



ANDALEX
RESOURCES, INC.

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

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

May 3, 2017

Attn: Daron Haddock
Permit Supervisor

Re: Andalex Resources, Inc. C/007/019
T17-001 Removal of Monitoring Points

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MAY 05 2017
DIV. OF OIL, GAS & MINING

Dear Mr. Haddock,

Attached you will find 2 clean copies for the changes made to MRP C/007/019, Tower Mine regarding the Removal of Water Monitoring Points.

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

Sincerely,

Kari Madsen
Engineering Tech
UtahAmerican Energy, Inc.

APPLICATION FOR PERMIT PROCESSING

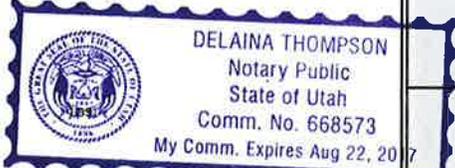
<input checked="" type="checkbox"/> Permit Change X	<input type="checkbox"/> New Permit	<input type="checkbox"/> Renewal	<input type="checkbox"/> Transfer	<input type="checkbox"/> Exploration	<input type="checkbox"/> Bond Release	Permit Number: ACT/007/019
Title of Proposal: T17-001 Removal of Monitoring Points Task ID# 5446						Centennial Coal Mine
						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 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 complete digital copy of the application. In PDF Format

<p>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.</p> <p style="text-align: right;"><u>Karin Madsen</u> - Karin Madsen - Engineering Tech. S-3-17 Signed - Name - Position - Date</p> <p>Subscribed and sworn to before me this <u>3rd</u> day of <u>May</u>, 20<u>17</u>.</p> <p style="text-align: center;"><u>Delaina Thompson</u> Notary Public</p> <p>My Commission Expires: <u>Aug 22</u>, 20<u>17</u>) Attest: STATE OF <u>Utah</u>) COUNTY OF <u>Carbon</u>)</p> <div style="text-align: center; border: 2px solid blue; padding: 5px; width: fit-content; margin: 0 auto;">  </div>	<p>Received by Oil, Gas & Mining</p> <p style="font-size: 2em; color: blue; opacity: 0.5;">RECEIVED</p> <p style="color: red;">MAY 05 2017</p> <p style="color: blue; font-weight: bold;">DIV. OF OIL, GAS & MINING</p> <hr/> <p>ASSIGNED TRACKING NUMBER</p>
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from this plan. Sites in Hoffman Canyon (S25-1 and 25-2), Straight Canyon (8-1 and 17-2), and Star Point Fork (17-1 and 18-2) will no longer be monitored. All of these sites are located within or near the eastern portion of the MRP boundary, and were never undermined. The closest mining was completed in 1993 and was about half a mile away from the sites, as shown on Plate 7-8. Further, site 12-1, located in Alrad Canyon in the southwest corner of the permit area, has been omitted from this plan.

In addition, there are numerous sites to the north and west of the permit area which have been omitted from this plan. As shown on Plate 7-8, a well monitoring station (B121), and stream site B263, B263, and B262 are located more than a mile away from the nearest underground mining, and stream sites AC-1 and SC-1 are three-quarters of a mile from the closest mine works. Other spring or seep sites (B 342, B271, B33, B361, B353, B341, B351, B352, B261, and B362) are similarly located well away from any recent mining. It should also be noted that at these sites the overburden is 3000' deep or greater. All mining in the Aberdeen Mine (Tower Mine) was discontinued in mid-2007, the mine has been shut down and sealed up, and there are not immediate plans to reopen the mine in the foreseeable future, until market conditions improve. Therefore, there is no continued need for monitoring.

Before the remaining Mathis lease is mined, monitoring will begin on sites B361 and B362 two(2) years prior mining.

Last, one other stream site and one stock pond site within the permit area is also being omitted from the monitoring plan. Ephemeral wash site 7-1 is located upstream of the main surface facilities and is typically dry. Because site 18-4 monitors the same stream further downstream and because operations have ceased, 18-4 is sufficient for tracking potential impacts in this drainage. Site 7-1 was never undermined, and the nearest second-mining (nearly one-half mile away) was completed in 1998. The stock pond site 31-1 is located over a inter-panel barrier pillar and was never undermined. The nearest second mining was done in 2004. Overburden cover at this location is 2500' and subsidence survey show that the area has not been subject to subsidence

Further justification for discontinuing monitoring at all of the above-mentioned sites is provided below.

As mentioned above, ANDALEX has long-completed mining under Hoffman Canyon; there were no surface facilities associated with mining in that area and there has been no subsidence reported during annual surveys. Because the spring (S25-1) flows only intermittently and the stream (25-2) flows only ephemerally, few samples have been collected. However, based upon the available data, there has not been any material damage to the hydrologic balance, and postmining land uses have not been compromised. Nor would there be any potential for this to occur in the future from these completed activities.

Similarly, ANDALEX completed mining under Straight Canyon (8-1) in 1995. Site 17-2 was never undermined, and the last mining in the area (nearly half mile away) was done in 1995. The situation is similar for sites in Starpoint Fork (17-1 and 18-2). These sites were originally designated for monitoring to ind

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effects of proposed surface facilities in those canyons (Vaughn Hansen Associates 1981); these facilities were never constructed and are no longer proposed. Further, annual subsidence surveys have not indicated subsidence. Though there have been few opportunities to collect water quality samples from these ephemeral channels, available data has not indicated any material damage to the hydrologic balance, and postmining land uses have not been compromised. Nor would there be any potential for this to occur in the future from these completed activities. In addition, the same can be said for site 7-1 in Deadman Canyon above the surface facilities and the continuation of monitoring at site 18-4 ensures that water quality in this watershed is being tracked.

Site 12-1 is located in an ephemeral channel that drains Alrad Canyon. This site was added to the monitoring plan a number of years ago as part of a permit amendment; its purpose was to ensure that any surface runoff effects due to mining could be documented. The site has served its purpose and no effects have been noted during the many years of quarterly monitoring. Located in the southwest corner of the permit area, Alrad Canyon was never undermined, and the closest second-mining (a half-mile away) was completed in 2000.

The Deep Canyon site (B-263) is on an intermittently flowing stream that is more than 7500 feet north of the second-mined area. It was added to the Centennial monitoring plan in 2005, but has been monitored by others as part of the Willow Creek MRP for many years. The Atone Creek site (AC-1) is also an intermittently flowing stream that was added to the monitoring plan in 2005; it is approximately 4500 feet north of the nearest second-mined area. The perennially flowing SC-1 is located below forks of Summit Creek, and is approximately 3800 feet north of the mined area. It has been monitored by ANDALEX since 2004. Although portions of the watersheds of these three streams have been undermined, surface effects from subsidence have not been noted, in part due to the fact that cover ranges from 2,500 to 3,000 feet in these areas.

Regarding the above-mentioned spring or seep sites, similar rationale is used to justify their removal from the monitoring plan. In Mathis Canyon, B351 is a small perennially flowing spring which has been monitored by ANDALEX since 2002 and was previously monitored as part of the Willow Creek MRP. The closest that mining came to that water source was 3500 feet, and that occurred in mid-2007. B352 has a similar monitoring history, though this small seep is almost always dry; while somewhat closer to the mined area, there is no mining-related mechanism by which future impacts to its hydrologic balance could occur. A small seep (B261), which may at times support runoff flows stored in Pace Pond, is also a former Willow Creek MRP monitoring site, which was taken over by ANDALEX in 2005; it has been dry in recent years. It is located outside of the permit area and 5500 feet north of second-mined areas. Another seep,

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which has also been dry essentially throughout its monitoring history (beginning in 2005 for ANDALEX and previously by Willow Creek), is known as B362. It is located on the edge of the permit area, at 3000 feet cover, and has not been undermined.

Last, the stock pond 31-1 was monitored to track any subsidence-related damages. It collects surface runoff and during quarterly monitoring a qualitative record is simply made of whether inflow or outflow is occurring, and the approximately percentage of storage which is currently being used. The nearest mining was in 2004, and at a cover of 2500 feet, no effects from subsidence have been noted.

In sum, none of the above mentioned sites are needed any longer to ensure protection of the hydrologic balance. Further, there is no mechanism by which future mining-related impacts to these water sources could occur, given the current conditions. Should mining be planned for the future, all of these sites have a record with which background conditions could be demonstrated, and any or all of them could be placed back in the plan to collect more data in the future if need be.

The following describes the monitoring plan currently in place, including designation of the sites remaining in the plan, as well as the monitoring methodology, parameter lists, and frequency.

Location of Monitoring Points

Groundwater

Groundwater monitoring includes two types of sites: underground water intercepted by a well; and springs representing surface expressions of natural groundwater discharge. Locations of these sites are depicted on Figure IV-11 (and also Plate 7-8), and they are briefly described below in Table a.

Table a Groundwater Monitoring Sites

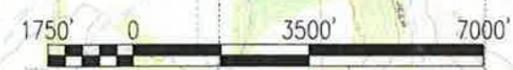
Site ID	UTM location	Description
Well No. 1	523236.53 N 4395172.22 E	Well in Deadman Canyon, completed in Aberdeen Sandstone (first aquifer below coal seam)
S18-1	522923.25 N 4393720.43 E	Spring in Deadman Canyon below confluence with Left and Right Forks Deadman Canyon; stratigraphically below coal seam

Surface Water

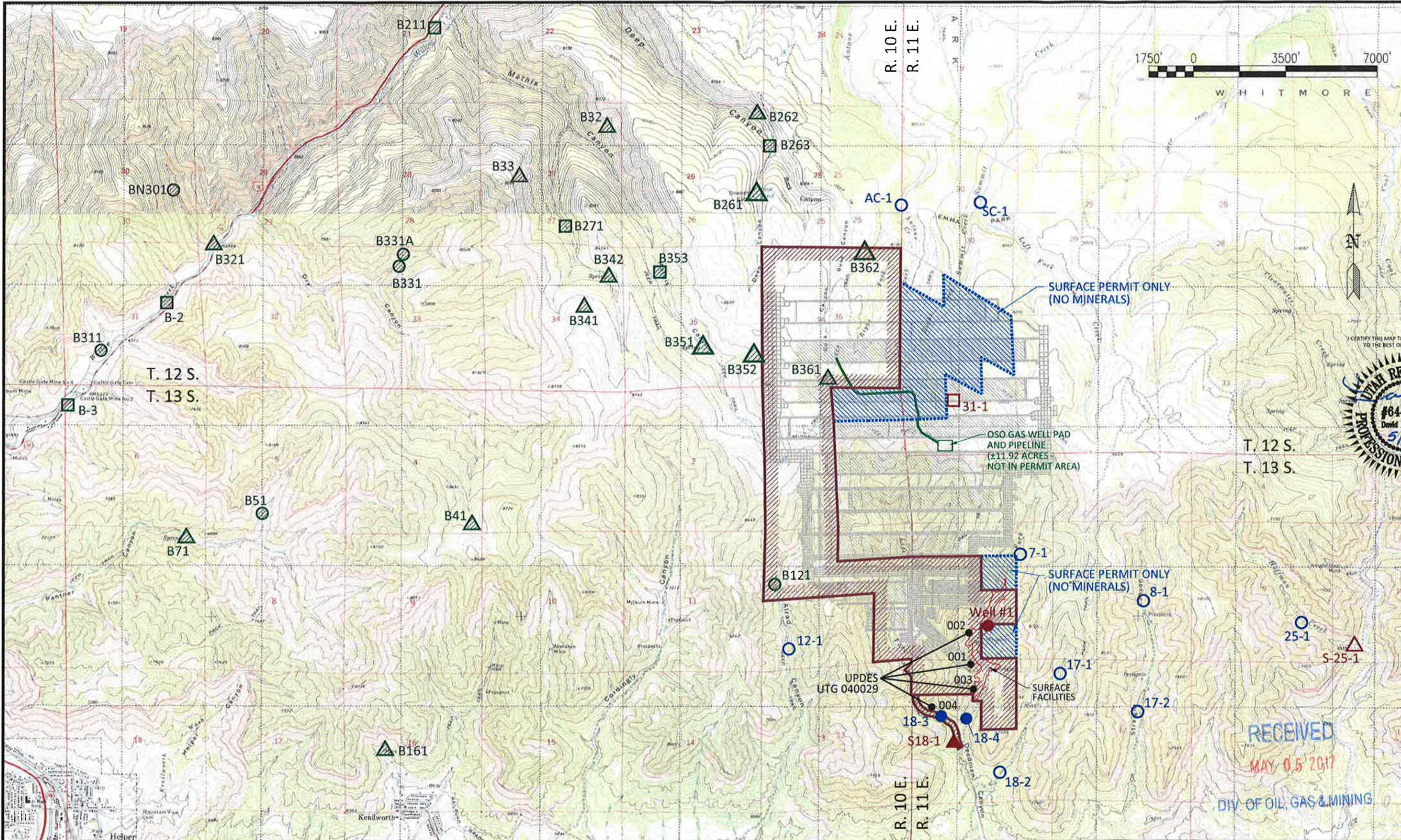
All surface water monitoring locations are shown on Figure IV-11.

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FORMER TOWER WATER MONITORING SITES		CURRENT TOWER WATER MONITORING STATIONS		FORMER RAG MONITORING STATIONS	
	SPRING MONITORING STATION		WELL MONITORING STATION		WELL MONITORING STATION
	STREAM MONITORING STATION		SPRING MONITORING STATION		SPRING MONITORING STATION
	STOCK POND MONITORING STATION		STREAM MONITORING STATION		STREAM MONITORING STATION
			UNDERGROUND WATER MONITORING STATION		



G:\Current Drawings\BMC Tower Mine\Permit\Plate Renumbered\Plate 7-8 Water Monitoring Locations R4.dwg, Water Monitoring Locations, 4/25/2017 1:39:36