

C/007/019 Incoming  
#4503



794 North "C" Canyon Rd,  
P.O. Box 910,  
East Carbon, Utah 84520  
Telephone (435) 888-4000 Fax (435) 888-4002

Daron Haddock  
Permit Supervisor  
Utah Division of Oil, Gas and Mining  
P.O. Box 145801  
1594 West North Temple, Suite 1210  
Salt Lake City, Utah 84114-5801

January 21, 2014

Re: Permit Revision  
to Reflect Relinquishments  
007/019

Dear Mr. Haddock:

Attached you will find the revisions to the approved MRP reflecting the changes resulting from BLM lease relinquishments. These changes are as a result of your letter dated September 11, 2013 and January 15, 2014.

As was done in the previous submittals a new Appendix AA was added to the permit to reflect the reflect the Federal coal relinquishments.

With the boundary change resulting from the relinquishments significant map changes were required. Attached is a summary of maps that were revised. This is also reflected in the attached C1 and C2 forms. Since a new Appendix is being added a redline strikeout is not needed.

If you have any questions please give me a call.

Sincerely,

A handwritten signature in black ink that reads "R. Jay Marshall". The signature is written in a cursive, flowing style.

R. Jay Marshall  
Resident Agent

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JAN 22 2014

DIV. OF OIL, GAS & MINING

# APPLICATION FOR PERMIT PROCESSING

<input type="checkbox"/> All Change	<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: Reflecting Lease Relinquishments 14-001						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? <u>-4242.14</u> acres Disturbed Area? <u>NA</u> 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 3 complete copies of the application.**

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

*L. Jay Marshall* 1/21/14  
 Signed: Name - Position - Date

Subscribed and sworn to before me this 25<sup>th</sup> day of January, 19 2014

*Linda Kerns*  
 Notary Public  
 My Commission Expires: 03.27.17  
 Attest: STATE OF Utah COUNTY OF Carbon



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**JAN 22 2014**

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ASSIGNED TRACKING NUMBER



**Centennial Project**  
**List of Plates in Permit**  
(December, 2013)

Plate Number	Plate Name	New or Revised	Electronic Copy	Mylar Only	Notes
1	Centennial Project - General Location Map	X	dwg		
1A	Centennial Project - Coal Leases and Acquisitions		dwg		Omitted
2	Centennial Project - Surface Ownership Map	X	dwg		
3	Centennial Project - Mineral Ownership Map	X	dwg		
4	Centennial Project - Leases	X	dwg		
5	Surface Area Boundary - Deadman Canyon			X	No change
6	As-Constructed Surface Facilities - Deadman Canyon	X	dwg		
6A	Left-Fork Fan Area - As Constructed			X	No change
7	As Proposed Surface Facilities - Deadman Canyon			X	No change
8	Support Facilities - Surface Area Drainage	X	PDF		
9	Watershed & Culvert Sizing and Revegetation Reference Areas			X	No change
10	Proposed Sediment Pond 'E-PM' - Post Mining			X	No change
11	Catch Basin 'B' - As Constructed			X	No change
12	Sediment Pond 'C' - As Constructed			X	No change
13	Sediment Pond 'E' - Proposed Aberdeen Surface			X	No change
14	Cut & Fill Cross Section Reference - Deadman Canyon	X	PDF		
15	Cut & Fill Cross Sections; Original Surface, As Constructed, As Reclaimed - Deadman Canyon (18 Sheets)			X	No change
16	Post Mining Hydrology - Final Reclamation Plan - Deadman Canyon - Phase I	X	PDF		
17	Final Mining Hydrology - Final Reclamation - Phase II - Deadman Canyon	X	PDF		
17A	Reclamation Watershed Map			X	No change
18	Soil Survey Map - Deadman Canyon			X	No change
19	Vegetation Survey Map - Deadman Canyon			X	No change
19A	Vegetation Map - Mt. Nebo				No Original
20	Revegetation Map - Deadman Canyon			X	No change
21	Surface Geology of the Andalex Resources' Mine Plan Area	X	dwg		
22	Centennial Project - Geologic Cross Section Reference and Drill Hole Locations	X	dwg		
23	Centennial Project - Cross Section A-A'		PDF		
24	Centennial Project - Cross Section B-B'		PDF		
25	Centennial Project - Subsidence Monitoring Stations	X	dwg		
26	Lower Sunnyside Seam Production Areas	X	dwg		
27	Centennial Seam Production Areas	X	dwg		
28	Gilson Seam Production Areas	X	dwg		
29	Proposed Mine Plan - Aberdeen Seam	X	dwg		
30	Proposed Mine Plan - Gilson Seam				Omitted
31	Proposed Mine Plan - Centennial Seam	X	dwg		
32	Pinnacle Mine - Current Mine Plan (Mine is closed and sealed)				Missing (Omitted)
33	Apex Mine - Current Mine Plan (Mine is closed and sealed)				Missing (Omitted)
34	Centennial Project - Wildlife Distribution Map	X	PDF		
35	Typical Road Cross Sections			X	No change
36	Topsoil Storage Pile "G"			X	No change
37	Topsoil Piles - Deadman Canyon			X	No change
38	Previously Omitted				
39	Previously Omitted				
40	Centennial Seam Isopach (Mine is closed and sealed)				Omitted
41	Proposed Mine Plan - Centennial Seam (Mine is closed and sealed)				Omitted
Figure 4	Water Quality Data	X	PDF		
Figure 5	Surface and Ground Water Rights	X	PDF		
Figure 6	Ground and Surface Water Monitoring	X	PDF		
Figure 1-2	Centennial Leases / Permit Area	X	dwg		
Figure 1-2A	Centennial Disturbed Area	X	dwg		
Figure 7-1	Water Monitoring Locations	X	dwg		
Figure 1	GVH Locations Map	X	dwg		

ANDALEX RESOURCES, INC.

**APPENDIX AA**

**CENTENNIAL PROJECT**  
Lease Relinquishments

C/007/019

(Revised)  
January, 2014

**CHAPTER 1**  
**LEGAL, FINANCIAL, COMPLIANCE AND**  
**RELATED INFORMATION**

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## **110 MINIMUM REQUIREMENTS FOR LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION**

### **111 Introduction**

UtahAmerican Energy, Inc. operates the Centennial Project under the Division of Oil, Gas and Mining permit number ACT 007/019. Coal has been mined on Federal leases SL-027304, SL-063058, U-010581, U-05067-08916, UTU-66060, UTU-69600, and UTU-79975. The Centennial Project mined three different seams in various areas. The Aberdeen seam ranged from approximately 5' to 8'. The Centennial seam ranged from approximately 5' to 7' and the Lower Sunnyside seam ranged from 4' to 6'. Both Longwall and Room and Pillar methods of mining were utilized in mining the reserves. A significant amount of coal has been mined from all of the leases. Some leases have been mined out and others have very little remaining recoverable reserves.

UtahAmerican Energy, Inc. Relinquished portions of the mined out leases in two relinquishments. The first relinquishment approved 3/12/2012 reduced the Federal coal leased acreage from 5,436.24 down to 2,813.48. The second relinquishment reduced the Federal coal lease even further down to 894.55 acres remaining. UEI retained all areas of surface disturbance conducted in association with the underground mining and surface access to the gob-vent holes was retained through surface use agreements.

The permit acreage dropped from 6,516.91 down to 2,274.77 acres which is the new permit acreage. The disturbed area has not changed and remains at 47.19 acres. Since the disturbed area has not changed and the disturbed legal description stays the same the bond does not change.

Since the relinquishments reflect only Federal Coal acres and does not included State Leases, Private Leases, BLM ROW's, or Private surface ROW's or leases, it is impossible to directly correlate the Lease Relinquishment Acres to Permit Acres.

A new lease area legal description can be found in Table 1-1 and the new permit area is described in Table 1-2.

**TABLE 1-1**  
**Andalex Resources, Inc.**  
**Tower Division**  
**Centennial Project Permit Lease Areas**

**Federal Lease UTU-66060**

T. 13 S., R. 10 E., SLM, Utah

Section 1

Lot 3	40.59	Acres
Lot 4	40.82	Acres
S1/2 NE	80.00	Acres

**Total**            **161.41 Acres**

**Federal Lease UTU-69600**

T. 13 S., R.10 E., SLM, Utah

Section 1

SW1/4	160.00	Acres
-------	--------	-------

Section 12

Lot 3	36.71	Acres
Lot 4	37.16	Acres
Lot 5	44.08	Acres
Lot 6	45.01	Acres
Lot 7	47.17	Acres
Lot 11	47.05	Acres
W1/2 NW	80.00	Acres

**Total**            **497.18 Acres**

**Federal Lease UTU-010581**

T. 13 S., R. 11 E., SLM, Utah

Section 7

NW SE	40.00	Acres
-------	-------	-------

**Total**            **40.00 Acres**

**Federal Lease UTSL-27304**

T. 13 S., R. 11 E., SLM, Utah

Section 7

Lot 4	42.98	Acres
-------	-------	-------

Section 18

Lot 1	42.98	Acres
NW NE	40.00	Acres
N1/2 NE NW	20.00	Acres
SW NE NW	10.00	Acres

**Total**            **155.96 Acres**

**Federal Lease SL-63058**

T. 13 S., R. 11 E., SLM, Utah  
Section 18

SW NE 40.00 Acres

**Total** **40.00** **Acres**

**Total of Federal Leases** **894.55** **Acres**

**Mathis Fee Lease**

T. 12 S., R. 10 E., SLM, Utah  
Section 36

All 640.00 Acres

**Total** **640.00** **Acres**

**Zion Fee Lease**

T. 13 S., R. 11 E., SLM, Utah  
Section 7

Lot 2 42.99 Acres

Lot 3 42.99 Acres

SE NW 40.00 Acres

E1/2 SW 80.00 Acres

**Total** **205.98** **Acres**

**Total of Fee Leases** **845.98** **Acres**

**Bureau of Land Management ROW U-62045**

T. 13 S., R. 11 E., SLM, Utah

Section 18

SE NE NW 10.00 Acres

**Total 10.00 Acres**

**Bureau of Land Management ROW UTU-64158  
(Left fork fan and access road)**

**Located within:**

T. 13 S., R. 10 E., SLM, Utah

Section 13

Lot 1

T. 13 S., R. 11 E., SLM, Utah

Section 18

Lot 2

NE SW

**Total 1.45 Acres**

**Total of BLM R.O.W.'S 11.45 Acres**

**Cave Private Easement**

**Located within:**

T. 13 S., R. 11 E., SLM, Utah

Section 18

SE NW 1.50 Acres

**Total Cave 1.50 Acres**

**Total Private Easements 1.50 Acres**

**TABLE 1-2**  
**Andalex Resources, Inc.**  
**Tower Division**  
**Centennial Project Surface Only Permit Area**

**Federal Lease UTU-66060**

T. 13 S., R. 10 E., SLM, Utah

Section 1

Lot 1	40.12	Acres
Lot 2	40.35	Acres

T. 12 S., R. 11 E., SLM, Utah

Section 31

Lot 3	7.58	Acres
Lot 4	7.60	Acres
Lot 5	7.17	Acres
Lot 12	40.00	Acres
Lot 14	40.00	Acres
Lot 15	40.00	Acres
Lot 16	40.00	Acres
Lot 21	22.86	Acres

**Total**                      **285.68 Acres**

**Federal Lease UTU-79975**

T. 12 S., R. 11 E., SLM, Utah

Section 31

Lot 2	7.53	Acres
Lot 7	40.00	Acres
Lot 8	40.00	Acres
Lot 10	40.00	Acres
Lot 11	40.00	Acres

**Total**                      **167.53 Acres**

**Federal Lease UTU-010581**

T. 13 S., R. 11 E., SLM, Utah

Section 7

SW NE	40.00	Acres
-------	-------	-------

**Total**                      **40.00 Acres**

**Federal Lease UTSL-27304**

T. 13 S., R. 11 E., SLM, Utah  
Section 7

SW SE            40.00    Acres

**Total            40.00    Acres**

**Surface Only Permit Area                            533.21    Acres**

**PERMIT AREA TABULATION**

Federal Coal Leases:	894.55	Acres
Fee Coal Leases:	845.98	Acres
BLM Surface R.O.W.	11.45	Acres
Private Easements:	1.50	Acres
Surface Only Federal Leases:	533.21	Acres
Permit Area Subtotal	2,286.69	Acres
Less OSO Gaswell Area	-11.92	Acres
<b>Total Permit Area:</b>	<b><u>2,274.77</u></b>	<b>Acres</b>

## **112 Identification of Interests**

Refer to the same section of the approved M&RP.

### **112.100 Business Entity**

Refer to the same section of the approved M&RP.

### **112.200 Applicant and Operator**

Applicant and Operator: Andalex Resources, Inc  
Tower Division  
P.O. Box 910  
East Carbon, Utah 84520  
Telephone: (435) 888-4000

Contact Person and  
Resident Agent: R. Jay Marshall  
Andalex Resources, Inc  
Tower Division  
P.O. Box 910  
East Carbon, Utah 84520  
Telephone: (435) 888-4000

**Responsibility:** Andalex Resources, Inc. is responsible for submission of information and will pay abandoned mine reclamation fees.

### **112.300 Officers of the Applicant**

Refer to the same section of the approved M&RP.

### **112.400 Coal Mining and Reclamation Operation Owned or Controlled**

Refer to the same section of the approved M&RP.

### **112.500 Legal or Equitable Owner of the Surface and Mineral Properties**

The legal and equitable owner of the surface and mineral properties to be affected by this operation during the duration of the permit period are listed below:

Surface Owners

David R. & Mildred Cave, et al.  
144 South 1650 East  
Price, Utah 84501

Mathis Land Co.  
Sunnyside Star Route  
Price, Utah 84501

F. and D. Shimmin  
711 North 500 East  
Price, Utah 84501

Sub-Surface Owners

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

Mathis Land Co.  
Sunnyside Star Route  
Price, Utah 84501

Oso Energy Resources Corp.  
900 Main Avenue, Suite D  
Durango, Colorado 81301 (gas rights)

**112.600 Owners of Record of Property Contiguous to Proposed Permit Area**

Owners of record for surface and mineral properties contiguous to the proposed permit area are listed below:

Contiguous Surface Owners

David R. & Mildred Cave, et al.  
144 South 1650 East  
Price, Utah 84501

Mathis Land Co.  
Sunnyside Star Route  
Price, Utah 84501

F. and D. Shimmin  
711 North 500 East  
Price, Utah 84501

Contiguous Sub-Surface Owners

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

State of Utah  
School Trust Lands Administration  
675 East 500 South  
Salt Lake City, Utah 84102

Mathis Land Co.  
Sunnyside Star Route  
Price, Utah 84501

Oso Energy Resources Corp.  
900 Main Avenue, Suite D  
Durango, Colorado 81301 (gas rights)

**112.700 MSHA Numbers**

Refer to the same section of the approved M&RP.

**112.800 Interest in Contiguous Lands**

Andalex Resources, Inc. has no interest in contiguous lands other than those currently owned as shown on Plate 1A of the approved M&RP.

**112.900 Certification of Submittal Information**

No information has changed in the approved M&RP because of this submittal. Refer to the same section of the approved M&RP.

**113 Violation Information**

Refer to the same section in the approved M&RP.

**114 Right-of-Entry Information**

Refer to the same section of the approved M&RP. A surface use agreement with the

private surface owners is in place. A memorandum of this agreement is included in the MRP and is on record at the County Recorder's office. (See Appendix X-1)

\*\* Existing acres reflect contemporaneous reclamation work completed to date.

#### **115 Status of Unsuitability Claims**

Refer to the same section of the approved M&RP.

#### **116 Permit Term**

Refer to the same section of the approved M&RP.

#### **117 Insurance, Proof of Publication, and Facilities and Structures Used in Common**

The certificate of insurance(s) will be included in Appendix B of the approved M&RP.

#### **118 Filing Fees**

Refer to the same section of the approved M&RP.

#### **120 PERMIT APPLICATION FORMAT AND CONTENTS**

This amendment submittal will comply with R645-301-120.

#### **130 REPORTING OF TECHNICAL DATA**

All technical data submitted in the amendment will be accompanied by the name or organization responsible for the collection and analysis of data, dates of collection and descriptions of methodology used. Technical analyses will be planned by or under the direction of a qualified professional in the subject to be analyzed.

#### **140 MAPS AND PLANS**

The maps and plans in the Mining and Reclamation Plan will correspond with the requirements in R645-301-140.

#### **150 COMPLETENESS**

Andalex Resources, Inc. believes the information in this permit application to be complete and correct.

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DIV. OF OIL, GAS & MINING

T. 12 S.  
T. 13 S.

R. 9 E.  
R. 10 E.

R. 10 E.  
R. 11 E.

T. 12 S.  
T. 13 S.

T. 13 S.  
T. 14 S.

T. 13 S.  
T. 14 S.

R. 9 E.  
R. 10 E.

R. 10 E.  
R. 11 E.

PRICE CITY

COUNTY AIRPORT

HELPER CITY

KENILWORTH

PERMIT AREA

SURFACE PERMIT ONLY  
(NO MINERALS)

OSO GAS WELL PAD  
AND PIPELINE  
(±11.92 ACRES -  
NOT IN PERMIT AREA)

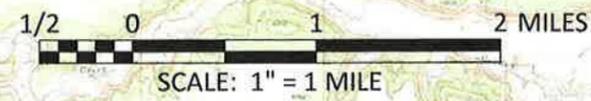
SURFACE PERMIT ONLY  
(NO MINERALS)

SURFACE FACILITIES

ANCILLARY ROAD  
RIGHT-OF-WAY

COUNTY ROAD

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



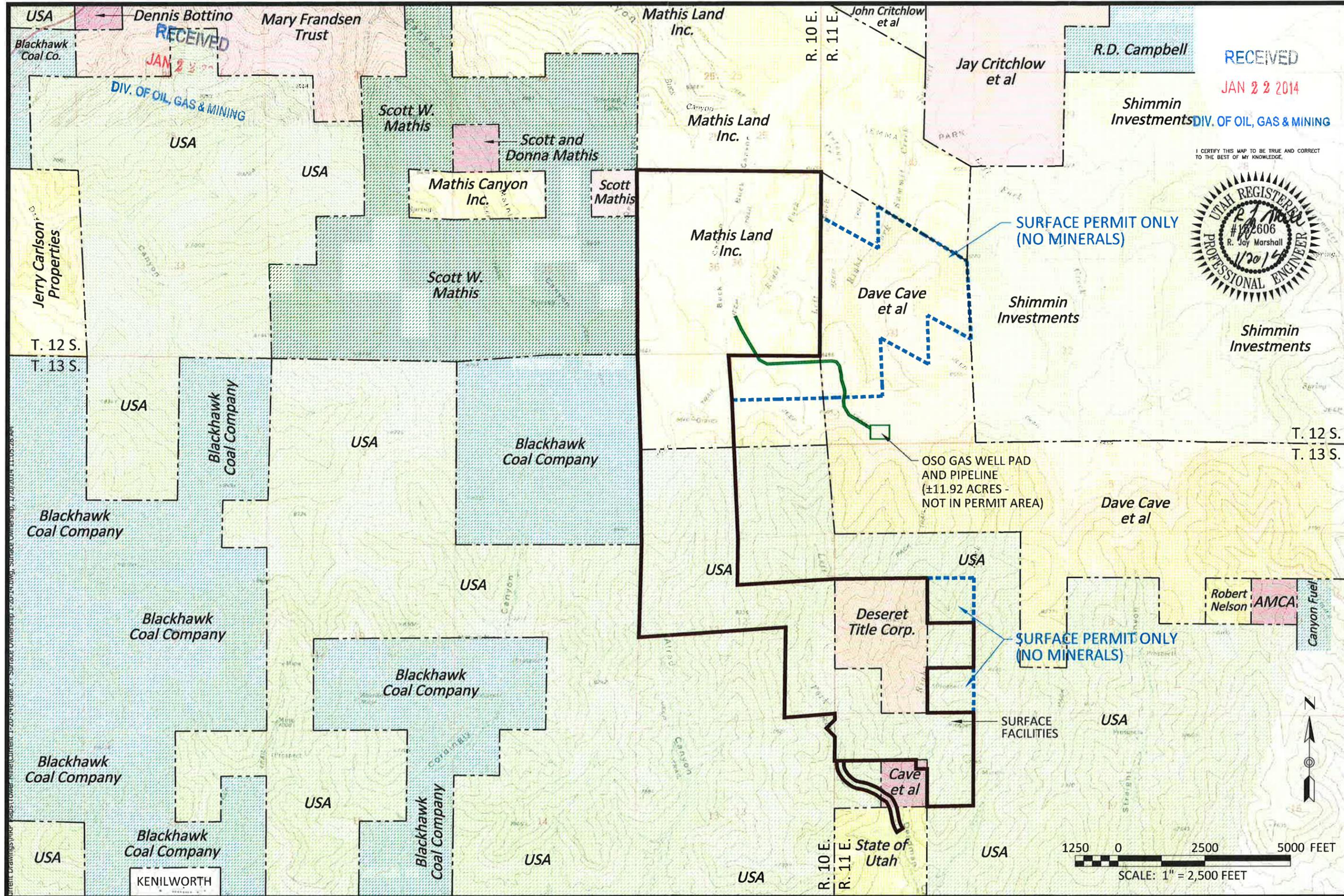
NOTES

- 1. SEE PLATE 4 FOR LEASE AND RIGHT-OF-WAY DETAILS.

**ANDALEX**  
RESOURCES, INC.  
TOWER DIVISION  
PRICE, UTAH

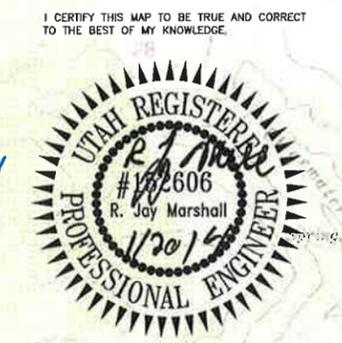


G:\Current Drawings\WKP Maps\Tower Mine\Current 12-20-14\Fig 1 - General Location Map 12-20-14\Fig 1 - General Location Map 12-20-14 10:25:59 AM



USA  
 Dennis Bottino  
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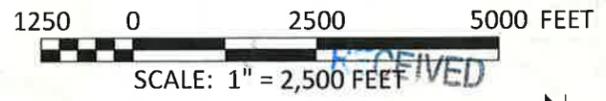
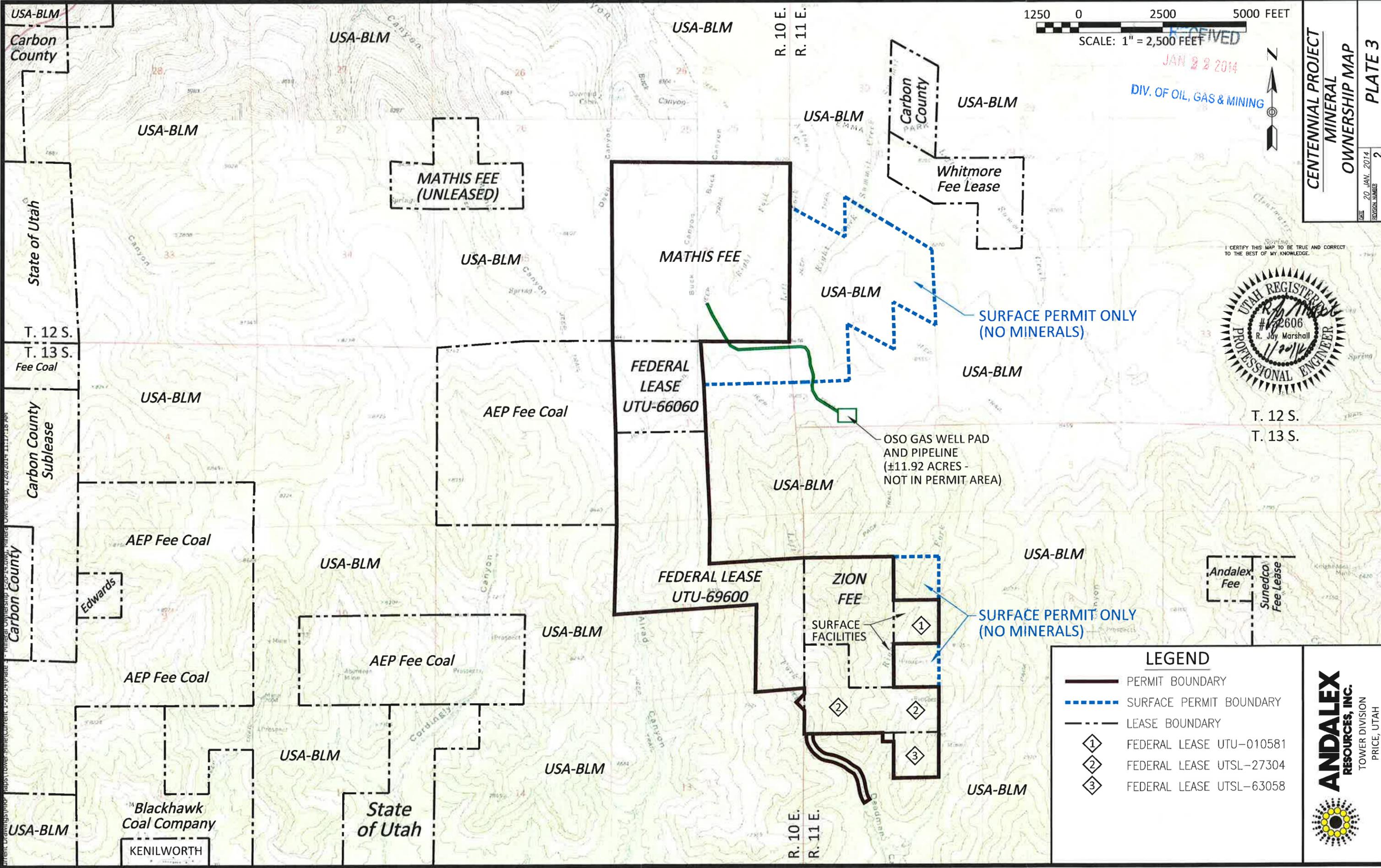


CENTENNIAL PROJECT  
 SURFACE OWNERSHIP MAP  
 PLATE 2

LEGEND  
 - - - PROPERTY LINES  
 — PERMIT LINE  
 - - - PERMIT LINE (SURFACE ONLY)



G:\Current Drawings\work\paps\p tower\mine\current\1-20-14\price 2 - Surface Ownership 1-20-14.dwg, Surface Ownership 1-20-14.dwg, 1/20/2014 11:05:28 AM



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CENTENNIAL PROJECT  
 MINERAL  
 OWNERSHIP MAP  
 PLATE 3

DATE 20 JAN. 2014  
 REVISION NUMBER 2

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



T. 12 S.  
 T. 13 S.

SURFACE PERMIT ONLY  
 (NO MINERALS)

OSO GAS WELL PAD  
 AND PIPELINE  
 (±11.92 ACRES -  
 NOT IN PERMIT AREA)

SURFACE PERMIT ONLY  
 (NO MINERALS)

LEGEND	
	PERMIT BOUNDARY
	SURFACE PERMIT BOUNDARY
	LEASE BOUNDARY
	FEDERAL LEASE UTU-010581
	FEDERAL LEASE UTSL-27304
	FEDERAL LEASE UTSL-63058



G:\Current Drawings\Tower\Price\TowerOwnershipMap\Plate3\OwnershipMapPlate3.dwg

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JAN 22 2014

DIV. OF OIL, GAS & MINING

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

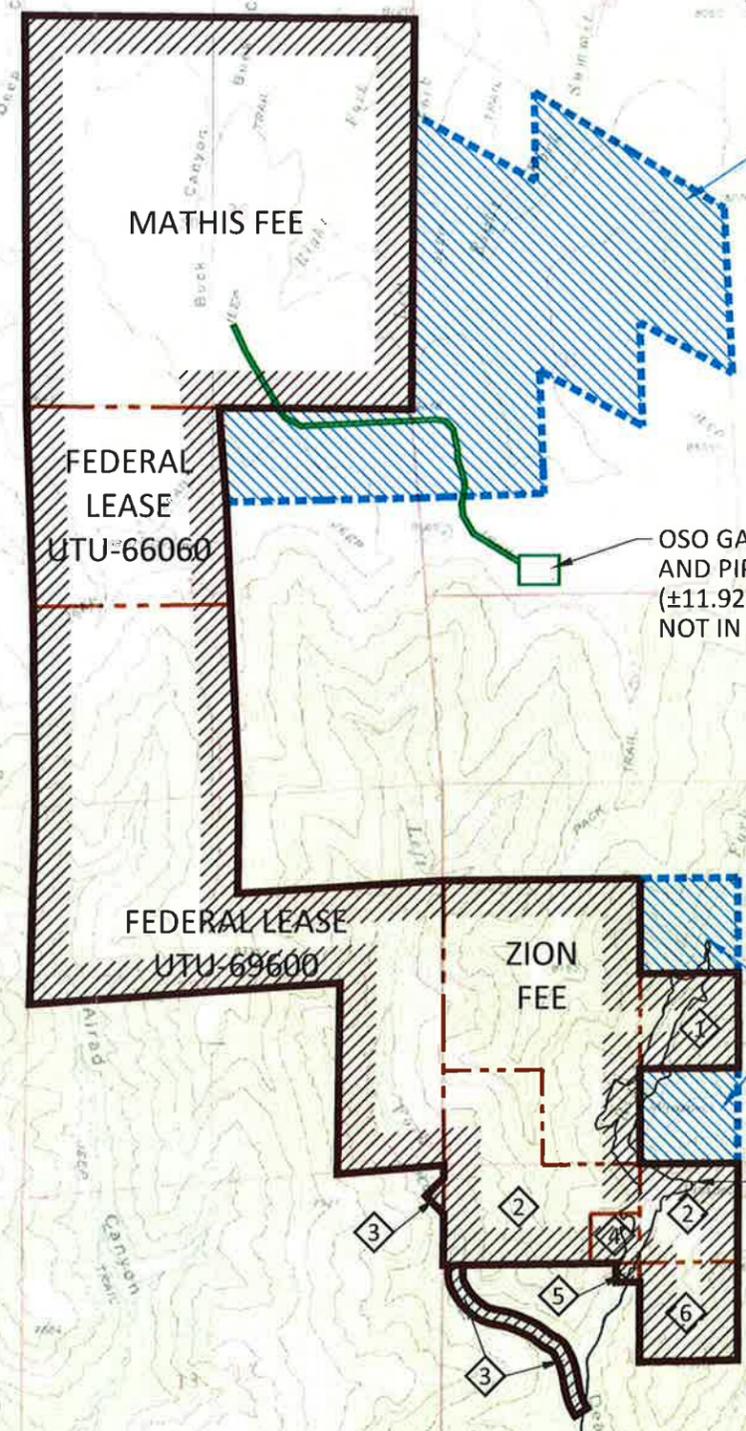


T. 12 S.  
T. 13 S.

T. 12 S.  
T. 13 S.

R. 10 E.  
R. 11 E.

R. 10 E.  
R. 11 E.



SURFACE PERMIT ONLY  
(NO MINERALS)

OSO GAS WELL PAD  
AND PIPELINE  
(±11.92 ACRES -  
NOT IN PERMIT AREA)

SURFACE PERMIT ONLY  
(NO MINERALS)

SURFACE  
FACILITIES

LEGEND

- PERMIT BOUNDARY
- - - SURFACE PERMIT BOUNDARY
- - - LEASE BOUNDARY
- ① FEDERAL LEASE UTU-010581
- ② FEDERAL LEASE UTSL-27304
- ③ BLM R.O.W. UTU-64158
- ④ BLM R.O.W. UTU-062045
- ⑤ CAVE PRIVATE EASEMENT
- ⑥ FEDERAL LEASE UTSL-63058

1250 0 2500 5000 FEET  
SCALE: 1" = 2,500 FEET



G:\current drawings\pwr maps\tower\price\current\2014\pwr\leases\12014\pwr\leases\_17202014\_11:24:19 AM



**NOTES**  
1. See Plate 11 & 12 for Sediment Pond Details.  
2. Primary Roads are designated by 'PR-1', etc.  
3. Access Roads are designated by 'AR-1', etc.  
4. See Plate 8 for surface drainage information.

**LEGEND**  
Disturbed Surface Boundary  
Lease Boundary  
Undisturbed Surface Drainage (Inversion Ditch)  
Undisturbed Surface Drainage (Inversion Ditch)  
Disturbed Drainage Culvert  
Power Line  
Previously Disturbed Area  
Permit Boundary  
Permit Boundary - Surface Only

**ANDALEX**  
RESOURCES, INC.  
TOWER DIVISION

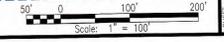
**PLATE #6**  
AS-CONSTRUCTED  
SURFACE FACILITIES

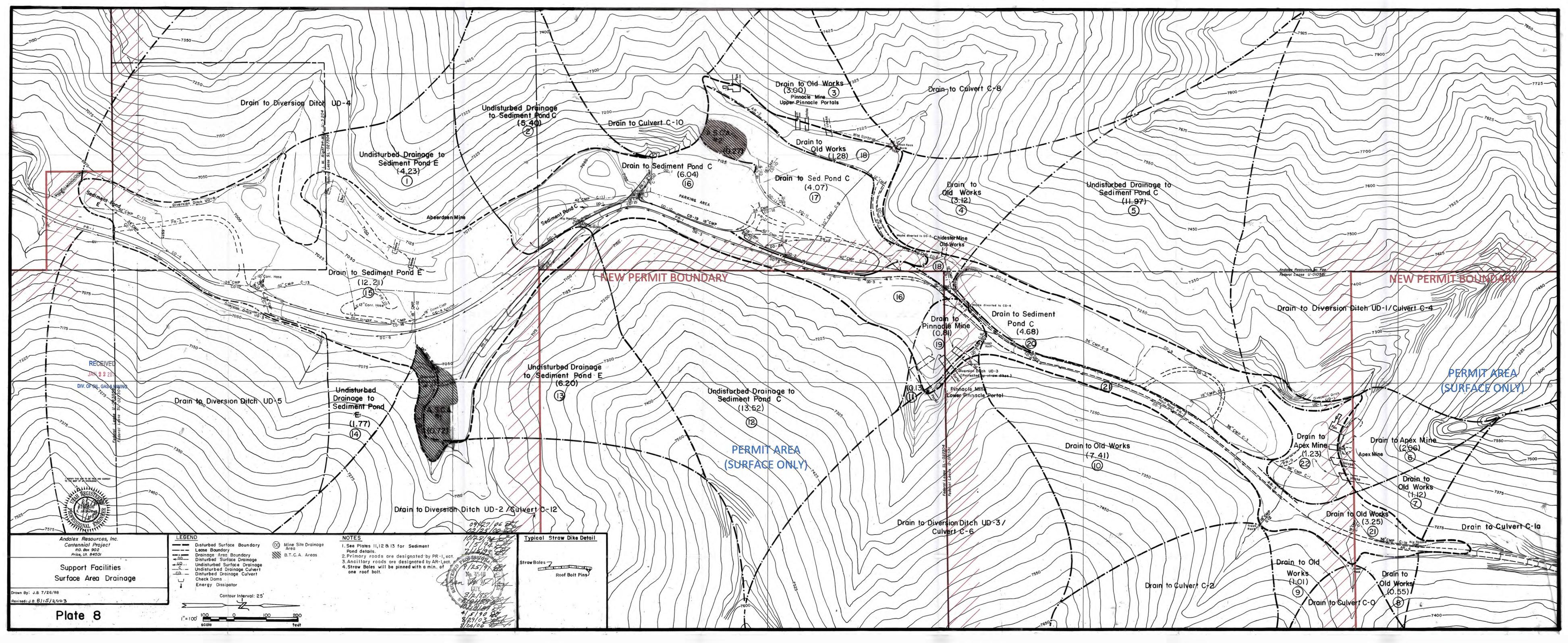
**CENTENNIAL PROJECT**  
6750 AIRPORT ROAD  
PRICE, UTAH 84501

SCALE: 1" = 100'  
DATE: 20 JAN, 2014  
APPROVED BY: [Signature]



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JAN 9 2014





Drain to Diversion Ditch UD-4

Undisturbed Drainage to Sediment Pond C (5.40) (2)

Undisturbed Drainage to Sediment Pond E (4.23) (1)

Drain to Culvert C-10

Drain to Sediment Pond C (6.04) (16)

Drain to Old Works (3.90) (3)  
Pinnacle Mine Upper Pinnacle Portals

Drain to Culvert C-8

Drain to Old Works (1.28) (18)

Drain to Sed Pond C (4.07) (17)

Drain to Old Works (3.12) (4)

Undisturbed Drainage to Sediment Pond C (11.97) (5)

Drain to Sediment Pond E (12.21) (15)

NEW PERMIT BOUNDARY

NEW PERMIT BOUNDARY

Drain to Diversion Ditch UD-1/Culvert C-4

Drain to Pinnacle Mine (0.81) (19)

Drain to Sediment Pond C (4.68) (20)

Drain to Diversion Ditch UD-5

Undisturbed Drainage to Sediment Pond E (1.77) (14)

Undisturbed Drainage to Sediment Pond E (6.20) (13)

Undisturbed Drainage to Sediment Pond C (13.52) (12)

PERMIT AREA (SURFACE ONLY)

PERMIT AREA (SURFACE ONLY)

Drain to Old Works (7.41) (10)

Drain to Apex Mine (1.23) (22)

Drain to Apex Mine (2.66) (6)

Drain to Old Works (1.12) (7)

Drain to Diversion Ditch UD-2/Culvert C-12

Drain to Diversion Ditch UD-3/Culvert C-6

Drain to Old Works (3.25) (21)

Drain to Culvert C-1a

Drain to Culvert C-2

Drain to Old Works (1.01) (9)

Drain to Old Works (0.55) (8)

Drain to Culvert C-0

Andalex Resources, Inc.  
Centennial Project  
P.O. Box 902  
Price, UT 84501

Support Facilities  
Surface Area Drainage

Drawn By: J.B. 7/26/88  
Revised: J.B. 8/15/2003

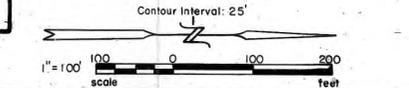
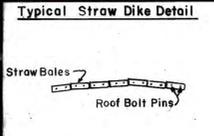
Plate 8

**LEGEND**

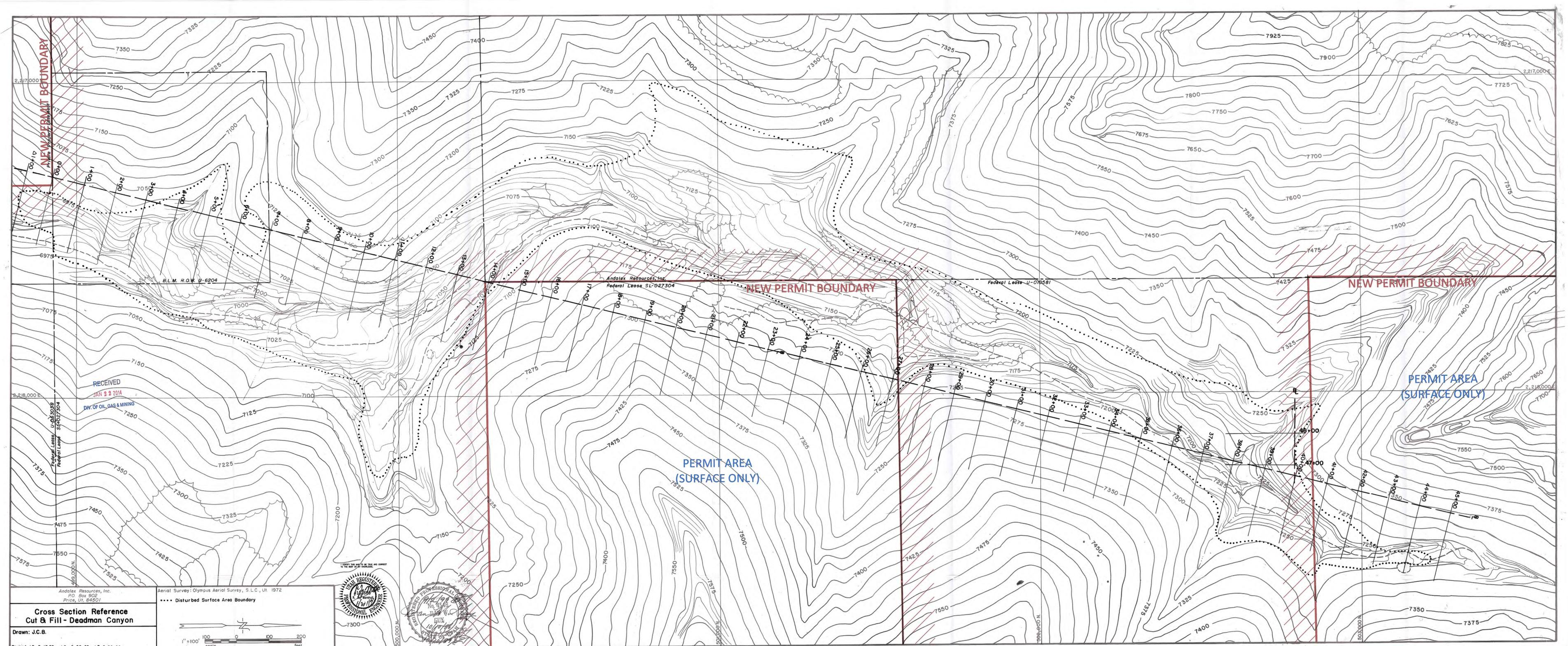
	Disturbed Surface Boundary		Mine Site Drainage Area
	Lease Boundary		B.T.C.A. Areas
	Drainage Area Boundary		
	Disturbed Surface Drainage		
	Undisturbed Surface Drainage		
	Undisturbed Drainage Culvert		
	Disturbed Drainage Culvert		
	Check Dams		
	Energy Dissipator		

**NOTES**

- See Plates 11, 12 & 13 for Sediment Pond details.
- Primary roads are designated by PR-1, etc.
- Ancillary roads are designated by AR-1, etc.
- Straw Bales will be pinned with a min. of one roof bolt.



09/27/06  
11/25/06  
1/5/07  
2/15/07  
3/2/07  
4/15/07  
5/15/07  
6/15/07  
7/15/07  
8/15/07  
9/15/07  
10/15/07  
11/15/07  
12/15/07



Andalex Resources, Inc.  
 P.O. Box 902  
 Price, UT 84901

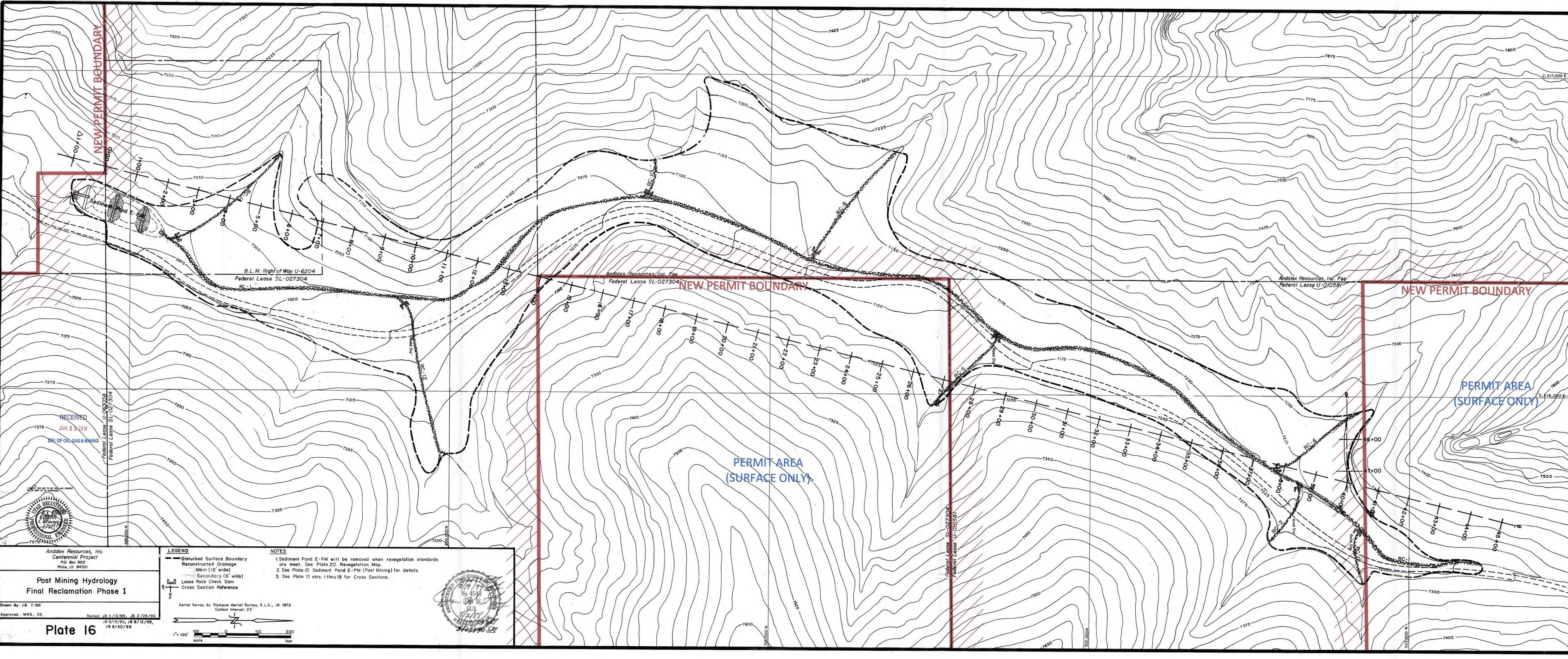
Aerial Survey: Olympus Aerial Survey, S.L.C., UT, 1972

..... Disturbed Surface Area Boundary

Scale: 1" = 100' (0, 100, 200 feet)

North Arrow





NEW PERMIT BOUNDARY

NEW PERMIT BOUNDARY

NEW PERMIT BOUNDARY

PERMIT AREA  
(SURFACE ONLY)

PERMIT AREA  
(SURFACE ONLY)

Andalex Resources, Inc.  
Centennial Project  
P.O. Box 902  
Price, UT 84501

Post Mining Hydrology  
Final Reclamation Phase I

Drawn By: JB 7/88  
Approved: MWG, DG

Revised: JB 11/10/89, JB 2/26/90  
JB 5/15/90, JB 8/12/99,  
JB 8/30/99

**Plate 16**

**LEGEND**

- Disturbed Surface Boundary
- Reconstructed Drainage
- Main (12' wide)
- Secondary (6' wide)
- Loose Rock Check Dam
- Cross Section Reference

Aerial Survey by Olympus Aerial Survey, S.L.C., UT, 1972  
Contour Interval: 25'

1" = 100'  
0 100 200  
feet

**NOTES**

1. Sediment Pond E-PM will be removed when revegetation standards are met. See Plate 20 Revegetation Map.
2. See Plate 10 Sediment Pond E-PM (Post Mining) for details.
3. See Plate 15 shts. 1 thru 18 for Cross Sections.



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Federal Lease U-010558  
Federal Lease SL-027304

B.L.M. Right of Way U-6204  
Federal Lease SL-027304

Andalex Resources, Inc. Fee  
Federal Lease SL-027304

Andalex Resources, Inc. Fee  
Federal Lease U-010558

Federal Lease SL-027304  
Federal Lease U-010558

2,217,000 E

2,118,000 E

N 030025

N 030025

N 030025

N 030025

N 030025

7150

7350

7250

7000

7200

7400

7300

7100

7200

7425

7325

7225

7350

7450

7550

7650

7750

7800

7175

7050

7250

7000

7200

7400

7300

7100

7200

7425

7325

7225

7350

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7550

7650

7750

7800

7075

7050

7000

7200

7400

7300

7100

7200

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7325

7225

7350

7450

7550

7650

7750

7800

7175

7050

7250

7000

7200

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7300

7100

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7375

7050

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7000

7200

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7300

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7425

7325

7225

7350

7450

7550

7650

7750

7800

2,217,000 E

2,118,000 E

N 030025

N 030025

N 030025

N 030025

N 030025

NEW PERMIT BOUNDARY

NEW PERMIT BOUNDARY

NEW PERMIT BOUNDARY

PERMIT AREA (SURFACE ONLY)

PERMIT AREA (SURFACE ONLY)

B.L.M. Right of Way U-6204  
Federal Lease SL-027304  
RC-1

Andalex Resources, Inc. Fee  
Federal Lease SL-027304

Andalex Resources, Inc. Fee  
Federal Lease U-010581

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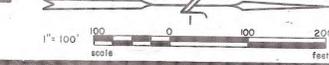


Andalex Resources, Inc.  
Centennial Project  
P.O. Box 502  
Price, UT 84501

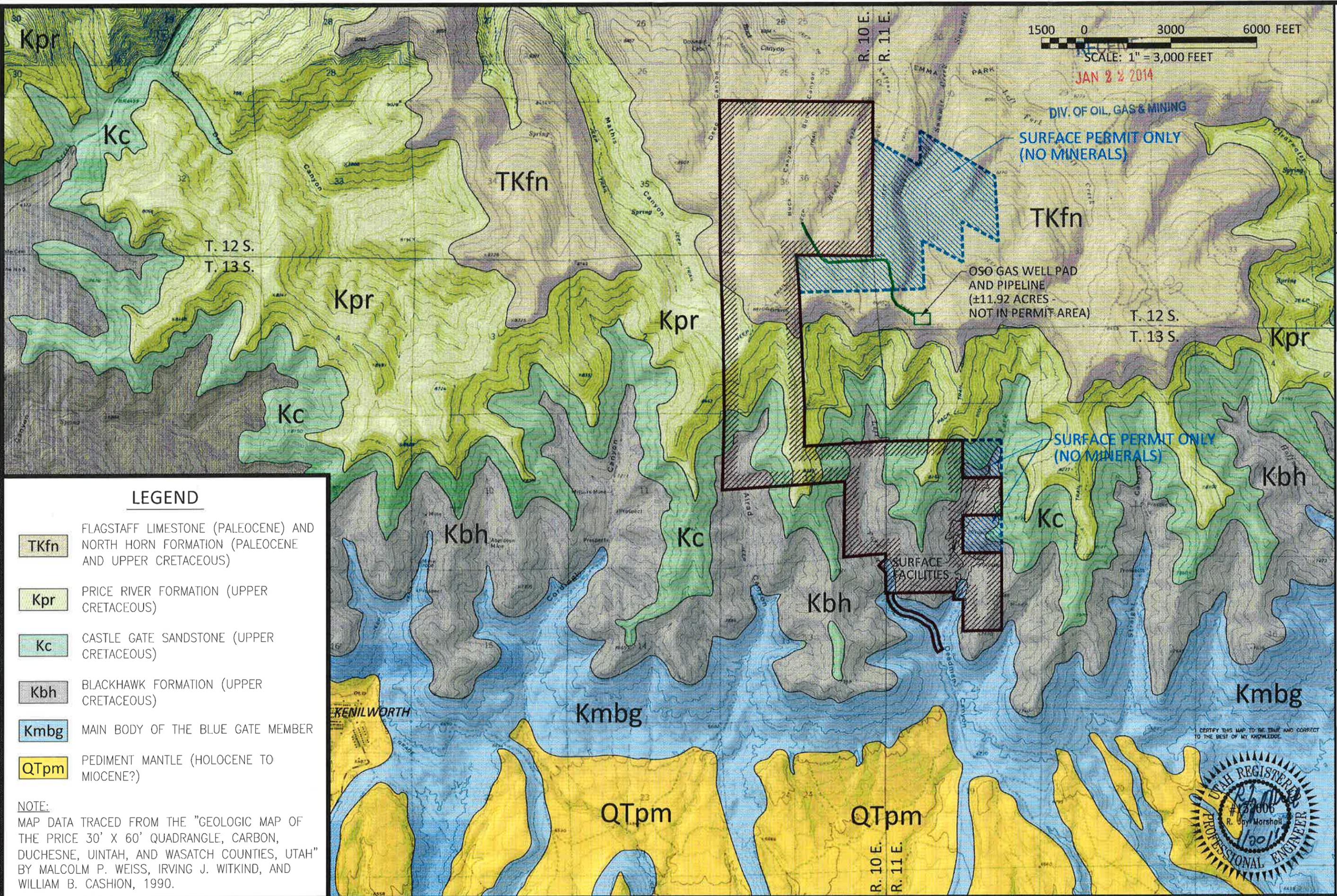
Post Mining Hydrology  
Final Reclamation Phase II

Drawn By: JB 7/88  
Approved: MWG, DG  
Revised: JB 11/10/89, JB 2/26/90, JB 5/15/90

- LEGEND**
- Disturbed Surface Boundary
  - Reconstructed Drainage
  - 12" Main (12" wide)
  - 6" Secondary (6" wide)
  - Loose Rock Check Dam
  - Cross Section Reference
- NOTES**
- Phase II Reclamation Area
  - Aerial Survey by Olympus Aerial Survey, S.L.C., UT. 1972
  - Contour Interval: 25'



G:\Current Drawings\MRP Maps\Tower Mine\Current 1-20-14\Plate 21 - Surface Geology 1-20-14.dwg, Surface Geology 1/20/2014 3:48:31 PM



**LEGEND**

- TKfn** FLAGSTAFF LIMESTONE (PALEOCENE) AND NORTH HORN FORMATION (PALEOCENE AND UPPER CRETACEOUS)
- Kpr** PRICE RIVER FORMATION (UPPER CRETACEOUS)
- Kc** CASTLE GATE SANDSTONE (UPPER CRETACEOUS)
- Kbh** BLACKHAWK FORMATION (UPPER CRETACEOUS)
- Kmbg** MAIN BODY OF THE BLUE GATE MEMBER
- QTpm** PEDIMENT MANTLE (HOLOCENE TO MIOCENE?)

**NOTE:**  
 MAP DATA TRACED FROM THE "GEOLOGIC MAP OF THE PRICE 30' X 60' QUADRANGLE, CARBON, DUCHESNE, UINTAH, AND WASATCH COUNTIES, UTAH" BY MALCOLM P. WEISS, IRVING J. WITKIND, AND WILLIAM B. CASHION, 1990.

1500 0 3000 6000 FEET  
 SCALE: 1" = 3,000 FEET

JAN 8 2014

DIV. OF OIL, GAS & MINING

SURFACE PERMIT ONLY (NO MINERALS)

OSO GAS WELL PAD AND PIPELINE (±11.92 ACRES NOT IN PERMIT AREA)

SURFACE PERMIT ONLY (NO MINERALS)

SURFACE FACILITIES

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



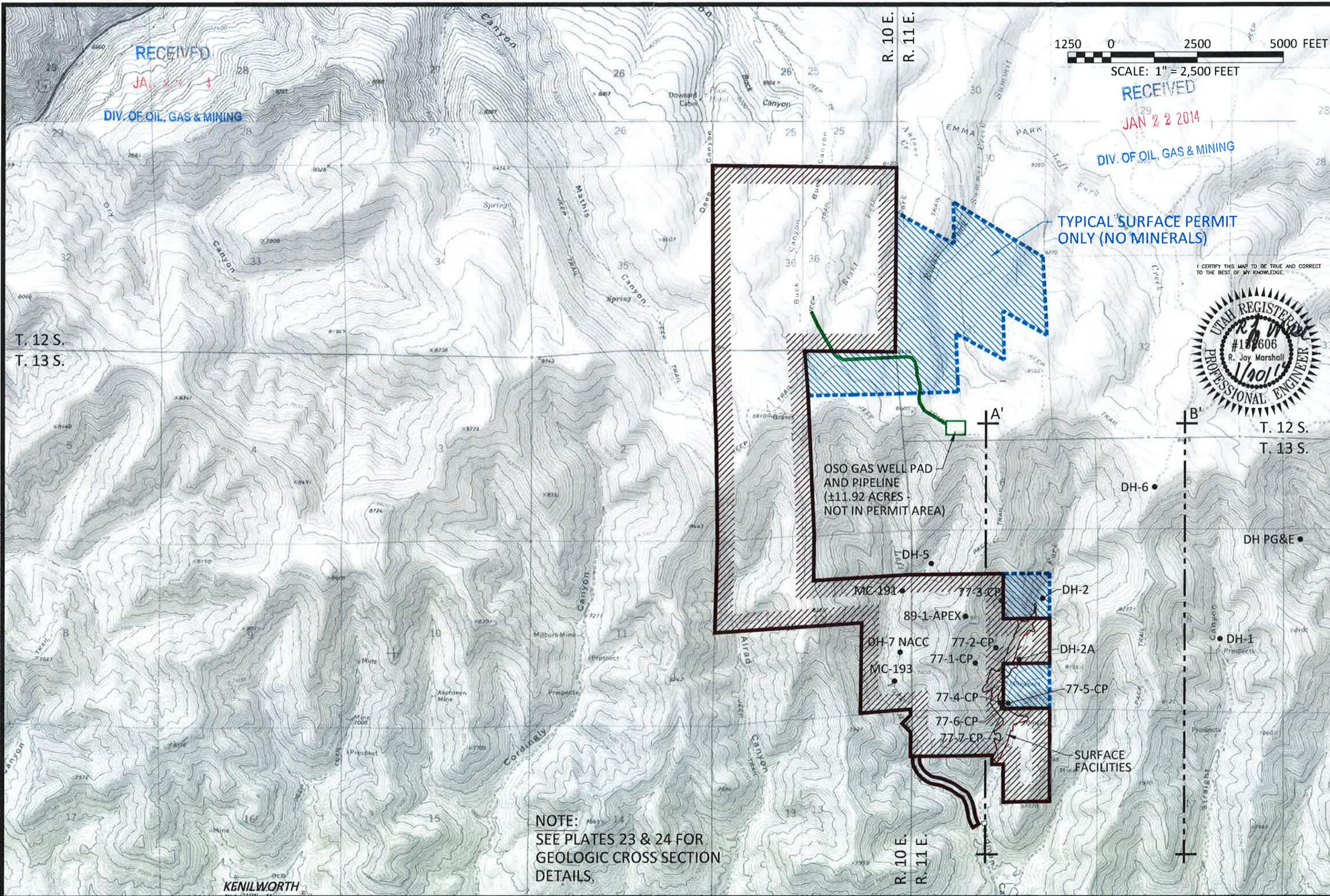
CENTENNIAL PROJECT  
 SURFACE  
 GEOLOGY MAP  
 DATE: 20 JAN 2014  
 REVISION NUMBER: 1  
 PLATE 21



**LEGEND**  
 PROPERTY LINES  
 PERMIT LINE  
 PERMIT LINE (SURFACE ONLY)

**ANDALEX**  
 RESOURCES, INC.  
 TOWER DIVISION  
 PRICE, UTAH

G:\Current Drawings\MRP Maps\Tower Mine\Current 1-20-14\Plate 22 - Geo Cross Section 1-20-14.dwg, Drill Holes, 1/20/2014 3:51:06 PM



NOTE:  
SEE PLATES 23 & 24 FOR  
GEOLOGIC CROSS SECTION  
DETAILS.

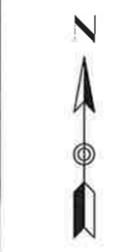
1250 0 2500 5000 FEET  
SCALE: 1" = 2,500 FEET

RECEIVED  
JAN 22 2014  
DIV. OF OIL, GAS & MINING

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



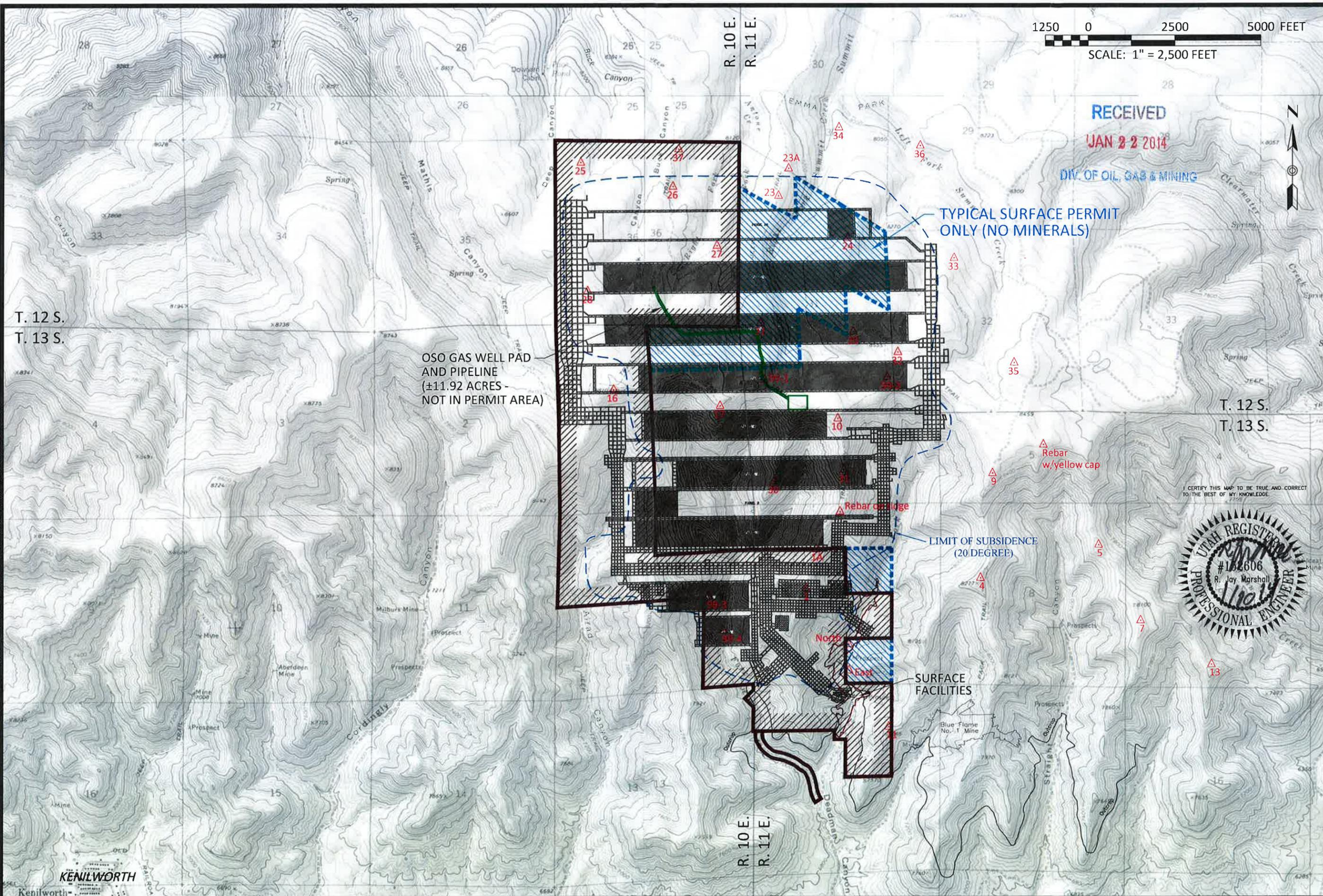
CENTENNIAL PROJECT  
GEOLOGIC CROSS SECTION  
and DRILL HOLE REFERENCE  
DATE: 20 JAN. 2014  
FIGURE NUMBER: 1  
PLATE 22



LEGEND  
PROPERTY LINES  
PERMIT LINE  
PERMIT LINE (SURFACE ONLY)

**ANDALEX**  
RESOURCES, INC.  
TOWER DIVISION  
PRICE, UTAH

G:\Current Drawings\MRP Maps\Tower Mine\Current 1-20-14\Plate 25 - Subsidence Monitoring 1-20-14.dwg, Subsidence Monitoring, 1/20/2014 3:52:53 PM



1250 0 2500 5000 FEET

SCALE: 1" = 2,500 FEET

RECEIVED

JAN 22 2014

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TYPICAL SURFACE PERMIT ONLY (NO MINERALS)

OSO GAS WELL PAD AND PIPELINE (±11.92 ACRES - NOT IN PERMIT AREA)

LIMIT OF SUBSIDENCE (20 DEGREE)

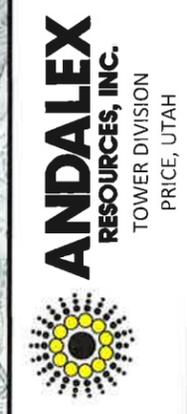
SURFACE FACILITIES

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



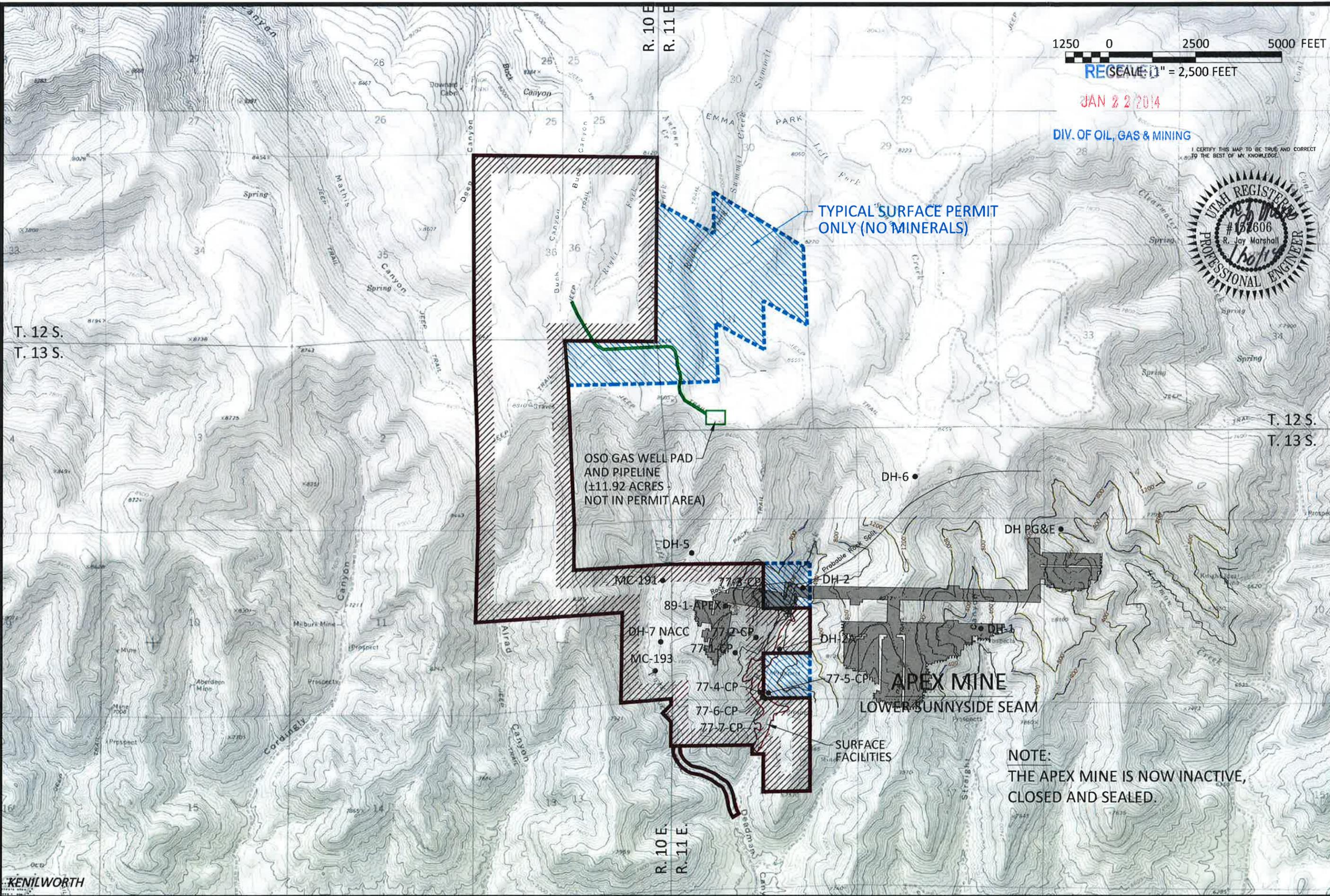
CENTENNIAL PROJECT  
SUBSIDENCE  
MONITORING  
DATE: 20 JAN 2014  
REVISION NUMBER: 1  
PLATE 25

LEGEND  
SUBSIDENCE MONITORING STATION  
PERMIT LINE  
PERMIT LINE (SURFACE ONLY)



KENILWORTH

G:\Current Drawings\WRP Maps\Tower Mine\Current 1-20-14\Plate 26 - Lower Sunnyside Seam 1-20-14.dwg, Lower Sunnyside Seam, 1/20/2014 3:54:34 PM



1250 0 2500 5000 FEET  
RESCALE: 1" = 2,500 FEET

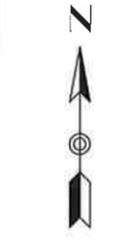
JAN 22 2014

DIV. OF OIL, GAS & MINING

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



CENTENNIAL PROJECT  
LOWER SUNNYSIDE SEAM  
PRODUCTION AREAS  
PLATE 26  
DATE: 20 JAN. 2014  
DRAWING NUMBER: 1



LEGEND  
PERMIT LINE  
PERMIT LINE (SURFACE ONLY)

ANDALEX  
RESOURCES, INC.  
TOWER DIVISION  
PRICE, UTAH



T. 12 S.  
T. 13 S.

T. 12 S.  
T. 13 S.

R. 10 E.  
R. 11 E.

R. 10 E.  
R. 11 E.

TYPICAL SURFACE PERMIT ONLY (NO MINERALS)

OSO GAS WELL PAD AND PIPELINE (±11.92 ACRES - NOT IN PERMIT AREA)

APEX MINE  
LOWER SUNNYSIDE SEAM

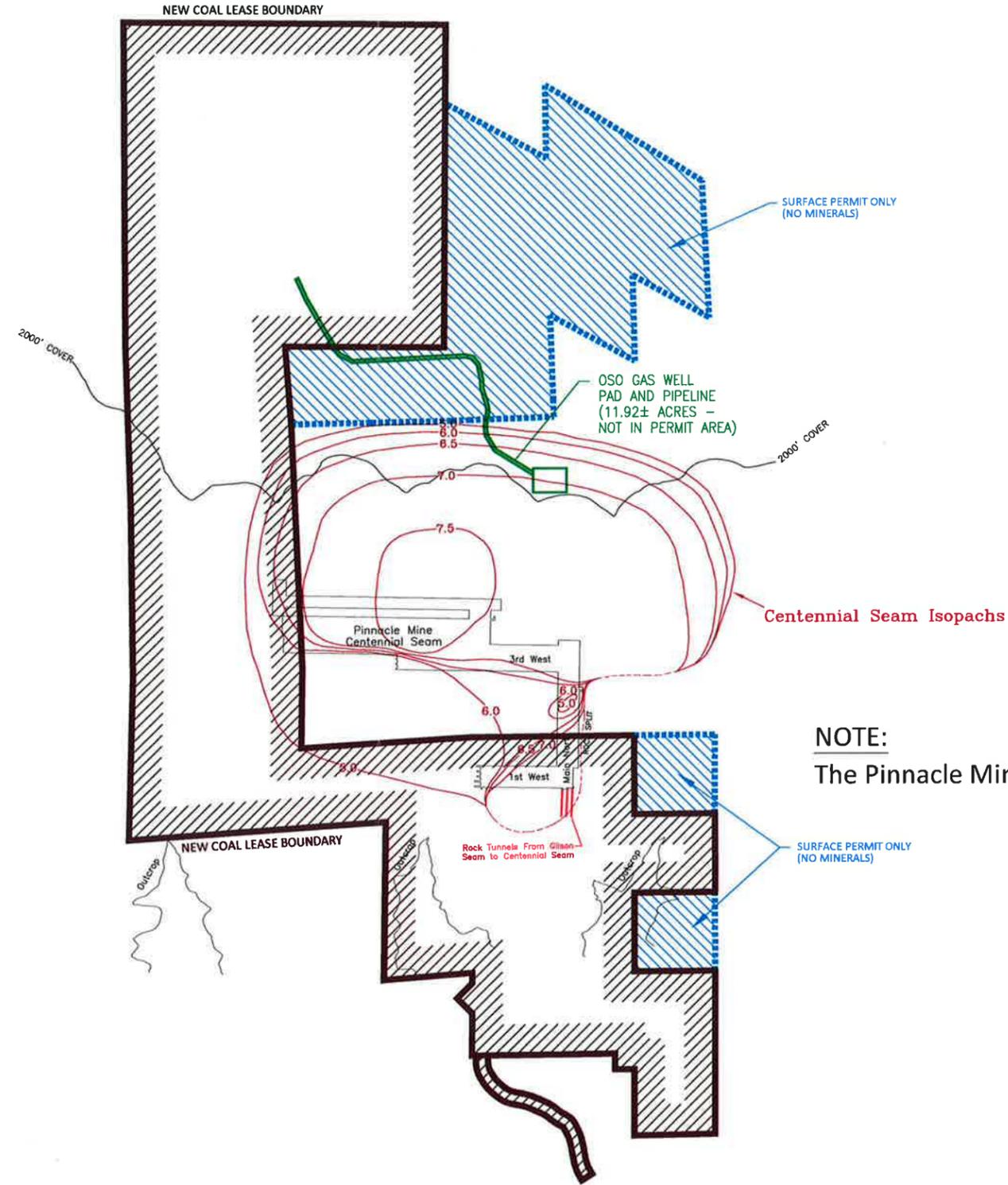
SURFACE FACILITIES

NOTE:  
THE APEX MINE IS NOW INACTIVE, CLOSED AND SEALED.

KENILWORTH

TOWER DIVISION  
CENTENNIAL SEAM  
PRODUCTION AREAS

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DIV. OF OIL, GAS & MINING



NOTE:  
The Pinnacle Mine is now inactive, closed and sealed.

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



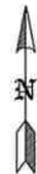
Pinnacle Mine  
P.O. Box 910  
East Carbon, Utah 84520

PLATE 27  
Centennial  
Seam Isopachs

SCALE:  
500' 0' 1000' 2000'  
REVISION DATES: 20 JANUARY 2014 ACAD REF: PLATE 27 - CENTENNIAL SEAM ISOPACHS 1-20-14



LEGEND:  
Mined Areas

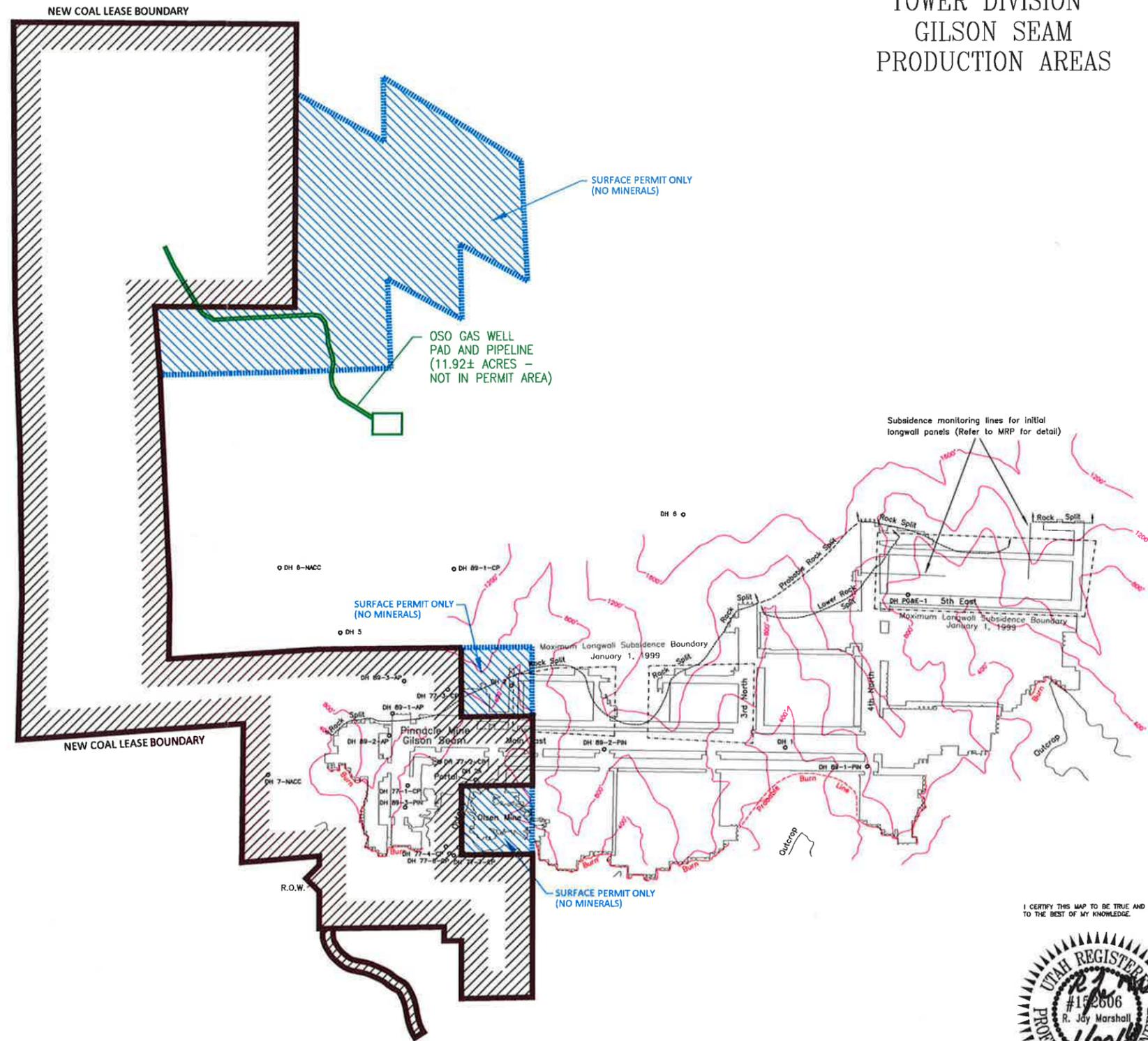


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JAN 22 2014

DIV. OF OIL, GAS & MINING

TOWER DIVISION  
GILSON SEAM  
PRODUCTION AREAS



**ANDALEX**  
RESOURCES, INC.  
Tower Division

SCALE:  
500' 0' 1000' 2000'  
ACAD REF: Plate 28 - Gilson Seam 1-20-14  
REVISION DATE: 20 JANUARY 2014

**Pinnacle Mine**  
P.O. Box 910  
East Carom, Utah 84520

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



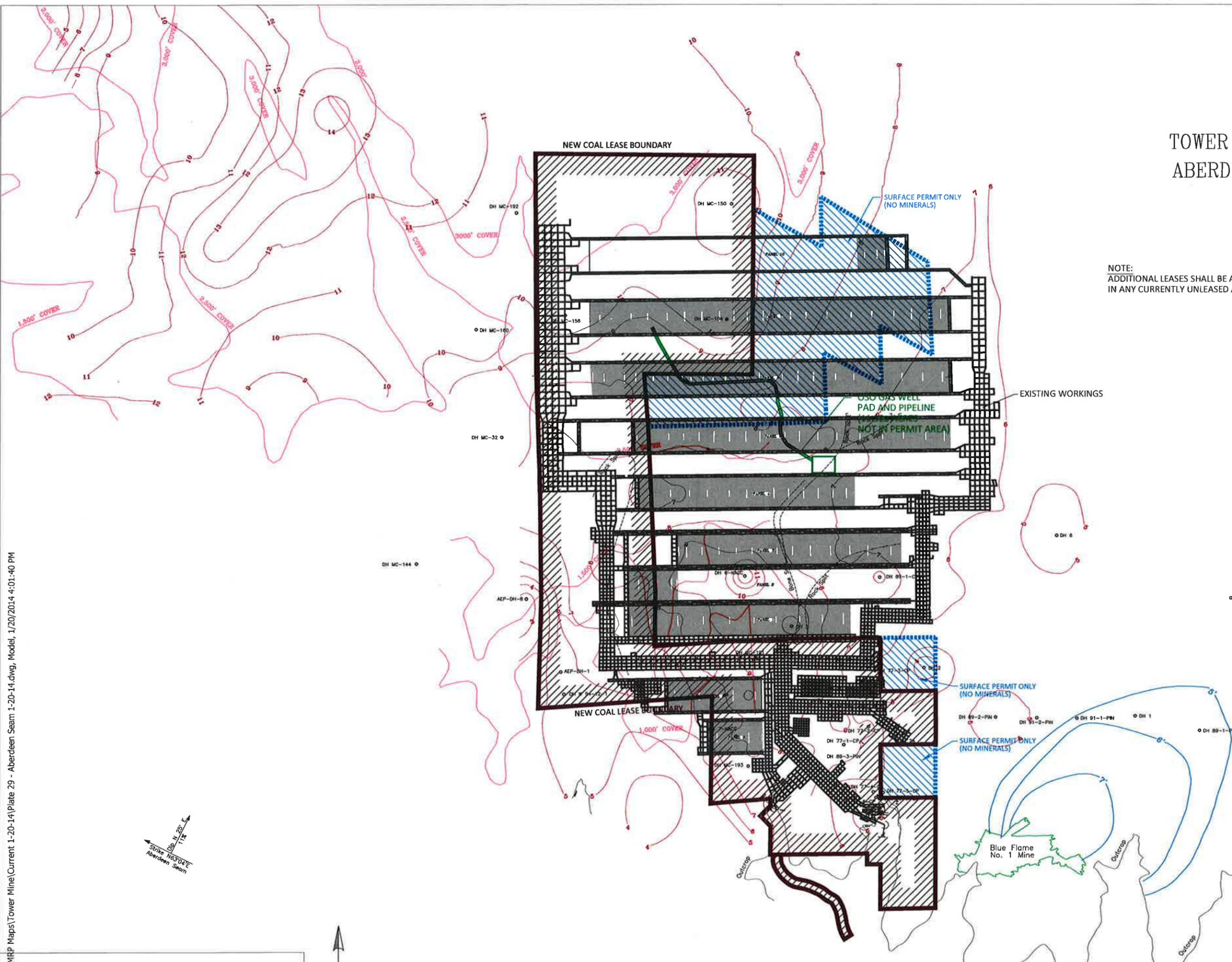
**NOTE:**  
The Pinnacle Mine is now inactive, closed and sealed.

G:\Current Drawings\MP Maps\Tower Mine\Current 10-2013\Plate 28 - Gilson Seam.dwg, Model, 1/20/2014 3:59:19 PM

LEGEND:  
Mined Areas



PLATE 28  
Isopachs  
Current Mining  
Cover  
Drillhole Locations



TOWER DIVISION  
ABERDEEN SEAM

RECEIVED  
JAN 22 2014  
DIV. OF OIL, GAS & MINING

NOTE:  
ADDITIONAL LEASES SHALL BE ACQUIRED PRIOR TO MINING  
IN ANY CURRENTLY UNLEASED AREAS.

**ANDALEX**  
RESOURCES, INC.  
Tower Division



SCALE:  
500' 0' 1000' 2000'  
REVISION DATE: 20 JANUARY 2014 ACAD REF: Plate 29 - Aberdeen Seam 1-20-14

**Aberdeen Mine**  
P.O. Box 910  
East Carbon, Utah 84520

PLATE 29  
Isopachs  
Current Mining  
Cover  
Drillhole Location

G:\Current Drawings\WRP Maps\Tower Mine\Current 1-20-14\Plate 29 - Aberdeen Seam 1-20-14.dwg, Model, 1/20/2014 4:01:40 PM

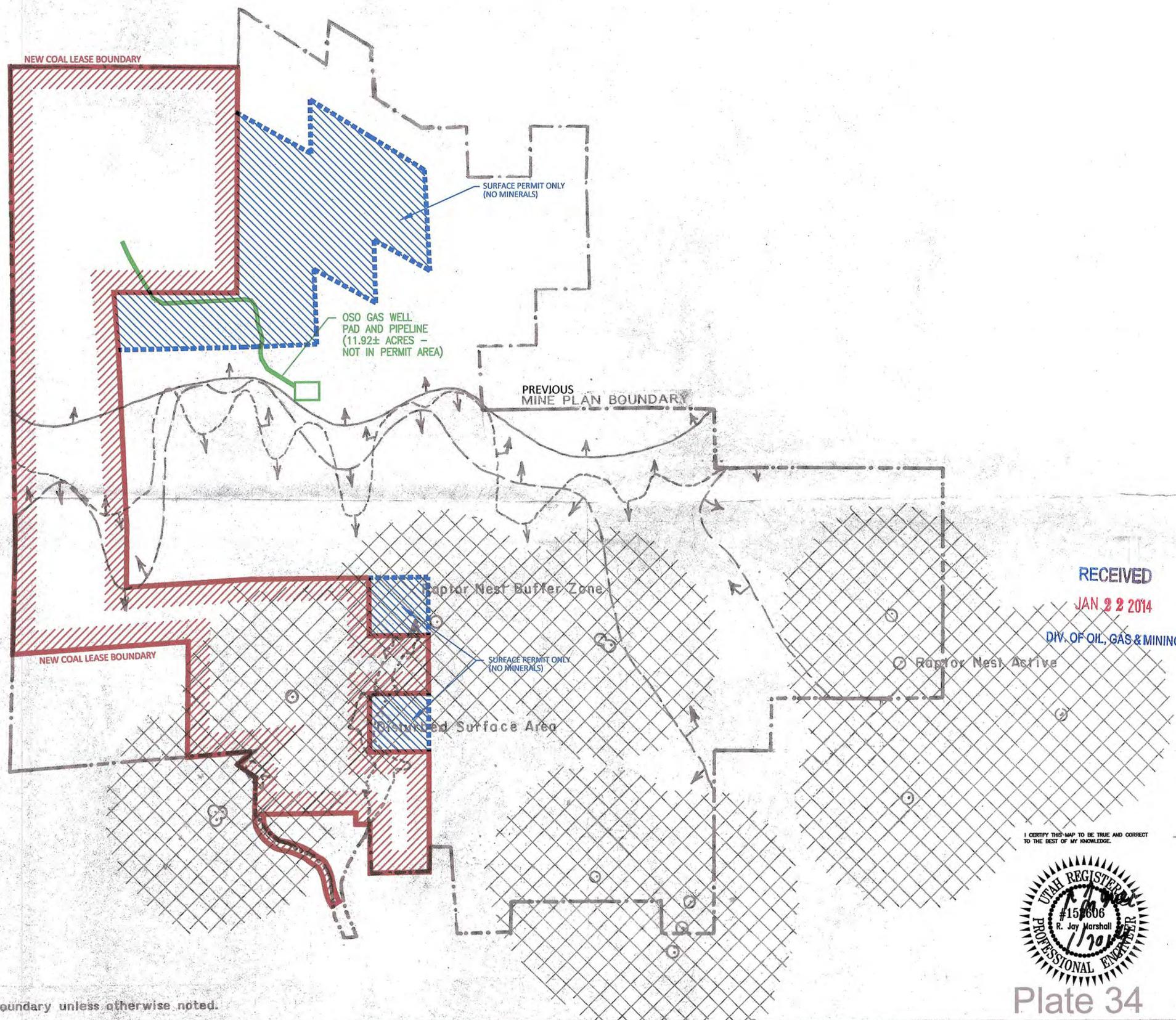
LEGEND:  
Mined Areas



Note:  
The Aberdeen Mine is now inactive, closed and sealed.

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





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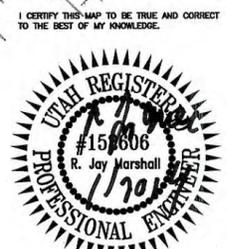


Plate 34

Note: Ranges extend to the permit boundary unless otherwise noted.

- NOTE**
- Raptor nests inactive unless noted.
  - This map consists of the following 7.5' quadrangles:  
 Matts Summit UT  
 N3945 - W11045/7.5 1969  
 Minnie Maud Creek West UT  
 N3945 - W11037.5/7.5 1969  
 Deadman Canyon UT  
 N3937.5 - W11037.5/7.5 1972  
 Photographed 1978  
 Helper UT  
 N3937.5 - W11045/7.5 1972

**LEGEND**

- Sage Grouse Brooding & Winter Habitat
- Elk Critical Summer Range
- Elk Winter Range
- Mule Deer Critical Summer Range
- Mule Deer Year-Long Range

1" = 2,000'

Andalex Resources, Inc.  
 Tower Division  
 Price, Utah

Centennial Project **RECEIVED**  
 Wildlife Distribution Map **JUL 15 2005**  
 DIV. OF OIL, GAS & MINING

Drawn By: JCB		07/07/98		Scale: 1 : 24,000	
No.	Date	Revisions	By		
1	12/28/98	Incidental Boundary	JB		
2	2/12/2002	Boundary Corrections	JB		
3	8/16/2002		JB		
4	6/20/04	I.B.C.	DG		
	07/12/05		DG		

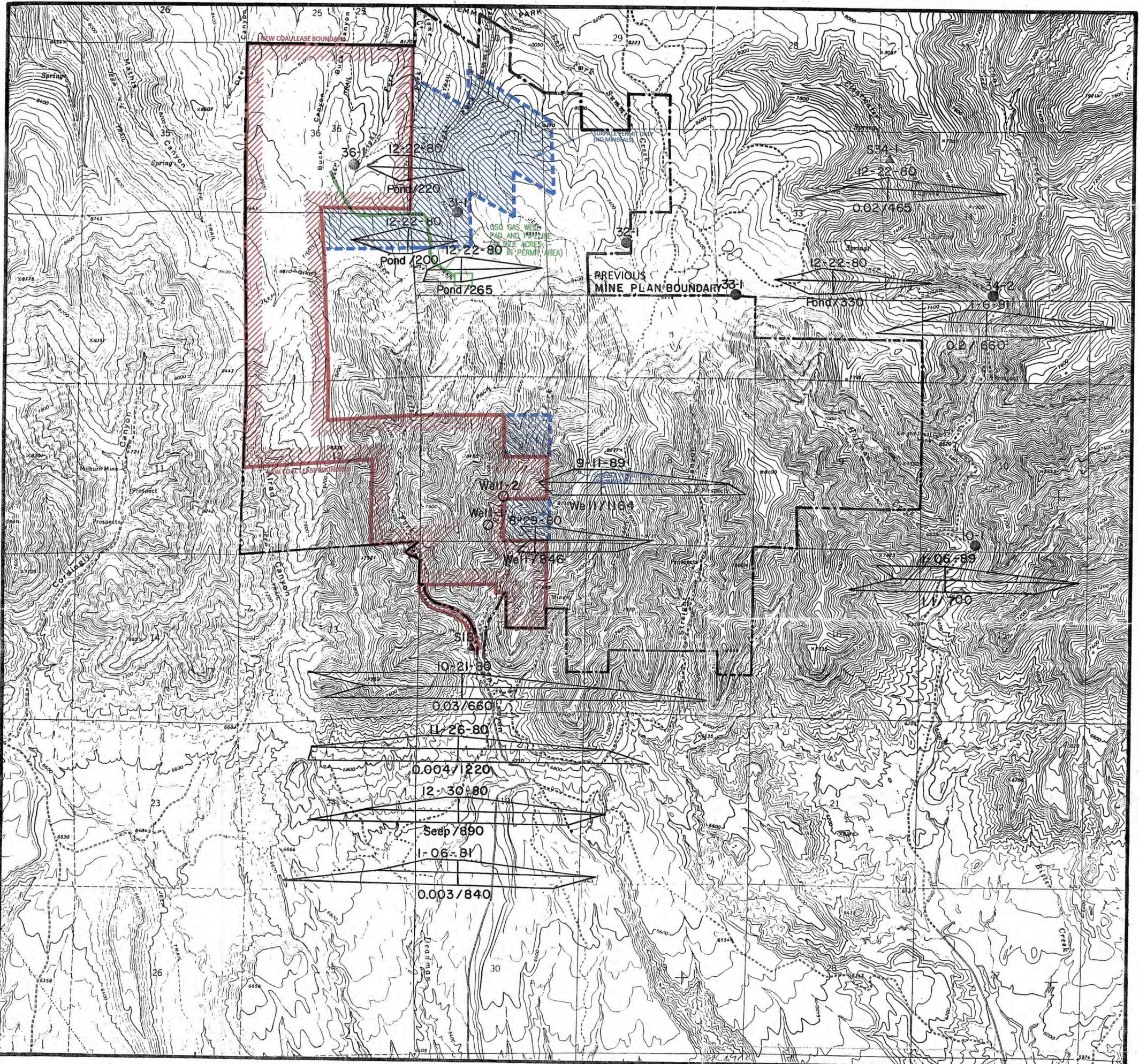


FIGURE 4- Water Quality Data of Water Wells, Streams, and Identified Seeps and Springs Within and Adjacent to the Andalex Resources, Inc. Mine Plan Area

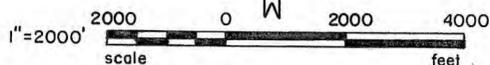
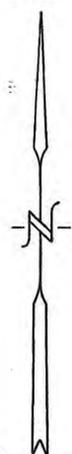
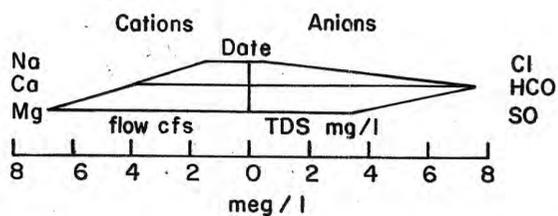
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**Legend**

- ▲ Ground Water Monitoring Station
- Surface Water Monitoring Station
- Well Monitoring Station



Prepared by:  
Vaughn Hanson Associates  
Salt Lake City, Utah  
February 1981

Revisions:

03/06/98	JCB	Andalex Resources, Inc.
05/14/98	JCB	Andalex Resources, Inc.
12/28/98	JCB	Andalex Res. Inc.
2/13/02	JCB	Andalex Res. Inc.
8/16/02	JCB	Andalex Res. Inc.
2/20/04	DG	
07/12/05	DG	
01/20/14	PJ	

**Figure 4**



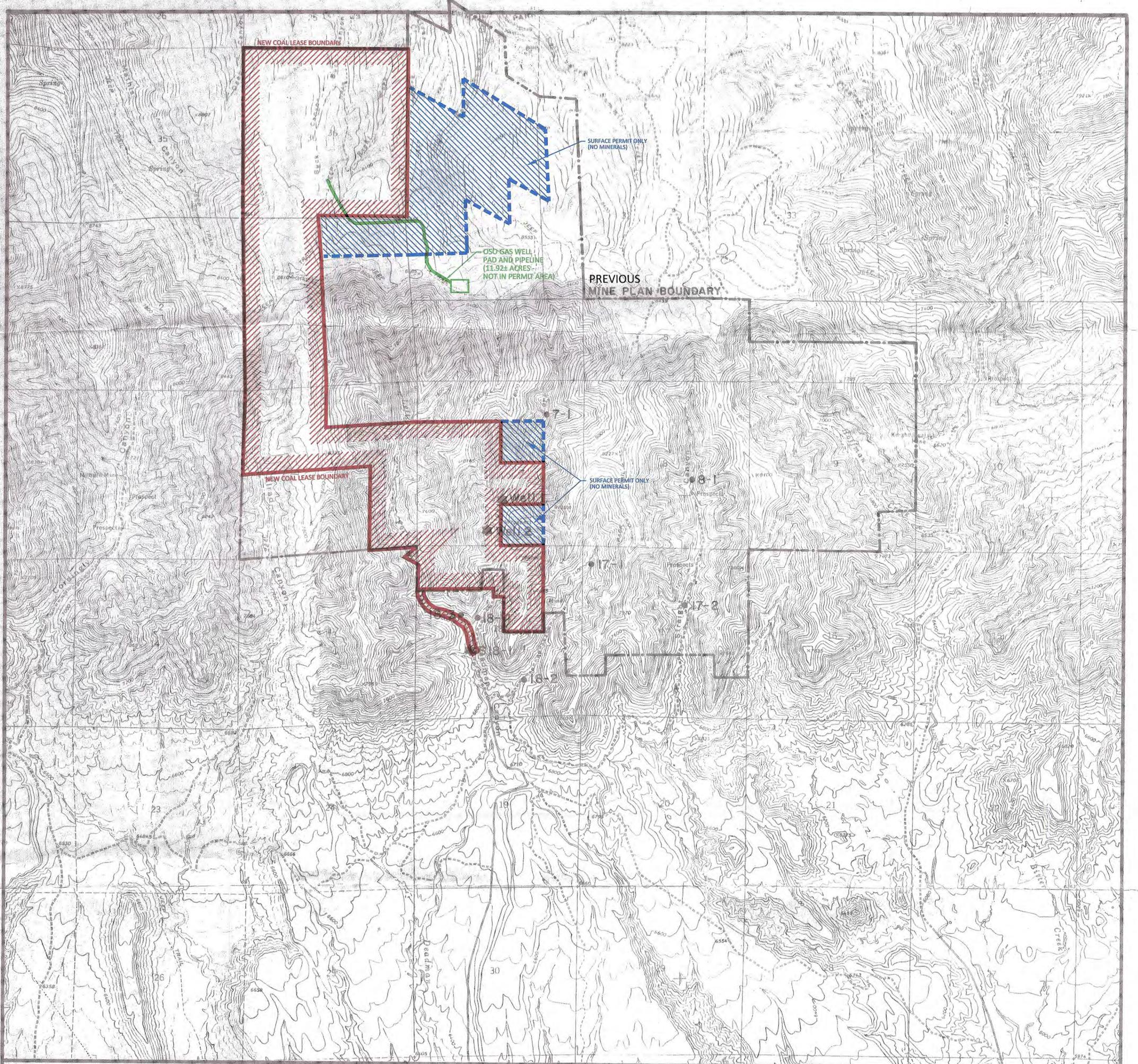
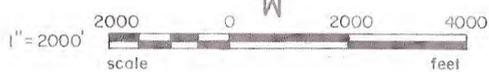
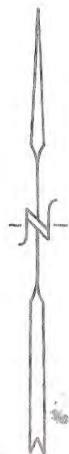


FIGURE 6- Location of the Proposed Ground and Surface Water Monitoring Stations of the Andalex Resources, Inc. Mine Plan Area

**Legend**

- ★ Ground Water Monitoring Station
- Surface Water Monitoring Station



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Prepared by:  
 Vaughn Hanson Associates  
 Salt Lake City, Utah  
 February 1981

Revisions:  
 03/06/98 JCB Andalex Resources, Inc.  
 05/14/98 JCB Andalex Resources, Inc.  
 01/20/14 PJ

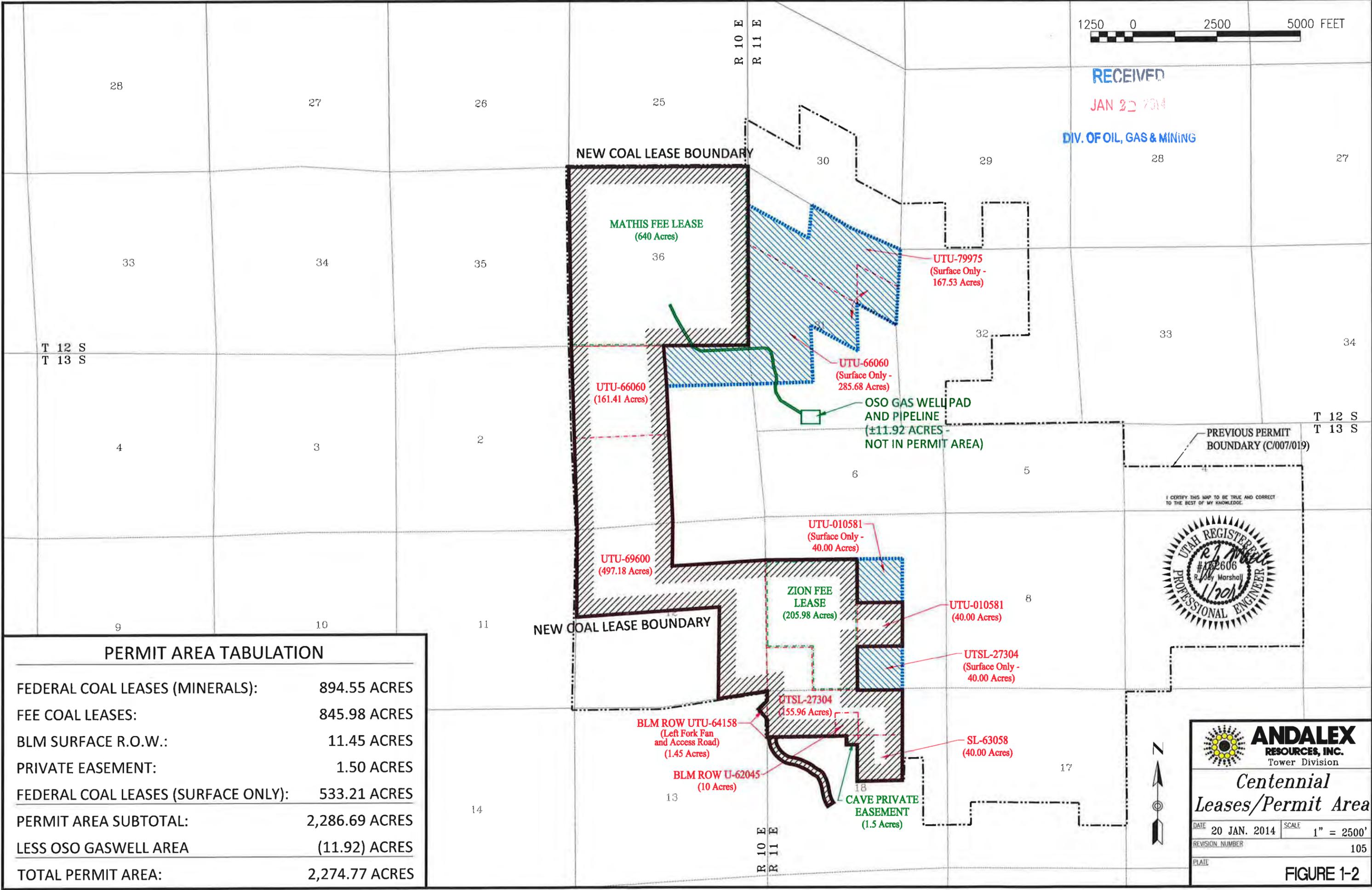
Figure 6

G:\Current Drawings\MRP Maps\Tower Mine\Current 1-20-14\Figure 1-2 1-20-14.dwg, Letter Size, 1/20/2014 9:16:39 AM

1250 0 2500 5000 FEET

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**PERMIT AREA TABULATION**

FEDERAL COAL LEASES (MINERALS):	894.55 ACRES
FEE COAL LEASES:	845.98 ACRES
BLM SURFACE R.O.W.:	11.45 ACRES
PRIVATE EASEMENT:	1.50 ACRES
FEDERAL COAL LEASES (SURFACE ONLY):	533.21 ACRES
PERMIT AREA SUBTOTAL:	2,286.69 ACRES
LESS OSO GASWELL AREA	(11.92) ACRES
<b>TOTAL PERMIT AREA:</b>	<b>2,274.77 ACRES</b>

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*Centennial Leases/Permit Area*

DATE 20 JAN. 2014 SCALE 1" = 2500'  
REVISION NUMBER 105  
PLATE

**FIGURE 1-2**

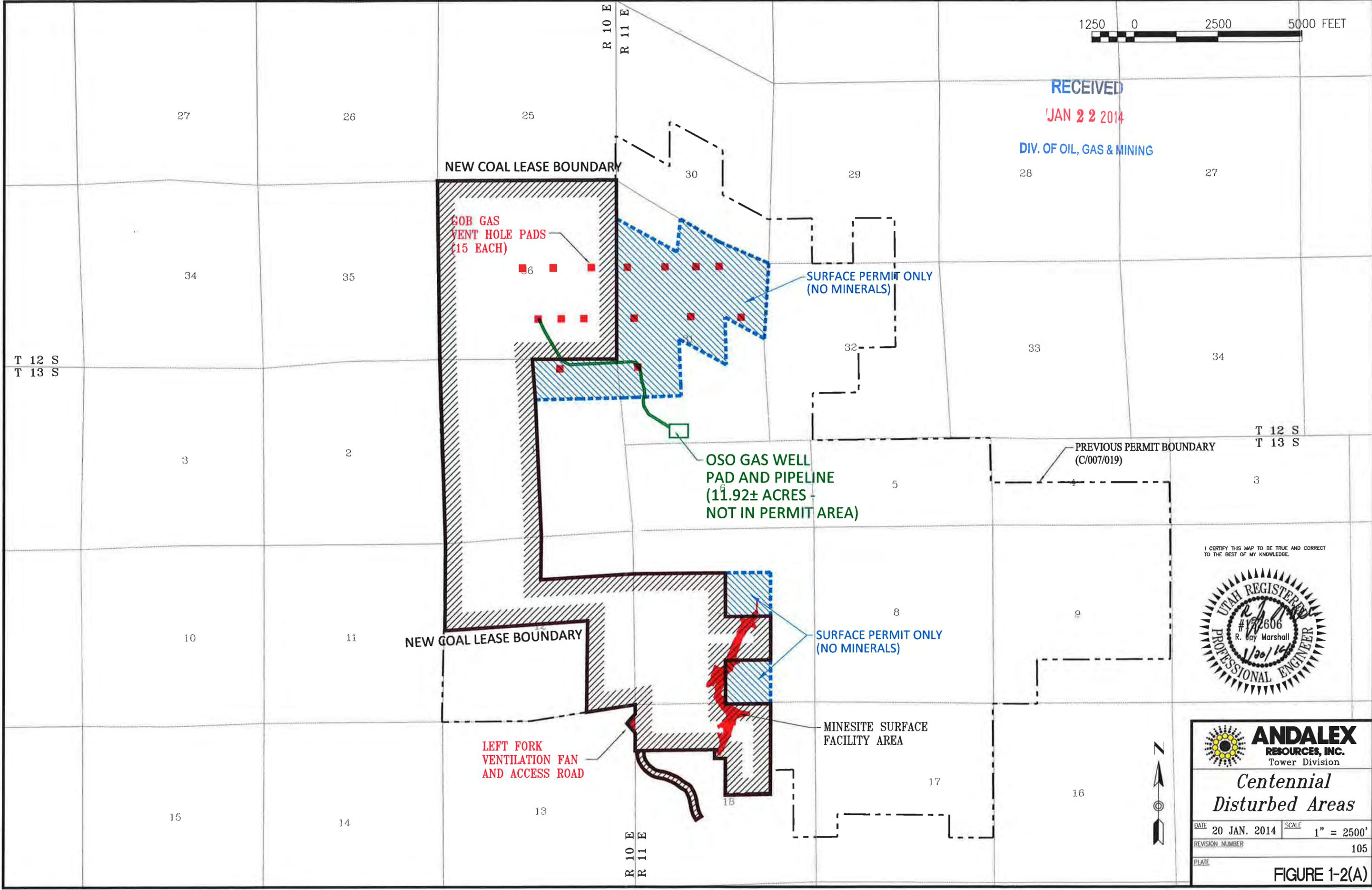
G:\Current Drawings\MRP Maps\Tower Mine\Current 1-20-14\Figure 1-2A 1-20-14.dwg, Letter Size, 1/20/2014 9:22:32 AM

1250 0 2500 5000 FEET

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**ANDALEX**  
RESOURCES, INC.  
Tower Division

*Centennial  
Disturbed Areas*

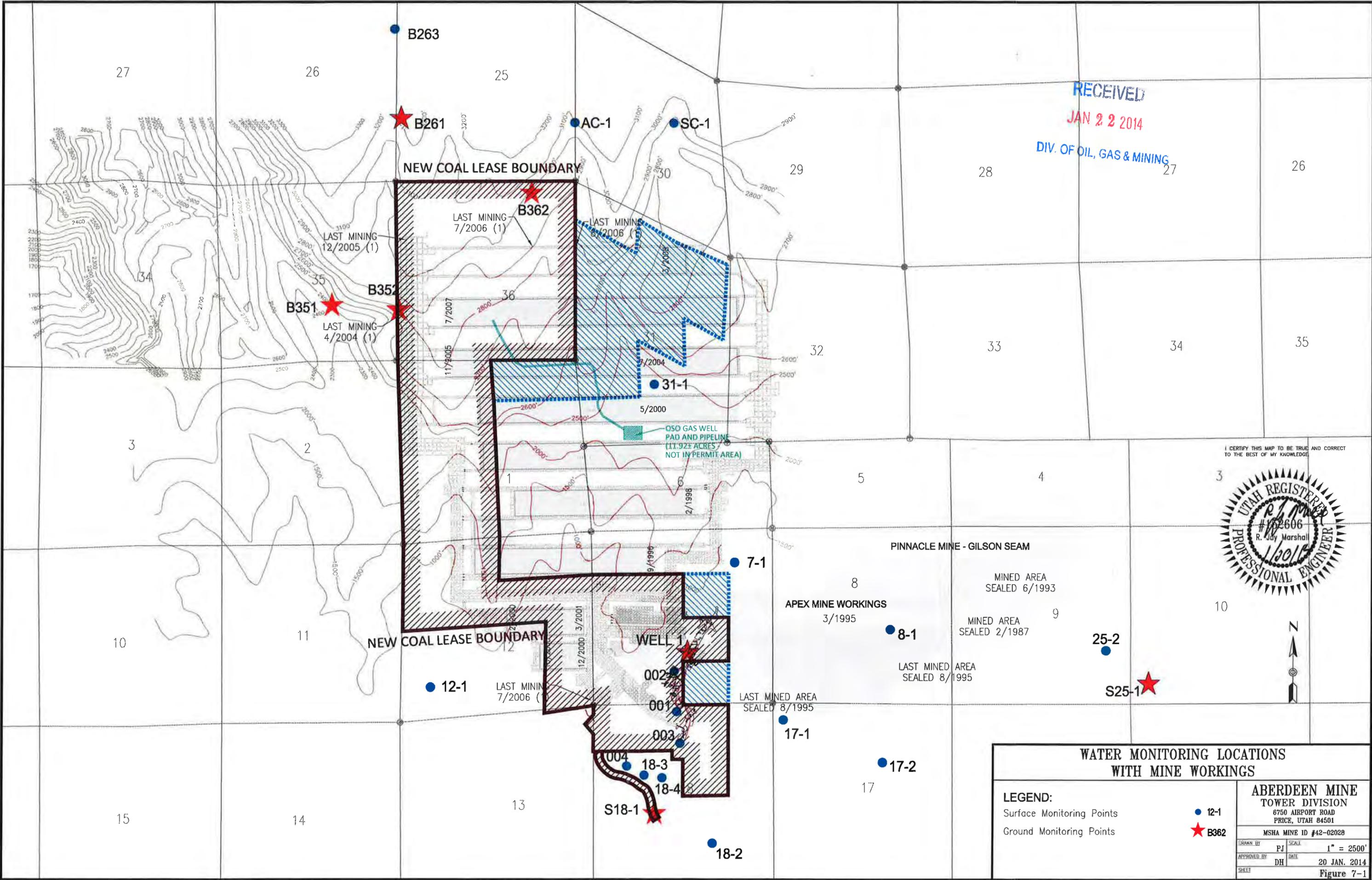
DATE 20 JAN. 2014 SCALE 1" = 2500'

REVISION NUMBER 105

PLATE

FIGURE 1-2(A)

G:\Current Drawings\MPR Maps\Tower Mine\Current 1-20-14\Figure 7-1 - Water Monitoring Locations 1-20-14.dwg, 11x17, 1/20/2014 10:41:43 AM

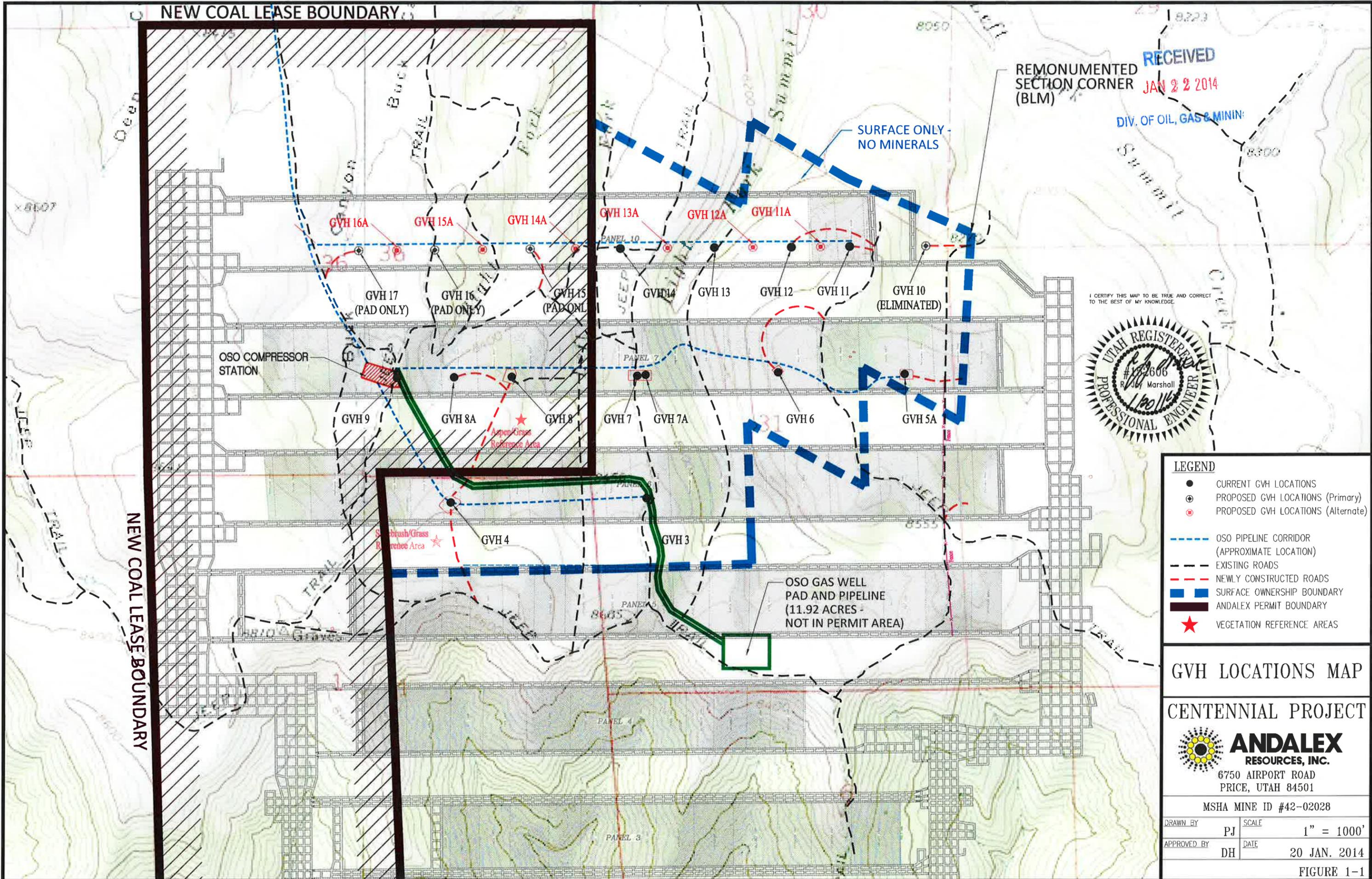


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WATER MONITORING LOCATIONS WITH MINE WORKINGS	
<b>LEGEND:</b> Surface Monitoring Points ● 12-1 Ground Monitoring Points ★ B362	<b>ABERDEEN MINE</b> TOWER DIVISION 6750 AIRPORT ROAD PRICE, UTAH 84501 MSHA MINE ID #42-02028
	DRAWN BY PJ SCALE 1" = 2500' APPROVED BY DH DATE 20 JAN. 2014 SHEET Figure 7-1



- LEGEND**
- CURRENT GVH LOCATIONS
  - ⊕ PROPOSED GVH LOCATIONS (Primary)
  - ⊙ PROPOSED GVH LOCATIONS (Alternate)
  - OSO PIPELINE CORRIDOR (APPROXIMATE LOCATION)
  - - - EXISTING ROADS
  - - - NEWLY CONSTRUCTED ROADS
  - SURFACE OWNERSHIP BOUNDARY
  - ANDALEX PERMIT BOUNDARY
  - ★ VEGETATION REFERENCE AREAS

**GVH LOCATIONS MAP**

**CENTENNIAL PROJECT**



6750 AIRPORT ROAD  
PRICE, UTAH 84501

MSHA MINE ID #42-02028

DRAWN BY	PJ	SCALE	1" = 1000'
APPROVED BY	DH	DATE	20 JAN. 2014

FIGURE 1-1