C/015/0032
Received 5/19/16
Task ID #5190

GENWAL™ RESOURCES, INC.

P.O. Box 910, East Carbon, Utah 84520 794 North "C" Canyon Rd, 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

May 17, 2016

Attn: Daron Haddock
Permit Supervisor

Re: Crandall Canyon Mines, C/015/032
C16-002 Midterm Review Task ID# 5067

Dear Mr. Haddock,

Attached you will find the application addressing the deficiencies regarding the Midterm review of Crandall Canyon Mine.

In April 2011, Federal Coal Lease #UTSL-062648 was relinquished. Upon this relinquishment, Genwal Resources believed that the surface right of entry was preserved so continuing operations on the surface be maintained. Recently, it has come to light that the right of entry was not actually safeguarded. Therefore, after discussions with representatives of the Bureau of Land Management and the Department of Oil, Gas and Mining, it was determined that to keep the right of entry for the northern portion of Genwal's surface facilities, Genwal would need a special use permit from the U.S. Forest Service for continued right of entry. Thus, on April 27, 2016, UtahAmerican Energy (the parent company of Genwal Resources) submitted a request to the Mr. Jeff Salow of the U.S. Forest Service for this permit. A copy of the request packet and confirmation email are attached to this submittal. The special use permit, and all of its supporting documentation, will become Appendix 1-17 of the MRP. This appendix will contain the permit request.

Following this letter, you will find the C1 and C2 forms, a summary of deficiencies and detailed actions taken to correct them, and a digital copy of the red line strike out, and maps. Bonding Calculations are also included.

If you have any questions, or need any additional information regarding this submittal, please contact me directly at 435-888-4026.

Sincerely,

Karin Madsen
Engineering Technician
UtahAmerican Energy, Inc.

APPLICATION FOR PERMIT PROCESSING

Permit Change X	New Permit ☐	Renewal ☐	Transfer ☐	Exploration ☐	Bond Release ☐	Permit Number: ACT/015/032
Title of Proposal: C16-002 Midterm Review, Task ID #5067						Mine: Crandall Canyon Mine
						Permittee: Genwal 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*

☐ Yes	☐ No	1. Change in the size of the Permit Area? _____ acres Disturbed Area? _____ acres ☐ increase ☐ decrease.
☐ Yes	☐ No	2. Is the application submitted as a result of a Division Order? DO #
☐ 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? NOV #
☐ Yes	☐ No	10. Is the application submitted as a result of other laws or regulations or policies? Explain: Midterm Review
☐ 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? (Modification of R2P2?)
☐ 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?

X Attach 1 complete digital copy of the application and maps.

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.

Karin Madsen - Engineering Tech - 5-19-16
Signed - Name - Position - Date

Subscribed and sworn to before me this 19TH day of May, 19 2016

Notary Public

My Commission Expires: 03.27.17, 19

Attest: STATE OF Utah
COUNTY OF Carbon

LINDA KERNS
NOTARY PUBLIC • STATE of UTAH
COMMISSION # 663615
COMM. EXP. 03/27/2017

Received by Oil, Gas & Mining

ASSIGNED TRACKING NUMBER

Application for Permit Processing
Detailed Schedule of Changes to the MRP

C16-002 Midterm Review Task ID #5067	Permit Number: ACT/015/032
	Mine: Crandall Canyon Mine
	Permittee: Genwal Resources, Inc.

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 pages: 1-iii, 1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19, 20
☐ ADD	☑ REPLACE	☐ REMOVE	Chapter 5 pages: 5-iv, 5-v, 5-vi
☐ ADD	☑ REPLACE	☐ REMOVE	Chapter 7 pages: 7-xii-a, 7-xiv, 51, 52, 54
☑ ADD	☐ REPLACE	☐ REMOVE	Plate 5-3B
☐ ADD	☑ REPLACE	☐ REMOVE	Plate 1-1 Lease / Permit Area Map Plate 1-1A Permit Areas Location Map Plate 2-3 Topsoil Stockpile Locations Plate 2-6 Regional Soils Map Plate 3-1A Wildlife Map - Moose Plate 3-1B Wildlife Map - Elk Plate 3-1C Wildlife Map - Deer Plate 3-2 Regional Vegetation Map Plate 4-1 Regional Grazing Allotments Plate 4-2 Regional Land Use Map Plate 4-3 Regional Oil and Gas Development Plate 4-4 Regional Surface Ownership Map Plate 5-3 Surface Facilities Map Plate 5-3A Burma Pond As- Constructed Map Plate 5-5 Subsidence Map Plate 6-1 Regional Geology Map Plate 7-12 Seep and Springs Locations Map Plate 7-14 Groundwater Rights Map Plate 7-15 Surface Water Rights Map Plate 7-18 Water Monitoring Sites Location Map
☐ ADD	☑ REPLACE	☐ REMOVE	Appendix 7-66 pages: 4, 7, 8, 9, 10, 11, 12, 19, 20, 21
☐ ADD	☑ REPLACE	☐ REMOVE	Bonding Calculations
☑ ADD	☐ REPLACE	☐ REMOVE	Appendix 1-17
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	

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

Chapter 1

LIST OF APPENDICES

WordPerfect Document Compare Summary

Original document: K:\Crandall\2016\C16-002 Midterm Deficiencies\Originals\Chapter 1 Original.wpd
Revised document: K:\Crandall\2016\C16-002 Midterm Deficiencies\Task 5067 Midterm Deficiencies\Chapter 1 Edits.wpd
Deletions are shown with the following attributes and color:
~~Strikeout~~, Blue RGB(0,0,255).
Deleted text is shown as full text.
Insertions are shown with the following attributes and color:
Double Underline, Redline, Red RGB(255,0,0).

The document was marked with 71 Deletions, 91 Insertions, 0 Moves.

112.300 thru 112.330 Ownership and Control - See Appendix 1-9.

GENWAL Resources, Inc. is the permittee and operator of the Crandall Canyon and the South Crandall Mines. GENWAL Resources, Inc. is a wholly owned subsidiary of ANDALEX Resources, Inc. GENWAL Resources, Inc. is a Utah corporation licensed to do business in the State of Utah. 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 1-12

112.350 See Appendix 1-12

112.410 See Appendix 1-12

112.420 See Appendix 1-9

112.500 Surface Owners:

U.S. Forest Service
Manti-La Sal National Forest
599 West Price River Drive
Price, Utah 84501

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

GENWAL Resources Inc.
P.O. Box ~~1077~~910
~~Price~~East Carbon, Utah ~~84501~~84520

Subsurface Owners:

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

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

GENWAL Resources Inc.
P.O. Box ~~1077~~910
~~Price~~East Carbon, Utah ~~84501~~84520

112.600 Contiguous Surface Owners:

U.S. Forest Service
Manti-La Sal National Forest
599 West Price River Drive
Price, Utah 84501

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

Dick Nielson
c/o Kris Ligon
4819 Mandell Street
Houston, Texas 77006

Contiguous Sub-Surface Owners:

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

School and Institutional Trust
Lands Administration
355 West North Temple, Suite 400
Salt Lake City, Utah 84180-1204
Dick Nielson
c/o Kris Ligon
4819 Mandell Street
Houston, Texas 77006

114 RIGHT OF ENTRY INFORMATION

114.100 Applicant bases its legal right to enter and begin underground mining activities in the permit area upon the following:

- ~~Federal Coal Lease U-54762, issued to GENWAL on December 1, 1986, is currently owned by Andalex and IPA. IPA and Andalex have undivided 50% interest as tenants in common of all leases previously under GENWAL's sole ownership (Andalex Resources, Inc has now assumed all leases or portions of the leases previously held by NEICO through the purchase and transfer of those rights to GENWAL Resources, Inc. effective 1/11/95).~~

- Federal coal lease UTU-78953 (also known as the South Crandall tract) was acquired in June 2003. (Refer to Appendix 1-13)

- A 40 acre parcel of the SITLA Millfork Lease was subleased from PacifiCorp in February, 2004. (Refer to Appendix 1-14).

- ~~In December, 2004 the BLM issued a decision to approve~~ On July 11, 2011 the SITLA Millfork Lease (ML-48258) reverted to the United States Department of the Interior and became Federal Lease ~~UTU-68082, to include an additional 120 acres . (Refer to Appendix 15-A.) The approval became effective in the early part of 2005 (Refer to Appendix 1-15).~~

~~The present Joint Owners (Andalex and IPA~~UTU-88554, still leased by Pacificorp. The same 40 acre parcel was subleased from Pacificorp. In September 2011, Andalex filed for an assignment of this parcel as a separate lease. Effective January 1, 2013 this 40 acre parcel was assigned Federal Lease number UTU-88990, with Andalex Resources holding 100% undivided interest.

- A 160 acre parcel was leased to Swisher Coal Co., known as the Dellenback Fee Lease, on March 24, 1976 from William and Julie Dellenback. The lease was acquired by Nevada Electric Investment Company and Intermountain Power Agency on September 9, 1993. Nevada Electric Investment Company sold its 50% share in the lease to Andalex Resources on January 11, 1995. Effective September 29, 2010, the Intermountain Power Agency conveyed all of its interest in Genwal Resources, including this lease, to Andalex Resources Inc. Andalex Resources currently holds 100% undivided interest in what is still titled the Dellenback Fee Lease.

The present Owner (Andalex) base their legal right to enter and continue underground mining activities in the permit area upon the following documents and the NEICO/Andalex sales contract:

Federal Coal Lease Assignments

Federal Coal Lease ~~U-54762 was issued to Genwal Coal Co. on December 1, 1986 and was assigned to the previous Joint Owners (NEICO and IPA) on July 11, 1991. NEICO's interest was assigned to ANDALEX on January 11, 1995.~~

~~Federal Coal Lease SL-62648, was assigned to the previous Joint Owners (NEICO and IPA) on July 11, 1991. NEICO's interest was assigned to ANDALEX on January 11, 1995.~~

UTU-78953 (also known as the South Crandall tract) was acquired in June 2003. (Refer to Appendix 1-13)

Federal coal lease UTU-88990 that was formerly Federal Coal Lease ~~UTU-68082, was assigned to the previous Joint Owners (NEICO and IPA) in March, 1994. NEICO's interest was assigned to ANDALEX on January 11, 1995.~~

~~**State Coal Lease Assignments**~~

~~Utah State Coal Lease ML-21568, was assigned to the previous Joint Owners (NEICO and IPA) on July 11, 1991. NEICO's interest was assigned to ANDALEX on January 11, 1995.~~

~~Utah State Coal Lease ML-21569, was assigned to the previous Joint Owners (NEICO and IPA) on July 11, 1991. NEICO's interest was assigned to ANDALEX on January 11, 1995.~~

~~Copies of the Assignments are included in Appendix 1-1.~~ UTU-88554.

Forest Service Special Use Permit Assignments

Special Use Permit, 1.5 acres, 150 x 400 ft adjacent to the eastern boundary of GENWAL's Federal Coal Lease SL-062648 for construction of the Sediment Pond. (See Appendix 1-3)

Special Use Permit, .10 acres located in Section 6, SW quarter NE quarter T16S R7E SLBM for the Trailhead parking and snow storage. (See Appendix 1-3).

Special Use Permit, 1.4 acres for stockpiles 1, 2, 3 and 4 dated 8/17/87 (See Appendix 1-3)

Road Use Permit Assignment for F.S. No. 50248 road issued May 21, 1981 by the United States Forest Service (Appendix 1-2).

An application was made to the Forest Service for a Special Use Permit on April 27, 2016 to cover the portion of the surface facilities that was permitted under Federal Lease #SL-062648. It should be noted that when Genwal Resources relinquished Federal Lease #SL-06248, the intention was to keep the surface rights so Genwal Resources would maintain the right of entry for the existing surface facilities. Unfortunately, these surface rights were relinquished at the

time of the lease relinquishment. Under the direction of the Bureau of Land Management and the Utah Department of Oil, Gas and Mining, Genwal Resources applied for a special use permit from the Forest Service for the area covered by the Federal Lease. The permit has yet to be issued. Genwal Resources will provide a copy of the special use permit when it is issued by the Forest Service. The permit will become Appendix 1-17 at that time.

It should be noted that throughout this Mining and Reclamation Plan the combined area of Federal Lease UTU-78953 and ~~the SITLA/PacifiCorp sublease~~UTU-88990 are collectively referred to as the South Crandall lease area, the South Crandall tract, the South Crandall mining area, and similar such terms.

Private Lease

Andalex Resources acquired 100% undivided interest in the Dellenback Fee Lease in Septemeber 2010.

Emergency Drillholes and Access Roads

On August 6, 2007, the active mine workings in Main West barrier pillar section collapsed trapping six miners underground. In an emergency attempt to rescue these men a number of boreholes were drilled from the surface of East Mountain down to the underground workings (see Plate 1-1). Due to the emergency nature of this rescue operation all surface construction for the drillpads and access roads was done under the emergency provisions of the various surface management regulations. The Forest Service, BLM, SITLA and the Division all granted verbal authority to proceed in a cooperative effort to not hinder the rescue attempts. Due to the emergency nature of the operation no formal rights-of-entry were granted for the areas of surface disturbance. On August 30, MSHA officially called off the rescue effort. Reclamation of drill pads and access roads began shortly thereafter. Refer to Appendix 5-22(A) for the addendum to the reclamation plan for the East Mountain drillpads and access roads. This plan includes a more complete description of activities and land management issues involving this rescue attempt.

SITLA Special Use Lease #1708, Burma Evaporation Basin

This Special Use Lease is located in lower Huntington Canyon, and is the site of the Burma evaporation pond. Refer to Plate 1-1A for location. Refer to Appendix 1-16 for right-of-entry information. Refer to Appendix 7-66 for details of the evaporation basin facility.

PERMIT LEGAL DESCRIPTION

The permit area is located and described as follows:

PARCEL DESCRIPTION	PARCEL	ACREAGE	LEGAL DESCRIPTION
FEDERAL LEASE	U-68082	2979.49	T 15 S, R 6 E
			Section 25: S ½
			Section 26: S ½
			Section 35: ALL
			T 15 S, R 7 E
			Section 30: Lots 7-12
			SE ¼
			Section 31: Lots 1-12
			NE ¼
			N½SE¼
			SW¼SE¼
			T 16 S, R 6 E
			Section 1: Lots 1-12
			SW¼
			T 16 S, R 7 E
			Section 6: Lots 2-4
			SW¼NE¼
MODIFICATION TO U-68082		120.00	T15S, R7E
			Section 32: W½NW¼
			NW¼SW¼

~~FEDERAL LEASE U-54762~~	~~256.49~~	~~T 15 S, R 7 E~~		
			~~Section 31:~~	~~SE¼SE¼~~
			~~Section 32:~~	~~S½SW¼~~
				~~SW¼SE¼~~
			~~T 16 S, R 7 E~~	
			~~Section 5:~~	~~Lots 2, 3, and 8~~
~~FEDERAL LEASE SL-062648~~	~~161.17~~	~~T 16 S, R 7 E~~		
			~~Section 5:~~	~~Lots 5 and 6~~
			~~Section 6:~~	~~Lot 1~~
				~~SE¼NE¼~~
~~FEDERAL LEASE U-78953~~	~~880.00~~	~~T 16 S, R 7 E~~		
			~~Section 4:~~	~~W½SW¼~~
				~~S½SW¼NW¼~~
			~~Section 5:~~	~~SE¼~~
				~~S½SE¼NE¼~~
			~~Section 8:~~	~~E½~~
				~~NE¼NW¼~~
				~~S½NW¼~~
			~~Section 9:~~	~~NW¼~~
~~STATE LEASE ML-21568~~	~~997.69~~	~~T 16 S, R 6 E~~		
			~~Section 2:~~	~~ALL~~
~~STATE LEASE ML-21569~~	~~640.00~~	~~T 15 S, R 6 E~~		
			~~Section 36:~~	~~ALL~~U-78953 880.00 T 16 S, R 7 E
			Section 4:	W½SW¼
				S½SW¼NW¼
			Section 5:	SE¼
				S½SE¼NE¼
			Section 8:	E½

				NE¼NW¼
				S½NW¼
			Section 9:	NW¼
FEE SURFACE AND ~~COAL~~		COAL	160.~~00~~	~~T~~00 T 16 S, R 7 E
(~~Dellenbach~~)				
			Section ~~5:~~	~~SW¼~~

~~BLM RIGHT OF WAY UTU-77975 50.00 T 16 S, R 6 E~~
~~(underground mining rights)~~
~~Section 3: E½E½SE¼NE¼~~
~~E½E½NE¼SE¼~~
~~E½SE¼SE¼~~
~~Section 10: NE¼NE¼NE¼~~

~~SITLA/PACIFICORP SUBLEASE 40.0 T 16 S, R 7 E~~
~~Section 8: NW¼NW¼~~

Dellenback)
Section 5: SW¼

FEDERAL LEASE UTU-88990 40.0 T 16 S, R 7 E
Section 8: NW¼NW¼

FOREST SERVICE SPECIAL USE AREAS:
(all in T 16 S, R 7 E)

~~SEDIMENT~~ SEDIMENT POND (7/28/83) ~~1~~ 1.5 ~~Section~~ 5 Section 5: located within SW¼SW¼SE¼NW¼,

~~TOPSOIL~~ TOPSOIL PILE #1 (8/17/87) ~~0~~ 0.2 ~~Section~~ 2

~~TOPSOIL~~ TOPSOIL	PILE #2 (8/17/87)	~~0~~ 0	~~0.2~~ 0.2	~~Section 2~~ Section 5: located within SE¼SE¼SE¼NW¼,
~~TOPSOIL~~ TOPSOIL	PILE #3 (8/17/87)	~~0~~ 0	~~0.5~~ 0.5	~~Section 5~~ Section 5: located within SW¼NW¼SE¼NE¼,
~~TOPSOIL~~ TOPSOIL	PILE #4 (8/17/87)	~~0~~ 0	~~0.5~~ 0.5	~~Section 5~~ Section 4: located within NW¼NW¼SE¼NW¼,
~~TOPSOIL~~ TOPSOIL	PILE #5 (8/17/87)	~~0~~ 0	~~0.5~~ 0.5	~~Section 4~~ Section 4: located within SW¼S

			W¼N E¼N W¼
SURFACE FACILITIES *(forthcoming)*	7.53	Section 5: located within Lot 6	
SITLA SPECIAL USE ~~LEASE*~~ (Burma Evaporation Basin)	~~7~~LEASE* 7.~~32~~	~~T~~32 T 17 S, R 8 E, ~~Section~~ Section 5: located within Lot 6	
TOTAL PERMIT ~~AREA~~	~~6795.06~~**AREA**	**1097.75**	

* For complete legal description of Burma Pond, refer to Appendix 1-16

RESCUE ROAD AND DRILL PADS
For bonding purposes only, the rescue road and drill pads used in rescue operations in August 2007 are contained within a polygon containing:

Township 15 South, Range 6 East, SLBM
Section 35: Lots 2, 3 and 4

Township 16 South, Range 6 East, SLBM
Section 2: Lots 4, 5, 6, 8, 9, 16, 21, 24 and 25

The right to continue underground mining operations will apply to the property attached hereto as Appendix 1-1.

The surface facility area and permit area is not within 300 feet of any occupied dwelling and is not subject to the prohibitions or limitations of the State and/or Federal Regulations.

GENWAL DISTURBED ACREAGE

AREA	LOCATION	ACRES	PARCEL
Minesite	~~NW1/4~~Lot 6 of Sec 5 (1)	7.~~778*~~53*	~~Federal Lease UTU-54762~~FS Special Use Permit *(forthcoming)*
Minesite	SW1/4 of Sec 5 (1)	6.086	Dellenbach Fee
Topsoil Pile #1	NW1/4 of Sec 5 (1)	0.2	FS Special Use Permit
Topsoil Pile #2	NE1/4 of Sec 5 (1)	0.2	FS Special Use Permit
Topsoil Pile #3	NW1/4 of Sec 4 (1)	0.5	FS Special Use Permit
Topsoil Pile #4	NE1/4 of Sec 4 (1)	0.5	FS Special Use Permit
Rescue Drillholes	SE1/4 of Sec 35 (2)	2.27	Federal Lease UTU-68082

			(relinquished)
Rescue Drillholes	NE1/4 of Sec 2 (3)	5.64	State Lease ML-21568 *(relinquished)*
SITLA Rescue Road	E1/2 of Sec 2 (3)	3.98	State Lease ML-21568 *(relinquished)*
Burma Evaporation Basin	Lot 6 of Sec 5 (4)	7.32	SITLA Special Use Lease 1708
TOTAL DISTURBED AREA			**34.~~47~~23 Acres**

Notes: (1) T16S, R7E
(2) T15S, R6E
(3) T16S, R6E
(4) T17S, R8E

* Includes all areas within "permitted" disturbed area. Not all acreage is presently disturbed. See Figure 8C.

117 INSURANCE, PROOF OF PUBLICATION

117.100 Insurance

A Certificate of Liability Insurance ~~with Andalex and IPA~~ is included in Appendix 1-10.

117.200 Proof of Publication

A copy of the newspaper advertisement of the application for a renewal of Crandall Canyon Mine permit was included in the permit package, as required under R645-300-121.100. Also, a copy of the newpaper advertisement for the permit amendment to install a culvert in Crandall Canyon has been included. See Appendix 1-8 for both copies.

118 FILING FEE

This permit application to conduct coal mining and reclamation operations pursuant to the State Program was accompanied by a fee of $5.00.

120 APPLICATION FORMAT AND CONTENTS

This application is structured based on the R645 regulations of the Division of Oil, Gas, and Mining. The chapter divisions in the application are based on the different sections of the R645 regulations. Each section of the application is based on the corresponding sections of the GENERAL CONTENTS of the R645 regulations.

123 VERIFICATION OF APPLICATION

I hereby certify that I am a responsible official (Resident Agent) of the applicant (Andalex ~~and IPA~~ for GENWAL 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

_____ **Signed - Name - Position - Date**

Subscribed and sworn to before me this__ day of_____, 20___

_____

Notary Public

My commission Expires: _____, 20____)

Attest: STATE OF _____) ss:

COUNTY OF _____)

Chapter 5

CHAPTER 5

FIGURES

FIGURE	DESCRIPTION
5-1	Certification Report Sedimentation Pond
5-2	Sedimentation Pond Inspection Report
5-4	Maximum Subsidence Graph
5-5	Vertical Subsidence Distribution
5-8	Structure Map / Hiawatha Coal Seam
5-10	Typical Shotcrete Installation
5-11	Typical Profile, South Portal Pocket Cuts
5-12	Cross Section, South Portal Belt Conveyor
5-13a	Tunnel Construction Option (Plan)
5-13a	Tunnel Construction Option (Profile)
5-14	Portal Reclamation Drawings
5-15	"Old Loadout Area" Drawings

~~(Note: Unless otherwise noted, figures follow Chapter 5 text)~~

CHAPTER 5

LIST OF PLATES

PLATE NUMBER	DESCRIPTION
5-1	Old Works
5-2	Mining Projections

Plates 5-2A, 5-2B and 5-2C have been removed.

5-3	Surface Facility Map
5-3B	Burma Pond Reclamation Contours
5-4	Proposed In-Mine Sump
5-5	Subsidence Control Point Locations
5-6	Truck Loadout
5-7	Rock Dust Silo
5-8	Electrical Substation Installation
5-10	Road Profile and Cross Section

Plate 5-11 has been removed

5-12	Aerial Photography
5-13	Aerial Photography
5-16	Reclamation (Phase I)
5-17	Reclamation (Phase II)

CHAPTER 5

LIST OF PLATES (continued)

PLATE NUMBER	DESCRIPTION
5-17A	Reclamation Cross Sections
5-18	Underground Bath House (As Built)
5-19	Hilfiker Welded Wire Wall Details (3 Sheets)
5-20	Original Surface Contour Map
5-17B	Reclamation Cross Sections
5-18	Underground Bathhouse, As Built
5-19	Typical Road Sections, 3 sheets
5-20	Original Surface Contour Map

~~Note: Bold number plates and appendices are included with this submittal.~~

Chapter 7

~~Note: Bold number plates and appendices are included with this submittal.~~

LIST OF PLATES (continued)

PLATE NUMBER	DESCRIPTION
PLATE 7-15	Surface Water Rights
PLATE 7-16	Stream Monitoring Stations, Crandall Canyon Mine Area
PLATE 7-17	Blind Canyon Drainage Cross Section Location (Approx.)
PLATE 7-18	Water Monitoring Sites Map

~~Note: Bold number plates and appendices are included with this submittal.~~

substation pad collects water from the pad and adjacent undisturbed areas. A stilling basin was placed at the downstream end of this diversion to trap sediment prior to discharging into UD-1.

Expansion Area Surface Water Drainage and Sediment Control

Water on the extended mining pad associated with the proposed culvert expansion comes from two sources. The pad itself and two watershed areas located in undisturbed terrain to the south of the proposed pad. Runoff from the pad and watersheds is collected and controlled by the use of drainage ditches and culverts. All runoff diverted through the drainage ditches and culverts go into a sediment pond. The watersheds are shown on Plate 7-5. The location of drainage ditches and culverts can be also be found on Plate 7-5.

All diversion ditches have been designed to have a triangular channel with a minimum depth of one foot and side slopes of 1H:1V. During the periods of peak flow at least 3" of the channel depth will be freeboard. The calculations associated with drainage ditch design can be found in Appendix 7-4.

7.42.40 Road Drainage

All of GENWAL's roads have been designed, located and constructed as required by the regulations R645-301-742.410 through R645-301-742-423.5.

7.43 Impoundment

There are no permanent impoundments associated with the GENWAL facilities. Temporary impoundments of water collected for runoff control will occur in the sediment pond. The physical design of the sediment pond are certified designs as required in R645-301-512 and are presented in Section 5.33 and Appendix 7-4 of this application. The sediment pond does not meet the criteria for MSHA regulations. The hydrologic design for the sediment pond is presented in Section 7.42.20 and Appendix 7-4. On cessation and reclamation of mining and disposal activities, the sediment pond will be removed.

7.44 Discharge Structures

The sediment pond is equipped with a decant, a riser pipe (cmp) principle overflow and a rip-rapped open-channel emergency spillway. Sediment pond details are covered under Section 7.42.20 and in Appendix 7-4.

7.45 Disposal of Excess Spoil

No significant excess spoil will be developed by the underground mine. In the event spoil is generated during the mining operations, this will be transported to an approved disposal site. The handling of these materials will comply with R645-301-745.

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Iron sludge material from the minewater treatment facility (described in Appendix 7-65) will be hauled off-site and disposed of at the Burma evaporation basin facility as described in Appendix 7-66.
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7.46 Coal Mine Waste

The disposal and placement of any refuse materials will be conducted in accordance with the plans presented in Chapter 5 of this application.

7.47 Disposal of Noncoal Mine Waste

Garbage

Solid waste generated from mining activities, such as garbage and paper products, is disposed of in large trash "dumpsters" located near the portal. A contract garbage hauling service, empties the contents of the dumpsters on a weekly basis and hauls the garbage to an approved dump or landfill.

Unusable Equipment

All salvageable mining equipment is sold to local scrap dealers: items such as broken bolts, worn out engine parts, and items which might be recycled. Any machinery or large parts are placed in a stockpile near the material storage area for periodic salvage by local scrap dealers. No mining equipment will be merely abandoned.

Petroleum Products

Oil and grease wastes are collected in tanks and returned to distributors for refining or used as heating fuel. In case of spills, a spill control plan has been developed and is located at the mine site.

7.48 Casing and Sealing of Wells

Following completion of reclamation, the monitoring wells for the mine site will be plugged and abandoned in accordance with R645-301-631 and R645-301-748. This will prevent the potential for disturbance to the hydrologic balance.

7.50 Performance Standards

All coal mining and reclamation operations will be conducted to minimize disturbance to the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area and support approved postmining land uses in accordance with the terms and conditions of the approved permit and the performance standards of R645-301 and R645-302. For the purpose of SURFACE COAL MINING AND

Neither cause nor contribute to, directly or indirectly, the violation of effluent standards given under R645-301-751. Refer to section 7.51 in this plan.

7.52.24 Surface and Groundwater Systems

Minimize the diminution to, or degradation of, the quality or quantity of surface and groundwater systems.

7.52.25 Normal Water Flow

Refrain from significantly altering the normal flow of water in streambeds or drainage channels.

7.53 Impoundments and Discharge Structures

Impoundments and discharge structures will be located, maintained, constructed and reclaimed to comply with R645-301-733, R645-301-734, R645-301-743 and R645-301-745 and R645-301-760. Refer to sections 7.33, 7.34, 7.43, 7.45 and 7.60 in this plan.

7.54 Disposal of Excess Spoil, Coal Mine Waste and Noncoal Mine Waste

Disposal areas for excess spoil, coal mine waste and noncoal mine waste will be located, maintained, constructed and reclaimed to comply with R645-301-735, R645-301-736, R645-301-745, R645-301-746, R645-301-747 and R645-301-760. Refer to sections 7.35, 7.36, 7.45, 7.46 7.47 and 7.60 in this plan.

7.55 Casing and Sealing of Wells

All wells will be managed to comply with R645-301-748 and R645-301-765. Water monitoring wells will be managed on a temporary basis according to R645-301-738. Refer to sections 7.38, 7.48, and 7.65 in this plan.

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7.60 Reclamation

Sealing of Mine Openings

The Applicant has drilled from the Hiawatha seam upwards to the Blind Canyon seam as described in Chapter 6. The drilling occurred in areas that pillar extraction will occur and no provisions were made to seal the bore hole.

Appendix 7-66

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. After construction, 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 operations the Company commits to having a professional soils monitor on site. The purpose of this person will be to make sure that all topsoil resources are properly salvaged, to maintain accurate inventory of the 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. After the soil salvaging is completed, a final report will be prepared and submitted to the Division.

Location of the As-Built drawings for acreage disturbed and volumes for subsoil and topsoil stockpiled are found on Plate 5-3A.

Chapter 3, Biology:

The evaporation basin site is located at an elevation of 6400' on the broad pediment outslope extending from the base of the surrounding cliffs. The area was surveyed for vegetation, wildlife habitat and sensitive species by Dr. Patrick Collins of Mt. Nebo Scientific. The report of findings is located in Attachment 5. The area is primarily a Pinyon-Juniper community. As clearly visible in the aerial photos, the area has been chained by the federal government in the past, presumably for range enhancement and habitat improvement.

The report concludes that construction of the facility is not expected to impact any threatened, endangered or candidate species.

The Dominant vegetative community over the entire project area is pinyon -juniper. Map 1 of the Vegetation, Wildlife Habitat & sensitive Species report is an aerial photo showing the total area as being chained pinyon –juniper.

As is discussed on page 12 of the Vegetation, Wildlife Habitat & Sensitive Species report, the entire area (shown on Map 1) is considered crucial winter range for Rocky Mountain elk and Mule deer. The entire study area (shown on Map 1) is considered year-long substantial habitat for Black bear. Finally, the entire area (pinyon-juniper) could be used by Ferruginous hawks because they often nest in this community.

Reclamation of the project area will be according to and along with the approved reclamation time line found in Section 3.41.100 of the approved MRP. In the event that discharged mine water no longer requires treatment and/or the basin is no longer receiving sludge, the reclamation

Chapter 5, Engineering:

As depicted on the drawings in Attachment 1, the facility will consist of a large, shallow evaporation pond, measuring approximately 100' wide by 200' long. ~~It~~ It will be constructed about five feet (60") deep, although only the bottom 36" will be utilized for sludge storage/water retention, leaving the top 24" as freeboard. Based on past experience, it is anticipated that cleanout sludge-water from the Crandall water treatment facility will be hauled to the site about ~~10 each eight-hour days (two working weeks) every two months~~twice a week, ~~at two~~approximately 2-3 truckloads per day, and 4000 gallons per truckload. ~~This~~, depending on weather and road conditions. Due to the low iron levels, cleaning can be suspended at any time, up to 4 months a year if sludge build up in the cells indicate cleaning is not necessary. This works out to be about ~~64~~130,~~200~~000 cu. ft. per year hauled to the site for disposal. ~~The~~ The iron cleanout "sludge" material has typically been analyzed at about 5% solids, and 95% water by weight, and even less by volume, perhaps 2-3% solids. Therefore, after evaporation of the water, which is estimated to be 1.4 acre feet per year, the actual volume of solids left to accumulate in the basin is expected to average about ~~2400~~4,300 cu ft. per year. Spread out to dry over the 20,000 square foot bottom of the evaporation basin, the rate of solids accumulation in the basin is expected to be ~~less than 1~~2.~~5~~6 inches per year or less. ~~It~~ It is anticipated that the material will not accumulate more than 24" deep in the bottom of the basin during the operational life of the facility, which according to current deposit rates, will take more than 16 years to accumulate to this level. This will then allow the material to be covered with the necessary 48" of backfill at the time of final reclamation.

Consumption calculation show that the mine currently discharges approximately 400 GPM which equates to 644.3 acre feet per year. The evaporation pond will consume approximately 1.4 acre feet per year for a net gain of 642.9 acre feet per year.

It should be noted that the preceding volume accumulation estimate is based on rough assumptions, and will vary significantly upon actual practice. However, prior experience with sludge disposal at the Wildcat Loadout site has demonstrated that the amount of solid material remaining after evaporation is actually quite small, and will indicate that the above assumptions are reasonable.

At present, there is some uncertainty as to the future treatment requirements for the Crandall Mine discharge water, in terms of the longevity of treatment and the degree of treatment. With the approval of the application of the Crandall water treatment, it is assumed that the following scenarios will ultimately unfold:

1) The dried sludge material will be left in place and buried on-site as part of the final reclamation process. The material will be buried under 48" of inert earthen material during reclamation, topsoiled and re-vegetated. As noted previously, the material has been analyzed as is neither toxic, hazardous nor acid-forming, and contains no RCRA metals, as shown by the laboratory result presented in

Appendix10. If, at time of reclamation there is not enough soil to achieve the required 48" of inert earthen material, imported material from a location approved by the Division shall be used.

2) The accumulated depth of sludge will be monitored and reported in the annual report and that grab samples of the dried material will be taken every five years or with 7.5 inches of solid waste deposited. Grab samples of the waste will be shipped using chain of custody forms, and will be prepared at the laboratory using TCLP Method 1311, and will be analyzed for all RCRA metals using EPA Method 200.7 or 200.8 and will be monitored for hazardous concentrations in accordance with 40 CFR 264.13.

Grab samples of the accumulated sludge will be taken for analysis of the following metals of agronomic concern: aluminum by Synthetic Precipitation Leaching Procedure (SPLP, SW846 Method 1312) , and plant available iron, zinc, and nickle analyzed by DTPA extractable, and by the methods described for all parameters listed in the Division's Guidelines for Topsoil and Overburden, Tables 3 & 7.

Excess dried material will be removed from the basin if needed and taken to an approved disposal site, such as ECDC.

3) The basin will be enlarged if needed to accommodate additional future accumulation needs. This would be accomplished by extending the length of the basin either to the east or the west within the existing site. The site will easily accommodate an enlargement of the basin of over three times the currently proposed size. The company acknowledges that any future modification of the facility will require additional SMCRA permitting amendments.

3) There is a possibility that the iron content of the Crandall mine discharge water may naturally drop down to within compliance levels such that future treatment is no longer required, and hence, sludge disposal at the Burma evaporation facility will no longer be required.

4) There is a possibility that if the iron levels remain high and treatment is required in perpetuity then a more permanent, long-term treatment facility will be constructed, and an alternate sludge disposal system could be incorporated into that facility.

5) The status of the need for treatment at the mine and subsequent disposal at the evaporation basin ~~will be evaluated~~ is evaluated a as-needed basis, as determined by operator, weather permitting, on an ongoing basis ~~as~~. ~~part of the five-year permit renewal process.~~

6) In the event of temporary cassation at the Berma Pond site, the sludge will be covered with six inches of subsoil and an interim seeding of crested wheatgrass (Agropyron cristatum) . Notice will be given as required by R645-301-515.321.

7) The waste will be routinely compacted and covered to prevent combustion and wind-borne waste. When compaction is necessary, this action will be included in the Annual Report.

8) Sludge, when suspended in water, expands, and a visual estimation isn't plausible. A measurement of accumulated sludge will only be possible if the water in the pond evaporates entirely. During wet years, complete evaporation may not be achieved. An estimation of accumulated Sludge depth will be provided in the Annual report.

It should be noted that the iron sludge material has been tested in the lab using the EPA 200.7 method for RCRA metals, and has been found to be non-toxic, non-hazardous and non-acid forming. (See Attachment 10). Also, the chemicals used in the water treatment (coagulant and flocculant) are all NSF-60 certified. (See Attachment 12).

For comparison purposes, the evaporation basin will be approximately the same size as the nearby gas-well pad located immediately to the south of the site. The basin will be ringed by an access road which will allow the trucks to dump the sludge at any point around the perimeter of the basin. The perimeter access road will also allow trucks to enter the site, dump their load and exit the site without needing to back up and turn around.

As shown in plan view and cross-section view of Drawings 4 and 5 (Attachment 1), the basin will be constructed generally in the following sequence:

1) Prior to any construction-related disturbance at the site, a sediment control structure will be installed around the lower (down-drainage) part of the site. This will consist of a double row of over-lapping excelsior logs staked firmly into the ground. These excelsior logs will provide the primary sediment control during construction, but will be left in place to provide long-term permanent sediment control for the site as well.

2) Perimeter markers will be installed around the boundary of the site to delineate the maximum extent of surface disturbance. Permit signs will also be installed specifying the DOGM permit number and legally-required permittee contact information.

3) The entrance road will then be established into the site. This short (200' long) road segment will exit the Emery County "Burma" Road as per the county-issued encroachment permit (see Attachment 9), and will enter the site along grade from the west side of the property.

4) Included as part of the entrance road construction will be the establishment of an upper

drainage ditch. The purpose of this ditch is to permanently divert undisturbed surface drainage around the facility site, both during construction and thereafter throughout the operational life if the facility. It will parallel the entrance road and head east around the top of the site, and discharge into the predominant natural drainage structure located in the eastern part of the site.

5) Grubbing and clearing the area of vegetation, primarily small-growth juniper-pinyon trees, will then commence. The grubbed trees will be stockpiled at the lower end of the site, and will serve as micro-habitat for small animals.

6) The larger surface boulders will then be removed and stockpiled. Many of these boulders are quite large and may require to be broken up using a hoe-ram. These boulders will be relocated to the lower side of the basin and placed in a linear pile which will ultimately become the out slope of the containment berm of the evaporation basin. Depending on the volume of boulders encountered, excess boulders beyond those that can be incorporated into the berm may be stockpiled separately out of the way at the lower end of the site until final reclamation. Areas that are disturbed by boulder removal, where the topsoil has not been removed, will be seeded with the approved seed mix, if necessary. Seeding was completed on the outslopes of the containment berm and the topsoil pile in the Fall following construction. Grubbing pile will be seeded in fall of 2016.

7) Removal of available topsoil material will follow. According to the topsoil survey (see Attachment 6) there is approximately 12" of suitable topsoil material available for salvage, in those areas where topsoil exists. However, due to the preponderance of large boulders occurring on and within the surface material, estimated at about 50% of the surface exposure, the average depth of topsoil material averaged over the entire area can be mathematically approximated at 6". The topsoil will be gathered and placed in a topsoil pile located at the lower end of the site. It is estimated that approximately 1,137 cubic yards of topsoil will be collected, and stored in low-lying linear shaped piles as described in Chapter 2, Topsoil above. It should be noted that much of the boulder salvage and topsoil salvage may be done at the same time due to the natural occurrence of the boulders as part of the pre-existing surface material.

8) After the boulders and topsoil have been salvaged, construction of the evaporation basin will begin. The basin will be constructed using dozers starting at the upper part of the site, and simultaneously excavating the top portion of the basin and filling in the lower portion. Cut and fill will be balanced to provide the finished basin above with the containment berm below. Granular material excavated from the basin will be used to construct the structural core of the berm. This granular material, forming the upslope section of the containment berm will be compacted to 90% using vibratory equipment and/or wheel rolling. It should be noted that this earthen material in its native condition is a well-suited construction medium, as evidenced by the fact that there are several large-scale commercial gravel operations in the immediate area extracting this same material

for local highway projects and other civil engineering projects.

9) The containment berm will be made wide enough (at least 20' wide) to serve as the perimeter access road for the tanker disposal trucks. As noted above, the outslope of the berm will be constructed of the large boulders salvaged from the surface, while the core of the berm (and the upslope section which will be subject to contact with the impounded sludge-water), will be constructed from the smaller-sized gravel material excavated from the basin area, and compacted in-place within the berm. The top of the berm will be capped with a 12" thick layer of gravel which will form an impervious layer over the boulders, and also as a suitable running surface (roadway) for the sludge delivery trucks. The berm outslope boulders will be covered with a 6"-12" layer of subsoil material which will serve as a medium for interim contemporaneous reclamation. A stability analysis for the construction of this earthen berm is included in Attachment 11. Seeding was completed on the outslopes of the containment berm and the topsoil pile in the Fall following construction. Grubbing pile will be seeded in fall of 2016.

10) A continuation of the perimeter access road will be constructed (20' wide) around the upper side of the basin. Rather than being constructed on fill, this upper road will be constructed as a shallow cut in the native ground. In final design, this upper access road will be a continuation of the entrance road.

11) To protect groundwater from potential exposure to leachate, an engineered liner will be installed in the interior of the pond. The proposed liner is described in Attachment #2 of Appendix 7-66 of the approved MRP and is the same as that used for the cells in the treatment plant at Crandall.

12). It should be emphasized that this basin is not expected to normally impound much if any water, only temporarily after cleaning disposal. At an average of 80,000 gallons of diluted sludge material per two-month cleaning cycle (as explained above), coming primarily during the concentrated two-week cleaning periods, the maximum depth of standing water at any given time is not anticipated to exceed 5 inches. In between the anticipated two-month cleaning cycles, the evapo-transpiration process is expected to quickly eliminate any standing water to a damp, thin concentrated filter-cake, or dry out completely. This assumption has been verified through previous experience when the material was disposed of at the Wildcat Loadout facility. The basin will be constructed 5' deep, primarily to provide ample excavated fill material to be replaced to a depth of 48" at time of final reclamation. With a 5' basin depth, the cleaning water could actually fill to a standing depth of 36" and still allow 24" of freeboard to the top of the containment berm.

The basin is not designed to ever discharge and all of-site drainage is diverted around the pond. However, at DOGM requirements, a single small 5' x 6" emergency spillway has been designed into the structure as shown on Drawing #4. This will allow the release, in a controlled fashion, of any flows in the highly improbable chance that water filled the pond. Other than the watery material disposed of from the Crandall treatment, the only

water entering the basin will be from natural rainfall or snowfall. The 10-year, 24-hour event in this area is 2.00 inches and the 100-year, 24-hour event is 2.59 inches. As discussed in Chapter 7, the anticipated rise in water level from the 10yr event will be about 4 inches and for the 100yr event will be about 4.5 inches. Hence, there is no statistical probability that the basin will ever fill with water above the 18" freeboard level to the spillway elevation in the berm, given the fact that no undisturbed drainage reports to the basin. The basin can better be envisioned as a large depressed evaporation area rather than an impoundment structure.

13) The in-slopes to the basin will be constructed to a shallow slope of 3 vertical to 1 horizontal. With these gentle in-slopes, and the shallow depth of containment, there will be no necessity for any perimeter barricade or fence for wildlife protection, or public safety. Also, as mentioned previously, the basin contents (dried iron precipitate material) has been tested as non-toxic, non-hazardous and non-acid forming, posing no public health threat.

14) Based on the design shown on Drawings 4 and 5 of Attachment 1, the computer-generated volume of excavation is 3,500 cubic yards. Of this volume, 1,137 cubic yards will be removed as topsoil and stockpiled separately. The remaining 2,363 cubic yards of excavation (cut) will be used to construct the berm of the basin.

15) Location of the As-Built drawings for acreage disturbed and volumes for subsoil and topsoil stockpiled are found on Plate 5-3A.

Chapter 6, Geology:

An Order 2 Soils Survey was performed at the site by Bob Long of Long Resource Consultants (see Attachment 5). According to this report, the geology of the area is described as follows:

"The project area is situated on an alluvial fan that is on top of a terrace pediment mantle. The terrace consists of alluvium and colluvium derived from the nearby sandstone of the North Horn, Blackhawk, Castlegate and Mancos formations (Witkind, et. al., 2006). The pediment mantle is underlain by sandstone and shale of the Mancos formation (Witkind, et. al., 2006). The thickness of the pediment mantle is variable, but neither sandstone nor shale parent material was observed in the soil test pits."

The report includes numerous photographs which clearly show the geologic nature of the site.

This geologic description of the site area is in accord with the studies of the USGS for the San Rafael drainage basin. Once the Wasatch Plateau meets the San Rafael Valley, the area is a alluvial/colluvial terrace pediment that has incised ephemeral drainages that have dissected the terrace pediments into the underlying Mancos Shale Formation. This formation consists of mainly shale deposits with some interbedded sandstone tounges. According to Hintze (1988), in

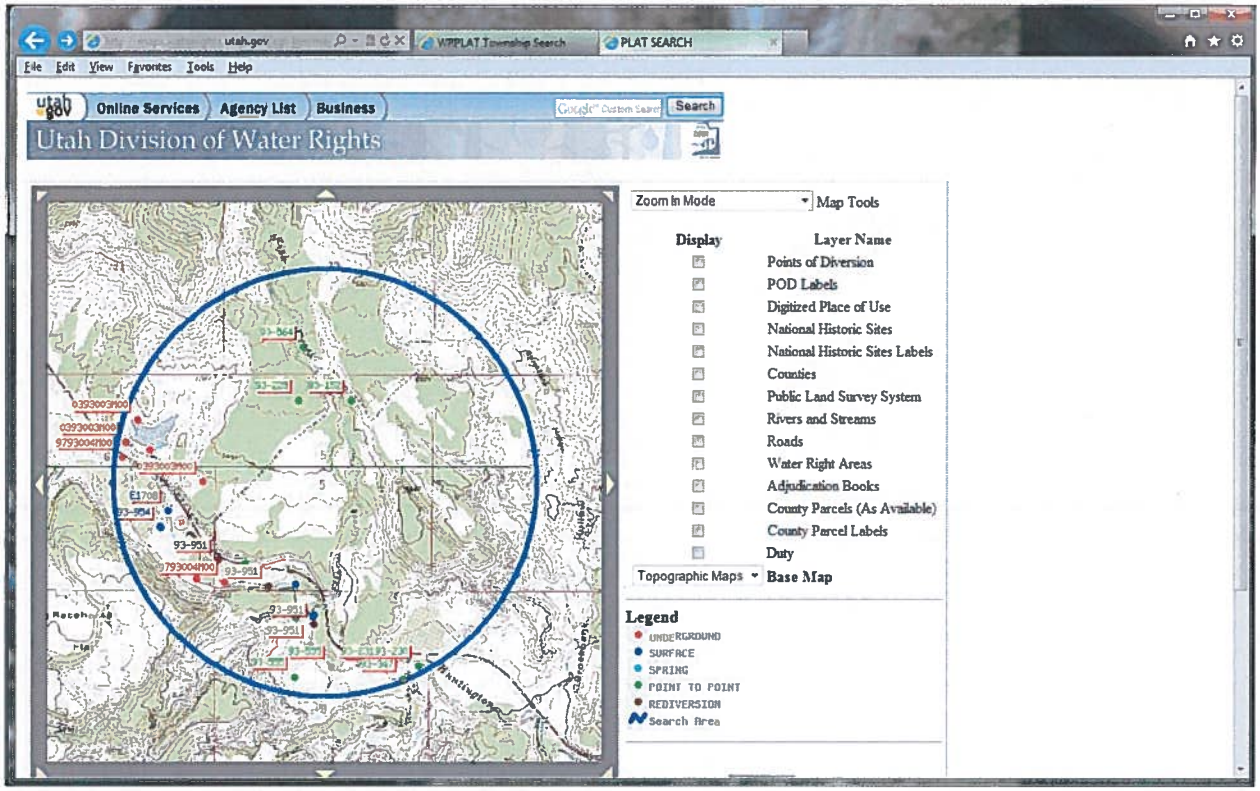


Figure 7-2. Topographic Map of Search Area

Chapter 8, Bonding:

~~All unit costs herein presented are taken from the format of the presently (October, 2011) approved Crandall Canyon Mine bonding calculations. The calculations below are a summary of the Burma bond revisions.~~ A complete copy of all bond calculation sheets including a summary, can be found in Appendix 5-20 of the ~~approved~~ MRP.

~~1) Demolition~~

~~The only structure to be removed is a 20' long 18" diameter culvert crossing the access road.~~

~~a) Demolition of one culvert = $198.67~~

2) Earthwork

b) backfill and grading of the basin (of 2,363 cubic yards)

According to the presently approved Crandall reclamation costs the cost of backfill on-site is $173,310 for 70,192 yds = $2.46 per yd.
2,363 yd x $2.46/ yd = $5,812.98

c) topsoil replacement (of 1137 cubic yards)
According to the presently approved Crandall reclamation costs (Feb, 2006) the cost of topsoil redistribution is $43,170 for 10,737 yds = $4.02 per yd.
1,137 yd x $4.02/yd = $4,570.74

3) Revegetation (of 1.41 acres)

d) revegetation of 1.41 acres
The cost of revegetation is $7,279 for 1.41 acres.

Total direct reclamation costs are therefore calculated to be
Demolition$ 198.67

~~Earthwork$10,383.72~~
~~Revegetation $ 7,279.00~~
~~Sub-total$17,861.39~~

~~Indirect costs and escalation costs are presently $1,697,800 / $1,236,798 = 1.3727 or 37.27% of the direct costs. Therefore, the estimated total reclamation bonding cost for the Burma evaporation facility is $17,861.39 x 1.3727 = $24,518.33~~

ATTACHMENT 1

CONSTRUCTION DRAWINGS

Proposed U.S. Forest Service Special Use Permit for the Crandall Canyon Mines' Surface Facilities

Introduction

UtahAmerican Energy, Inc. is requesting a Special Use Permit for the northern portion of the surface facilities at the Crandall Canyon Mines (UDOGM Permit Number C/015/032), located within the Manti-La Sal National Forest. The mine site is positioned in northwest Emery County, Utah. After recent federal lease relinquishments, UtahAmerican Energy has learned that we no longer have the legal right to enter the northern portion of our surface facilities at the Crandall Canyon mine complex. These facilities are currently maintained by UtahAmerican Energy and used for operations to dewater the Crandall Canyon Mine. After discussions with the Bureau of Land Management (BLM) and the Utah Department of Oil, Gas and Mining (UDOGM), it was determined that a special use permit from the U.S. Forest Service is needed by UtahAmerican Energy to continue use of the northern portion of the existing facilities.

History

Coal mining has been conducted in Crandall Canyon since 1939, with a lull from 1955 to 1983. In 1997, a major expansion of the surface facilities was performed in order to accommodate longwall mining at the Crandall Canyon #1 Mine by Genwal Resources, Inc. A second mine, the South Crandall Canyon Mine, commenced mining operations shortly thereafter in the southern slope of Crandall Canyon. The Crandall Canyon #1 and South Crandall Canyon Mines utilized the same surface facilities for their respective operations. Due to economic conditions, the South Crandall Canyon mine was idled in 2006, while the Crandall Canyon Mine continued mining operations.

In 2006, UtahAmerican Energy, Inc. acquired several local mines, including the Crandall Canyon Mines. UtahAmerican Energy continued mining operations at the Crandall Canyon site until August 2007, when an accident forced the closure of the Crandall Canyon #1 Mine.

In 2013, UtahAmerican Energy, Inc. relinquished all of the federal and state coal leases related to the Crandall Canyon #1 Mine, while retaining the coal leases for the South Crandall Mine, which has been renamed the Princess Mine. When the federal coal leases for the Crandall Canyon #1 Mine were relinquished by the Bureau of Land Management (BLM), the surface rights to the northern portion of the surface facilities and disturbance reverted back to the U.S. Forest Service. Due to circumstances beyond our control, the legal right to access the north portion of the surface facilities was included in the relinquishment, and UtahAmerican Energy's right to access and maintain the north portion of the Crandall Canyon Mines' surface facilities was removed. All entities involved with the lease relinquishments believed the surface facilities were excluded from the relinquishment, and UtahAmerican Energy would maintain the legal right to access and utilize the existing facilities. In reality, UtahAmerican Energy lost the legal right to enter our facilities due to these relinquishments.

Summary and Conclusion

Coal mining operations in Crandall Canyon, Utah have been occurring since 1939, with a major expansion of the surface facilities in 1997. The existing surface facilities utilized by two separate mines have been in existence for nearly twenty years. Recently, UtahAmerican Energy,

Inc. has learned that we no longer have the legal right to enter the northern portion of these facilities due to an oversight when federal coal leases were relinquished.

The existing Crandall Canyon surface facilities are currently used to dewater the sealed Crandall Canyon #1 Mine. The northern portion of the complex contains the portals and water treatment facility for the Crandall Canyon #1 Mine. Furthermore, several buildings and support facilities are located in the northern portion of the site. This is the portion where we have lost our legal access.

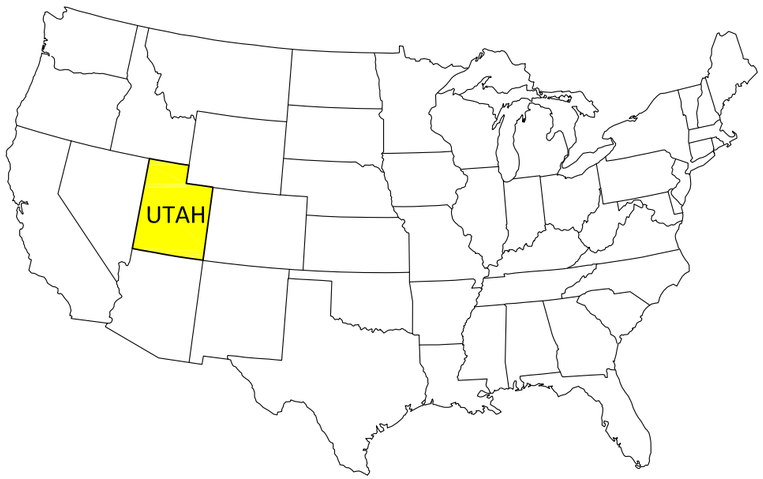
In addition, UtahAmerican Energy, Inc. plans to resume mining in the Princess Mine (formerly the South Crandall Mine) when economic and market conditions become more favorable. At that time, the existing surface facilities will become vital to the coal production at the Princess Mine. However, without the legal right to enter our facilities, UtahAmerican Energy cannot utilize this existing complex for its intended purpose, to support the mining operations. Thus, the need for a special use permit. Additionally, as the northern facilities are currently used by UtahAmerican Energy to dewater the Crandall Canyon #1 Mine, an expedited review for the permit is requested as continued operations are required.

Proposed U.S. Forest Service Special Use Permit for the Crandall Canyon Mines Surface Facilities

Proposed Legal Description:

Beginning at a point located 310.0 feet N87°57’09”E from the quarter corner and along the south border of Lot 6 in Section 5, Township 16 South, Range 7 East, SLBM; thence N02°02’51”W 300.0 feet; thence N87°57’09”E 1015.48 feet to the border between Lots 6 and 9; thence N87°57’09”E 89.45’ to the western boundary of an existing U.S. Forest Service Special Use Permit; thence S02°38’W 303.29 feet to the south border of Lot 9; thence S89°44’40”W 73.02 feet to the southwest corner of Lot 9; thence S87°57’09”W 1007.20 feet to the point of beginning.

Proposed permit area is 7.53 acres.



IDAHO

WYOMING

Salt Lake City

Provo

UTAH

Price

Richfield

Green River

Colorado River

Cedar City

St. George

Kanab

Lake Powell

San Juan River

Page

NEVADA

COLORADO

ARIZONA

N

U.P.R.R.

Price Canyon

RAG CASTLE GATE RESERVES

UTAHAMERICAN ENERGY INC.
TOWER MINE

SCOFIELD

LODESTAR LOADOUT

HORIZON MINE

CARBON POWER STATION

HELPER

ARCH Soldier Creek Mine

ARCH Dugout Canyon Minesite

UTAHAMERICAN ENERGY INC.
WEST RIDGE MINE

ARCH Skyline Mines

SKYLINE LOADOUT

LODESTAR RESERVES

Belina Mine

Railway

WILDCAT LOADOUT

PRICE

Utah

Huntington Canyon

RAG PLATEAU RESERVES

RAG LOADOUT

RAILCO LOADOUT

WELLINGTON

ARCH BANNING LOADOUT

EAST CARBON

Plateau Mine

SAVAGE COAL TERMINAL

CO-OP LEASES

U.P.R.R

UTAHAMERICAN ENERGY INC.
CRANDALL CANYON MINES

UTAHAMERICAN ENERGY INC.
LILA CANYON PROJECT

CO-OP RESERVES

MILL FORK TRACT

CO-OP Mine

CO-OP MOHRLAND RESERVES

Union Pacific Railroad

To Grand Junction

COTTONWOOD TRACT (UNLEASED)

Deer Creek Mine

ENERGY WEST RESERVES

HUNTINGTON POWER STATION

HUNTINGTON

UNLEASED

Cottonwood Mine

Straight Canyon

To Grand Junction – 165 miles from Price

NORTH HORN TRACT (UNLEASED)

CASTLE DALE

FERRON

ARCH SUFCO Mine

EMERY

CONSOL RESERVES

To Salina – 35 miles from Fremont Jct.

FREMONT JCT.

UtahAmerican Energy, Inc.

794 NORTH "C" CANYON ROAD, EAST CARBON, UTAH 84520
P.O. BOX 1077, PRICE, UTAH 84501
PHONE: (435) 888-4000 FAX: (435) 888-4002

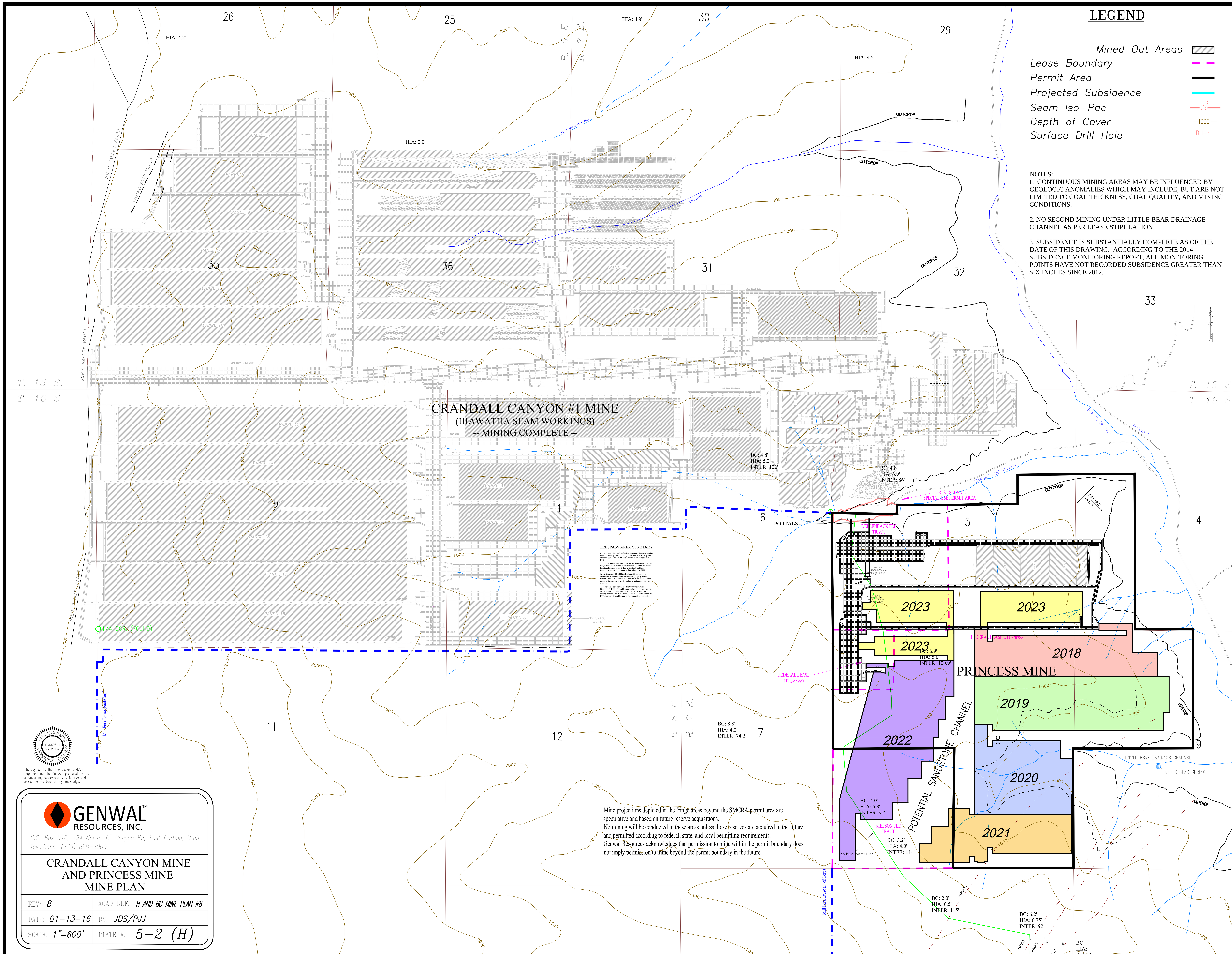
LOCATION MAP

Crandall Canyon Mines

Crandall Canyon
P.O. BOX 910
EAST CARBON, UTAH

MSHA ID #42-01715

DRAWN BY	PJ	SCALE	NONE
APPROVED BY	DH	DATE	27 APRIL 2016
SHEET			FIGURE 1


LEGEND
Mined Out Areas
Lease Boundary
Permit Area
Projected Subsidence
Seam Iso-Pac
Depth of Cover
Surface Drill Hole
NOTES:
1. CONTINUOUS MINING AREAS MAY BE INFLUENCED BY GEOLOGIC ANOMALIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO COAL THICKNESS, COAL QUALITY, AND MINING CONDITIONS.
2. NO SECOND MINING UNDER LITTLE BEAR DRAINAGE CHANNEL AS PER LEASE STIPULATION.
3. SUBSIDENCE IS SUBSTANTIALLY COMPLETE AS OF THE DATE OF THIS DRAWING. ACCORDING TO THE 2014 SUBSIDENCE MONITORING REPORT, ALL MONITORING POINTS HAVE NOT RECORDED SUBSIDENCE GREATER THAN SIX INCHES SINCE 2012.
CRANDALL CANYON #1 MINE
(HIAWATHA SEAM WORKINGS)
-- MINING COMPLETE --
PRINCESS MINE
POTENTIAL SANDSTONE CHANNEL
2018
2019
2020
2021
2022
2023
2023
2023
T. 15 S.
T. 16 S.
R. 6 E.
R. 7 E.
PORTALS
OUTCROP
JOE'S VALLEY FAULT
LITTLE BEAR DRAINAGE CHANNEL
LITTLE BEAR SPRING
FOREST SERVICE SPECIAL USE PERMIT AREA
FEDERAL LEASE UTU-88990
NIELSON FEE TRACT
TRESPASS AREA SUMMARY
1/4 COR. (FOUND)
HIA: 4.2'
HIA: 4.9'
HIA: 4.5'
HIA: 5.0'
BC: 4.8' HIA: 5.2' INTER: 102'
BC: 4.8' HIA: 6.9' INTER: 86'
BC: 6.9' HIA: 5.0' INTER: 100.9'
BC: 8.8' HIA: 4.2' INTER: 74.2'
BC: 4.0' HIA: 5.3' INTER: 94'
BC: 3.2' HIA: 4.0' INTER: 114'
BC: 2.0' HIA: 6.5' INTER: 115'
BC: 6.2' HIA: 6.75' INTER: 92'
Mine projections depicted in the fringe areas beyond the SMCRA permit area are speculative and based on future reserve acquisitions.
No mining will be conducted in these areas unless those reserves are acquired in the future and permitted according to federal, state, and local permitting requirements.
Genwal Resources acknowledges that permission to mine within the permit boundary does not imply permission to mine beyond the permit boundary in the future.
I hereby certify that the design and/or map contained herein was prepared by me or under my supervision and is true and correct to the best of my knowledge.
GENWAL RESOURCES, INC.
P.O. Box 910, 794 North "C" Canyon Rd, East Carbon, Utah
Telephone: (435) 888-4000
CRANDALL CANYON MINE
AND PRINCESS MINE
MINE PLAN
REV: 8
ACAD REF: H AND BC MINE PLAN R8
DATE: 01-13-16
BY: JDS/PJJ
SCALE: 1"=600'
PLATE #: 5-2 (H)

PROPOSED U.S. FOREST SERVICE SPECIAL USE PERMIT BOUNDARY

UNDERGROUND WORKINGS

SEDIMENT POND SPECIAL USE PERMIT AREA

UNDISTURBED AREA

EXISTING 42" CMP

PORTAL ACCESS ROAD (PAVED)

PAVED ROAD (USFS)

TRUCK TURN AROUND

FOREST SERVICE TRAILHEAD PARKING AREA

1/4 CORNER

1,390.06'

N 88°06'20.35" E

TRAILHEAD

EMERY COUNTY FEE

CULVERT INLET

FLUME

TRASH RACK

RAMP

TRAIL

MEMORIAL PARKING

TO MEMORIAL

PAVED ROAD (EMERY COUNTY)

CONCRETE GUARD RAIL

Material Storage Area

MCC BUILDING

POWDER STORAGE

GENWAL FEE

Ponderosa

1st Pine West

2nd Pine West

Burnt

Forked

Scruff

X-mas

UNDERGROUND WORKINGS

TRANSFORMER

PAD AREA

PCF TRANSFER

WATER DISCHARGE PIPE

WATER TREATMENT BASIN

6' HIGH RETAINING WALL

TANK

CONCRETE BARRICADE

TRUCK STACKING LANE

RAMP

TRUCK LOADOUT

COAL STORAGE AREA

LOADOUT CONVEYOR

FUEL TANK

MCC BLDG.

UPDES

MAIN CULVERT (72" DIA.)

STACKING TUBE (85')

RECLAIM TUNNEL (12' MULIPLATE)

RECLAIM CONVEYOR

Transformer

CRUSHER BUILDING

ESCAPE-WAY

RECLAIM VAULT (2 ea. DRAW-DOWN PORTS)

RIP-RAPPED INLET

NATURAL ROCK DRAINAGE

N 02°38' E

EXISTING GABION WALL

EMERGENCY SPILLWAY

18" PIPE NPDES DISCHARGE #001

PRINCIPAL SPILLWAY WITH TRASH RACK AND SKIMMER

EXISTING RISER DECANT WITH TRASH RACK AND SKIMMER

RIP RAP OUTLET ENERGY DISSIPATOR

POND BOTTOM ELEV. 7766

SEDIMENT POND

HILFIKER WALL

POND EMBANKMENT ELEV. 7785

USFS

GENWAL FEE

50' 0 100' 200'

LEGEND:

- SEDIMENT POND (SPECIAL USE PERMIT AREA)
- EXTENT OF DISTURBANCE
- 10' CONTOUR
- JERSEY BARRIERS
- RE-ESTABLISHED USFS ROAD (DOUBLE-LANE)
- SAFETY BARRIERS
- FENCING

FACILITY LEGEND:

1. Shop
2. Ventilation Fan
3. Rockdust Silo
4. Concrete Dumpster Pad
5. Power Center
6. Power Pole
7. Offices & Bathhouse (u'grd)
8. Intake Portal
9. Belt Portal
10. Fan Portal
11. Mine Belt
12. Iron Treatment Shed
13. Visual Disconnect
14. New Warehouse and Office Building
15. 4500 Gallon Cullinary Water Tank
16. Shotcrete
17. Parts Shed
18. Portable Shed
19. Ventilation Fan
20. Material Storage Sheds
21. Intake Portal
22. Return Portal
23. Belt Portal
24. Mag Tank
25. Powder Storage
26. Cap Storage
27. Concrete Ditch

UTAH REGISTERED PROFESSIONAL ENGINEER #6449561 David W. Hibbs

T. 16 S., R. 7 E., SLBM

GENWAL RESOURCES, INC.
P.O. Box 1077, 794 North "C" Canyon Rd, Price Utah
Telephone: (435) 888-4000

CRANDALL CANYON MINE SURFACE FACILITIES

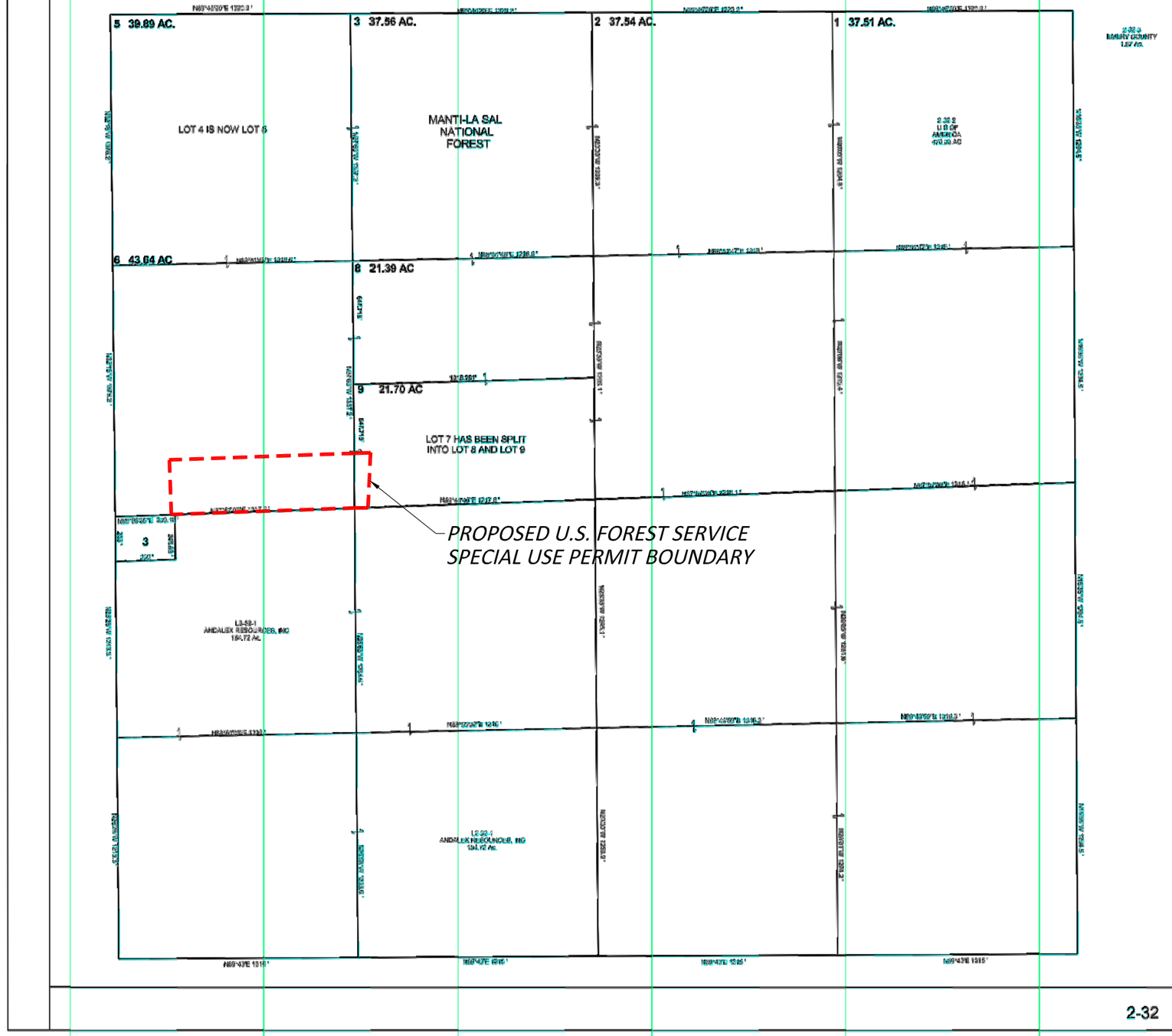
REV: 19	ACAD: 5-3 REV19
DATE: 04-27-16	BY: PJJ
SCALE: AS SHOWN	PLATE #: 5-3

BOOK 2 PAGE 32

SCALE: 1" = 400'
OCTOBER 13, 2010

SECTION 5, T 16 S, R 7 E S.L.B. & M.

THIS PLAT IS MADE SOLELY FOR THE PURPOSE OF ASSISTING IN LOCATING THE LAND, AND THE RECORDER ASSUMES NO LIABILITY FOR VARIATIONS, IF ANY, WITH AN ACTUAL SURVEY.



2-32

SOURCE:
ONLINE PLAT MAPS FROM EMERY COUNTY, UTAH (www.emerycounty.com/maps/index.htm)

GENWAL™ RESOURCES, INC.
P.O. Box 1077, 794 North "C" Canyon Rd, Price Utah
Telephone: (435) 888-4000

PERMIT AREA ON PLAT MAP

REV: 1	ACAD: 5-3 REV19
DATE:04-27-16	BY: PJJ
SCALE: AS SHOWN	FIGURE 2

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\Plate 5-3 REV 19.dwg, 11x17 Plat Map, 4/27/2016 2:22:56 PM, 1:1

Jensen, PJ

From: Jensen, PJ
Sent: Wednesday, April 27, 2016 3:41 PM
To: 'Salow, Jeffrey - FS'
Cc: Jones, Anita - FS; Hibbs, David (dhibbs@coalsource.com); Madsen, Karin; 'Daron Haddock'; 'Falk, Stephen'
Subject: RE: Crandall Canyon Permit Request

Thank you very much. I really appreciate your help. Please let me know if you have any questions or need anything else.

Thanks again,

PJ Jensen
Engineering Technician
UtahAmerican Energy, Inc.
794 North 'C' Canyon Road
P.O. Box 910
East Carbon, Utah 84520
Phone: 435.888.4018
Fax: 435.888.4002
Email: pjensen@coalsource.com

From: Salow, Jeffrey - FS [mailto:jsalow@fs.fed.us]
Sent: Wednesday, April 27, 2016 3:28 PM
To: Jensen, PJ
Cc: Jones, Anita - FS
Subject: RE: Crandall Canyon Permit Request

Hi PJ,

I received your request for a special use permit and I'll try to get this worked out as soon as I can.

Thank you for the information.

Jeff Salow
Geologist
Forest Service
Manti-La Sal National Forest
p: 435-636-3596
jsalow@fs.fed.us
599 West Price River Drive
Price, UT 84501
www.fs.fed.us

From: Jensen, PJ [mailto:pjensen@coalsource.com]
Sent: Wednesday, April 27, 2016 1:55 PM
To: Salow, Jeffrey - FS <jsalow@fs.fed.us>
Cc: Falk, Stephen <sfalk@blm.gov>; Daron Haddock <daronhaddock@utah.gov>; Hibbs, David <dhibbs@coalsource.com>; Madsen, Karin <kmadsen@coalsource.com>
Subject: Crandall Canyon Permit Request

Hello Mr. Salow –

We met at the Carbon and Emery County Collaborative Meeting yesterday, April 26.

This email is regarding the Crandall Canyon Mines surface facilities in Emery County, Utah. The mines are owned by Genwal Resources, Inc. which is an operating division of UtahAmerican Energy, Inc., the company that employs me.

UtahAmerican Energy relinquished some of our federal coal leases for the Crandall Canyon Mines in 2013. In the process, we lost our legal access to the northern portion of our surface facilities. We believed that we had maintained the legal access to the facilities that were on Federal Lease #SL-062648 when it was relinquished. Unfortunately, access to the northern portion of the surface facilities "slipped through the cracks" and we lost our legal access even though we are currently using the facilities.

With this email, UtahAmerican Energy is requesting a special use permit for the northern portion of the surface facilities at the Crandall Canyon Mines. Attached is a PDF that includes the following:

1. Narrative of the Current Conditions and reason for the need of the permit
2. Proposed Metes and Bounds of the Proposed Permit Area
3. Figure 1 – Location Map
4. Plate 5-2 – Crandall Canyon #1 and Princess Mine Plans
5. Plate 5-3 – Surface Facilities Map (with Proposed Permit Area)
6. Figure 2 – Permit Area on Section Plat Map

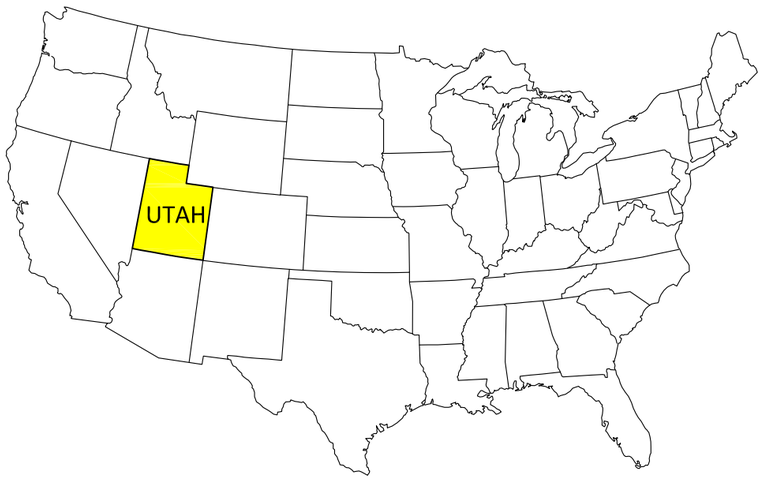
We are currently using the facilities in question to dewater and treat the water from the Crandall Canyon #1 Mine. Therefore, we are hopeful that an expedited review process can be achieved so we can resolve this legal access issue as quickly as possible.

Please feel free to contact me if you have any questions or need any further information. Thank you for your time and assistance with this matter.

Best Regards,

PJ Jensen
Engineering Technician
UtahAmerican Energy, Inc.
794 North 'C' Canyon Road
P.O. Box 910

East Carbon, Utah 84520
Phone: 435.888.4018
Fax: 435.888.4002
Email: pjensen@coalsource.com



IDAHO

WYOMING

Salt Lake City

Provo

UTAH

Price

Richfield

Green River

Colorado River

Cedar City

St. George

Kanab

Lake Powell

San Juan River

Page

NEVADA

COLORADO

ARIZONA

N

U.P.R.R.

Price Canyon

RAG CASTLE GATE RESERVES

UTAHAMERICAN ENERGY INC.
TOWER MINE

SCOFIELD

LODESTAR LOADOUT

HORIZON MINE

CARBON POWER STATION

HELPER

ARCH Soldier Creek Mine

ARCH Dugout Canyon Minesite

UTAHAMERICAN ENERGY INC.
WEST RIDGE MINE

ARCH Skyline Mines

SKYLINE LOADOUT

LODESTAR RESERVES

Belina Mine

Railway

WILDCAT LOADOUT

PRICE

Utah

Huntington Canyon

RAG PLATEAU RESERVES

RAG LOADOUT

RAILCO LOADOUT

WELLINGTON

ARCH BANNING LOADOUT

EAST CARBON

Plateau Mine

SAVAGE COAL TERMINAL

CO-OP LEASES

U.P.R.R

UTAHAMERICAN ENERGY INC.
CRANDALL CANYON MINES

UTAHAMERICAN ENERGY INC.
LILA CANYON PROJECT

CO-OP RESERVES

MILL FORK TRACT

CO-OP Mine

CO-OP MOHRLAND RESERVES

Union Pacific Railroad

To Grand Junction

COTTONWOOD TRACT (UNLEASED)

Deer Creek Mine

ENERGY WEST RESERVES

HUNTINGTON POWER STATION

HUNTINGTON

UNLEASED

Cottonwood Mine

Straight Canyon

To Grand Junction – 165 miles from Price

NORTH HORN TRACT (UNLEASED)

CASTLE DALE

FERRON

ARCH SUFCO Mine

EMERY

CONSOL RESERVES

To Salina – 35 miles from Fremont Jct.

FREMONT JCT.

UtahAmerican Energy, Inc.

794 NORTH "C" CANYON ROAD, EAST CARBON, UTAH 84520
P.O. BOX 1077, PRICE, UTAH 84501
PHONE: (435) 888-4000 FAX: (435) 888-4002

LOCATION MAP

Crandall Canyon Mines

Crandall Canyon
P.O. BOX 910
EAST CARBON, UTAH

MSHA ID #42-01715

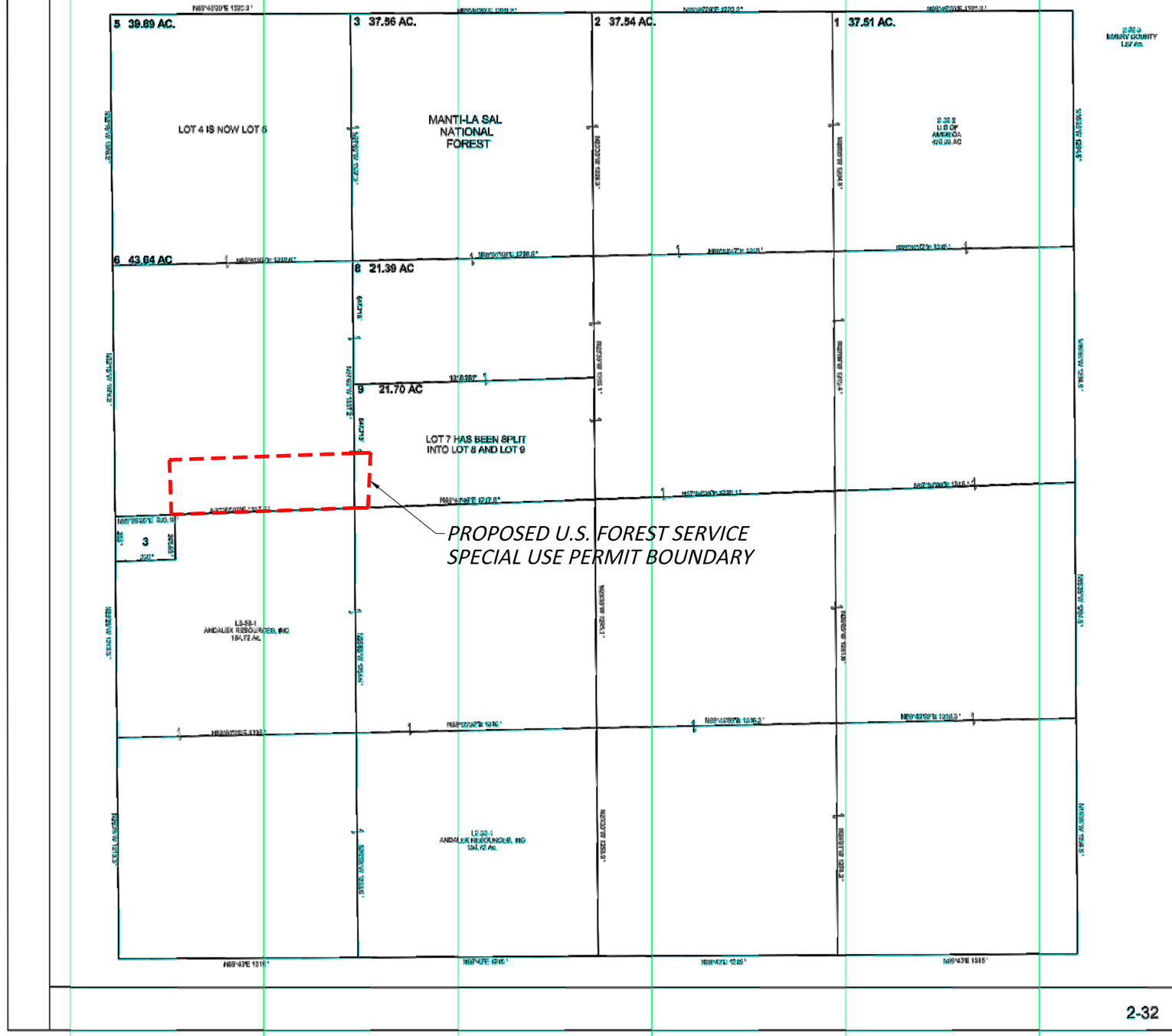
DRAWN BY	PJ	SCALE	NONE
APPROVED BY	DH	DATE	27 APRIL 2016
SHEET			FIGURE 1

BOOK 2 PAGE 32

SCALE: 1" = 400'
OCTOBER 13, 2010

SECTION 5, T 16 S, R 7 E S.L.B. & M.

THIS PLAT IS MADE SOLELY FOR THE PURPOSE OF ASSISTING IN LOCATING THE LAND, AND THE RECORDER ASSUMES NO LIABILITY FOR VARIATIONS, IF ANY, WITH AN ACTUAL SURVEY.



2-32

SOURCE:
ONLINE PLAT MAPS FROM EMERY COUNTY, UTAH (www.emerycounty.com/maps/index.htm)

GENWAL™ RESOURCES, INC.
P.O. Box 1077, 794 North "C" Canyon Rd, Price Utah
Telephone: (435) 888-4000

PERMIT AREA ON PLAT MAP

REV: 1	ACAD: 5-3 REV19
DATE:04-27-16	BY: PJJ
SCALE: AS SHOWN	FIGURE 2

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\Plate 5-3 REV 19.dwg, 11x17 Plat Map, 4/27/2016 2:22:56 PM, 1:1

Proposed U.S. Forest Service Special Use Permit for the Crandall Canyon Mines Surface Facilities

Proposed Legal Description:

Beginning at a point located 310.0 feet N87°57’09”E from the quarter corner and along the south border of Lot 6 in Section 5, Township 16 South, Range 7 East, SLBM; thence N02°02’51”W 300.0 feet; thence N87°57’09”E 1015.48 feet to the border between Lots 6 and 9; thence N87°57’09”E 89.45’ to the western boundary of an existing U.S. Forest Service Special Use Permit; thence S02°38’W 303.29 feet to the south border of Lot 9; thence S89°44’40”W 73.02 feet to the southwest corner of Lot 9; thence S87°57’09”W 1007.20 feet to the point of beginning.

Proposed permit area is 7.53 acres.

Proposed U.S. Forest Service Special Use Permit for the Crandall Canyon Mines' Surface Facilities

Introduction

UtahAmerican Energy, Inc. is requesting a Special Use Permit for the northern portion of the surface facilities at the Crandall Canyon Mines (UDOGM Permit Number C/015/032), located within the Manti-La Sal National Forest. The mine site is positioned in northwest Emery County, Utah. After recent federal lease relinquishments, UtahAmerican Energy has learned that we no longer have the legal right to enter the northern portion of our surface facilities at the Crandall Canyon mine complex. These facilities are currently maintained by UtahAmerican Energy and used for operations to dewater the Crandall Canyon Mine. After discussions with the Bureau of Land Management (BLM) and the Utah Department of Oil, Gas and Mining (UDOGM), it was determined that a special use permit from the U.S. Forest Service is needed by UtahAmerican Energy to continue use of the northern portion of the existing facilities.

History

Coal mining has been conducted in Crandall Canyon since 1939, with a lull from 1955 to 1983. In 1997, a major expansion of the surface facilities was performed in order to accommodate longwall mining at the Crandall Canyon #1 Mine by Genwal Resources, Inc. A second mine, the South Crandall Canyon Mine, commenced mining operations shortly thereafter in the southern slope of Crandall Canyon. The Crandall Canyon #1 and South Crandall Canyon Mines utilized the same surface facilities for their respective operations. Due to economic conditions, the South Crandall Canyon mine was idled in 2006, while the Crandall Canyon Mine continued mining operations.

In 2006, UtahAmerican Energy, Inc. acquired several local mines, including the Crandall Canyon Mines. UtahAmerican Energy continued mining operations at the Crandall Canyon site until August 2007, when an accident forced the closure of the Crandall Canyon #1 Mine.

In 2013, UtahAmerican Energy, Inc. relinquished all of the federal and state coal leases related to the Crandall Canyon #1 Mine, while retaining the coal leases for the South Crandall Mine, which has been renamed the Princess Mine. When the federal coal leases for the Crandall Canyon #1 Mine were relinquished by the Bureau of Land Management (BLM), the surface rights to the northern portion of the surface facilities and disturbance reverted back to the U.S. Forest Service. Due to circumstances beyond our control, the legal right to access the north portion of the surface facilities was included in the relinquishment, and UtahAmerican Energy's right to access and maintain the north portion of the Crandall Canyon Mines' surface facilities was removed. All entities involved with the lease relinquishments believed the surface facilities were excluded from the relinquishment, and UtahAmerican Energy would maintain the legal right to access and utilize the existing facilities. In reality, UtahAmerican Energy lost the legal right to enter our facilities due to these relinquishments.

Summary and Conclusion

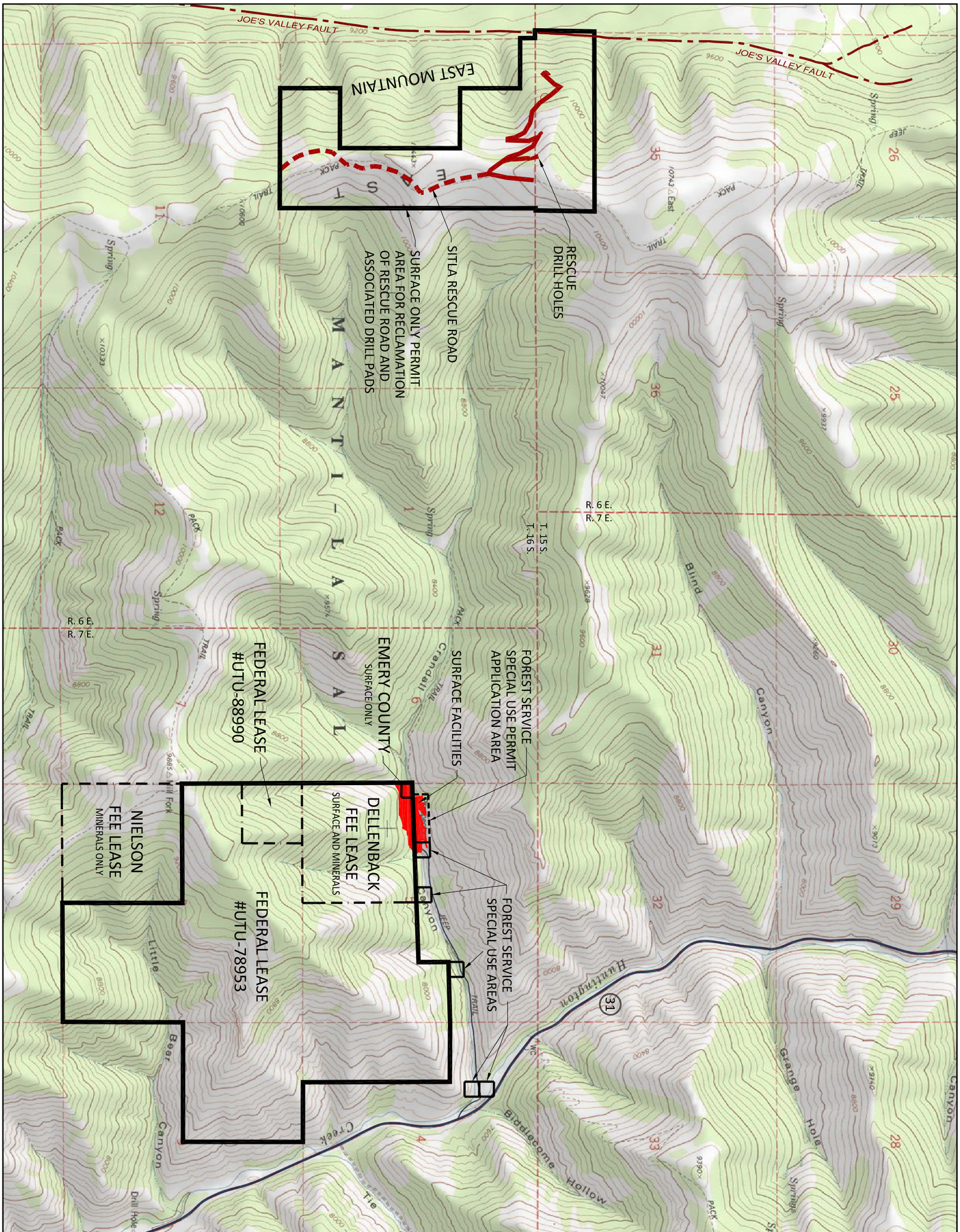
Coal mining operations in Crandall Canyon, Utah have been occurring since 1939, with a major expansion of the surface facilities in 1997. The existing surface facilities utilized by two separate mines have been in existence for nearly twenty years. Recently, UtahAmerican Energy,

Inc. has learned that we no longer have the legal right to enter the northern portion of these facilities due to an oversight when federal coal leases were relinquished.

The existing Crandall Canyon surface facilities are currently used to dewater the sealed Crandall Canyon #1 Mine. The northern portion of the complex contains the portals and water treatment facility for the Crandall Canyon #1 Mine. Furthermore, several buildings and support facilities are located in the northern portion of the site. This is the portion where we have lost our legal access.

In addition, UtahAmerican Energy, Inc. plans to resume mining in the Princess Mine (formerly the South Crandall Mine) when economic and market conditions become more favorable. At that time, the existing surface facilities will become vital to the coal production at the Princess Mine. However, without the legal right to enter our facilities, UtahAmerican Energy cannot utilize this existing complex for its intended purpose, to support the mining operations. Thus, the need for a special use permit. Additionally, as the northern facilities are currently used by UtahAmerican Energy to dewater the Crandall Canyon #1 Mine, an expedited review for the permit is requested as continued operations are required.

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\1-1 LEASE MAP REV14.dwg, Plate 1-1, 5/16/2016 8:02:37 AM, 1:1



NOTE:
SEE PLATE 1-1A FOR LOCATION OF BURMA EVAPORATION POND (PERMIT AREA).

LEGEND

UDOGM PERMIT BOUNDARY

TYPICAL LEASE BOUNDARY

MINE SURFACE FACILITIES

THE PERMIT AREA IS ENTIRELY WITHIN THE MANTI - LA SAL NATIONAL FOREST

UTAH REGISTERED PROFESSIONAL ENGINEER
#6449561
David W. Hibbs

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

GENWAL™ RESOURCES, INC.
P.O. Box 910, 794 North "C" Canyon Rd, East Carbon, Utah
Telephone: (435) 888-4000

CRANDALL CANYON MINE
LEASE / PERMIT AREA MAP

REV: 14	ACAD: 1-1 LEASE MAP R14
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 1-1

CRANDALL CANYON MINES
PERMIT AREAS

MINE
SITE

U.S. HIGHWAY 31

POWER PLANT

BURMA EVAPORATION
BASIN PERMIT AREA

U.S. HIGHWAY 10

HUNTINGTON
CITY

3500 0 7000 14000 FEET

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

UTAH REGISTERED
#6449561
David W. Hibbs
PROFESSIONAL ENGINEER

PERMIT AREAS LOCATION MAP

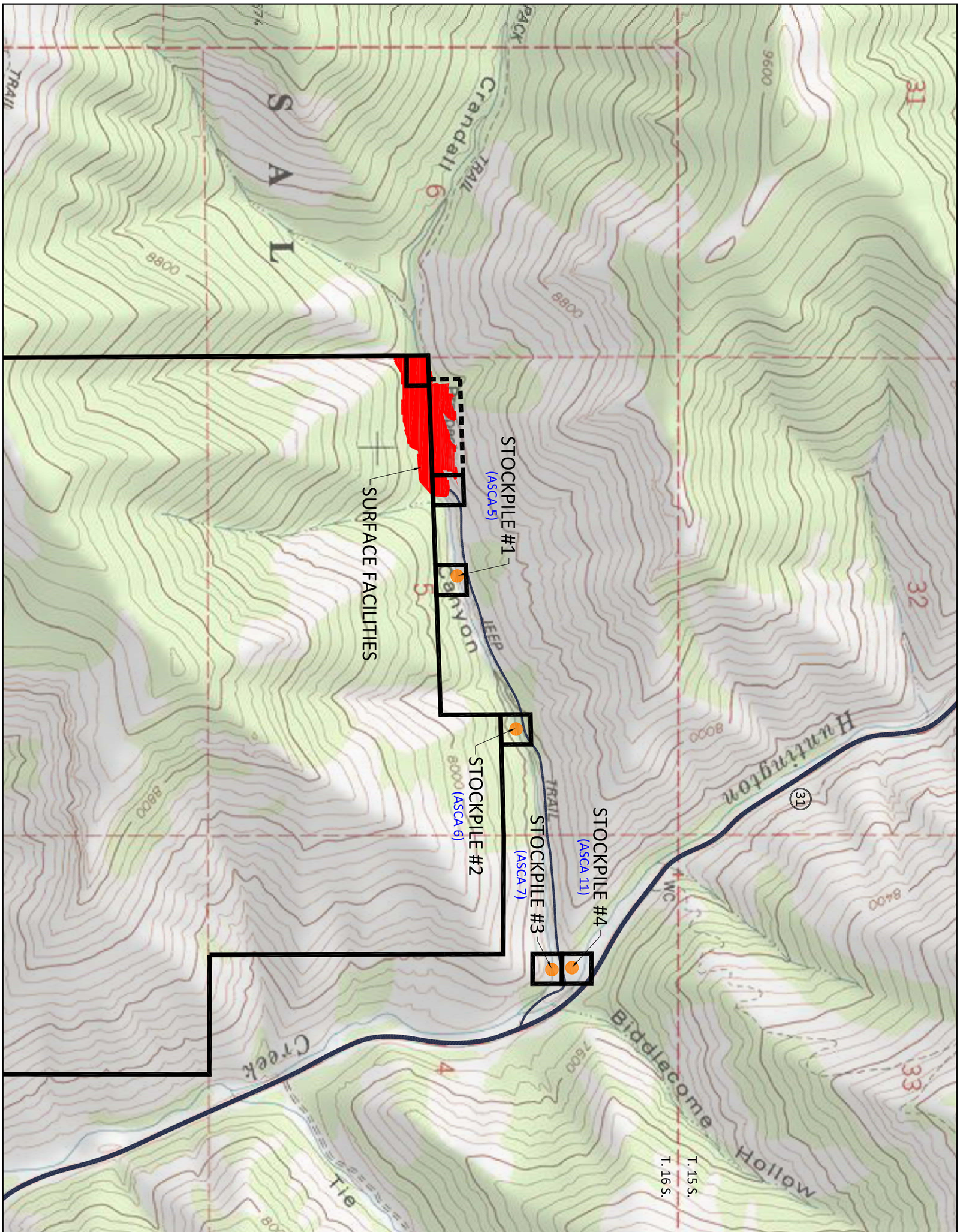
Crandall Canyon Mines

Crandall Canyon
P.O. BOX 910
EAST CARBON, UTAH

DRAWN BY: PJ	SCALE: 1" = 7000'
APPROVED BY: DH	DATE: 16 MAY 2016
REVISION: 2	PLATE 1-1A

G:\Current Drawings\WRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\1-1A Permit Areas R2.dwg, Plate 1-1a, 5/16/2016 8:08:59 AM, 1:1

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\2-3 STOCKPILE LOCATIONS R5.dwg, Plate 2-3, 5/16/2016 8:17:06 AM, 1:1



LEGEND

- UDOGM PERMIT BOUNDARY
- TYPICAL LEASE BOUNDARY
- STOCKPILE LOCATIONS (PERMIT AREA)

THE PERMIT AREA IS ENTIRELY WITHIN
THE MANTI - LA SAL NATIONAL FOREST

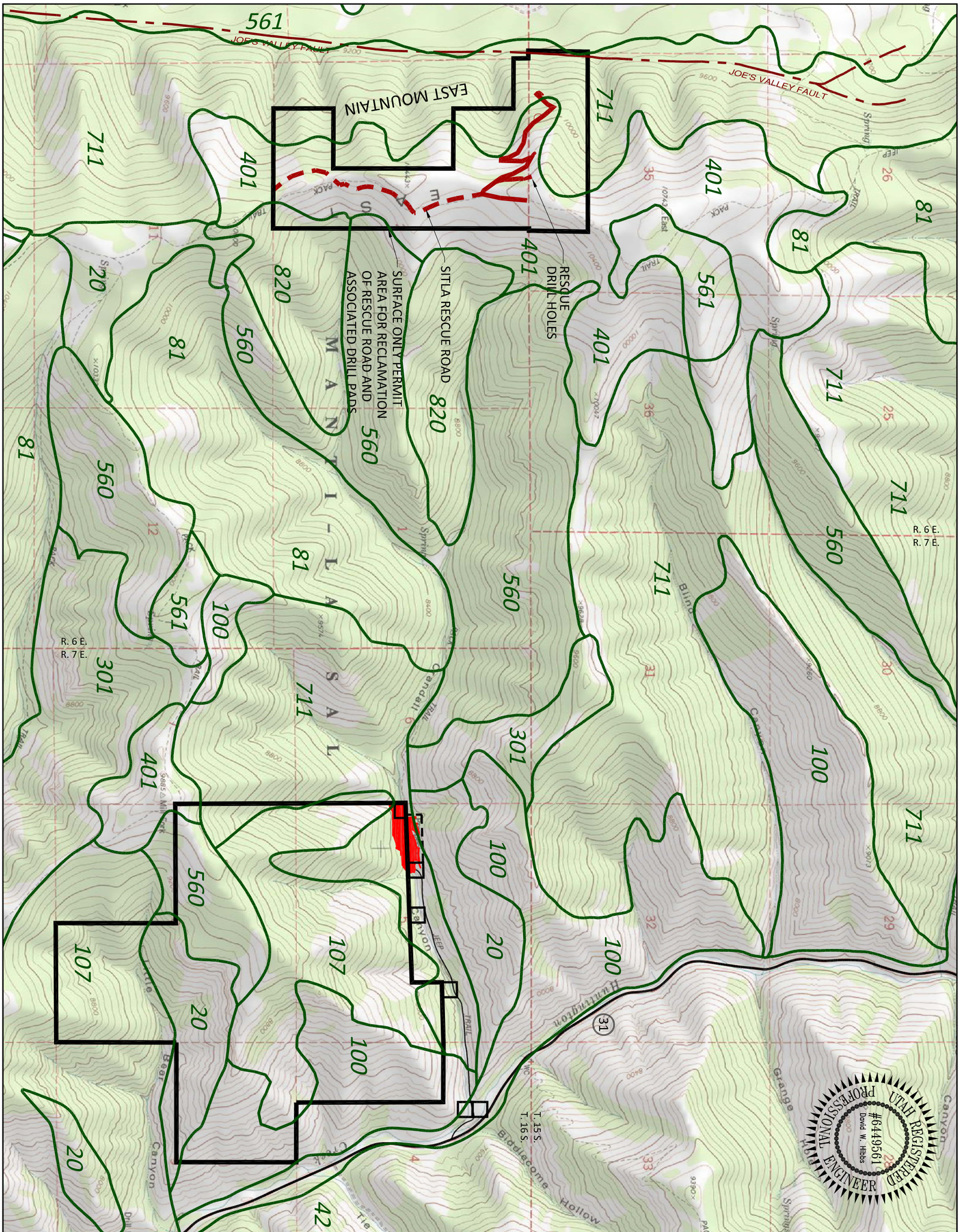
UTAH REGISTERED PROFESSIONAL ENGINEER
#6449561
David W. Hibbs

GENWAL™ RESOURCES, INC.
P.O. Box 910, 794 North "C" Canyon Rd, East Carbon, Utah
Telephone: (435) 888-4000

CRANDALL CANYON MINE
TOPSOIL STOCKPILE LOCATIONS

REV: 5	ACAD: STOCKPILE LOCATIONS
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=1000'	PLATE #: 2-3

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\2-6 REGIONAL SOILS MAP R11.dwg, Plate 2-6, 5/16/2016 8:20:14 AM, 1:1



SOIL TYPE KEY

- 8 GREYBACK FAMILY-CRYOTHENTS COMPLEX
- 20 STRYCH-PATHEAD-PODO FAMILIES-RUBBLELAND COMPLEX
- 41 CASTINO FAMILY
- 42 BECKS FAMILY-CRYAQUOLLS-SILAS FAMILY COMPLEX
- 81 BUNDO-LUCKY STAR-SCOUT FAMILIES COMPLEX
- 100 GRALIC-BEHANIN-ELWOOD FAMILIES COMPLEX
- 107 CURECANTI-ELWOOD-DUSCHENE FAMILIES COMPLEX
- 301 GREYBACK-LOAMY, MIXED (NONACIDIC) LITHIC CRYORTHENTS-BACHELOR FAMILIES COMPLEX
- 401 ADEL-MERINO FAMILIES COMPLEX
- 560 CLAYBURN-BROAD CANYON FAMILIES COMPLEX
- 561 CLAYBURN-FAIM-BEHANIN FAMILIES COMPLEX
- 711 BUNDO-LUCKY STAR-ADEL FAMILIES COMPLEX
- 820 LUCKY STAR-BUNDO-ADEL FAMILIES COMPLEX

SOURCE: Manti-LaSal Forest Service, 1995

SOIL TYPE BOUNDARY
MINE SURFACE FACILITIES
UDOGM PERMIT BOUNDARY

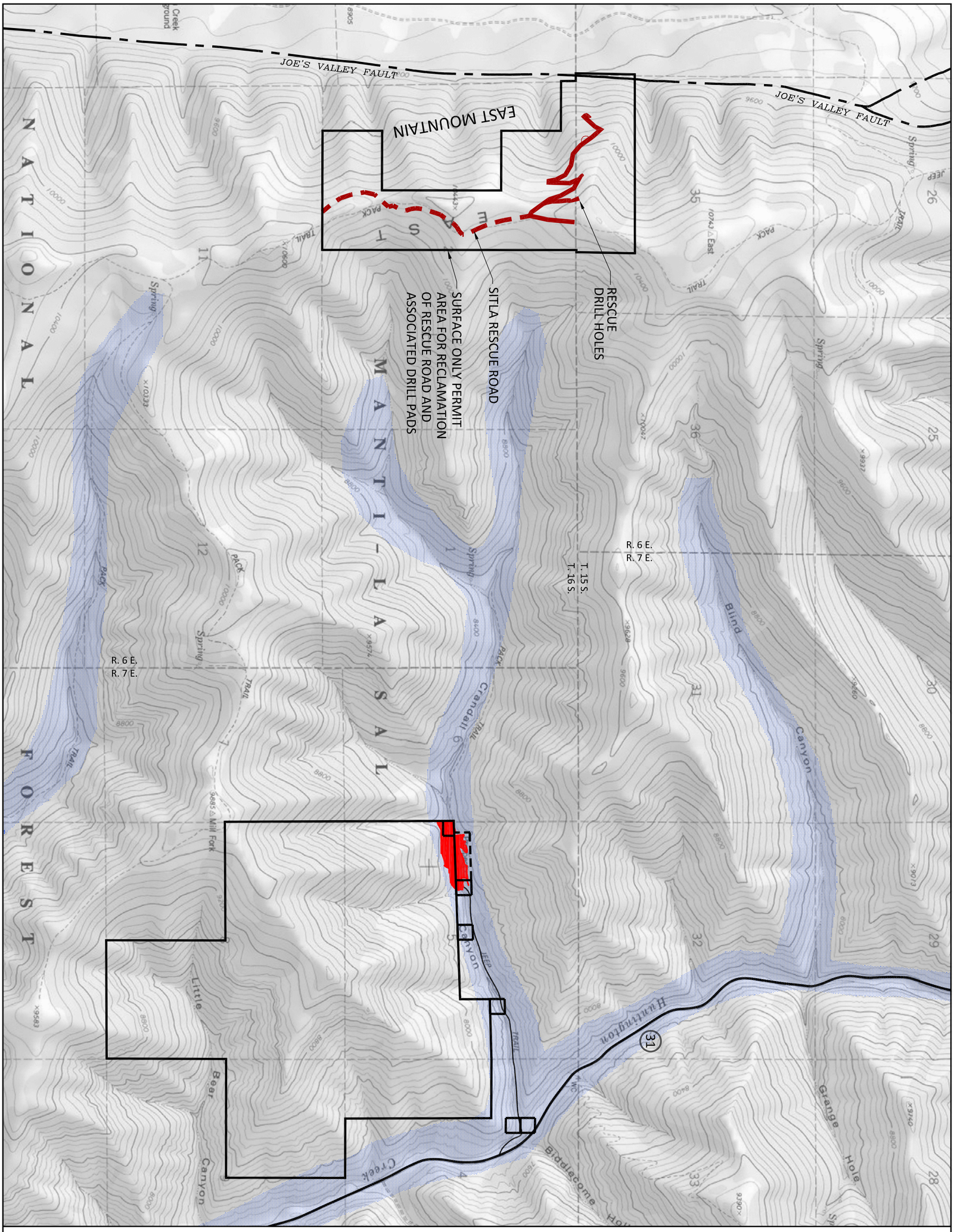
UTAH REGISTERED PROFESSIONAL ENGINEER #6449561 David W. Hibbs

GENWAL™ RESOURCES, INC.
P.O. Box 910, 794 North "C" Canyon Rd, East Carbon, Utah
Telephone: (435) 888-4000

CRANDALL CANYON MINE
REGIONAL SOILS MAP

REV: 11	ACAD: REGIONAL SOILS MAP
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000	PLATE #: 2-6

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\3-1A WILDLIFE-MOOSE R11.dwg, Plate 3-1a, 5/16/2016 8:25:34 AM, 1:1



LEGEND

MOOSE - YEAR ROUND

SOURCE: U.D.W.R. 2004

UDOGM PERMIT BOUNDARY

MINE SURFACE FACILITIES

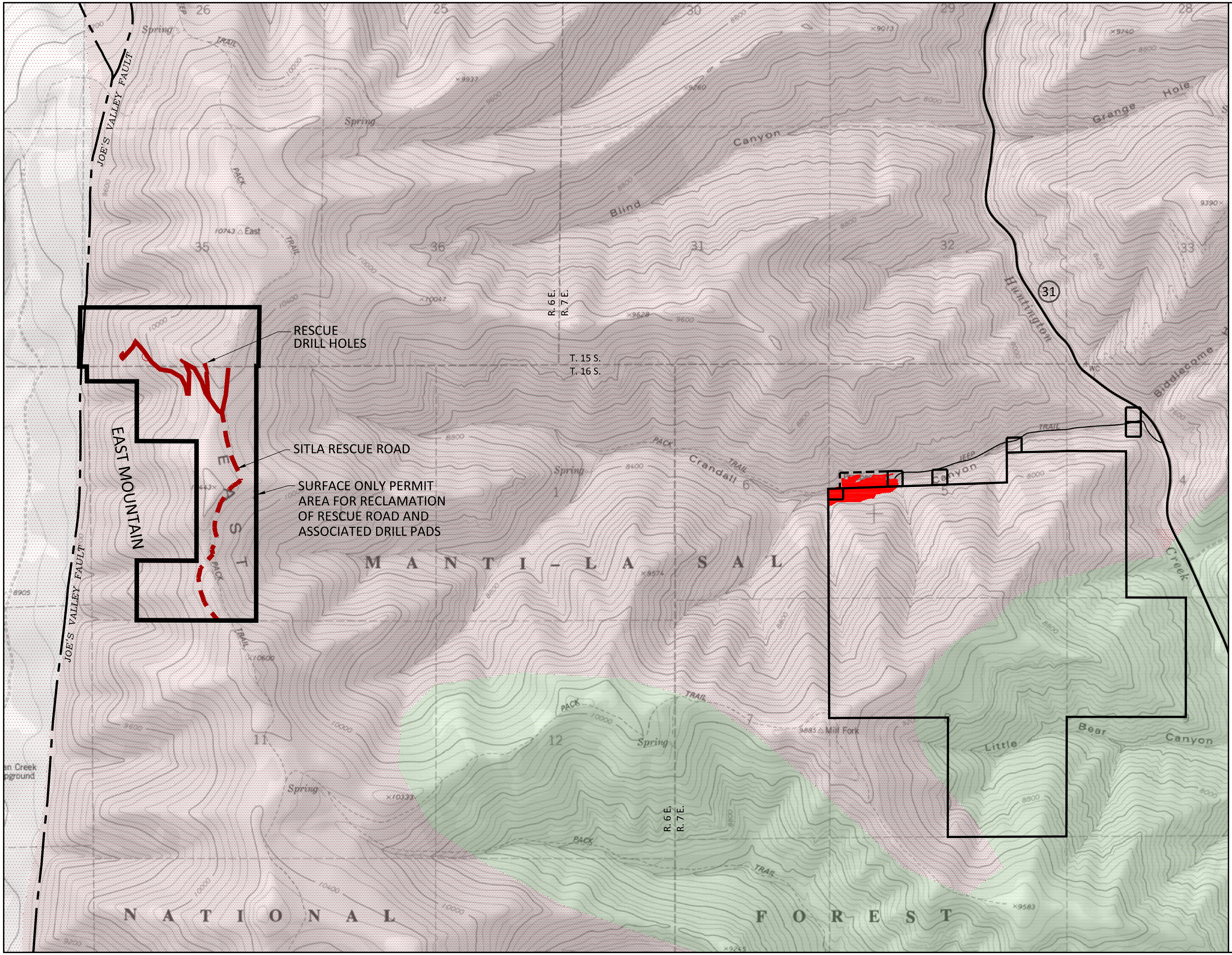
UTAH REGISTERED PROFESSIONAL ENGINEER
#6449561
David W. Hibbs

GENWAL™ RESOURCES, INC.

P.O. Box 910, 794 North "C" Canyon Rd, East Carbon, Utah
Telephone: (435) 888-4000

CRANDALL CANYON MINE
WILDLIFE MAP - MOOSE

REV: 11	ACAD: WILDLIFE-MOOSE R10
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 3-1 (A)



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CRANDALL CANYON MINE
WILDLIFE MAP - ELK

REV: 12	ACAD: WILDLIFE-ELK R11
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 3-1 (B)

UTAH REGISTERED PROFESSIONAL ENGINEER
#6449561
David W. Hibbs

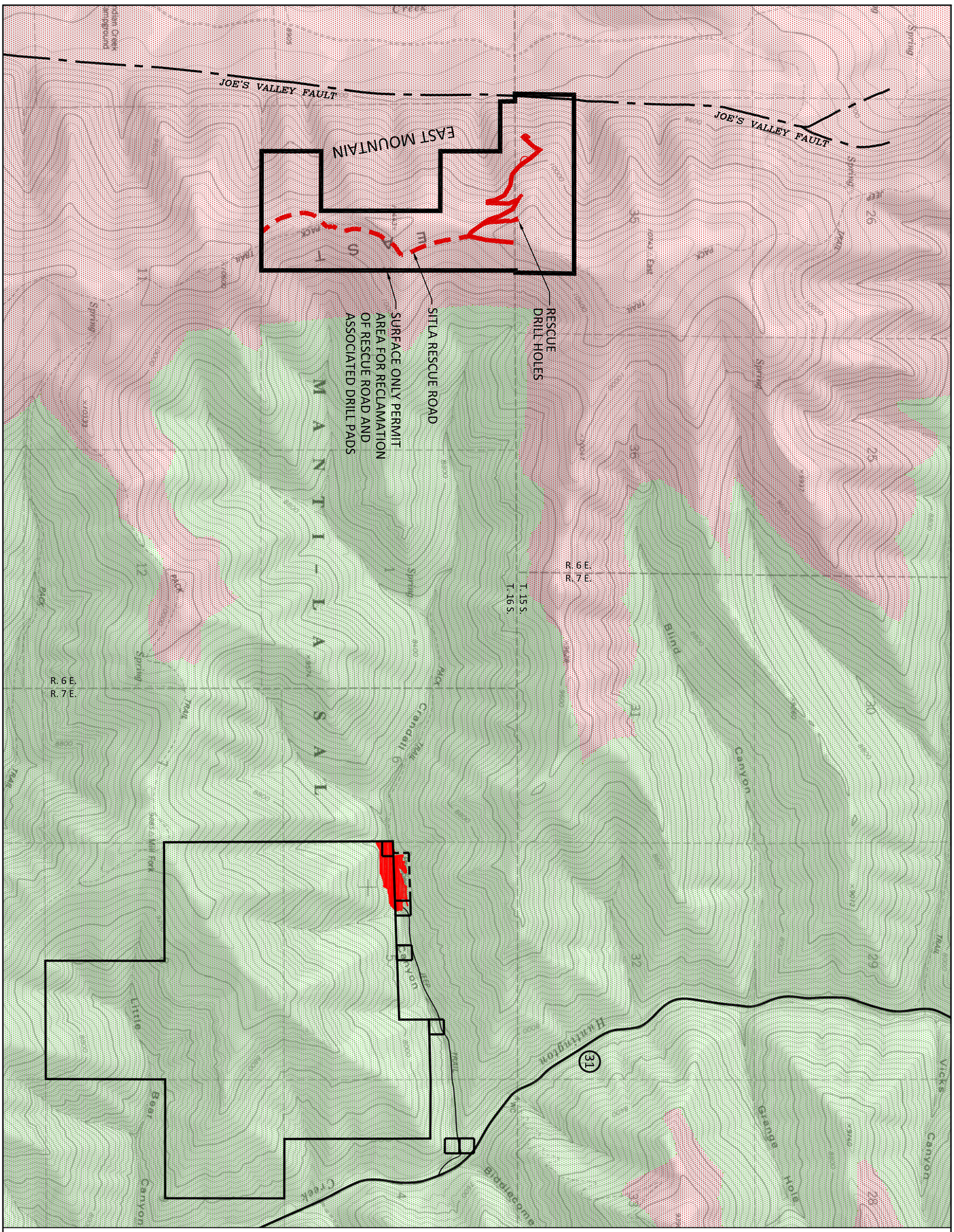
N

LEGEND

ELK - SUMMER
ELK - WINTER
SOURCE: U.D.W.R. 2004
UDOGM PERMIT BOUNDARY
MINE SURFACE FACILITIES

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\3-1B WILDLIFE-ELK R12.dwg, Plate 3-1b, 5/16/2016 8:28:09 AM, 1:1

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\3-1C WILDLIFE-DEER R12.dwg, Plate 3-1c, 5/16/2016 8:31:40 AM, 1:1



LEGEND

DEER - SUMMER

DEER - WINTER

SOURCE: U.D.W.R. 2004

UDOGM PERMIT BOUNDARY

MINE SURFACE FACILITIES

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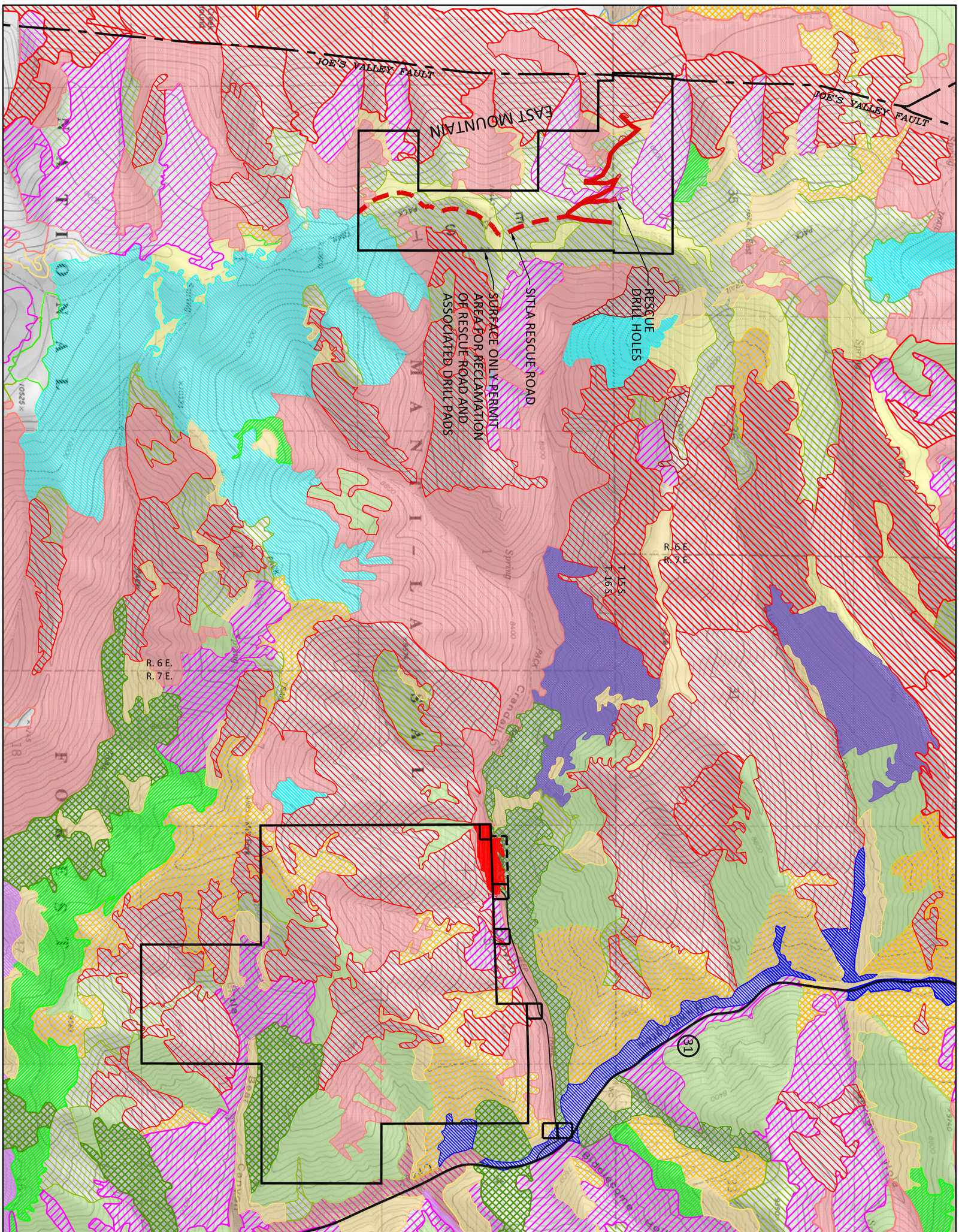
CRANDALL CANYON MINE
WILDLIFE MAP - DEER

REV: 12	ACAD: WILDLIFE-DEER R11
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 3-1 (C)

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\3-2 VEGETATION MAP R12.dwg, Plate 3-2, 5/16/2016 8:34:19 AM, 1:1



LEGEND

ASPEN	
ASPEN WITH CONIFER	
ASPEN WITH MOUNTAIN BRUSH	
BARREN ROCK OR LEDGE	
BLUE SPRUCE	
CURLLEAF MOUNTAIN MAHOGANY	
DOUGLAS FIR	
LIMBER/BRISTLECONE PINE	
MOUNTAIN BRUSH	
OAK BRUSH	

VEGETATION TYPES

PERENNIAL FORB	
PERENNIAL GRASSLAND	
PERENNIAL WETLAND	
ROCKY MOUNTAIN JUNIPER	
SAGEBRUSH	
SPRUCE-FIR	
TREE DOMINATED RIPARIAN	

SOURCE: U.S.F.S. 2005

UDOGM PERMIT BOUNDARY	
MINE SURFACE FACILITIES	

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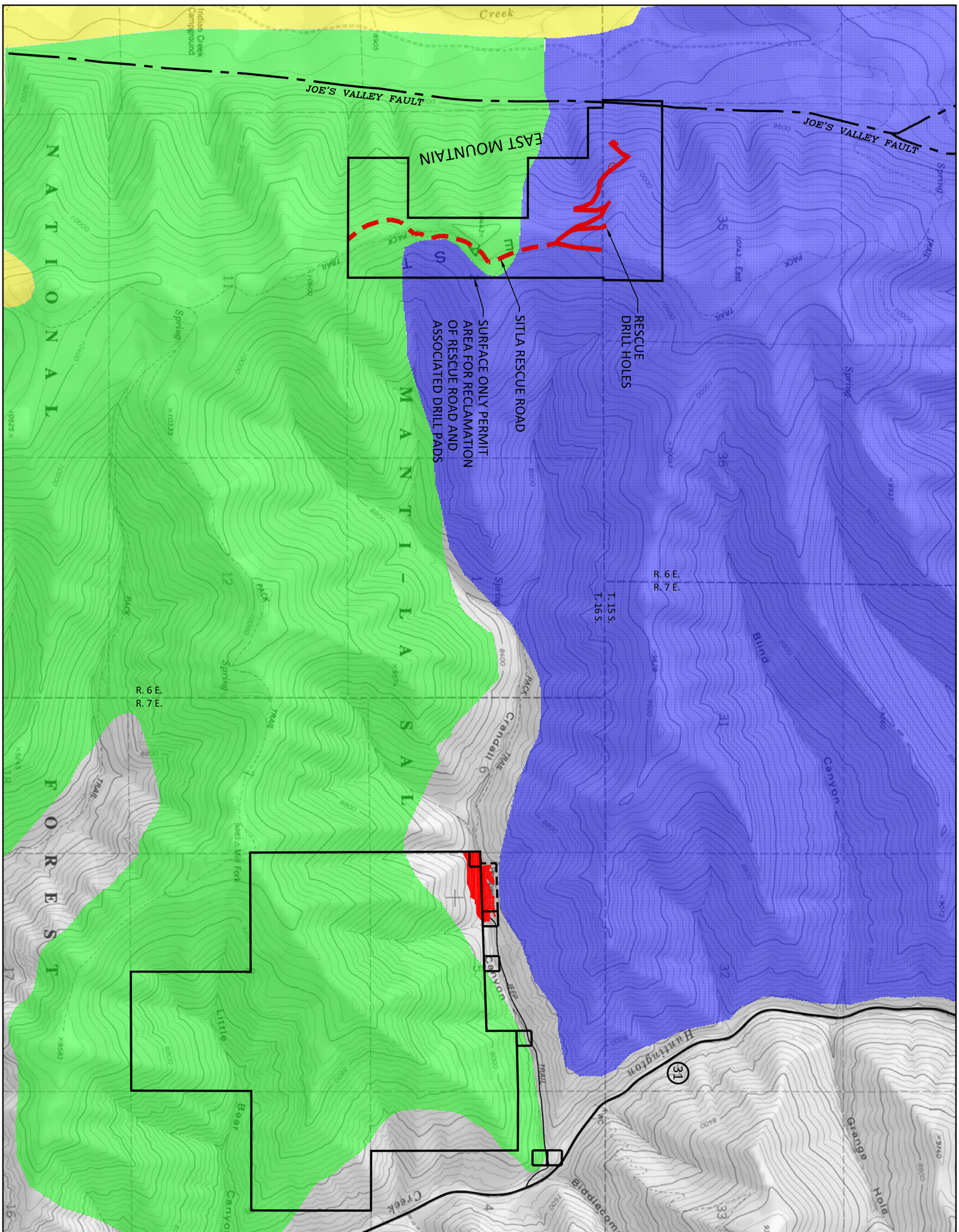
CRANDALL CANYON MINE
REGIONAL VEGETATION MAP

REV: 12	ACAD: VEGETATION MAP R11
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000	PLATE #: 3-2

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\4-1 LAND USE R10.dwg, Plate 4-1, 5/16/2016 8:38:06 AM, 1:1



LEGEND

- CRANDALL CANYON SHEEP & GOAT ALLOTMENT
- CRANDALL RIDGE SHEEP & GOAT ALLOTMENT
- TRAIL MOUNTAIN COW & HORSE ALLOTMENT

SOURCE- Manti-LaSal Forest Service, 1998

- UDOGM PERMIT BOUNDARY
- MINE SURFACE FACILITIES

UTAH REGISTERED PROFESSIONAL ENGINEER
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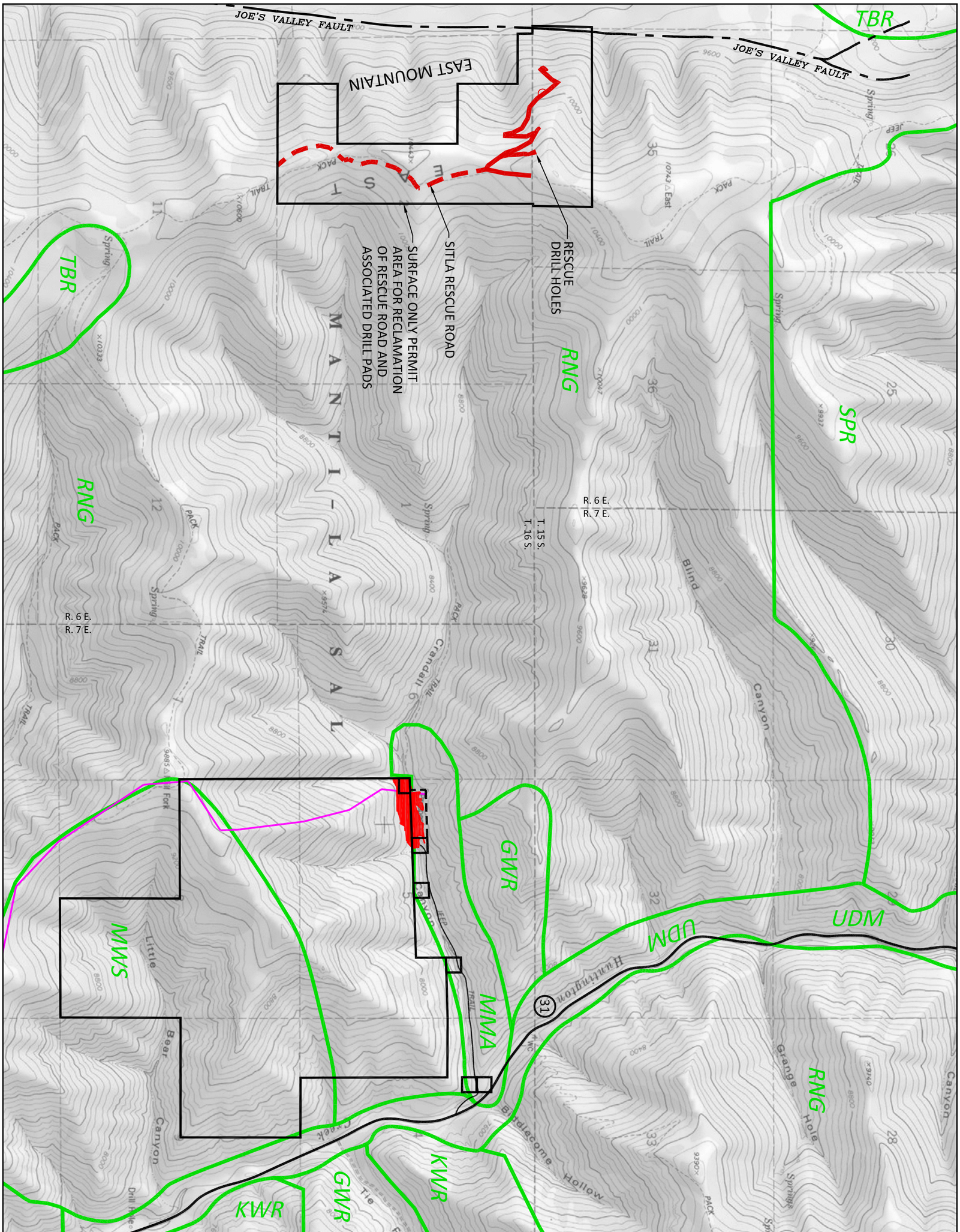
CRANDALL CANYON MINE GRAZING ALLOTMENTS

REV: 10	ACAD: LAND USE R9
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 4-1

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\4-2 LAND USE R11.dwg, Plate 4-2, 5/16/2016 8:43:29 AM, 1:1



LEGEND

LAND USE BOUNDARY LINE	
MAIN POWER LINE	
WOOD FIBER PRODUCTION & HARVEST	TBR
GENERAL BIG GAME WINTER RANGE	GWR
LEASABLE MINERAL DEVELOPMENT	MMA
RANGELAND MAINTENANCE	RNG
MUNICIPAL WATER SUPPLY	MWS
UTILITY CORRIDORS & WINDOWS	UCW
KEY BIG GAME WINTER RANGE	KWR
SEMI-PRIMITIVE RECREATION USE	SPR
UNDEVELOPED MOTORIZED SITE	UDM
DEVELOPED RECREATIONAL SITE	DRS
GAS WELL	

UDOGM PERMIT BOUNDARY

MINE SURFACE FACILITIES

SOURCE:
FOREST LAND AND RESOURCE MANAGEMENT PLAN,
1986 MANAGEMENT UNITS.

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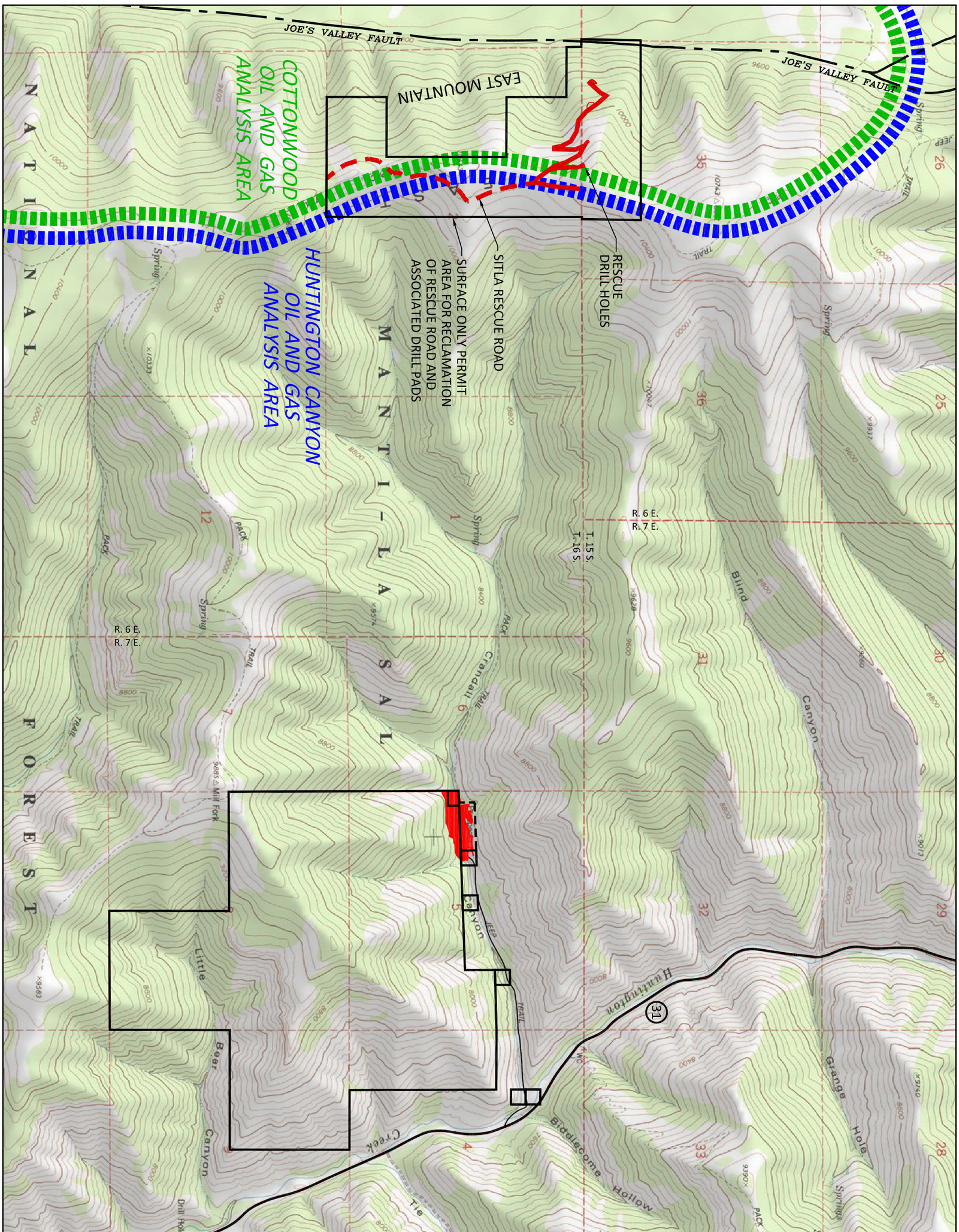
CRANDALL CANYON MINE
LAND USE MAP

REV: 11	ACAD: LAND USE R10
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 4-2

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\4-3 OIL AND GAS R111.dwg, Plate 4-3, 5/16/2016 8:48:33 AM, 1:1



LEGEND

GAS WELL

BOUNDARY OF ANALYSIS AREA

SOURCE:
FOREST LAND AND RESOURCE MANAGEMENT PLAN, 1986 MANAGEMENT UNITS.

UDOGM PERMIT BOUNDARY

MINE SURFACE FACILITIES

PROFESSIONAL ENGINEER
UTAH REGISTERED
#6449561
David W. Hibbs

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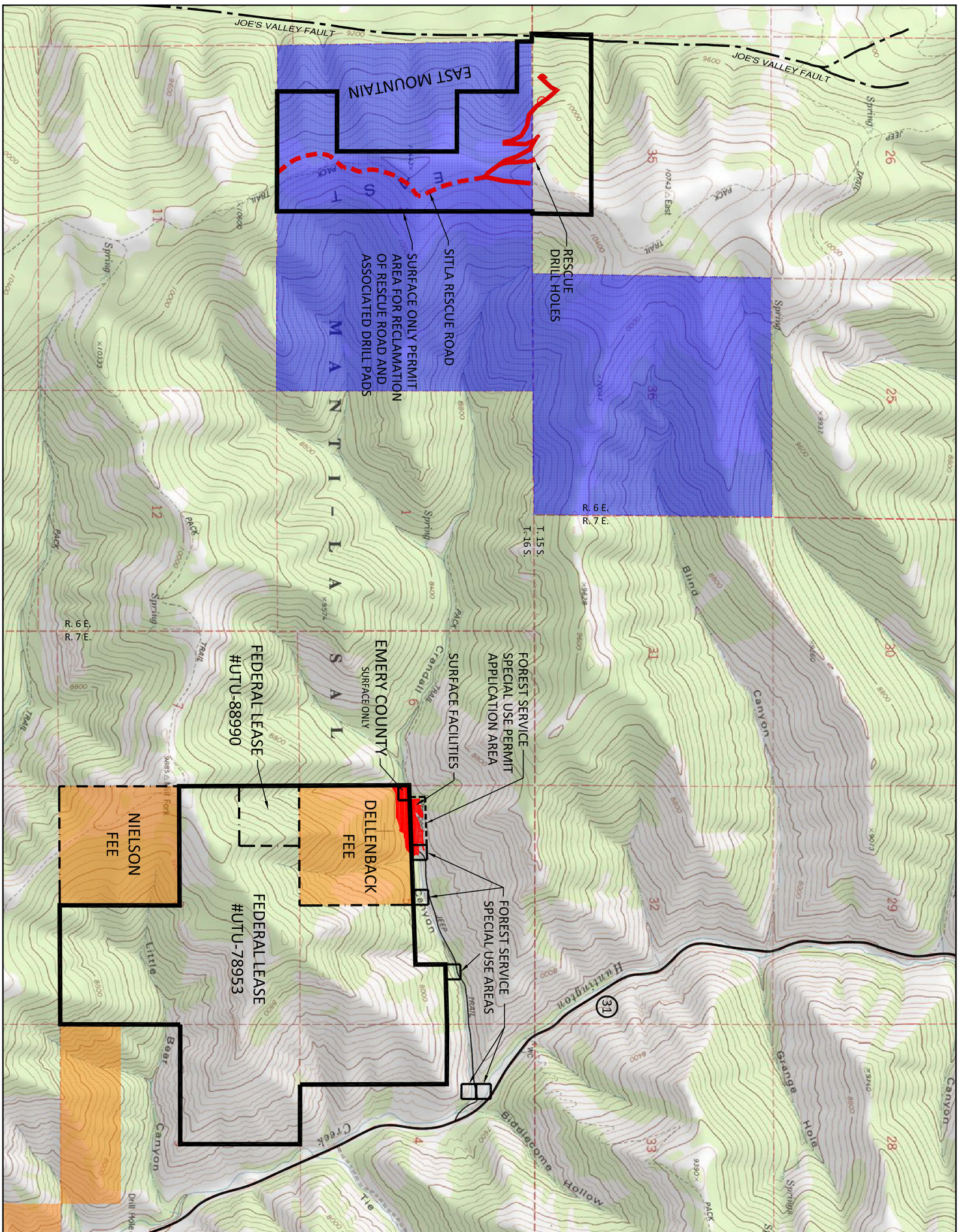
CRANDALL CANYON MINE
OIL & GAS DEVELOPMENT

REV: 11	ACAD: OIL AND GAS R10
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 4-3

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\4-4 SURFACE OWNERSHIP R11.dwg, Plate 4-4, 5/16/2016 8:53:26 AM, 1:1



LEGEND

PRIVATE

SCHOOL & INSTITUTIONAL TRUST LANDS ADMINISTRATION

U.S. FOREST SERVICE

UDOGM PERMIT BOUNDARY

MINE SURFACE FACILITIES

UNSHADED AREA

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CRANDALL CANYON MINE SURFACE OWNERSHIP MAP

REV: 11	ACAD: SURFACE OWNERSHIP R10
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 4-4

FOREST SERVICE SPECIAL USE PERMIT APPLICATION AREA

UNDERGROUND WORKINGS

SEDIMENT POND SPECIAL USE PERMIT AREA

UNDISTURBED AREA

EXISTING 42" CMP

PORTAL ACCESS ROAD (PAVED)

PAVED ROAD (USFS)

TRUCK TURN AROUND

FOREST SERVICE TRAILHEAD PARKING AREA

TRAILHEAD

1/4 CORNER

1,390.06'

N 88°06'20.35" E

EMERY COUNTY FEE

CULVERT INLET

FLUME

TRASH RACK

RAMP

TRAIL

MEMORIAL PARKING

TO MEMORIAL

PAVED ROAD (EMERY COUNTY)

FENCE

CONCRETE GUARD RAIL

Material Storage Area

MCC BUILDING

POWDER STORAGE

GENWAL FEE

Ponderosa

1st Pine West

2nd Pine West

Burnt

Forked

Scruff

X-mas

UNDERGROUND WORKINGS

TRANSFORMER

PAD AREA

COAL TRANSFER

WATER DISCHARGE PIPE

WATER TREATMENT BASIN

6' HIGH RETAINING WALL

TANK

CONCRETE BARRICADE

TRUCK STACKING LANE

RAMP

TRUCK LOADOUT

COAL STORAGE AREA

LOADOUT CONVEYOR

STORAGE AREA

MAIN CULVERT (72" DIA.)

COAL STORAGE AREA

STACKING TUBE (85')

RECLAIM TUNNEL (12' MULIPLATE)

RECLAIM VAULT (2 ea. DRAW-DOWN PORTS)

ESCAPE-WAY

COAL STORAGE AREA

FUEL TANK

UPDES

MCC BLDG.

RECLAIM CONVEYOR

Transformer

CRUSHER BUILDING

RIP-RAPPED INLET

HILFIKER WALL

POND BOTTOM ELEV. 7786

SEDIMENT POND

POND EMBANKMENT ELEV. 7785

NATURAL ROCK DRAINAGE

N 02°38' E

EMERGENCY SPILLWAY

18" PIPE NPDES DISCHARGE #001

RIP RAP OUTLET ENERGY DISSIPATER

PRINCIPAL SPILLWAY WITH TRASH RACK AND SKIMMER

EXISTING RISER DECANT WITH TRASH RACK AND SKIMMER

EXISTING GABION WALL

USFS

GENWAL FEE

50' 0 100' 200'

LEGEND:

- *SEDIMENT POND (SPECIAL USE PERMIT AREA)*
- *EXTENT OF DISTURBANCE*
- *10' CONTOUR*
- *JERSEY BARRIERS*
- *RE-ESTABLISHED USFS ROAD (DOUBLE-LANE)*
- *SAFETY BARRIERS*
- *FENCING*

FACILITY LEGEND:

1. Shop
2. Ventilation Fan
3. Rockdust Silo
4. Concrete Dumpster Pad
5. Power Center
6. Power Pole
7. Offices & Bathhouse (u'grd)
8. Intake Portal
9. Belt Portal
10. Fan Portal
11. Mine Belt
12. Iron Treatment Shed
13. Visual Disconnect
14. New Warehouse and Office Building
15. 4500 Gallon Culinary Water Tank
16. Shotcrete
17. Parts Shed
18. Portable Shed
19. Ventilation Fan
20. Material Storage Sheds
21. Intake Portal
22. Return Portal
23. Belt Portal
24. Mag Tank
25. Powder Storage
26. Cap Storage
27. Concrete Ditch

UTAH REGISTERED #6449561 David W. Hibbs PROFESSIONAL ENGINEER

T. 16 S., R. 7 E., SLBM

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CRANDALL CANYON MINE SURFACE FACILITIES

REV: 19	ACAD: 5-3 REV19
DATE: 05-16-16	BY: PJJ
SCALE: AS SHOWN	PLATE #: 5-3

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\Plate 5-3 REV 19.dwg, 11x17 Surface Facilities, 5/16/2016 8:57:24 AM, 1:1

AS-CONSTRUCTED BURMA EVAPORATION POND - PLAN VIEW

Crandall Canyon Mines

Crandall Canyon
P.O. BOX 910
EAST CARBON, UTAH

DRAWN BY	PJ	SCALE	1" = 100'
APPROVED BY	DH	DATE	16 MAY 2016
REVISION	3	PLATE #	5-3A

KEY

- AS-CONSTRUCTED MAJOR CONTOURS (10' INTERVALS)
- AS-CONSTRUCTED MINOR CONTOURS (2' INTERVALS)
- MAXIMUM DEPTH OF "SLUDGE" (2.0') = 6516.5'

AREA LOCATED IN SECTION 5, TOWNSHIP 17 SOUTH, RANGE 8 EAST, SLBM

UTAH POWER AND LIGHT COMPANY
SITLA

PERMIT LINE P.O.B.

EAST QUARTER CORNER OF SECTION 5, T.17S., R.8E., SLBM

UTAH REGISTERED PROFESSIONAL ENGINEER #6449561 David W. Hibbs

DISTURBED AREA CALCULATIONS	
DISTURBED AREA WITHIN FENCED AREA	1.41 ACRES
DISTURBED AREA FROM GATE TO BURMA ROAD	0.06 ACRES
DISTURBED AREA FOR TOPSOIL PILE	0.15 ACRES
DISTURBED AREA FOR GRUBBING PILE	0.05 ACRES
TOTAL DISTURBED AREA WITHIN PERMIT AREA	1.67 ACRES

TOPSOIL CALCULATIONS	
TOPSOIL PILE	860 cubic yards
GRUBBING PILE	284 cubic yards
TOTAL SALVAGED TOPSOIL	1,144 CUBIC YARDS
TOPSOIL REQUIRED @ 6" DEEP	1,137 CUBIC YARDS

NOTE:
INTERIM SEEDING HAS BEEN APPLIED TO OUTSLOPE AREAS OF THE CONTAINMENT BERM AND TOPSOIL PILE (GREEN SHADING). GRUBBING PILE TO BE SEEDED AS SOON AS WEATHER ALLOWS.

6540
6530
6520
6510

SEDIMENT MARKER - CLEANOUT AT 6519.0'
FIELD FENCE
18" CMP (B-C1)
ACCESS ROAD
ENTRANCE ROAD
GATE
UNDISTURBED DRAINAGE DITCH (B-UD1)
191'
86'
EVAPORATION BASIN
CONTAINMENT BERM
5.0' WIDE x 0.5' DEEP SPILLWAY
NATURAL DRAINAGE CHANNEL
OLD CONSTRUCTION ROAD (PREVIOUS CHAINING OPERATIONS)
PERMIT LINE
PERMIT AREA = 7.32 ACRES
BOULDER STORAGE AREA
TOPSOIL PILE (860 C.Y.)
GRUBBING PILE (284 C.Y.)
TYPICAL SEDIMENT CONTROL STRUCTURE
PERMIT LINE
EMERY COUNTY PUBLIC ROAD No. 303 (BURMA ROAD)
EXISTING GAS-WELL PAD (XTO ENERGY, BB 5-107)

50 0 100 200 FEET

N

FINAL CONTOURS BURMA EVAPORATION POND - PLAN VIEW

Crandall Canyon Mines

Crandall Canyon
P.O. BOX 910
EAST CARBON, UTAH

DRAWN BY: PJ	SCALE: 1" = 100'
APPROVED BY: DH	DATE: 16 MAY 2016
REVISION: 1	PLATE #: 5-3B

AREA LOCATED IN SECTION 5, TOWNSHIP 17 SOUTH, RANGE 8 EAST, SLBM

KEY

- AS-CONSTRUCTED MAJOR CONTOURS (10' INTERVALS)
- AS-CONSTRUCTED MINOR CONTOURS (2' INTERVALS)
- RECLAIMED MAJOR CONTOURS (10' INTERVALS)
- RECLAIMED MINOR CONTOURS (2' INTERVALS)
- MAXIMUM EXTENT OF "SLUDGE" WITH 4.0' MIN. COVER

EARTHWORK VOLUME REPORT

COMPARING GRIDS: SITE WORKING CONTOURS.GRD
AND SITE RECLAIMED CONTOURS.GRD

GRID CORNER LOCATIONS: 9835.82,9826.62 TO 10835.82,10756.62
GRID RESOLUTION X: 200, Y: 186 GRID CELL SIZE X: 5.00, Y: 5.00

AVERAGE CUT DEPTH: 0.37' AVERAGE FILL DEPTH: 0.45'
MAX CUT DEPTH: 7.02' MAX FILL DEPTH: 5.86'

TOTAL STORED SUBSOIL/TOPSOIL VOLUME:	2,435.86 C.Y.
TOTAL PROJECTED RECLAMATION FILL VOLUME:	5,240.72 C.Y.
DEFICIENT ON-SITE SUBSOIL VOLUME:	2,804.86 C.Y.

THE DEFICIENCY IN SUBSOIL VOLUME IS AS A RESULT OF PROVIDING 4.0' MINIMUM COVERAGE OVER THE MAXIMUM AMOUNT (2.0') OF DRIED IRON PRECIPITATE MATERIAL. THE IMPORTED FILL MATERIAL SHALL BE FROM A LOCATION APPROVED BY THE DEPARTMENT OF OIL, GAS AND MINING. THE SOURCE OF THE IMPORTED MATERIAL SHALL BE DETERMINED AND APPROVED PRIOR TO THE COMMENCEMENT OF ANY RECLAMATION ACTIVITIES DETAILED IN THE MRP.

UTAH POWER AND LIGHT COMPANY
SITLA

PERMIT LINE P.O.B.

EAST QUARTER CORNER OF SECTION 5, T.17S., R.8E., SLBM

UTAH REGISTERED PROFESSIONAL ENGINEER
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OLD CONSTRUCTION ROAD (PREVIOUS CHAINING OPERATIONS)

NATURAL DRAINAGE CHANNEL TO REMAIN

NATURAL DRAINAGE CHANNEL TO REMAIN

EMERY COUNTY PUBLIC ROAD No. 303 (BURMA ROAD)

PERMIT LINE

PERMIT AREA = 7.32 ACRES

PERMIT LINE

EXISTING
GAS-WELL PAD
(XTO ENERGY, BB 5-107)

6540
6530
6530
6520
6520
6520.0'
6510
6510'
6510

50 0 100 200 FEET

N

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\5-3A Burma Pond As-Built R3.dwg, 5-3B Reclamation Plan, 5/16/2016 9:07:46 AM, 1:1

RESCUE DRILL HOLES

SITLA RESCUE ROAD

SURFACE ONLY PERMIT AREA FOR RECLAMATION OF RESCUE ROAD AND ASSOCIATED DRILL PADS

AREAS OF PROPOSED OR ACTUAL SECOND MINING SUBJECT TO POSSIBLE SUBSIDENCE

DOGM PERMIT BOUNDARY

MILL FORK

NOTE: AREA SHOWN OUTSIDE OF PERMIT BOUNDARY SHALL BE PERMITTED PRIOR TO THE COMMENCEMENT OF ANY MINING OPERATIONS.

SUBSIDENCE CONTROL POINT △4

INITIAL COORDINATES LEVEL OF SUBSIDENCE CONTROL POINTS

CONTROL POINT	NORTHING	EASTING	ELEVATION
1	410092.47	2098132.85	8442.6
1A	411049.12	2099227.84	7947.3
1B	410683.22	2097282.38	8025.1
2	410340.61	2095796.0	8041.9
2A	410002.74	2095524.69	8225.1
3	410113.74	2093255.08	7932.5
MILL FORK	405134.87	2092946.18	9888.45

ALL COORDINATES ARE SHOWN AT SEA LEVEL: CAF=1.000397447

NOTES:

1. SUBSIDENCE FOR THE CRANDALL CANYON MINE IS SUBSTANTIALLY COMPLETE AS OF THE DATE OF THIS DRAWING. ACCORDING TO THE 2014 SUBSIDENCE MONITORING REPORT, ALL MONITORING POINTS HAVE NOT RECORDED SUBSIDENCE GREATER THAN SIX INCHES SINCE 2012.

UTAH REGISTERED PROFESSIONAL ENGINEER #6449561 David W. Hibbs

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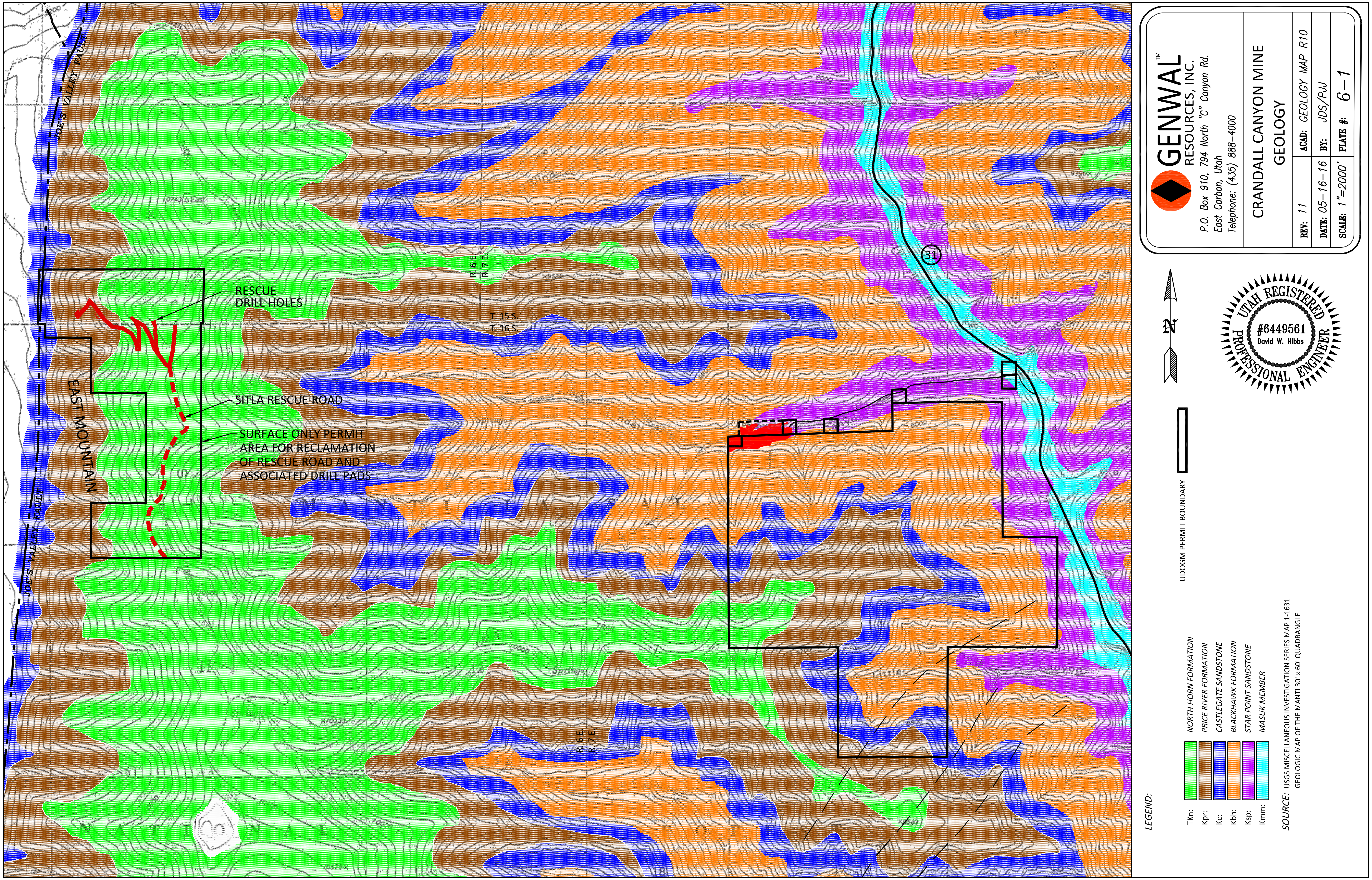
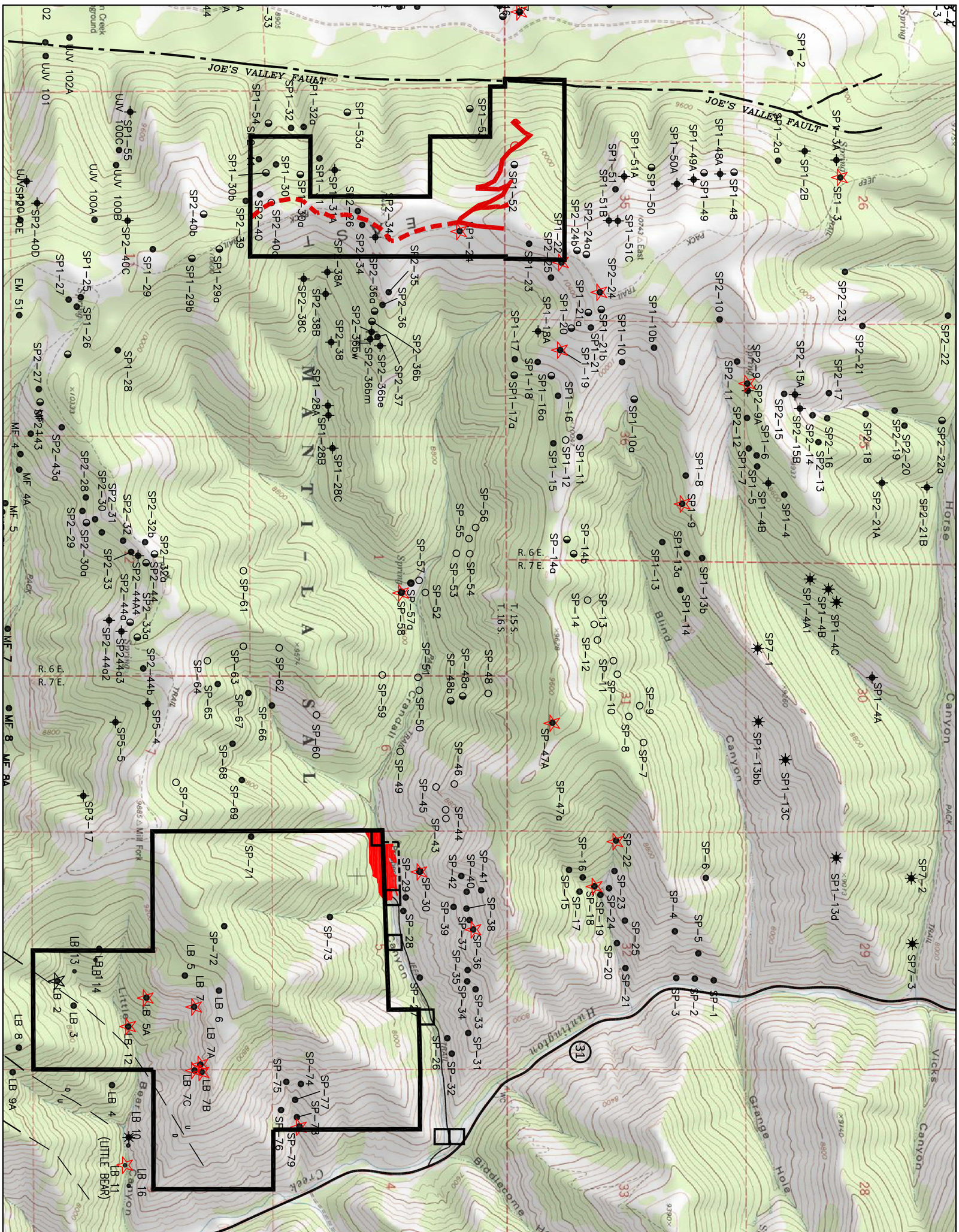
CRANDALL CANYON MINE SUBSIDENCE MAP

REV: 9	ACAD: SUBSIDENCE MONITORING R8
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"= 2000'	PLATE #: 5-5



G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\6-1 GEOLOGY MAP R11.dwg, Plate 6-1, 5/16/2016 9:15:15 AM, 1:1

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\7-12 SEEP AND SPRINGS R11.dwg, Layout3, 5/16/2016 9:18:36 AM, 1:1



LEGEND

- 500' CONTOUR:
- SEEP AND SPRING LOCATIONS: • EM 219
- APPROXIMATE LOCATION OF FAULTS:
- SPRING LOCATION (1992 SURVEY)
- SPRING LOCATION (1991 SURVEY)
- SPRING LOCATION (1989-1990 SURVEY)
- SPRING LOCATION (1987 SURVEY)
- SPRING LOCATION (1985 SURVEY)
- MONITORING LOCATIONS
- UDOGM PERMIT BOUNDARY

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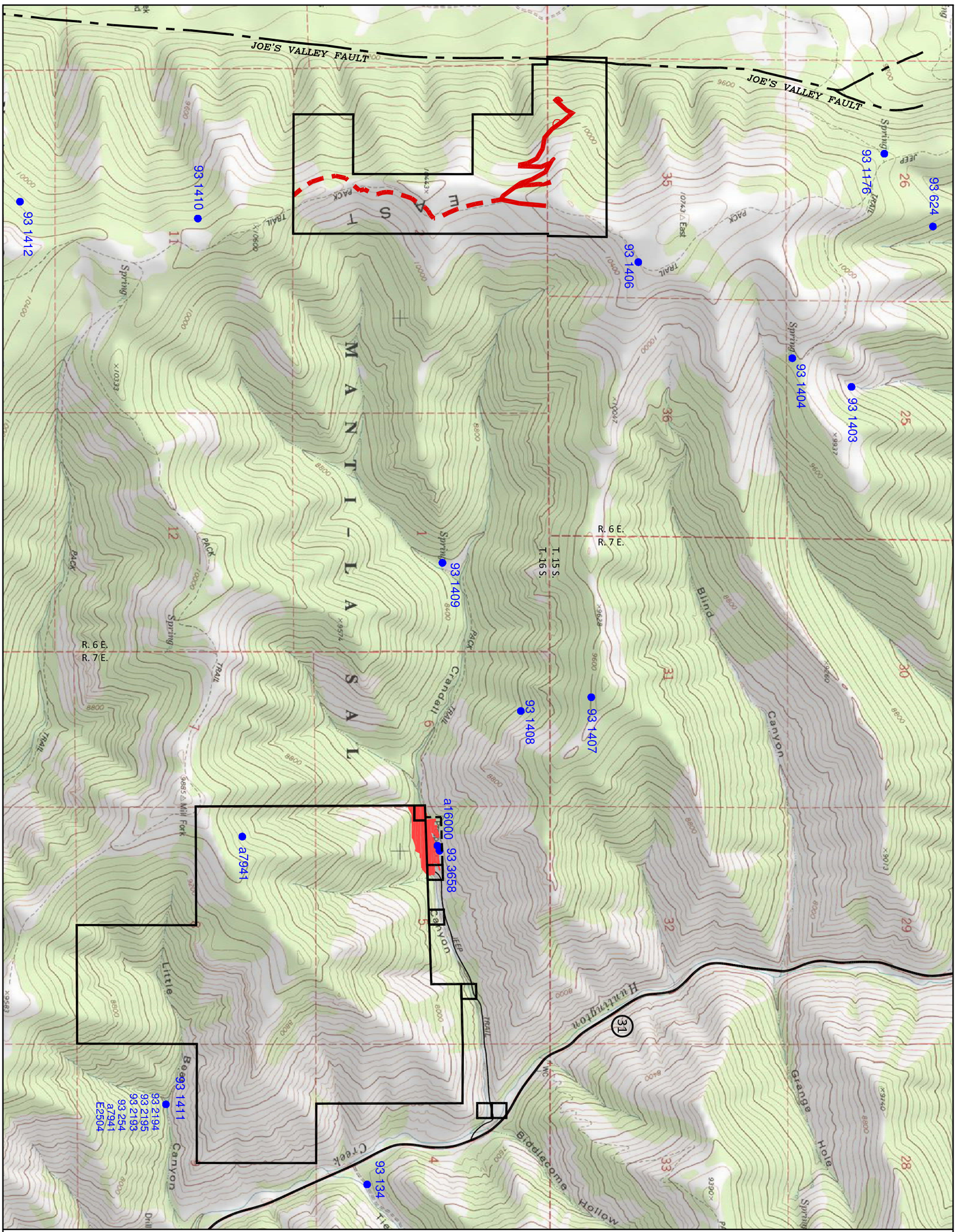
CRANDALL CANYON MINE
SEEP AND SPRING LOCATIONS

REV: 11	ACAD: SEEP AND SPRINGS R10
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 7-12

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\7-14 GRNDWTR RIGHTS R11.dwg, Plate 7-14, 5/16/2016 9:21:16 AM, 1:1



LEGEND

WATER RIGHT — 93 1412

UDOGM PERMIT BOUNDARY

THE PERMIT AREA IS ENTIRELY WITHIN THE MANTI - LA SAL NATIONAL FOREST

UTAH REGISTERED PROFESSIONAL ENGINEER
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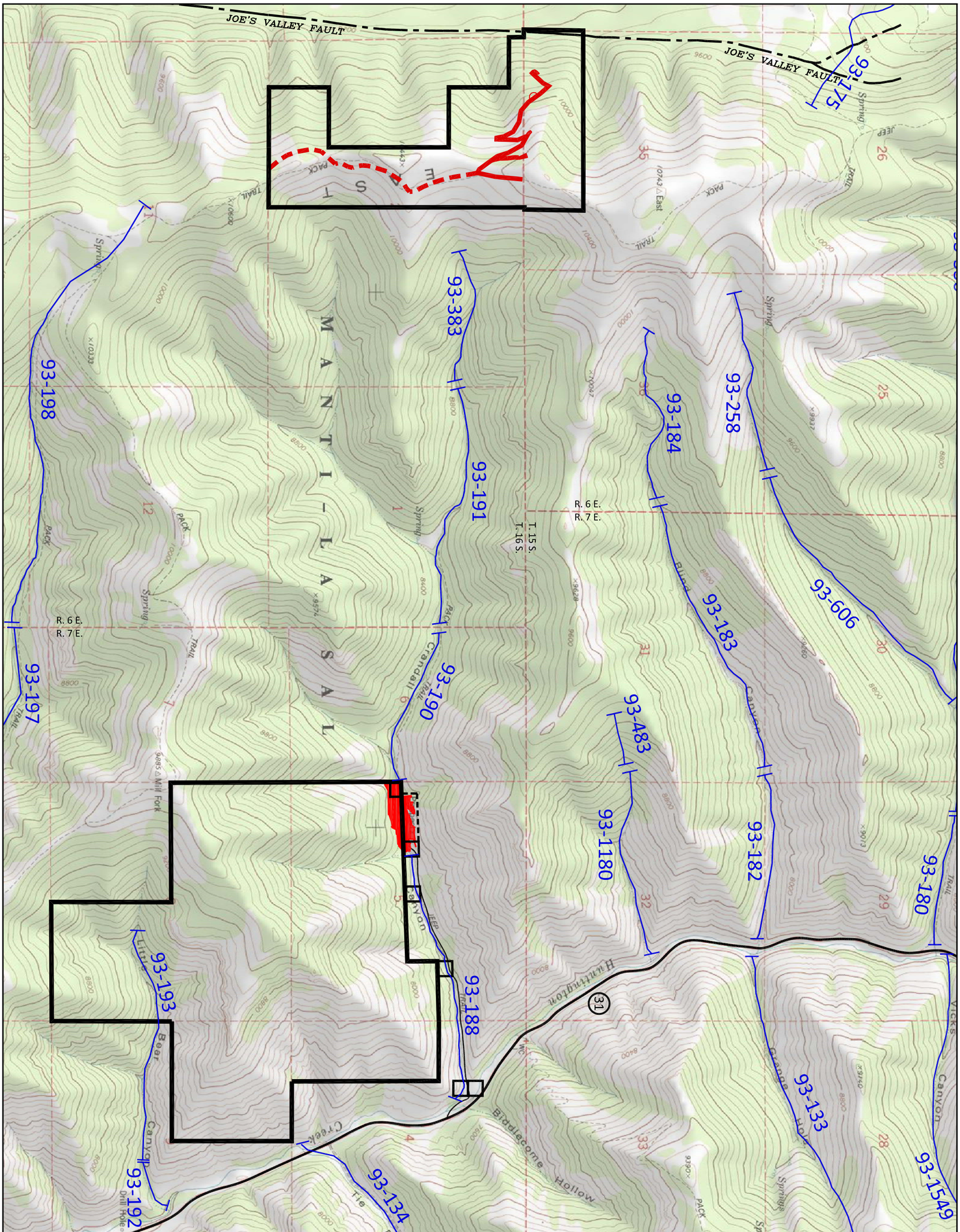
CRANDALL CANYON MINE GROUNDWATER RIGHTS

REV: 10	ACAD: GRNDWTR RIGHTS R10
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000	PLATE #: 7-14

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\7-15 SURFACE WTR RIGHTS R11.dwg, Plate 7-15, 5/16/2016 9:23:50 AM, 1:1



LEGEND

UDOGM PERMIT BOUNDARY

MINE SURFACE FACILITIES

THE PERMIT AREA IS ENTIRELY WITHIN THE MANTI - LA SAL NATIONAL FOREST

EXTENT OF SURFACE WATER RIGHT 93-198

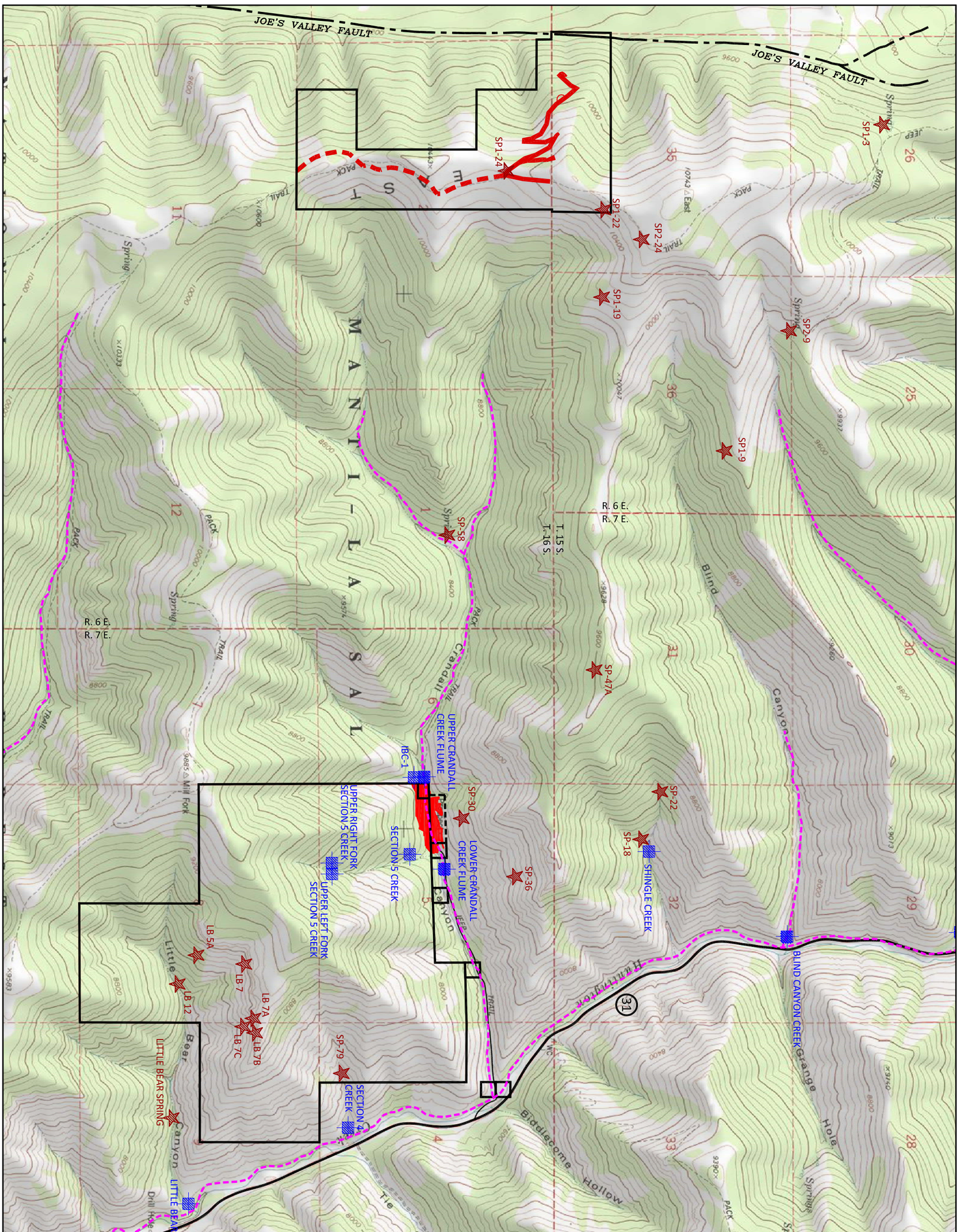
UTAH REGISTERED PROFESSIONAL ENGINEER #6449561 David W. Hibbs

GENWAL™ RESOURCES, INC.
P.O. Box 910, 794 North "C" Canyon Rd, East Carbon, Utah
Telephone: (435) 888-4000

CRANDALL CANYON MINE SURFACE WATER RIGHTS

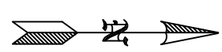
REV: 11	ACAD: SURFACE WTR RIGHTS R11
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 7-15

G:\Current Drawings\MRP Maps\Crandall Canyon\2015 Mid-Term Review\Task 5067 3-21-16\7-18 WATER SITES MAP R12.dwg, Plate 7-18, 5/16/2016 9:26:09 AM, 1:1



LEGEND

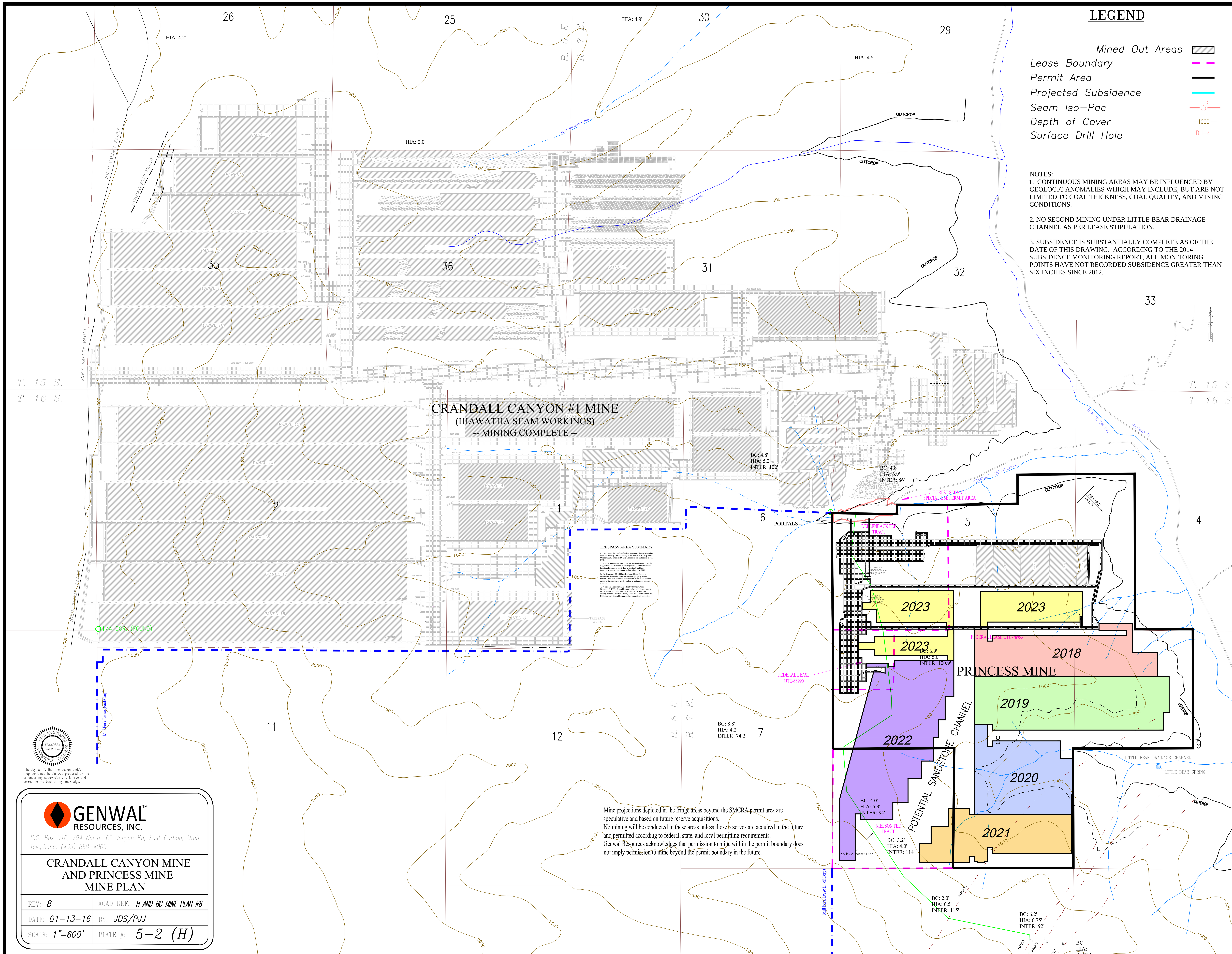
- MINE SURFACE FACILITIES
- UDOGM PERMIT BOUNDARY
- PERENNIAL STREAM REACHES (based on 1992 thru 1998 observations)
- MONITORING LOCATIONS OF SURFACE SPRINGS
- MONITORING LOCATIONS OF UNDERGROUND WELLS
- MONITORING LOCATIONS OF STREAMS



GENWAL™ RESOURCES, INC.
P.O. Box 910, 794 North "C" Canyon Rd.
East Carbon, Utah
Telephone: (435) 888-4000

CRANDALL CANYON MINE
WATER MONITORING SITES MAP

REV: 12	ACAD: WATER SITES MAP R12
DATE: 05-16-16	BY: JDS/PJJ
SCALE: 1"=2000'	PLATE #: 7-18



LEGEND
Mined Out Areas
Lease Boundary
Permit Area
Projected Subsidence
Seam Iso–Pac
Depth of Cover
Surface Drill Hole
NOTES:
1. CONTINUOUS MINING AREAS MAY BE INFLUENCED BY GEOLOGIC ANOMALIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO COAL THICKNESS, COAL QUALITY, AND MINING CONDITIONS.
2. NO SECOND MINING UNDER LITTLE BEAR DRAINAGE CHANNEL AS PER LEASE STIPULATION.
3. SUBSIDENCE IS SUBSTANTIALLY COMPLETE AS OF THE DATE OF THIS DRAWING. ACCORDING TO THE 2014 SUBSIDENCE MONITORING REPORT, ALL MONITORING POINTS HAVE NOT RECORDED SUBSIDENCE GREATER THAN SIX INCHES SINCE 2012.
CRANDALL CANYON #1 MINE
(HIAWATHA SEAM WORKINGS)
-- MINING COMPLETE --
PRINCESS MINE
2018
2019
2020
2021
2022
2023
POTENTIAL SANDSTONE CHANNEL
PORTALS
OUTCROP
FOREST SERVICE SPECIAL USE PERMIT AREA
DELLENBACK FEE TRACT
FEDERAL LEASE UTU-88990
NIELSON FEE TRACT
LITTLE BEAR DRAINAGE CHANNEL
LITTLE BEAR SPRING
JOE'S VALLEY FAULT
TRESPASS AREA SUMMARY
T. 15 S.
T. 16 S.
R. 6 E.
R. 7 E.
HIA: 4.2'
HIA: 4.9'
HIA: 4.5'
HIA: 5.0'
BC: 4.8' HIA: 5.2' INTER: 102'
BC: 4.8' HIA: 6.9' INTER: 86'
BC: 6.9' HIA: 5.0' INTER: 100.9'
BC: 8.8' HIA: 4.2' INTER: 74.2'
BC: 4.0' HIA: 5.3' INTER: 94'
BC: 3.2' HIA: 4.0' INTER: 114'
BC: 2.0' HIA: 6.5' INTER: 115'
BC: 6.2' HIA: 6.75' INTER: 92'
BC: HIA: INTER:
1/4 COR. (FOUND)
12.5 kVA Power Line
Mill Fork Lease (PacifiCorp)
Mine projections depicted in the fringe areas beyond the SMCRA permit area are speculative and based on future reserve acquisitions.
No mining will be conducted in these areas unless those reserves are acquired in the future and permitted according to federal, state, and local permitting requirements.
Genwal Resources acknowledges that permission to mine within the permit boundary does not imply permission to mine beyond the permit boundary in the future.
I hereby certify that the design and/or map contained herein was prepared by me or under my supervision and is true and correct to the best of my knowledge.
GENWAL™ RESOURCES, INC.
P.O. Box 910, 794 North "C" Canyon Rd, East Carbon, Utah
Telephone: (435) 888-4000
CRANDALL CANYON MINE
AND PRINCESS MINE
MINE PLAN
REV: 8
ACAD REF: H AND BC MINE PLAN R8
DATE: 01-13-16
BY: JDS/PJJ
SCALE: 1"=600'
PLATE #: 5-2 (H)

PROPOSED U.S. FOREST SERVICE SPECIAL USE PERMIT BOUNDARY

UNDERGROUND WORKINGS

SEDIMENT POND SPECIAL USE PERMIT AREA

UNDISTURBED AREA

EXISTING 42" CMP

PORTAL ACCESS ROAD (PAVED)

PAVED ROAD (USFS)

TRUCK TURN AROUND

FOREST SERVICE TRAILHEAD PARKING AREA

1/4 CORNER

1,390.06'

N 88°06'20.35" E

TRAILHEAD

EMERY COUNTY FEE

CULVERT INLET

FLUME

TRASH RACK

RAMP

TRAIL

MEMORIAL PARKING

TO MEMORIAL

PAVED ROAD (EMERY COUNTY)

CONCRETE GUARD RAIL

Material Storage Area

MCC BUILDING

POWDER STORAGE

GENWAL FEE

Ponderosa

1st Pine West

2nd Pine West

Burnt

Forked

Scruff

X-mas

UNDERGROUND WORKINGS

TRANSFORMER

PAD AREA

PCF TRANSFER

WATER DISCHARGE PIPE

WATER TREATMENT BASIN

6' HIGH RETAINING WALL

TANK

CONCRETE BARRICADE

TRUCK STACKING LANE

RAMP

TRUCK LOADOUT

COAL STORAGE AREA

LOADOUT CONVEYOR

FUEL TANK

MCC BLDG.

UPDES

MAIN CULVERT (72" DIA.)

STACKING TUBE (85')

RECLAIM TUNNEL (12' MULIPLATE)

RECLAIM CONVEYOR

Transformer

CRUSHER BUILDING

ESCAPE-WAY

RECLAIM VAULT (2 ea. DRAW-DOWN PORTS)

RIP-RAPPED INLET

NATURAL ROCK DRAINAGE

N 02°38' E

EXISTING GABION WALL

EMERGENCY SPILLWAY

18" PIPE NPDES DISCHARGE #001

PRINCIPAL SPILLWAY WITH TRASH RACK AND SKIMMER

EXISTING RISER DECANT WITH TRASH RACK AND SKIMMER

RIP RAP OUTLET ENERGY DISSIPATOR

POND BOTTOM ELEV. 7766

SEDIMENT POND

HILFIKER WALL

POND EMBANKMENT ELEV. 7785

USFS

GENWAL FEE

50' 0 100' 200'

LEGEND:

- SEDIMENT POND (SPECIAL USE PERMIT AREA)
- EXTENT OF DISTURBANCE
- 10' CONTOUR
- JERSEY BARRIERS
- RE-ESTABLISHED USFS ROAD (DOUBLE-LANE)
- SAFETY BARRIERS
- FENCING

FACILITY LEGEND:

1. Shop
2. Ventilation Fan
3. Rockdust Silo
4. Concrete Dumpster Pad
5. Power Center
6. Power Pole
7. Offices & Bathhouse (u'grd)
8. Intake Portal
9. Belt Portal
10. Fan Portal
11. Mine Belt
12. Iron Treatment Shed
13. Visual Disconnect
14. New Warehouse and Office Building
15. 4500 Gallon Cullinary Water Tank
16. Shotcrete
17. Parts Shed
18. Portable Shed
19. Ventilation Fan
20. Material Storage Sheds
21. Intake Portal
22. Return Portal
23. Belt Portal
24. Mag Tank
25. Powder Storage
26. Cap Storage
27. Concrete Ditch

UTAH REGISTERED PROFESSIONAL ENGINEER #6449561 David W. Hibbs

T. 16 S., R. 7 E., SLBM

GENWAL RESOURCES, INC.
P.O. Box 1077, 794 North "C" Canyon Rd, Price Utah
Telephone: (435) 888-4000

CRANDALL CANYON MINE SURFACE FACILITIES

REV: 19	ACAD: 5-3 REV19
DATE: 04-27-16	BY: PJJ
SCALE: AS SHOWN	PLATE #: 5-3

APPENDIX 8-A

COST FIGURES

EIS ENVIRONMENTAL & ENGINEERING CONSULTING

435-472-3814 / 800-641-2927 / FAX 435-472-8780 /tompaluso@preciscom.net / 31 NORTH MAIN STREET HELPER, UTAH 84526

MEMO

MEMO TO: **Karin Odendahl-Madsen**

MEMO FROM: **Gary E. Taylor**

DATE: **18 May 2016**

SUBJECT: Bidding on Reclamation Items

A number of companies were contacted to provide costs for the different items concerning the bond calculation for Crandall Canyon Mine. The following is a brake down of that information:

Portal Sealing

JennCehm submitted cost figures.
Wall Contractors would not provide cost unless work was involved.
Kiewit did not response.
Frontier-Kemper did not response.

JennCehm was used to develop portal sealing costs.

Earthwork

Scamp submitted cost figures.
Nielson did not response.
W. W. Clyde did not response.

Scamp was used to develop earthwork costs. R. S. Means figures were used if equipment was not found in Scamp's equipment list.

Vegetation and Trees

The Maple Leaf Co. submitted cost figures to both the primary and secondary requests.
Granite Seed submitted cost figures on the primary request but not the secondary request.
Lawyer Nursery Inc. submitted cost figures.
Blake Nursery could not supply all of the seed mix.
Native Plant could not supply all of the seed mix.
West Scape Nursery did not response.

Maple Leaf and Lawyer were used to develop vegetation and tree costs.

Concrete

Nielson Concrete submitted cost figures.
Geneva Rock submitted cost figures
Christensen Ready Mix did not response.

Nielson Concrete was used to develop well plugging costs.

Attn: Gary Taylor

Subject: JSEAL Cement Budgetary Estimates

Thank you for your interest in JENNCHEM Products. Below is the pricing requested for installation JENNCHEM's JSEAL product. Please review and respond with any questions.

Scope of work: Below is a rate schedule and budgetary estimate for JSEAL cement. Actual costs to be determined according to specific scope of project.

Terms/ Conditions:

Mine Provides:

- Water at the site
- Power at the work site (480 or 575V)
- Formwork for containing the JSEAL cement

JENNCHEM Provides:

- JSEAL material delivered to the mine
- JSEAL pump
- Technical Support
- Labor (if needed)
- Supply hoses for pump (if needed)

Rate Schedule/ Project Estimate:

- Mobilization: determined by project scope
- JSEAL- 45lb bags (Part # 3JSEALMIX45) : $18.00/bag
  - *Customer will be billed for JSEAL bags as they arrive to the mine*
  - *Full pallets may be returned at the end of the project for full credit*
  - *There are 48 bags per pallet and a maximum 20 pallets per truck*
  - *Volume is estimated based on a 9 bag per yard mixture*
  - *Price is FOB Toole Utah*
- Supervisor Labor: standard time = $65.00/standard hr each. OT = $85.00 /hr per each.

    - Time in excess of the standard 40 hour week will be considered overtime. Also all weekend and holiday work will be billed at OT rates.
    - A perdiem/ hotel fee of $150.00 per night per technician will apply.
    - Labor will be charged weekly.
- Technician Labor: standard time = $50.00/standard hr each. OT = $70.00 /hr per each.
    - Time in excess of the standard 40 hour week will be considered overtime. Also all weekend and holiday work will be billed at OT rates.
    - A perdiem/ hotel fee of $150.00 per night per technician will apply.
    - Labor will be charged weekly.
- Equipment and supplies: determined by project scope

Estimated material price per yard: $260.00 per yard
Total material cost for 8.6'x20'x2.6' plug: $4,320.00
****Mobilization, labor and equipment costs to be determined by project scope. For labor estimation, a five person crew can pump approximately 7-10 cubic yards per hour depending on site conditions.***

Pump distances:

- JENNCHEM requires a 2000 foot maximum pump distance.

Shift Reporting:

- JENNCHEM foremen will not only communicate with the customer representative on a daily basis but he will also complete a comprehensive report at the end of each shift detailing the activities performed, delays encountered, the daily safety training log, hours worked by each man, and any other relevant information.
- This report will be distributed to mine management and any other required party.

Shift Time:

- JENNCHEM anticipates each crew working 40 hours per week.
- If the mine requires the JENNCHEM crew to work overtime weekends, or holidays, they will be subject to additional charges of $20.00/ hr to cover time and a half pay.

Shift Cancellation:

- If a shift is canceled less than 12 hours from start time, a show up time of 2 hours per crew member will apply.
- If a shift is canceled on short notice and JENNCHEM has deliveries in route to be delivered on the canceled shift, any demurrage, additional freight, cancelation, or restocking fees that result can be billed back to the mine at cost.

Volumes/ Material Required

- If more material than anticipated is required, the material will be invoiced at the bag price listed above. Labor for installing the additional material will be billed at the hourly rates listed.

JENNCHEM Labor:

- JENNCHEM will outfit and provide their employees working at customer locations with the basic PPE to legally perform their job based on the standards set forth by MSHA. This includes, protective clothing, safety glasses, hardhats, gloves, boots, miners light, self rescuer, and gas monitors. If a mine requires JENNCHEM to outfit their crews with additional equipment outside of what is listed above, then the cost of doing so will be charged to the mine.

Change of Scope:

- If the crews encounter any unforeseen conditions that cause JENNCHEM to incur additional expenses beyond what is expected, JENNCHEM reserves the recover these costs at 10% markup via change order.
- Mine personnel will be promptly notified before any change order requests are submitted.

Terms and Conditions:

- The pricing in this quotation is based on the above terms and conditions. If these conditions change during the project causing JENNCHEM to incur additional expenses, JENNCHEM reserves the right to bill for these expenses at cost plus 10%.

Quote valid 30 days from issue date above

For Questions Please Contact:

Dave Cunningham

JENNCHEM Manager

dcunningham@jennmar.com

412-352-3871 cell

412-963-9071 office

granite SEED

Dee Ann:

The following is the information that you requested.

Western Yarrow- $45.00	Western Wheatgrass- $6.00
Blue bunch- $9.00	Native Aster- $90.00
Mountain brome- $4.00	Orchard grass- $4.00
Lewis flax- $10.00	Range alfalfa- $4.00
Yellow clover- $2.50	Rocky Mtn. Penstemon- $32.00
Small burnett- $4.00	Shower Goldeneye- $75.00
Kentucky Bluegrass- $3.00	Slender wheatgrass- $4.00
Louisiana Sage- $100.00	Basin sage- $45.00
Northern Sweetvetch- 70.00	Reed canary- $10.00
Sandburg bluegrass- 8.00	Sweet anise- $30.00
Snowberry- 75.00	Woods rose- $32.00
Skunk bush- $45.00	Service berry- $70.00
Curl leaf mahogany- $55.00	Rabbit brush- $45.00
Bitter brush- $25.00	Blue elderberry- N/A

Prices are for pls pounds of each

Ryan Timoney

Granite Seed Company

THE MAPLE LEAF CO.
SEED DIVISION

450 South 50 East
Ephraim, Utah, 84627
P) 435.283.4400
F) 435.283.6872
maplelf@cut.net

EIS Environmental and Engineering
31 North Main Street
Helper Utah 84526

Mel, Dee
Following are current PLS prices on seeds you requested. Prices should be good 2016. However, please be aware that prices can change due to collection and weather conditions.

Western Yarrow	$ 28.00
Western wheatgrass	$6.75
Blue bunch	$ 7.50
Indian Rice Grass	$7.75
Great Basin Wildrye	$10.50
Redtop	$5.00
Buffalo Berry	Sold out until new crop
Native Aster	$52.00
Mountain Brome	$4.75
Orchard Grass	$3.25
Lewis Flax	$7.50
Range Alfalfa	$3.25
Yellow Clover	$2.25
Rocky Mtn. Penstemon	$32.00
Small Burnett	$2.45
Shower Goldeneye	$58.00
Kentucky Bluegrass	$2.00
Slender wheatgrass	$2.75

Louisiana Sage	$40.00
Mountain Big Sage	$45.00
Basin Sage	$40.00
Norther Sweetvetch	$65.00
Reed Canary	$7.50
Sandburg Bluegrass	$7.90
Sweet Anise	$22.00
snowberry	$65.00
Woods rose	$14.00
Skunk bush	$28.00
Service berry	$55.00
Curl leaf Mahogany	$39.00
Mountain Mahogany	$40.00
Rabbit brush	$39.00
Bitter brush	$26.00
Blue Elderberry	$36.00

If we can help with another information please do not hesitate to give us a call

Lloyd Stevens
Maple Leaf Seed
Ephraim, Utah

To: Lloyd Stevens

From : Gary Taylor

Date: 3 may 2016

Subject: Seed Cost

Listed below are seeds I would like you to determine the cost per pound.

ALL Prices are PLS

Thank you for your help

Needle and Thread	36.00
Basin Wild Rye	10.50
Galleta	24.50
Bluebunch Wheatgrass	7.50
Blue Gamma	16.00
Blue Fax	7.50
Palmer Penstemon	29.50
Globemallow	60.00
Indian Paintbrush	160.00
Fringed Sage	48.00
Wyoming Big Sage	40.00
Fourwing Saltbuxh	12.50
Winterfat	22.00
Shadscale	11.50
Cliffrose	36.00
Black Sage	48.00
Alpine bluegrass	— Not Avail
Thickspike Wheatgrass	— 5.60
Timothy	— 2.40
Red Fescue	— 2.00

Northern - Utah Source
Uintah Basin

Hard Fescue	3.75
Cereal Rye	.35¢
Triticale	.35¢
American vetch	— N/A
Prairie Sage	— 45.00

QUOT5585.TXT

LAWYER NURSERY INC - QUOTATION - 01/13/16

DEE ANN FINGER
ENVIRONMENTAL INDUSTRIAL SERVICES

31 NORTH MAIN ST
HELPER UT 84526
(435) 472-3814
Fax: (435) 472-8780

Quote #: 5585
Salesman: MJ
Ship Date:
Expiration:
Page : 1

Loc	Description	Size	Bundle Qty	Qty	Price	Price
W	POPULUS TREMULOIDES	P-1 6-12"	25	1575	1.1000	1,732.50
M	CORNUS SERICEA	2-0 3-4'	10	10	1.9000	19.00
M	POPULUS ANGUSTIFOL.	C-1 12-18"	50	0	1.6000	.00
W	POPULUS TRICHOCARPA	P-1 2-3'	10	1550	1.1500	1,782.50
	STOCK SUB FOR AVAILABILITY					
M	SALIX EXIGUA	C-1 3-4'	10	30	3.2000	96.00
W	ACER NEGUNDO	1-0 12-18"	50	550	.7500	412.50
M	PRUNUS VIRGINIANA	2-0 2-3'	25	550	.8500	467.50
W	QUERCUS GAMBELII	P-2 3-6"	25	550	1.4000	770.00
W	ROSA WOODSII	2-0 6-12"	100	1200	.5500	660.00
W	SHEPHERDIA ARGENTEA	2-0 6-12"	100	1000	.8500	850.00

Comments
WE ARE UNABLE TO SUPPLY UNLISTED ITEMS

PRICES ARE EX-WAREHOUSE PLAINS,MT and/or OLYMPIA,WA

OFFER SUBJECT TO CROP GRADEOUT AND PRIOR SALE

$6,790.00	Subtotal:
$679.00	Est_ P&F:
	Sales Tax:
==========	
$7,469.00	Total:

Scamp Excavation, Inc.
PO Box 50, Wellington, UT 84542
"24 hours a day, 7 days a week/Have transport will travel"

Rate Sheet
May 2016

Customer:
EIS Environmental Engineering

Equipment	Rate Per Hour	Equipment	Rate per Hour
750 Excavator 85 ton	$165.00	50 ton Lowboy Transport	$95.00
350L Excavators	$155.00	75 ton Lowboy Transport	$150.00
420 Excavators	$140.00	Water Trucks	$90.00
330 Excavators w/Hammer	$140.00	6x6 Water Trucks	$90.00
330 Excavators	$110.00	Vacuum Water Trucks	$90.00
300 Excavators w/Hammer	$135.00	Vacuum Water Trailers	$100.00
200 Series Excavators	$100.00	2 - 80 BBL Water Tankers (w/PUP)	$120.00
Mini Excavator w/Hammer Attach	$100.00	621 Water Wagon	$120.00
Mini Excavators	$75.00	Rock Trucks 40 Ton	$150.00
D10-N Bulldozers	$220.00	Rock Trucks 30 Ton	$130.00
D9L Bulldozers	$210.00	10 Wheeler Dump Trucks	$85.00
D9R Bulldozers	$185.00	End Dump Trailers	$90.00
D9G & D155 Bulldozers	$140.00	Belly Dump Trailers	$90.00
Cat 834 Wheeled Bulldozer	$120.00	Crane: 20 Ton	$90.00
D6 - 6 Way Bulldozer	$95.00	Pipe Truck	$60.00
D5 - 6Way Bulldozer	$90.00	Service Trucks	$75.00
Volvo Grader	$110.00	Pilot Trucks	$50.00
163H Graders	$100.00	6x6 Military Truck	$55.00
Champion/Wabco Graders	$90.00	Pick Up Trucks	$40.00
631 Scrapers	$200.00	Hydra Seeder	$100.00
13 cuyd Scrapers	$160.00	Jumping Jack	$35.00
988B Loader	$120.00	Pump	$20.00
Mega 500 Loader	$120.00	Laser	$20.00
Mega 400 Loader	$100.00	Air Shovel	$45.00
Loaders	$95.00		
416B Backhoe	$75.00		
Breaker Bobcat	$90.00		
Skid Steer	$55.00		
Forklifts	$85.00		
Small Trencher	$70.00		
48" Compactor	$75.00		
80" Compactor	$80.00		
Fuser Machine: 2" to 8"	$60.00		
Fuser Machine: 10" to 18"	$70.00		

Rates include Operator
For other equipment not listed, rates are available upon request
Rates are subject to change without notice

EIS for Crandall Canyon and Tower

Nielson Concrete

Building a Better Tomorrow……Today.

Concrete Plant Manager: Justin Jeffs
E-Mail: Justinj@nielsonconstruction.com

Concrete Dispatch: 435-613-6833
Mobile: 435-749-9466
FAX: 435-613-1133

Concrete	Unit	Price
Slurry 2 mix	Per Yard	**$125.00**
Delivery (Crandall and Tower Mines)	Per Yard	**$45.00**
Environmental Fee	Per Load	**$15.00**

Additives	Unit	Price
Solomon Colors	Call for Pricing	
Non-Chloride Accelerator	Per Percent	**$6.00**
Micro / Synthetic Fiber	Per Yard	**$4.50**
Structural Fiber	Per Yard	**$6.00**
Hot Water	Per Yard	**$4.00**
Delay Set	Per Hour / Yard	**$4.50**
High Range Water Reducer	Per Yard	**$9.25**

Other	Unit	Price
Small load Charge	Under 3 Yards	**$80.00**
Truck Delay Charge	Per Hour	**$135.00**
Saturday / Holiday / Late Delivery	Per YD	**$5.00**
Tire Chain-up fee	Per truck	**$50.00**

*Unloading time

5 minutes per yard of concrete then **$135.00** per hour truck delay charge.

*Please have designated wash out area onsite.
Notify driver of location.

**Also please give dispatch 36 Hrs advance notice in order for us to provide you with quality service.

*Sales tax not included

**All Tickets must be signed before driver will unload.

GENEVA ROCK

An EEO/AA Employer

READY-MIX CONCRETE • SAND & GRAVEL • ASPHALT PAVING

CONCRETE MATERIALS QUOTE

302 W. 5400 S., SUITE 200
Murray, UT 84107 Fax: (801) 281-0076

TOOELE COUNTY	(435) 833-9116
SALT LAKE COUNTY	(801) 281-7900
UTAH COUNTY	(801) 765-7800
DAVIS/WEBER COUNTY	(801) 771-7981
SUMMIT/WASATCH COUNTY	(435) 649-3033
CARBON/EMERY COUNTY	(435) 472-3466
CACHE VALLEY	(435) 713-0700

SUBMITTED TO: EIS **DATE:** 1/22/16

CONTACT: Gary Taylor **PHONE:**

SUPERINTENDENT: **FAX:**

JOB NAME: Well Capping **E-MAIL:**

JOB ADDRESS: Carbon / Emery Counties **MOBILE:**

GENERAL CONTRACTOR: **ACCT#:** **PROJECT #:**

CONTRACT TERM DATE: **B.P. #:**

TAX EXEMPT Y N (ATTACH FORM) **YARDAGE:**

PRODUCT CODE	DESCRIPTION	UNIT	PRICE	ESCALATION	
1019A	10 BAG SAND/ SLR	CY	$200.00		-
					-
					-
					-
	BUDGET PRICING ONLY				-
					-
					-
					-
					-
					-
					-
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A $30.00 /CYD, NON-TAXABLE, DELIVERY CHARGE IS INCLUDED IN THE ABOVE PRICING. • ALL PRICES ARE SUBJECT TO CREDIT APPROVAL AND SALES TAX.

NOTE: $3.00 ADDITIONAL FOR EACH HALF BAG / $4.00 ADDITIONAL FOR STRAIGHT CEMENT DESIGNS.

ADDITIONAL CHARGES ON CONCRETE

CALCIUM PER 1%	$5.00	/CYD	**PART LOAD DELIVERY CHARGE: 1 TO 4¾ CYDS**	$100.00	/LOAD
NON-CHLORIDE 1%	$7.00	/CYD	**DELAY UNLOADING DELIVERY CHARGE:** 5 minutes per yard free unloading time. Excess unloading time will be charged at:	$2.00	/MIN
WINTER CONCRETE Winter (hot water)	$5.00	/CYD			
SYNTHETIC FIBER (1 BAG)	$7.00	/CYD	**OPENING FEE DELIVERY CHARGE:** Opening fees for pours commencing between 6 PM & 4 AM Weekdays and on Sat., Sun., & Holidays are Negotiated.		
H.R.W.R.	$7.00	/CYD			
HEATED AGGREGATE & H20	N/A	/CYD	**ADDITIONAL DELIVERY CHARGES:** Orders scheduled between 5:00pm-4:00am Weekdays: **$50.00/LOAD** Orders scheduled on Saturdays, Sundays: **$50.00/LOAD** Loads scheduled on Holidays**$50.00/LOAD**		
ENVIRONMENTAL / DELIVERY SURCHARGE	$15.00	/LOAD			

CONDITION OF SALE: All accounts due 15th of the month following date of purchase. In the event payment is not made by the 15th of the month following purchase, I or we agree to pay if collection is made, by suit or otherwise, a reasonable attorney's fee, plus a **FINANCE CHARGE OF 1.5% per month (ANNUAL PERCENTAGE RATE OF 18.00%)**, and hereby waive all rights to claim exemption under state laws. Signature by owner or agent constitutes acceptance of the above. FORCE MAJEURE: Geneva Rock Products, Inc. shall not be liable for any delay or failure in performance results from any event of Force Majeure. The term "Force Majeure", as used in this Agreement, means cause or causes which are not within the control of the party or parties claiming Force Majeure, and includes, but is not limited to acts of God, including fire, flood, frosts, landslide, washout, atmospheric disturbances, lightning, storm, tornado, earthquake, acts of public enemy, including war, riot, blockage, insurrection, civil disturbances, strikes, lockouts, or material shortages. The customer will maintain all haul roads and furnish wash out area.

NOTIFICATION OF ACCEPTANCE MUST BE MADE WITHIN 14 DAYS OR THIS QUOTE WILL BE VOID AND PRICES WILL NEED TO BE RENEGOTIATED.

To Confirm your acceptance of these prices, as quoted, please return one signed copy to our Murray Office.

Due to the uncertain market conditions, this material quote will serve as the written supply agreement between the buyer and seller and will supersede all purchase orders and contracts.

GENEVA ROCK:

BY: Dave Halverson ***DATE:***

TITLE:
Concrete Plant Manager - Carbon/Emery

CUSTOMER ACCEPTANCE:

BY: ***DATE:***

TITLE: ***SIGNATURE:***

WHITE=CUSTOMER GREEN=SALES PINK=OFFICE YELLOW=BILLING
Quote

Genwal Mines

Appendix 1-17

U.S. Forest Service Special Use Permit

for

Crandall Canyon Surface Facilities