

C/007/013 incoming  
#4818



**Lila Canyon Project**  
**P. O. Box 910**  
**East Carbon, Utah 84520**  
**Phone: (435) 888-4000**  
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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

March 20, 2015

Attn: Daron Haddock  
Permit Supervisor

Re: Lila Canyon Mine L15-002, Fan Installation on Ledge

RECEIVED  
APR 20 2015  
DIV. OF OIL, GAS & MINING

Dear Mr. Haddock,

Attached you will find a permit minor amendment to Lila Canyon Mine Permit. The application is to install a new long-term fan on the North Breakout Portal and stabilize the slope above the fan.

Initially the Lila Canyon Permit allowed for a fan to be installed on one of the remote South Breakout portals. During the construction of Lila it was determined that temporary fans were required on the "0" portal and not at the remote South Breakout portals. As a result, the Lila permit was modified to move the fan approval from the South Breakouts to the "0" portal.

The temporary fans on "0" portal are inadequate for a large longwall mine. A new larger long-term fan is required. Engineering analysis has shown the most beneficial place for the fan is the North Breakouts.

After discussing the miner revision application with you it appears that Pete Hess in the Price Office would be the lead for the review process. I met with Pete and we discussed his concerns and requirements which are included in the application. I also discussed the project with Priscilla by Phone to get her input. The attached application addresses both Pete and Priscilla's suggestions. In addition, bonding has been addressed.

It seems like the coal operators are always in a hurry for an approval. The fan project is on our Critical Path and we do need an expedited approval.

This submittal is being submitted electronically to SLC with a courtesy copy being sent to Pete in the Price DOGM field office. C1, C2 forms as well as redline strike out copies are included.

If you have any questions, or need any additional information regarding this submittal, please contact me or Karin directly at 435-888-4000.

Sincerely,

R. Jay Marshall P.E.

Chief Engineer/Project Manager  
Lila Canyon Mine

# APPLICATION FOR PERMIT PROCESSING

<input checked="" type="checkbox"/> Permit Change X	<input type="checkbox"/> New Permit	<input type="checkbox"/> Renewal	<input type="checkbox"/> Transfer	<input type="checkbox"/> Exploration	<input type="checkbox"/> Bond Release	Permit Number: ACT/007/013
Title of Proposal: Fan on Northern Breakout Portal (15-002)						Mine: Horse Canyon
						Permittee: UtahAmerican Energy, 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

<input type="checkbox"/> Yes	<input type="checkbox"/> No	1. Change in the size of the Permit Area? _____ acres Disturbed Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.
<input type="checkbox"/> Yes	<input type="checkbox"/> No	2. Is the application submitted as a result of a Division Order? DO # _____
<input type="checkbox"/> Yes	<input type="checkbox"/> No	3. Does application include operations outside a previously identified Cumulative Hydrologic Impact Area?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	4. Does application include operations in hydrologic basins other than as currently approved?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	5. Does application result from cancellation, reduction or increase of insurance or reclamation bond?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	6. Does the application require or include public notice/publication?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	7. Does the application require or include ownership, control, right-of-entry, or compliance information?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	9. Is the application submitted as a result of a Violation? NOV # _____
<input type="checkbox"/> Yes	<input type="checkbox"/> No	10. Is the application submitted as a result of other laws or regulations or policies? Explain: _____
<input type="checkbox"/> Yes	<input type="checkbox"/> No	11. Does the application affect the surface landowner or change the post mining land use?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2?)
<input type="checkbox"/> Yes	<input type="checkbox"/> No	13. Does the application require or include collection and reporting of any baseline information?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	15. Does application require or include soil removal, storage or placement?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	16. Does the application require or include vegetation monitoring, removal or revegetation activities?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	17. Does the application require or include construction, modification, or removal of surface facilities?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	18. Does the application require or include water monitoring, sediment or drainage control measures?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	19. Does the application require or include certified designs, maps, or calculations?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	20. Does the application require or include subsidence control or monitoring?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	21. Have reclamation costs for bonding been provided for?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	22. Does application involve a perennial stream, a stream buffer zone or discharges to a stream?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	23. Does the application affect permits issued by other agencies or permits issued to other entities?

**X Attach 1 Digital complete copies of the application.**

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

*[Signature]*  
 Signed - Name - Position - Date  
 \_\_\_\_\_ ENGINEERING TECH 3-19-15

Subscribed and sworn to before me this 19<sup>th</sup> day of March, 2015

*[Signature]*  
 Notary Public  
 My Commission Expires March 27, 2017  
 STATE OF Utah  
 COUNTY OF Cachex



Received by Oil, Gas & Mining

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APR 20 2015

DIV. OF OIL, GAS & MINING

ASSIGNED TRACKING NUMBER



approximately 56,000 bank cubic yards. Removal of stones and boulders would be considered in volume estimates where they are part of the soil layer removed.

The stockpile has been sized to allow for bulking or swell of the soil as it is removed from the bank state to the loose state. A bulking number of 1.18 has been used. The area allowed for topsoil storage is 56,000 bank cubic yards x 1.18 which equals 66,000 loose cubic yards to be placed on the topsoil pile.

Boulders of approximately three feet in diameter and larger will be separated from the topsoil and piled or placed at appropriate locations such as adjacent to roads, pads etc. No attempt will be made to collect the large boulders into common piles. Boulders above ground level are in addition to topsoil volumes and may account for approximately 10,000 cubic yards.

UEI is not stockpiling large stones "boulders". Boulders will be pushed to the side and left during construction and then upon reclamation the boulders will be pushed back into the approximate location from which they came. Rocks of 36" or less will be stored in the topsoil pile with the soil and will be redistributed with the soil.

The approximate 66,000 loose cubic yards of topsoil will be stored in a topsoil pile as shown on Plate 5-2. This topsoil pile will be approximately 350' long and 250' wide with 2:1 slopes. The height of topsoil pile needed is approximately 31 feet. The pile as designed has the capability of storing well over the required 60,000 cubic yards. See Figure 1 for topsoil pile calculations.

Soil from the proposed ventilation break out sites near the coal outcrop will not be salvaged. The slope above the north breakout fan is approximately 70%. Rock cover on the surface is approximately 60%. As a result of the very limited ground disturbance, and lack of access, soil cannot be reasonably salvaged. At these small isolated sites soil will not be salvaged or stored (See R645-301-232.700 and 232.710).

The sequence for topsoil removal in general, would be starting from the lower elevations of the site and working up slope.

**232.720.** No substitute soil materials will be needed.

**233. Topsoil Substitutes and Supplements.**

**233.100.** Soil inventories indicate that no substitute topsoil material will be necessary. Available soil material on the site is adequate for reclamation purposes.

**233.200** Preliminary inventories show that no topsoil borrow area is needed.

**233.300.** This section is addressed in 233.400.

**233.310.** This section is addressed in 233.400.

**233.320.** This section is addressed in 233.400.

**233.330.** This section is addressed in 233.400.

**233.340.** This section is addressed in 233.400.

**233.400** Soil Inventories show that no topsoil or topsoil substitute borrow area will be needed. Adequate amounts of suitable soil for plant growth are present based on root distribution and soil characteristics.

**234. Topsoil Storage.**

**234.100.** It will not be possible to redistribute the topsoil immediately. Therefore, the topsoil will be stockpiled for the purpose of final reclamation of the mine site. The rock storage areas are shown on Plate 5-2.

Access to the ventilation break outs will be from inside the mine. There will be minimal surface disturbance with the breakouts

The water treatment plant is located on the north-east side of the surface facility area. The plant will rest on a 15' by 15' slab. Process water will flow through the treatment plant at which time it will be treated and made suitable for potable water uses. The potable water will be stored in the potable water tank until it is used. The location of the water treatment plant can be found on Plate 5-2.

#### **Potable Water Tank**

Water treated by the water treatment plant and intended to be used as potable water will be stored in this 15' diameter by 20' high tank. The tank will set on a 15' by 15' concrete pad designed for adequate support of the tank. The location of the potable water tank can be found on Plate 5-2.

#### **Process Water Tank**

Process water, water to be used for mine use or to be treated for potable use, will be stored in this tank. The 15' diameter by 20' high process water tank will rest on a 15' by 15' concrete pad. Process water tank will be filled by using mine discharge water or may be hauled in from off site. The location of the process water tank can be found on Plate 5-2.

#### **Sewer Tank**

The sewer tank has been designed to facilitate 200 employees working on rotating shifts. The sewer tank will be located under the south end of the office and bathhouse parking area. The location of the sewer tank can be found on Plate 5-2. The design for the Sewer Tank can be found in Appendix 5-4.

#### **Drain Field**

The drain field has been designed to facilitate 200 employees working on rotating shifts. The drain field will be located at a lower elevation and south of the sewer tank. The location of the drain field can be found on Plate 5-2. The design for the drain field can be found in Appendix 5-4.

#### **Ventilation Fan**

Ventilation fans will be located on #0 Portal and on the Northern Breakouts. The ventilation fan will be accessed and installed from inside the mine. The need for surface access is not anticipated at this time. A concrete pad will be poured as a permanent support for the north fan. The highwall and approximately 40 feet of slope above the north breakout ledge will be chain-linked and shot-creted for stability. Prior to installing the chainlink fence, all trees will be cut off, and the vegetation material will be removed off the area and properly disposed. The location of the portal and fan is shown on Plate 5-2.

## **Alternate Sediment Control for Fan Site and Topsoil Storage Area**

### **5.1 ASCA Areas**

Sediment Control at the slope below water treatment area, and topsoil storage area sites will be accomplished with a combination of one or more of the following: berms, silt fences, and straw bales.

The ventilation breakouts are just punch outs and will have insignificant disturbance associated with them. (Plate 5-2) However, they are addressed as ASCA's and are addressed here even though there will be only insignificant surface disturbance. The ASCA's will be seeded upon final reclamation.

The topsoil collected from the topsoil storage area sites will be located downslope from the sites and will be used in the construction of the berm. The berm will be constructed a minimum of two feet high and have 2:1 side slopes. The berm will control the flow from a 10 year-24 hour precipitation event. Silt fence will be selectively placed to help control run-off. The berm will be stabilized with vegetation to prevent erosion. As much as practical, the vegetation techniques used on the main topsoil pile will be utilized on the fan topsoil berm.

The outside of the berm will be protected with a silt fence or gravel. The gravel, if used, would help augment the revegetation. Construction details of the silt fence/filter fence are shown in Figure 5.

The outslope of the portal access road, outslope of the water treatment pad, and ventilation break outs will have a silt fence located along the disturbed area boundary to treat the runoff from the slope. While some portions of this area will be disturbed as a result of the fill material placed for the pad and road construction, the major portion of this area is expected to remain undisturbed. As an added protection, the portions of the area that are disturbed by the fill placement will be covered with an erosion control mat to minimize the erosion from this slope and that area seeded to aid in the establishment of a vegetative cover.

The North Breakout pad where the new fan installation has been built is an already permitted ASCA which uses excelsior logs and gravity flow back into the Mine to treat intercepted precipitation.

Undisturbed sheet flow above this ASCA is naturally diverted around the North Breakouts by the tear drop shaped surface topography.

Due to lack of final engineering details, the exact location of the berms, silt fences, and subsequent erosion techniques will be determined in field with the approval of UDOGM. The final determination will be made prior to the start of topsoil removal.

Bonding Calculations  
Horse Canyon MineC/007/013  
Lila Canyon Section

Bond Summary

Direct Costs

Subtotal Demolition and Removal	\$571,647.93	
Subtotal Backfilling and Grading	\$494,315.00	
Subtotal Revegetation	\$238,309.00	
Direct Costs	\$1,304,271.93	

Indirect Costs

Mob/Demob	\$130,427.00	10.0%
Contingency	\$65,214.00	5.0%
Engineering Redesign	\$32,607.00	2.5%
Main Office Expense	\$88,690.00	6.8%
Project Mainagement Fee	\$32,607.00	2.5%
Subtotal Indirect Costs	\$349,545.00	26.8%

Total Cost \$1,653,816.93

Escalation factor for 2013 @1.5% 1.50%  
Number of years 5

Escalation \$127,814.00

Reclamation Cost \$1,781,630.93

Bond Amount (rounded to nearest \$1,000)  
2013 Dollars \$1,782,000.00

Bond Posted Up to December 2010 \$1,807,000.00

Difference Between Cost Estimate and Bond  
Percent Difference \$25,000.00  
1.38%

Description	Materials	Measrs Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Sweld Factor	Quantity	Unit	Cost
Office Bathroom																			\$100,178
Shop Warehouse																			\$128,779
Security Shack																			\$893
Main Substation																			\$11,165
Surface Power Lines																			\$2,432
Water Treatment Plant																			\$2,008
Portable Water Tank																			1374
Process Water Tank																			1374
Sewer Tank																			\$1,431
Drain Field																			left in place
Ventilation Fan																			\$48,625
Conveyor Turnouts to Coal Stockpile																			39398
Conveyor ROM Stockpile to Crusher																			12094
Conveyor Crusher to Loadout Bin																			\$9,475
Conveyor Loadout Bin Truck Loadout																			\$838
Reclaim Escape Tunnel Fan House																			18981
ConveyorStoragePitStibingTubs																			11896
Crusher Screen Plant																			5037
Truck Scale to Loadout																			\$8,033
Coal Storage Bin																			\$4,134
Guard Rail																			4148.68
Underground Pipes																			left in place
Chain Link Fence																			\$5,715
Main Facilities Rd Truck Loadout Rd																			\$32,800
Office Bathroom Warehouse Parking																			\$95,823
Main Parking																			\$14,016
Fuel Tanks																			\$2,842
Powder and Cap Magazines																			\$2,440
Quitters																			13594.35
Old Horse Canyon Fan Portals in Lila Canyon																			\$5,000
Lila Ventilation Portals North and South																			\$28,000
Pole Barn																			\$6,413
Rock Dust Silo																			\$2,201
<b>Total</b>																			<b>\$571,548</b>

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Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Small Factor	Quantity	Unit	Cost	
	Surface Power Lines																				
	Structure a Demolition Cost	(B) wood poles and cross bars	024113800200	282.78	Foot													8	Each	2,282	
	Structure a Demolition Cost	High Voltage Line	337139130820	144.91	Miles	2.058									3	Each		1.17	Miles	108	
	Truck's Capacity																				
	Haulage																				
	Transportation Cost Non Steel Truck																				
	Transportation Cost Non Steel Drive																				
	Disposal Cost Non Steel																				
	Steel's Weight																				
	Truck's Capacity																				
	Haulage																				
	Transportation Cost Steel Truck																				
	Transportation Cost Steel Truck Drive																				
	Disposal Cost Steel																				
	Subtotal																				
	Equipment's Disposal Cost																				
	Demeriting Cost																				
	Equipment's Vol. Demolished																				
	Loading Costs																				
	Transport Costs																				
	Disposal Costs																				
	Subtotal																				
	Concrete Demolition																				
	Demolition Cost																				
	Concrete's Vol. Demolished																				
	Loading Cost																				
	Transportation Cost																				
	Disposal Costs																				
	Subtotal																				
	Concrete Demolition																				
	Demolition Cost																				
	Concrete's Vol. Demolished																				
	Loading Cost																				
	Transportation Cost																				
	Disposal Costs																				
	Subtotal																				
	Concrete Demolition																				
	Demolition Cost																				
	Concrete's Vol. Demolished																				
	Loading Cost																				
	Transportation Cost																				
	Disposal Costs																				
	Subtotal																				
	Total																				2,432

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MAY 14 2015

Div. of Oil, Gas & Mining



# BLM R.O.W. #UTU-77122

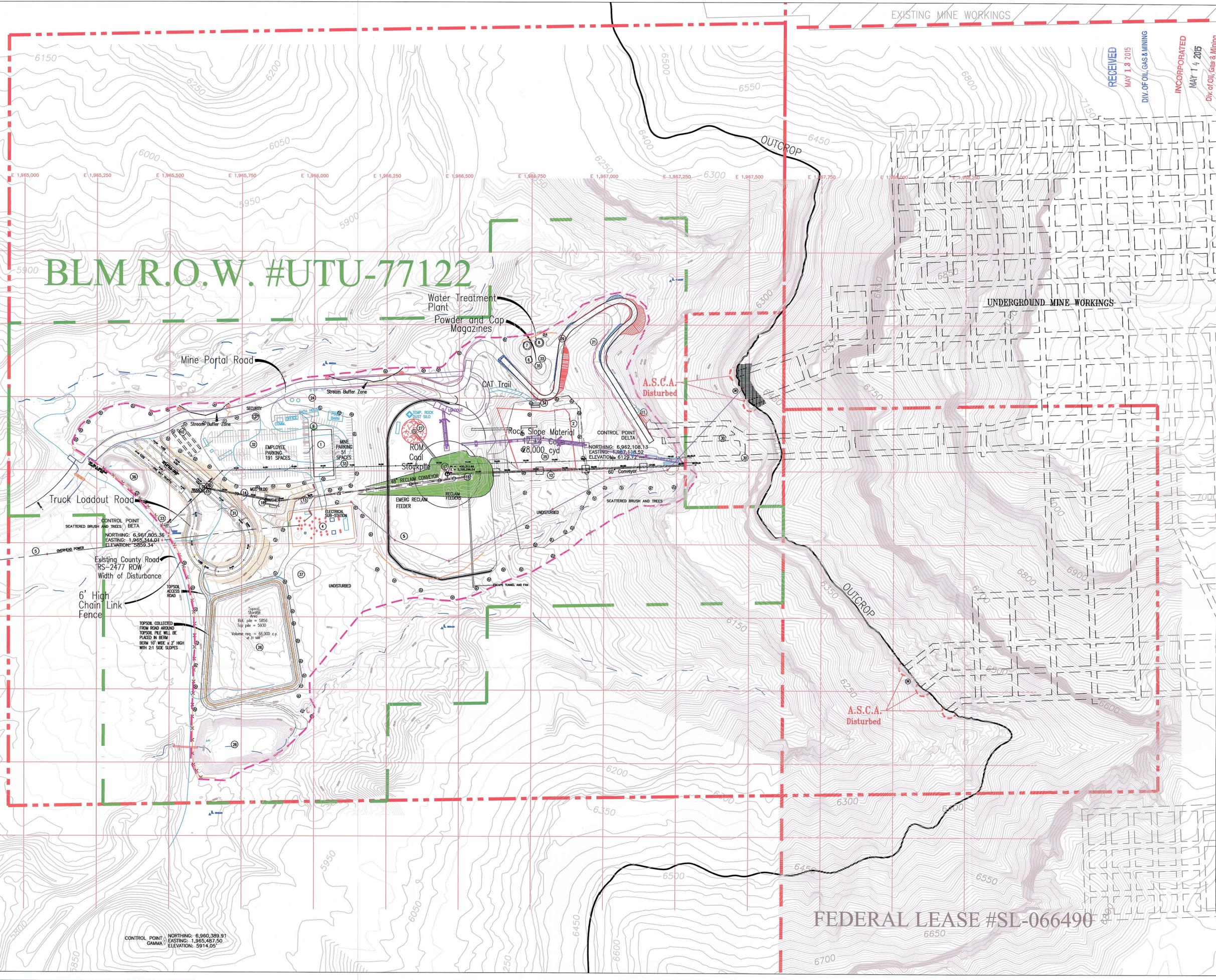
CONTROL POINT ALPHA  
 NORTHING: 6,962,462.96  
 EASTING: 1,964,465.17  
 ELEVATION: 5821.37'

CONTROL POINT BETA  
 NORTHING: 6,961,805.36  
 EASTING: 1,965,344.01  
 ELEVATION: 5952.34'

CONTROL POINT DELTA  
 NORTHING: 6,962,108.13  
 EASTING: 1,962,134.52  
 ELEVATION: 6129.72'

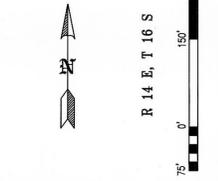
CONTROL POINT GAMMA  
 NORTHING: 6,960,389.91  
 EASTING: 1,965,487.50  
 ELEVATION: 5914.02'

- Mine Facility List**
- ① Office/Bathroom
  - ② Shop Warehouse
  - ③ Security Shack
  - ④ Mine Substation
  - ⑤ Underground/Surface Power Lines
  - ⑥ Water Treatment Plant
  - ⑦ Potable Water Tank
  - ⑧ Process Water Tank
  - ⑨ Sewer Tank
  - ⑩ Drain Field
  - ⑪ Ventilator Fan
  - ⑫ 60" Conveyor Tunnels to Coal Stockpile
  - ⑬ (ROM) Underground Belt from Stockpile to Crusher
  - ⑭ 48" Conveyor from Crusher to Loadout Bin
  - ⑮ Drop from Loadout Bin to Truck Loadout
  - ⑯ (ROM) Storage Pile, Coal Stacking Table
  - ⑰ Reclaim Tunnel, Escape Tunnel, Fan and Fan House
  - ⑱ Crusher Screen Plant
  - ⑲ Truck Scale and Loadout
  - ⑳ Coal Loadout Storage Bin
  - ㉑ Guardrails
  - ㉒ Underground Pipes
  - ㉓ Chain Link Fence
  - ㉔ Non-Cool Waste Area
  - ㉕ Equipment & Supplies Storage Area
  - ㉖ Topsoil Pile
  - ㉗ Refuse Pile
  - ㉘ Sediment Pond #1
  - ㉙ Slope Access Road/Portal Access Road
  - ㉚ Rock Slopes
  - ㉛ Truck Loadout Road
  - ㉜ Office/Bathroom/Warehouse Asphalt Parking Area
  - ㉝ Mine Parking
  - ㉞ Diesel Fuel Tanks with concrete containment
  - ㉟ Powder and Cap Magazines
  - Ⓜ Containment Pond #2
  - Ⓝ Grounding Field
  - Ⓞ Ventilation Portals



**REVISION DATE:**

DATE	BY	DATE	BY
JAN 2008	RJM	JUNE 2011	PJJ
APR 2009	PJJ	JAN 2012	PJJ
DEC 2009	PJJ	MAR 2014	PJJ
AUGUST 2010	PJJ	JULY 2014	PJJ
SEPT. 2010	PJJ	March 2015	RJM
APRIL 2011	PJJ	April 2015	RJM
MAY 2011	PJJ	May 2015	RJM



- LEGEND:**
- UNDISTURBED WITHIN THE DISTURBED AREA
  - DISTURBED AREA BOUNDARY
  - NATURAL DRAINAGE
  - 6' HIGH CHAIN LINK FENCE
  - INCIDENTAL ROCK DISTRIBUTION
  - STREAM BUFFER ZONE SIGNS
  - STRUCTURAL FILL
  - TEMP. REFUSE PILE (COAL MINE WASTE)
  - TOPSOIL BERM
  - Stream Buffer Zone
  - TEMPORARY FACILITIES
  - TEMPORARY ROADWAYS
  - LEASE MODIFICATION
  - BLM R.O.W. BOUNDARY LINE

NOTE: ITEMS SHOWN IN PURPLE ARE PART OF THE PHASE 2 COAL HANDLING FACILITIES.

NOTE: CONTROL POINT COORDINATE SYSTEM IS U.S. STATE PLANE 1983 - UTAH CENTRAL (4302) ADJUSTED TO SEA LEVEL.

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 MAY 13 2015  
 DIV. OF OIL, GAS & MINING

INCORPORATED  
 MAY 14 2015  
 Div. of Oil, Gas & Mining

LILA CANYON MINE

**SURFACE AREA**  
 Official Disturbed Boundary Map

DESIGNED BY: R. Jay Marshall  
 DATE: January 2008  
 SCALE: AS SHOWN

PAGE # 5-2

FEDERAL LEASE #SL-066490

Surface disturbance may not be required on all of the acreage identified as the disturbed area. After removal of the topsoil to be salvaged, underlying soil materials will be used as fill or left in place.

All practical precautions will be taken during design, construction, and reclamation to assure that shales or shale material will not be pushed over the top of or mixed with subsoils. Contamination of the subsoil with shale will not be permitted. The certified soils specialist, or by a person who is determined qualified by the operator and the Division, on site during the construction and reclamations phases will carefully observe the construction and reclamation phases and prevent to the extent possible the mixture of shales and subsoils. Additional topsoil removal, in excess of 18" minimum, may be necessary to prevent the shale from contaminating the subsoil.

- 232.200.** Since topsoil is sufficient this section does not apply.
- 232.300.** The surface soil down to 18" or to the shale which ever is the least will be removed and stored.
- 232.400.** This section is addressed in 232.700.

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**MAY 14 2015**

**Div. of Oil, Gas & Mining**

- 553.** The operator will comply with all regulations applicable to underground mining activities relative to backfilling and grading as required by R645 regulations.

Some minor cut slopes along the reclaimed road may be left after reclamation due to the difficulty and inability to reclaim all material pushed over the side while making the road cut. See plate 5-7B-2 cross section 16+00 for details. UEI will make reasonable efforts to minimize the cut slopes being left.

- 553.100.** Disturbed Areas. Disturbed areas will be backfilled and graded to:

- 553.110** The operator will obtain a post mining topography similar in form as what existed premining.

- 553.120** Since Lila Canyon is an underground operation, no spoil piles will be created. Minor highwalls may be created with the development of the rock slope portals. Upon completion of mining these entries will be seal as per Closure for Mine Openings Appendix 5-6 and all highwalls will be eliminated during the reclamation phase of the operation. Plate 5-9 shows the proposed portal plan. During reclamation, the fans will be dismantled and either salvaged or taken underground. The chainlink bolts will be cut off 6 inches below the surface and the shot-crete and mesh will be disposed of underground. The concrete will be burried during highwall reclamation and suitable material will be placed against the portals. This material will be shaped to eliminate the highwall and to bring the slope back to the approximate original contour.

- 553.130** All fill slope will have a static safety factor of 1.3 as shown in Appendix 5-5.

- 553.140** Erosion and water pollution will be minimized on site by the use of drainage control structures (burms, channels and silt fence) and the use of small depression, soil tackifiers, mulch and sediment pond design. No water is anticipated leaving the reclaimed site prior to adequate treatment in the form of retention and/or filtration

that does not meet and/or exceed UPDES standards.

**553.150** The post mining land use of wildlife and domestic grazing should be enhanced to some degree with the revegetation of a more desirable seed mix and a vegetative cover in excess of what was present premining.

**553.200** Spoil and Waste.

**553.210** All underground development waste brought to the surface will be placed in the temporary rock pile and then blended back into the ROM product for sale. There will be no coal processing waste generated on the surface. Any oversized from the screens will be crushed and put back into the ROM stream.

**553.220** Since no spoil will be produced this section does not apply.

**553.221** All vegetation and /or organic material will be removed prior to any coal mine waste being stored.

**553.222** All useable topsoil or topsoil substitute will be removed from the structural fill and refuse areas prior to use. Table 2-1 shows estimates of salvageable soil by soil type based on current NRCS soil inventories. The location of the soil storage are shown on Plate 5-2. This material will be spread over the recontoured structural fill and refuse areas prior to seeding and mulching.

**553.223** Since no spoil will be produced this section does not apply.

**553.230** All recontoured areas will be compacted to minimize slippage. The area will then be over laid with topsoil and ripped. In addition the area will be "pock-marked" to minimize the potential for erosion

**Run-off Calculations****5.2 Ventilation Break Outs**

Insignificant surface disturbance.

**5.3 Topsoil Storage Area**

Acreage: 2.61 acres  
 Design Storm: 10 year/24 hour: 1.90"  
 CN: 90  
 S: 1.111  
 $Q = \frac{(P-0.25S)^2}{P+0.8S} = 1.01"$  of runoff

Total run-off = 0.22 acre feet

**5.4 Water Treatment Area**

Acreage: 0.37 acres  
 Design Storm: 10 year/24 hour: 1.90"  
 CN: 90  
 S: 1.111  
 $Q = \frac{(P-0.2S)^2}{P+0.8S} = 1.01"$  of runoff

Total run-off = 0.03 acre feet