provided. If the product necessitates special requirements, the information is provided.

Section 8 — Exposure Controls/ Personal Protection

Handling chemicals such as attaching feed pumps or transferring chemicals from one container to another constitutes the most likely exposure to operating personnel. Recommendations are provided to protect personnel handling product spills, on the type of ventilation needed, and on the protective equipment (respirator, gloves, goggles, etc.) that should be used. This is one of the most important sections of the MSDS and of the overall hazard communication program.

We have evaluated the recommended usage and its frequency for our product, delivery and storage, and intended application equipment to determine the degree of exposure to those handling the products. This exposure can be managed through the use of protective clothing and feeding equipment. This information should be reviewed and put in practice by operating personnel.

Section 9 — Physical and Chemical Properties

To assess the physical hazards of our product, we perform appropriate tests using procedures recommended by the American Society for Testing and Materials (ASTM). Their procedure number is identified accordingly. The tests vary depending on the physical form and chemical nature of the product. These physical or chemical test results are one of the factors reviewed to determine the need and type of toxicological testing. The results are also used to identify

hazardous physical properties which require labeling according to the Department of Transportation (DOT) regulations or for waste classification for disposal under the Resource Conservation and Recovery Act (RCRA).

Section 10 — Stability and Reactivity

The potential for our product to aggressively react with other commonly found chemicals or to decompose represents a special hazard. Information is provided on possible interaction with other chemicals as well as reaction of our product to commonly encountered materials of construction used for chemical feed handling systems.

Section 11 — Toxicological Information

Our health hazard evaluation for a product is based upon one or more of the following: results of toxicological tests conducted on a product, toxicological test results for a product ingredient(s), use of test results on a similar formulation or product and, use of information obtained in the open literature or supplier information for an ingredient(s).

In this Section, we present summaries of results of toxicity tests. In most cases, results are those from acute, single exposure tests. It should be remembered that the test procedures are quite stringent so that direct extrapolation of results to comparable human exposure must be viewed in that context.

The types of acute animal tests which are routinely conducted include: oral, dermal and inhalation lethality studies and eye and skin irritancy studies. The lethality studies involve administration of the chemical or formulation to groups of test animals at various graded dose levels and recording mortality. The mortality-dose response allows for the calculation of the LD_{50} or LC_{50} by appropriate statistical methods. The LD_{50} is that dose (amount) of chemical or formulation usually expressed in grams or milligrams per kilogram of animal body weight (g/kg or mg/kg), which would produce death in one half of a group of animals administered the chemical or formulation. The LC_{50} is equivalent to LD_{50} except it uses concentration rather than dose and is expressed as parts per million (ppm), milligrams per liter (mg/l) or milligrams per cubic meter of air (mg/M^3). Oral and dermal tests use LD_{50}, while inhalation tests use LC_{50}. In both cases, the smaller the value the more "toxic" the chemical or formulation.

Eye and skin irritancy tests utilize weighted numerical scores to assess degree of injury or irritation. In many instances, such numerical scores are also given descriptive ratings such as mildly or severely irritating. Most grading systems are modeled after those described by Draize, *et al* in their original eye and skin irritation test procedures.

Results of skin sensitization tests conducted primarily on animals are presented. Human data is given if available. Generally, these test results will be for one or more chemicals in a formulation rather than the formulation itself.

When available and applicable, results of tests conducted to assess hazards other than lethality, will be provided under "other toxicity results" and "chronic studies." These types of tests include life-time cancer studies, reproduction tests, and tests designed to uncover birth defects (teratology studies). These tests are usually conducted on individual chemical(s) rather than on a formulated product.

Other short-term bioassays of changes to genetic cells are run with bacterial and other cells. While these tests identify genetic changes in tissue, the usefulness of the information as a prediction of a similar effect to humans continues to be a scientific uncertainty. If this data is available, it will be provided in this section.

Since OSHA has broadened the criteria for acute health hazards and since the numerical rating is not uniformly accepted by all governmental agencies and scientific bodies, we are including OSHA's definitions below:

Highly toxic substance is one having:

1. An oral LD_{50} of 50 mg/kg or less.
2. A dermal LD_{50} of 200 mg/kg or less.
3. An inhalation LC_{50} of 200 ppm or less of gas or vapor; or 2 mg/l or less of mist, fume or dust.

A ***toxic*** substance is one having:

1. An oral LD_{50} between 50 and 500 mg/kg.
2. A dermal LD_{50} between 200 and 1000 mg/kg.
3. An inhalation LC_{50} between 200 ppm, 2,000 ppm of gas or vapors, or between 2 and 20 mg/l of mist, fume or dust.

A ***corrosive*** substance is one which causes third degree burns and scar tissue from 4-hour skin contact to rabbits.

A ***skin irritant*** is one which causes redness and swelling which does not persist and results in a numerical score of 5 out of 8 in greater than 50% of the animals tested.

An ***eye irritant*** — under 29CFR 1910.1200 an eye irritant is one, which at a minimum, results in a grade 2 redness and/or swelling of the conjunctiva in at least 4 of 6 test animals when tested by the methods described in 16CFR 1500.42 or other appropriate techniques. The maximum attainable score using the Draize procedure is 110 (80 for cornea, 10 for iris, and 20 for conjunctiva).

Use of a finite irritation index to assess a chemical's potential as an eye irritant, i.e., x/110 cannot always be made because of inconsistencies between OSHA's definition and the standard Draize scoring technique. In some instances, an index as low as 2.7/110 is sufficient to warrant the eye irritation hazard statement, while in other instances an index of 6/110 would not. In cases of conflict such as this, we will point them out on the MSDS. This rating system tends to classify many substances as irritants which would not be so classified under other regulations.

Section 12 — Ecological Information

This section contains information useful for assessing the environmental impact from a product or its ingredients. When available and where applicable, information on partition coefficients, Biochemical Oxygen Demand (BOD), and Chemical Oxygen Demand (COD) is presented.

Results of acute aquatic bioassays are presented. These bioassays are useful in assessing potential for adverse effects on aquatic invertebrates and vertebrates. Results are usually expressed as 48 or 96-hour LC_{50} values in milligrams per liter water (mg/l) or parts per million (ppm). The LC_{50} is the concentration which is lethal to 50% of a group of organisms exposed for the time period indicated. It is synonymous with the term TL_{50} (the concentration which would result in the survival of 50% of a given test group). When applicable, a no-observed effect concentration is presented based upon lack of adverse effects and mortality.

Listed below are ratings we use as internal guidelines:

96-Hour LC_{50}	Rating
<1.0 ppm	Extremely toxic
>1.0<5.0	Highly toxic
>5<10.0	Toxic
>10<100	Moderately toxic
>100<1000	Slightly toxic
>1000	Essentially non-toxic

In our effort to evaluate the environmental risk of our product, we have determined the environmental hazard and exposure of our product for its intended use. This information allows you to manage your exposures to achieve an acceptable level of risk.

Section 13 — Disposal Considerations

The disposal of wastes generated at a facility is one of the biggest problems facing industry. This section describes how to contain and to dispose of our product if it is classified as waste. This section identifies those classifications, that would qualify as hazardous waste under the Resource Conservation and Recovery Act (RCRA).

Empty containers may contain residual product and should be treated in accordance with the label requirement unless the empty container has been properly reconditioned. By EPA Standards (RCRA - 40CFR 261.7), a container is considered to be "empty" when it contains: (1) no more than 1 inch (2.5 centimeters) of product, or (2) no more than 3% by weight of the total capacity of the container if the container is less than or equal to 110 gallons in size or (3) no more than 0.3% by weight if the container is greater than 110 gallons in size. Empty drums that formerly contained chemicals listed in 40CFR 261.33 (c) must be triple rinsed using a solvent capable of removing the commercial product to qualify as "empty." Quantities of chemical greater than those indicated above which remain in the container are considered "wastes" when disposing of the container and appropriate RCRA regulations will apply.

Section 14 — Transportation Information

All hazardous chemicals are subject to regulation by the U. S. Department of Transportation (DOT). This section identifies the DOT proper shipping name and hazard class for the product, if any. The proper shipping name/hazard class may vary by packaging, properties, and mode(s) of transportation. Many times the name will be a generic name and not necessarily the exact chemical name identified in Section 2. DOT and OSHA hazard classifications are not always in agreement due to the differences in definitions.

Section 15 — Regulatory Information

Today chemical products are regulated from the time they are manufactured, during use, should any environmental release occur, and when the material is finally ready for disposal. This section provides information on the status of our product under the various federal, state and international regulations that may govern its manufacture, use or disposal. Under the OSHA Hazard Communication Rule 29CFR 1910.1200, the reason for classifying the product as hazardous is as follows: (1) being combustible (flash point 100-200 degrees F), (2) being flammable (flash point less than 100 degrees F), (3) being a skin or an eye irritant, (4) having a chronic health hazard such as liver damage, nerve damage, etc., (5) listed on the National Toxicology Program (NTP) Annual Report on Carcinogens or found to be a potential carcinogen by the International Agency for Research on Cancer (IARC), (6) or OSHA having an established workplace exposure limit or recommended limits. A Threshold

Limit Value (TLV) can be established by either OSHA [OSHA uses the term Permissible Exposure Limit (PEL)], the American Conference of Governmental Industrial Hygienists (ACGIH) or by the chemical manufacturer.

Three categories of TLV's are recognized: (1) the Threshold Limit Value-Time Weighted Average (TLV-TWA) — the time-weighted average concentration for a normal 8-hour workday and a 40-hour workweek, to which nearly all workers may be repeatedly exposed day after day, without adverse effect, (2) Threshold Limit Value-Short Term Exposure Limit (TLV-STEL) — the concentration that workers can be continuously exposed for a short period of time without suffering from a) irritation, b) chronic or irreversible tissue damage, or c) numbness of sufficient degree to increase the likelihood of accidental injury, impair self-rescue or materially reduce work efficiency, and provided that the daily TLV-TWA is not exceeded. A STEL is defined as a 15-minute time-weighted average exposure which should not be exceeded at any time during a workday even if the 8-hour time-weighted average is within the TLV and (3) Threshold Limit Value-Ceiling (TLV-C) – the concentration that should not be exceeded during any part of the working exposure.

We frequently receive questions on the status of our product under other federal, state and international environmental laws. For this reason, when applicable, we are providing information on product status under major laws.

1. ***OSHA Hazard Communication 29CFR 1910.1200*** — Regulated substances, the nature of their hazard and the regulatory requirements are provided. We identify those chemicals for which there is an established TLV or that appear on the NTP or IARC lists.

2. ***Other OSHA Regulations*** — OSHA has established specific regulations for various chemicals. If these regulations apply to our products, the regulation and its applicability is identified.

3. ***CERCLA/Superfund 40CFR 117.302*** — This Law requires the reporting of spills of certain chemicals when the quantity spilled exceeds certain specified amounts. If our product contains one of the specified chemicals, the quantity of the product, which must be spilled before the notification requirement is "triggered," is calculated and the chemical is identified. All products are reviewed for Section 313 40CFR 372 (List of Toxic Chemicals). If the product contains these substances, it will be identified with its CAS number and concentration range for reporting purposes.

4. ***Toxic Substances Control Act (TSCA)*** — Only substances that are included on the TSCA 8(b) Inventory list, have been exempted (e.g. for research and development only), or have been cleared through a TSCA premanufacturing notification (PMN), can be legally manufactured and used in the U.S.A. The TSCA status for every product is included.

5. ***If our product requires registration or governmental clearances*** for use in intended applications (examples, pesticides under FIFRA, food additives under FDA, drinking water additives, fuel additives under EPA, use in meat and poultry plants under USDA) the status under the appropriate law is indicated.

6. ***Resource Conservation and Recovery Act (RCRA)*** — Our product as sold is not a waste and therefore not covered by this Act. However, should someone decide to declare it a waste and discard it, then the formulation must be evaluated to determine how RCRA might define the waste. This information is provided for our product should it become "a waste." Please refer to comments in Section 13 — Disposal Considerations of this document regarding empty containers.

7. ***The Federal Clean Air and Water Acts 40CFR 60 and 61 and 40CFR 401.15 and 116*** contain sections which specifically list chemicals for which these regulations apply. If our product contains any of the chemicals listed under these sections, they will be identified. This will allow assessment of their impact, if any, on discharge or emission permits.

State Regulations:

We also get similar questions regarding the status of our products under state regulations including Right-to-Know laws. However, many states (such as Michigan or California's Proposition 65) list those materials which they consider hazardous or use specific criteria for listing chemicals. Examples of these criteria are the established TLV's by OSHA or ACGIH or the presence of the chemical on a list such as the National Toxicology Program (NTP) Annual Report or International Agency for Research on Cancer (IARC) list for suspect carcinogens.

International Regulations:

With the increase in global regulations, including Material Safety Data Sheets, product registrations and chemical substance notification of new substances, we have added the appropriate information. Specifically, this MSDS meets the requirements of Canada's Workplace Hazardous Material Information System (WHMIS).

Section 16 — Other Information

Additional information not covered in other sections impacting health, safety, environmental or regulatory issues will be provided in this section.

Section 17 — Risk Characterization

Our Product Stewardship process evaluates the risk of our product during its recommended use. Our evaluation includes both human and environmental risk. Risk characterization involves hazard and exposure considerations for the recommended use of our product. We define this as the product's general risk. Our human and environmental risk characterization results in a classification of high, moderate or low. Our goal is to either reduce the hazard and/or manage the product exposure to reduce human and environmental risk. The human hazard rating is found at the end of **Section 11 — Toxicological Information** with the human exposure rating found at the end of **Section 8 — Exposure Controls/ Personal Protection Equipment.** The environmental hazard and exposure rating is contained at the end of **Section 12 — Ecological Information**. The summation of the human and environmental risk is found on the MSDS in **Section 17 — Risk Characterization.**

Any use inconsistent with our recommendation may affect our risk characterization. Our sales representatives can assist you to determine if the product application is consistent with our recommendations. This information is offered to assist with your risk management practices.

This product material safety data sheet provides health, safety and regulatory information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

Section 18 — References

These references along with this document serve as a brief description of our risk characterization process.

Threshold Limit Values for Chemical Susbstances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (CD-ROM version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (CD-ROM version) Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

Registry of Toxic Effects of Chemical Susbstances, National Institute for Occupational Safety and Health, Cincinnati, Ohio (CD-ROM version), Micromedex, Inc., Englewood, CO.

Shepard's Catalog of Teratogenic Agents (CD-ROM version), Micromedex, Inc., Englewood, CO.

Ariel Insight™ (Databases of North American and Western European Regulations including Global Chemical Control Law Substances), Ariel Research Corporation, Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, Washington (CD-ROM version), Micromedex, Inc., Englewood, CO.

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ONDEO Nalco Energy Services P.O. Box 87 □ Sugar Land, Texas 77487-0087 (281) 263-7000

ATTACHMENT 13

BLM SEED MIX

Shaver, Dave

From: Dana_Truman@blm.gov
Sent: Wednesday, June 03, 2009 9:29 AM
To: Shaver, Dave
Subject: Seedmix

Attachments: Westridge seedmix.docx

Westridge
edmix.docx (17 KB)

Hi David

Thank you for meeting with me yesterday. To follow-up on the question of top soil storage here are a few notes. From the resource perspective, I evaluate projects and soil handling methods as to how the activity or methods affect the potential for successful reclamation. In many cases, due to the type of disturbance and timeframe of the project, stockpiling the top soil is necessary In this case, the area of disturbance was small and temporary in nature, and the topsoil resource is relatively minimal due to the location of the project area in an intermittent drainage and the naturally rocky environment, therefore I believe that placing the topsoil in t(See attached file: Westridge seedmix.docx)he access route instead of stockpiling in a separate location is acceptable.

During your reclamation phase, any soil resources will be re-countered to match the native surroundings, thus the topsoil will be returned to the area in which it came and any compacted soil particles will be disturbed.
Therefore I expect that reclamation efforts will be successful.

Here are my two suggested seed mixes; one for A, B, and C, and one for D, E, and F.

Please call me if there are any questions.

Best of luck

****
Dana Truman
Range Management Specialist
Price Field Office
125 South 600 West
Price, Utah 84501
435-636-3628 (W)
435-636-3657 (fax)

A good seedbed needs to be prepared, and restoring natural contours will be a must.

Moisture availability and soil properties will be critical factors affecting seedling establishment.

Planting should be done as a dormant fall planting.

This seed mix should be used as a guide; if changes are needed due to availability of seed or current research and updated information, confer with an authorized BLM specialist.

A, B, C	Species/Variety	CODE	Seeding Rate
			(PLS lbs/ac)
1	Ricegrass, Indian	ACHY	3.0
2	Wheatgrass, Intermediate (Topar)	HECO	2.0
3	Great Basin Wildrye (Trailhead)	LECI4	2.0
4	Small Burnet (Delar)	SAMI3	2.0
5	Fourwing Saltbush	ATCA2	0.5
6	Sagebrush	ARTRT	0.05
			9.55
Broadcast:	Y		

D, E, F	Species/Variety	CODE	Seeding Rate
			(PLS lbs/ac)
1	Ricegrass, Indian (Paloma)	ACHY	3.00
2	Bottlebrush squirreltail	ELEL5	1
3	Wildrye, Russian	PSJU3	2.50
4	Globemallow	SPCO	0.30
5	Fourwing Saltbush (Ricon)	ATCA2	0.50
6	Winterfat (Hatch)	KRLA2	0.70
			8.0
Broadcast:	Y		

ATTACHMENT 14

UNDERGROUND MINE WATER TREATMENT FACILITIES

Dirty Water From Mining Sections (150 GPM)

Seal

Sediment Dam
Siltation Treatment

150 GPM

Settling Area to Collect Solids

Seal

Naturally Occuring Water From Fault (400 GPM)

DISTRICT 4

DISTRICT 2

Sediment Dam
Siltation Treatment

Seal

550 GPM

Sediment Dam
Siltation Treatment

Seal

Seal

Sediment Dam
Siltation Treatment

BARRIER

Settling Area to
Collect Solids

Seal

Seal

140 GPM

Naturally Occuring
Water From District 3
(150 GPM)

DISTRICT 3

DISTRICT 1

Naturally Occuring
Water From District 1
(50 GPM)

750 GPM

Total Discharge (750 GPM)

I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

UTAH REGISTERED #6449561 David W. Hibbs 6/4/09 PROFESSIONAL ENGINEER

DAVID W. HIBBS, P.E. NO. 6449561-2202

CURRENT SCHEMATIC MINE WATER PUMPING DIAGRAM

WEST RIDGE RESOURCES, INC.

794 NORTH "C" CANYON ROAD
EAST CARBON, UTAH 84520

MSHA MINE ID # 42-02233

DRAWN BY: DRD	SCALE: 1" = 600'
APPROVED BY: DH	DATE: 6 MAY 2009
SHEET	PLATE #1 of 2

Current Drawings\Mine Maps\West Ridge Mine\Mine water Issue\Pumping Diagrams 6-1-09.dwg, Current Pumping, 6/4/2009 2:47:40 PM, hg70\WR_ENG-HP 5500 Color

Dirty Water From Mining Sections (150 GPM)

Treatment Area: Aeration, Chemical Injection for Iron and TSS

Sediment Dam Siltation Treatment

Settling Area to Collect Solids

150 GPM

Seal

DISTRICT 4

DISTRICT 2

Fracture Fault Zone

Naturally Occuring Water From Fault (400 GPM)

Sediment Dam Siltation Treatment

Seal

550 GPM

Sediment Dam Siltation Treatment

Seal

Seal

Sediment Dam Siltation Treatment

BARRIER

Settling Area to Collect Solids

Seal

Settling Area to Collect Solids

DISTRICT 3

Naturally Occuring Water From District 3 (150 GPM)

DISTRICT 1

Naturally Occuring Water From District 1 (50 GPM)

700 GPM

750 GPM

Total Discharge (750 GPM)

I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

UTAH REGISTERED #6449561 David W. Hibbs 6/4/09 PROFESSIONAL ENGINEER

DAVID W. HIBBS, P.E. NO. 6449561-2202

PROPOSED SCHEMATIC MINE WATER PUMPING DIAGRAM

WEST RIDGE RESOURCES, INC.

794 NORTH "C" CANYON ROAD
EAST CARBON, UTAH 84520

MSHA MINE ID # 42-02233

DRAWN BY: DRD	SCALE: 1" = 600'
APPROVED BY: DH	DATE: 6 MAY 2009
SHEET	PLATE #2 of 2

J:\Current Drawings\Mine Maps\West Ridge Mine\Mine water Issue\Pumping Diagrams 6-1-09.dwg, Proposed Pumping, 6/4/2009 2:48:30 PM, dgn70\WR_ENG-HP 5500 Color

ATTACHMENT 15

CAPACITY ANALYSIS OF WILDCAT SEDIMENT POND C INTERIM STORAGE

BLACKHAWK ENGINEERING

From: Dan Guy

Subject: Excess Volume in Pond C at the Wildcat Loadout

Date: June 2, 2009

Per your request, I have checked the required and actual volumes for Pond C at the Wildcat Loadout. I have also evaluated the Stage-Volume information to determine the maximum level to which the pond could be filled and still retain the required volume for the 10-year, 24-hour storm event. All information is based on the attached Tables 9 and 17, which represent the latest information on this pond.

Based on Table 9, the required pond volume for Pond C is 1.836 ac. ft., and the actual pond volume is 4.732 ac. ft., leaving an excess volume of 2.896 ac. ft. at the principle spillway. On Table 17 (Stage-Volume), the principle spillway is at an elevation of 6137.0. Based on the stage-volume information, the pond could be filled to within 3' of the principle spillway, to an elevation of 6134.0, and still have 2.155 ac. ft. of capacity or 0.319 ac. ft. in excess of that required for the 10-year, 24-hour event. This would allow for placement of approximately 2.577 ac. ft. of material into the pond. This is the maximum elevation I would recommend for adding material to the pond, since it still provides a safety factor for the design storm.

TABLE 9

SEDIMENT POND "C" DESIGN

1-	Use 1.85" for 10 year - 24 hour event.		
2-	Disturbed Area Draining to Pond = 18.43 acres.		
3-	Runoff Curve Number = CN = 90 (Disturbed)		
4-	Disturbed Area Runoff = (From Table 2, 10 yr./24 hr.)	=	1.490 ac.ft.
5-	Sediment Storage Volume USLE - 0.213	=	0.213 ac.ft.
6-	Direct Precipitation into Pond 0.86 acres x 1.85" / 12 in./ft.	=	0.133 ac.ft.
7-	Total Required Pond Volume 1.490 + 0.213 + 0.133	=	1.836 ac.ft.
*8-	Pond Actual Volume at Principal Spillway	=	4.732 ac.ft.
9-	Peak Flow (25 year - 6 hour event)	=	10.99 cfs

* Existing.

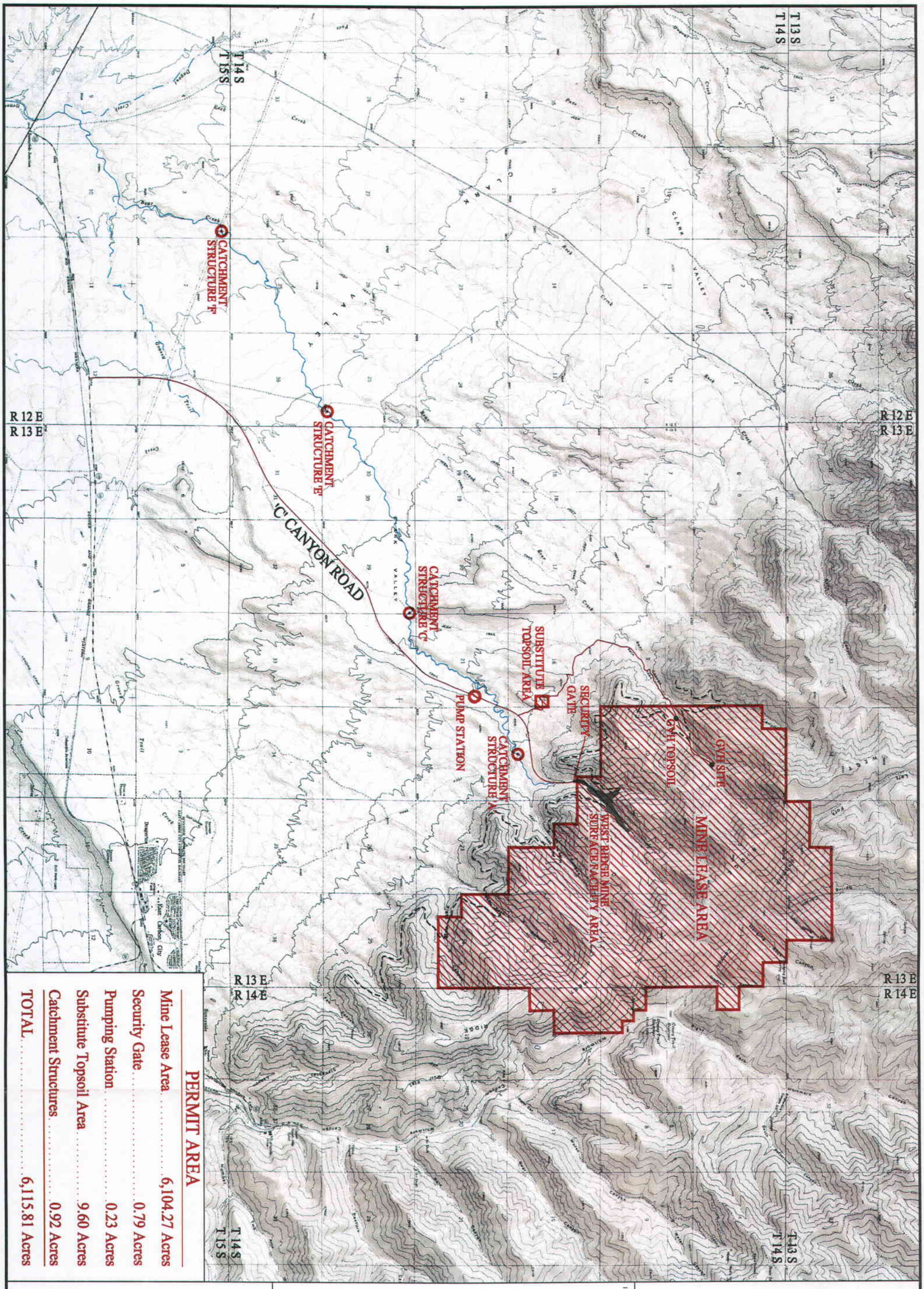
TABLE 17
SEDIMENT POND "C"
STAGE VOLUME DATA (AS-CONSTRUCTED)

Elevation	Area (ft^2)	Volume (ac. ft.)	Acc. Volume (ac. ft.)	Remarks
6127.7	804.3	0	0	Bottom of Pond
6130.0	18,075.7	0.498	0.498	
6131.5	-	0.700	1.198	Sediment Cleanout Level
6132.0	22,596.8	0.234	1.432	
6134.0	27,274.0	1.145	2.577	
6136.0	32,557.0	1.374	3.951	
6137.0	35,481.1	0.781	4.732	Principal Spillway
6138.0	38,405.1	0.848	5.580	Emergency Spillway
6140.0	45,286.6	1.921	7.501	Crest of Dam

MAP 1-0

PERMIT MAP

G:\Current Drawings\Mine Maps\West Ridge Mine\Minewater Issue\Permit Areas.dwg, 11x17, 6/4/2009 2:56:57 PM



PERMIT AREA

Mine Lease Area	6,104.27 Acres
Security Gate	0.79 Acres
Pumping Station	0.23 Acres
Substitute Topsoil Area	9.60 Acres
Catchment Structures	0.92 Acres
TOTAL	6,115.81 Acres

WEST RIDGE MINE
Map 1-0
Permit Map

DATE: 6-04-09 REV: 5 ACAD REF: Permit Area

LEGEND:
- Lease Areas
- Surface Facility Area
- GVH Site
- Outcrop

N

UTAH REGISTERED PROFESSIONAL ENGINEER #6449561 David W. Hibbs 6/4/09

I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

WEST RIDGE
RESOURCES, INC.

SCALE: 1"=5000'