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ANDALEX
RESOURCES, INC.

DIV OF OIL, GAS & MINING

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

#6046

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

January 30, 2020

Attn: Steve Christensen
Permit Supervisor

Re: Andalex Resources, Inc. C/007/019 T19-003
Midterm Response - Clean Copies Task 6046

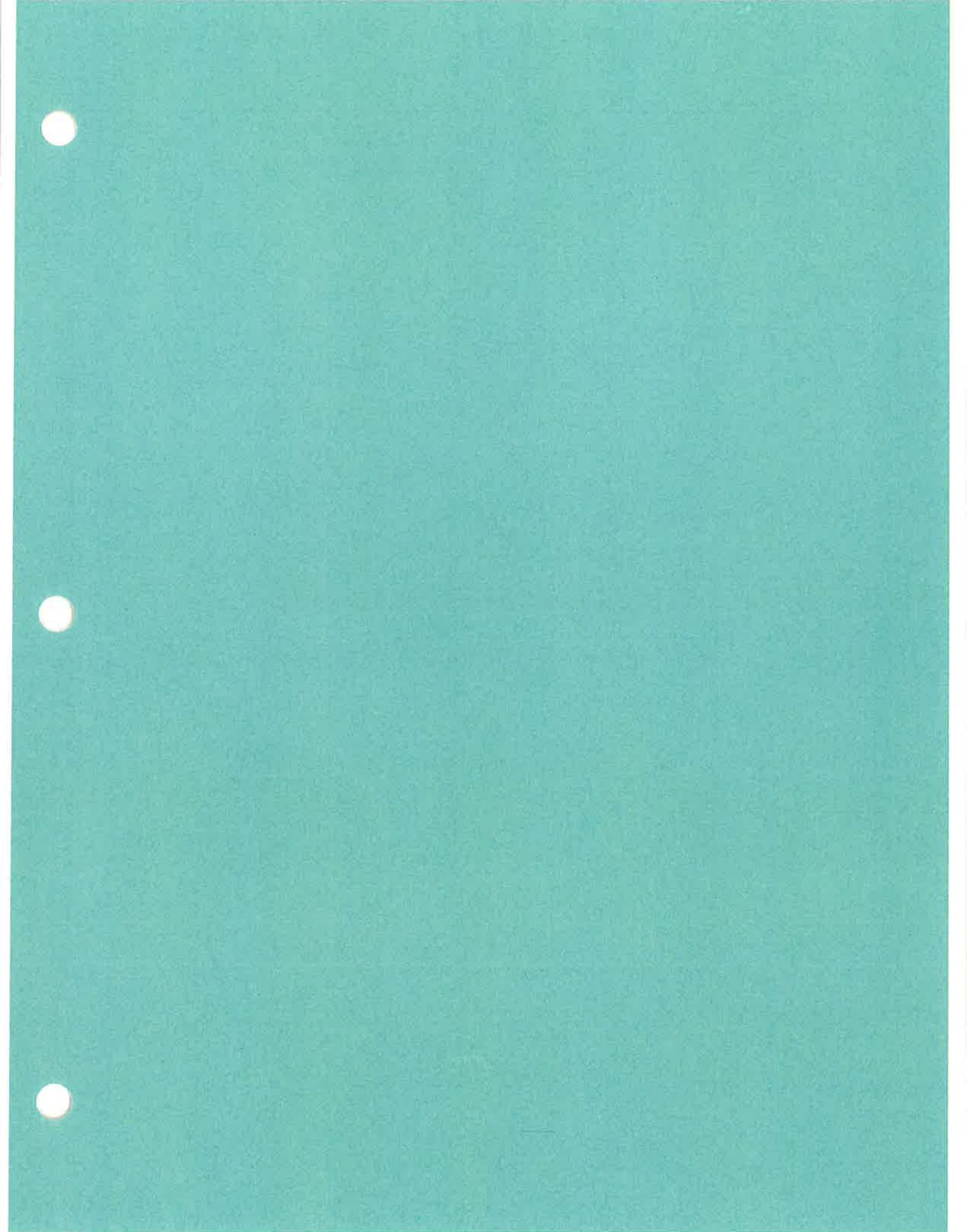
Dear Mr. Christensen,

Attached you will find two clean copies of the Centennial Midterm Review, Task #6046. These clean copies also include a signed and stamped copy of the bond rider increase.

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

Sincerely,

Karin Madsen
Environmental Permitting Engineer
UtahAmerican Energy, Inc.



R645-301-112.200. NAMES, LOCATIONS, RESIDENT AGENT

Resident Agent who will accept service of process for Andalex Resources, Inc., Centennial Mines, ACT/007/019:

Karin Madsen
Andalex Resources, Inc.
P.O. Box 910
East Carbon, Utah 84520
phone: (435) 888-4000

Also, see Chapter 8 for notarized statement pertaining to completeness and accuracy.

R645-301-112.300. OWNERSHIP AND CONTROL

See Appendix 1, Part 1 for ownership and control information.

R645-301-112.310. OFFICERS AND SHAREHOLDERS

See Appendix 1, Part 1 for ownership and control information.

R645-301-112.320. OWNERSHIP AND CONTROL RELATIONSHIP TO APPLICANT

See Appendix 1, Part 1 for ownership and control information.

R645-301-112.400. PENDING, CURRENT AND PREVIOUS COAL PERMITS

See Appendix 1, Part 2 for current and previous coal mining permits

R645-301-112.500. SURFACE AND MINERAL OWNERSHIP

Owners of Record of Surface and Subsurface Contiguous Areas

Names and addresses of all owners of record for all surface and subsurface areas contiguous to and within the permit area are listed below and indicated on Plates 2 and 3.

Subsurface Owners

Franklin Real Estate Company (American Electric Power)
#2 Broadway
New York, New York (contiguous)

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Bureau of Land Management
Utah State Office
440 W. 200 S. #500
Salt Lake City, Utah 84101 (contiguous & within)

State of Utah
School and Institutional Trust Lands Administration (SITLA)
675 East 500 South, Suite 500
Salt Lake City, Utah 84102-2818 (contiguous)

Andalex Resources, Inc.
PO Box 910
East Carbon, Utah 84520 (within)

Sunedco Coal Company
7401 West Mansfield Avenue
Suite 418
P.O. Box 35-B
Lakewood, Colorado 80235 (contiguous & within)

Zion Security Corp.
10 East South Temple
Salt Lake City, Utah 84111 (within)

Mathis Land Co.
Sunnyside Star Route
445 West 610 North
Price, Utah 84501 (contiguous & within)

WEM Castlegate LLC.
3319 N. Univeristy Ave. #100
Orem, Utah 84604 (Gas rights)

Surface Owners

Bureau of Land Management
Utah State Office
440 W. 200 S. #500
Salt Lake City, Utah 84101 (contiguous & within)

Gladys R. Artman
P.O. Box 22
Mountain City, Georgia 30562 (contiguous & within)

F. and D. Shimmin
711 North 5th East
Price, Utah 84501 (contiguous)

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Sunedco Coal Company
7401 West Mansfield Avenue
Suite 418
P.O. Box 35-B
Lakewood, Colorado 80235 (contiguous & within)

R. and E. Nelson
583 Sundial Drive
Moab, Utah 84532 (within)

Mathis Land Co.
Sunnyside Star Route
445 West 610 North
Price, Utah 84501 (contiguous & within)

J & S Critchlow (Cave, et.al)
144 South 1650 East
Price, Utah 84501 (contiguous & within)

Andalex Resources Inc.
P.O. Box 910
East Carbon, Utah 84520 (within)

Zion Security Corporation
10 East South Temple
Salt Lake City, Utah 84111 (within)

State of Utah
School and Institutional Trust Lands Administration (SITLA)
675 East 500 South, Suite 500
Salt Lake City, Utah 84180 (contiguous & within)

R645-301-112.600. ADJACENT SURFACE AND MINERAL OWNERSHIP

Interests in Contiguous Lands

The Uintah-Southwest Utah Federal Coal Leasing Program has been dropped by the U.S. Department of Interior; therefore, previous expressions of interests by this company are no longer valid. However, existing unleased federally owned coal resources remain of interest to Andalex at such time as currently controlled reserves have been exhausted.

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R645-301-113.340. STATUS OF VIOLATIONS PROCEEDINGS

Appendix 1, Part 3

R645-301-113.350. ACTIONS TAKEN TO ABATE VIOLATIONS

Appendix 1, Part 3

R645-301-114. RIGHT-OF-ENTRY INFORMATION

Andalex Resources, Inc., in sublease agreement with AMCA Coal Leasing, Inc., currently holds approximately 2281.19 acres of private and federal coal leases, rights-of-way, and surface reclamation area listed below, all of which are included in their entirety within the permit area. Andalex bases its legal right to enter and conduct mining activities in the permit area pursuant to the language contained in the Federal Coal Leases, Section 2, Rights of Lessee as follows:

"The lessor, in consideration of any bonus paid (or to be paid if deferred), rents and royalties and other conditions hereinafter set forth, hereby grants and leases to the lessee the exclusive right and privilege to mine and dispose of all coal ... subject to the conditions, limitations and prohibitions provided in this lease and in applicable acts and regulations, the right to construct all works, buildings, structures, equipment, and appliances which may be necessary and convenient for the mining and preparation of the coal for market, and subject to the conditions herein provided, to use so much of the surface as may reasonably be required in the exercise of the rights and privileges herein granted..."

A similar right to enter and conduct underground mining activities is contained in the private lease agreement with the Zion Securities Corporation as follows:

"During the life of the lease, so long as lessee is not in default hereunder, it may freely prospect, mine and develop the lease premises, extract and sell such coal therefrom as it may elect, and use the surface and underground thereof for all lawful purposes including the exploration and mining to be conducted therein and thereon. It may also use the leased lands in connection with the mining and development of other lands which it may own, lease, or acquire as a part of its general mining operations in the area."

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Legal right-of-entry information for all federal and fee leases and rights-of-way are found in Appendix J, "Other Approvals". None of the leases' rights-of-entry is a subject of pending litigation.

The Federal Coal Leases are described as follows (please see Figure 1-2):

1) SL-027304:

Tract 1: (original lease)
T.13S., R.11E., SLM, Utah
Sec. 18; NW4NE4.

Tract 2: (lease modification)
T.13S., R.11E., SLM, Utah
Sec. 7; Lot 4;
Sec. 18; Lot 1, N2NE4NW4, SW4NE4NW4
entire lease (Tracts 1 and 2) containing 155.96 acres,
more or less.

This lease was originally assigned to W.F. Olsen on September 1, 1925. On May 1, 1959, the lease was assigned to F.H. Larson and then to Centennial Coal Associates on February 1, 1973. AMCA Coal Leasing, Inc., acquired the lease in February, 1977 and subsequently added Tract 2 through lease modification criteria on October 26, 1981. The lease was partially relinquished on March 12, 2012. See Appendix AA.

***** (NOTE: The legal description of the composite lease as described on the existing BLM lease form is as follows:

T.13S., R.11E., SLM, Utah
Sec. 7; Lot 4
Sec. 18; Lot 1, NW4NE4, N2NE4NW4, SW4NE4NW4
containing 155.96 acres, more or less.)*****

2) SL-063058:

Tract 1: (original lease) - relinquished

Tract 2: (lease modification)
T.13S., R.11E., SLM, Utah
Sec. 18; SW4NE4
entire lease containing 40 acres, more or less.

The original lease of 80 acres was assigned to C.D. Sutton on August 3, 1942. On July 27, 1950, the lease was amended to embrace 200 acres. An additional 40 acres was added December 13, 1951. The leases were posted to F.H. Larson on

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May 1, 1970 and then to Centennial Coal Associates on February 1, 1973. AMCA Coal Leasing, Inc., acquired the lease in February, 1977 and subsequently added Tract 2 through the federal lease modification criteria. The lease was partially released on March 12, 2012 and April 20, 2012. See Appendix AA.

***** (NOTE: The legal description of the composite lease as described on the existing BLM lease form is as follows:
T.13S., R.11E., SLM, Utah
Sec. 18; SW4NE4
containing 40 acres, more or less.)*****

3) UTU-010581:

Tract 1: (original lease)
T.13S., R.11E., SLM, Utah
Sec. 7; NW4SE4.

Tract 2: (lease modification) - relinquished
entire lease containing 40 acres, more or less.

This lease was assigned to C.D. Sutton on February 1, 1956. On May 1, 1970 the lease was assigned to F.H. Larson and then to Centennial Coal Associates on February 1, 1973. AMCA Coal Leasing, Inc., acquired the lease in February, 1977 and subsequently added Tract 2 through the federal lease modification criteria. Lease was partially relinquished on March 12, 2012 and April 20, 2012. See Appendix AA.

***** (NOTE: The legal description of the composite lease as described on the existing BLM lease form is as follows:
T.13S., R.11E., SLM, Utah
Sec. 7; NW4SE4
containing 40 acres, more or less.)*****

4) U-05067-08916

Lease was relinquished on March 12, 2012. See Appendix AA.

5) UTU-66060

Tract 1: (original lease)
T.13S, R.10E., SLM, Utah
Sec. 1; Lots 3 and 4, S2NW4

Tract 2: (lease modification) - relinquished
entire lease containing 161.41 acres more or less.

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UTU-66060 is subject to the terms and conditions set forth in the Federal Coal Lease issued by the Bureau of Land Management October 3, 1994. Lease was partially relinquished on March 12, 2012 and April 20, 2012. See Appendix AA.

***** (NOTE: The legal description of the composite lease as described on the existing BLM lease form is as follows:
T.13S., R.10E., SLM, Utah
Sec. 1; Lots 3 and 4, S2NW4
containing 161.41 acres more or less.)*****

6) UTU-69600

T.13S., R10E. SLM, Carbon County, Utah
Sec. 1: SW4
Sec. 12: Lots 3-7, Lot 11, W2NW4,
containing 497.13 acres, more or less

The name and address of the lessor is American Electric Power Service Corporation, Fuel Supply Department, P.O. Box 700, Lancaster, Ohio 43130. This agreement was executed on May 1, 1992. Lease was partially relinquished on March 12, 2012. See Appendix AA.

7) UTU-79975

Lease was relinquished on August 20, 2013.

The private fee leases are described as follows (see Figure 1-2):

8) Mathis Fee Lease

T.12S., R.10E., SLM, Utah
Sec. 36; All
containing 640 acres, more or less.

9) Zion Fee Lease

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 7; S2NW4, N2SW4, SE4SW4
containing 200 acres, more or less.

The name and address of the lessor is Zion Securities

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Corporation, 10 East South Temple Street, Salt Lake City, Utah. This lease was originally made and entered into between Zion's and Centennial Coal Associates on August 1, 1972. AMCA Coal Leasing Inc. acquired the lease in February, 1977.

10) Sunedco Fee Lease

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 9; E2NE4, SW4NE4, N2SE4
containing 0 acres, more or less.

The name and address of the lessor is Sunedco Coal Company, 7401 West Mansfield Avenue, Suite 418, P.O. Box 35-B, Lakewood, Colorado 80235. AMCA Coal Leasing, Inc. acquired the lease in June, 1988.

The lease was removed from the LMU and Permit Area on March 12, 2012.

11) Andalex Fee

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 9; SE4NW4
containing 0 acres, more or less.

The lease was removed from the LMU and Permit Area on March 12, 2012.

The surface rights-of-way are described as follows (see Figure 1-2):

12) BLM Right-of-Way U-62045

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 18; SE4NE4NW4 containing 10 acres, more or less.

This right-of-way was granted for construction of some of the surface facilities in Deadman Canyon, namely certain structures associated with the Aberdeen mine surface facilities in the southernmost area of the mineyard.

The grantor is the Department of the Interior, Bureau of Land Management, 400 West 200 South, Suite 500, Salt Lake City, Utah 84145-0155

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13) BLM Right-of-Way UTU-64158

T.13S., R.10E., SLM, Carbon County, Utah
Sec. 13; Lot 1 (portions of)

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 18; Lot 2, NE4SW4 (portions of) containing 1.45
acres, more or less.

This right-of-way was granted for construction of the main
mine fan installation and the access road in the Left Fork.

The grantor is the Department of the Interior, Bureau of
Land Management, 400 West 200 South, Suite 500, Salt Lake
City, Utah 84145-0155

14) Cave Private Land Easement

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 18; A portion of NE4NE4SE4NW4 containing 1.5
acres, more or less.

This easement was granted for the construction of sediment pond E
located at the extreme southern end of the mineyard.

This easement has been granted by David R Cave et al whose
address is 3379 East Hwy 6, Price, Utah 84501.

The surface areas retained in the permit for reclamation
purposes:

15) GVH Reclamation

T.12 S., R.11 E., SLM, Carbon County, Utah
Sec. 31; Lots 2-8, 10-12, 14-16; 21

T.13 S., R10 E., SLM, Carbon County, Utah
Sec. 1; Lots 1-2

This area is for surface areas only as the coal lease below (UTU-
79975) was relinquished on April 20, 2012.

16) Surface Facility Reclamation

T.13 S., R.11 E., SLM, Carbon County, Utah
Sec. 7; SW4NE4, SW4SE4

This area is for surface areas only as the coal leases below

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(UTU-010581 and UTSL-27304 respectively) were relinquished on April 20, 2012.

<u>Permit Area</u>	Total lease area (described above)	1740.48 acres
	Surface Area responsibilities (for reclamation purposes)	+546.16 acres
	Less Oso gaswell area	<u>-5.45 acres</u>
	Total permit area	2281.19 acres

The following is a description of the Permit Area as shown on Figure 1-2. This is a composite description of all federal and private coal leases and rights-of-way listed above which comprise the permit area, less the Oso gaswell and pipeline area, which has been deleted from the permit area. Oso Oil and Gas Properties, LLC (15810 Park Ten Place, Suite 160, Houston TX 77084) is the owner of the gas rights from all gas being liberated from the gob vent holes (GVH) on the leases associated with the Centennial Project. Refer to Appendix Z for a complete legal description of the OSO gaswell/pipeline. Sections marked with an asterisk (*) are included in their entirety within the permit area.

T.12S., R.10E., SLM, Carbon County, Utah
Sec. 36; All (Mathis fee lease)
except for 1.64 acres associated with the Oso
pipeline (see Appendix Z)

T.12S., R.11E., SLM, Carbon County, Utah
Sec. 31; Lots 2-5, 7-8, 10-12, 14-16, 21 (surface only for
GVH reclamation),
except for 1.83 acres associated with the Oso
gaswell and pipeline (see Appendix Z)

T.13S., R.10E., SLM, Carbon County, Utah
Sec. 1; Lots 1-2 (surface only for GVH reclamation),
except for 1.98 acres associated with the Oso
pipeline (see Appendix Z)

Lots 3-4, S2NW4 (part of UTU-66060)

SW4 (part of UTU-69600)

Sec. 12*; Lots 3-7, 11, W2NW4 (part of UTU-69600)

Sec. 13. Lot 1 (a portion thereof, part of BLM ROW 64158)

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T.13S., R.11E., SLM, Carbon County, Utah
Sec. 7*; NW4SE4 (part of UTU-010581)

Lot 4 (part of SL-027304)

Lots 2-3, SW4NW4, E2SW4 (Zions Fee Lease)

SW4NE4, SW4SE4 (Surface only for surface facility
reclamation)

Sec. 18; SW4NE4 (part of SL-063058)

Lot 1, NW4NE4, N2NE4NW4, SW4NE4NW4 (part of SL-
027304)

SE4NE4NW4 (BLM ROW U-62045)

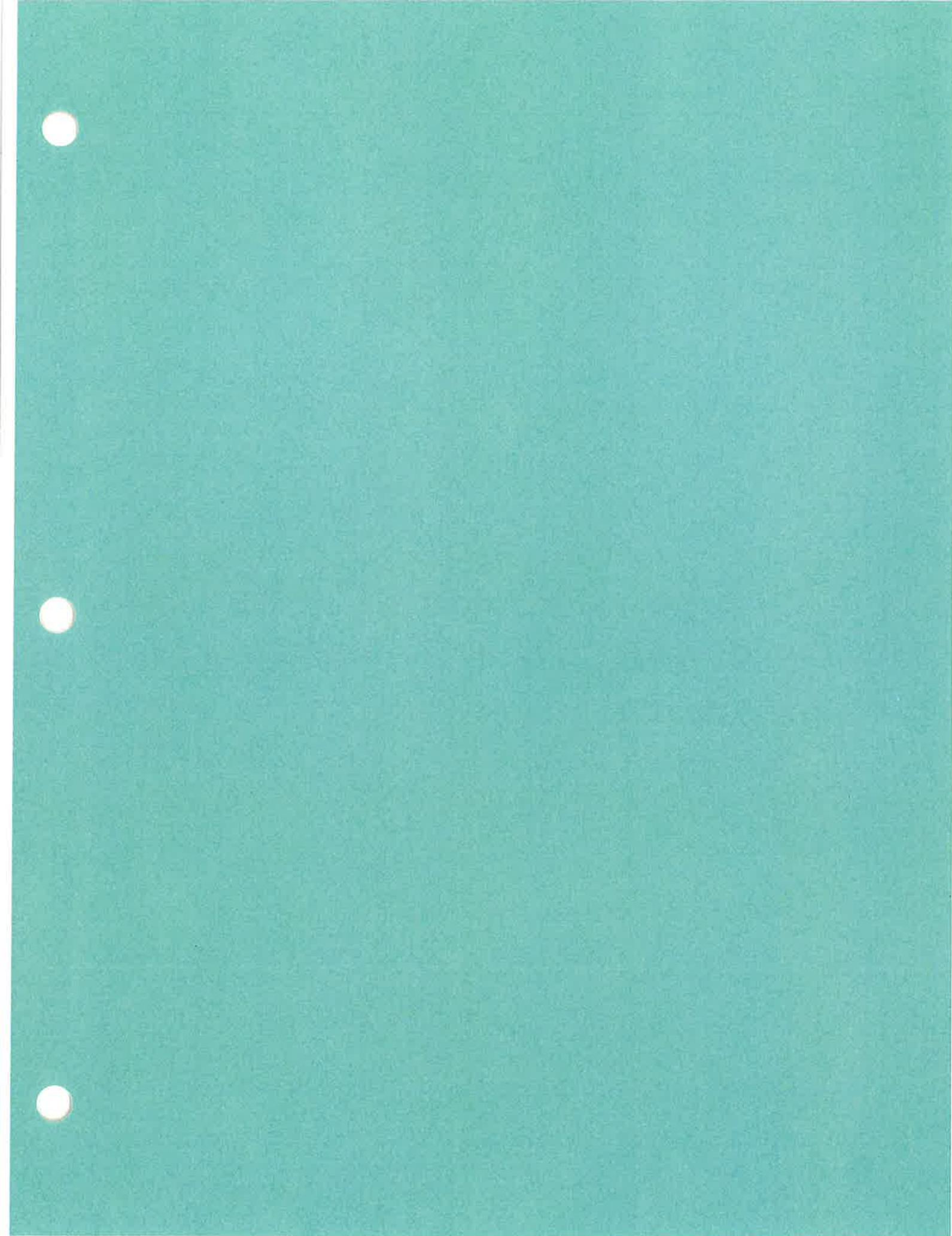
Lot 2, NE4SW4 (portions thereof, part of BLM ROW
UTU-64158)

NE4NE4SE4NW4 (a portion thereof, Cave private
surface easement)

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Div. of Oil, Gas & Mining



ANDALEX RESOURCES, INC.

APPENDIX AA

CENTENNIAL PROJECT
Lease Relinquishments

C/007/019

(Revised)
August, 2019

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Div. of Geology & Energy

Narrative

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. 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 relinquishment phases. The first relinquishment, approved March 12, 2012, reduced the Federal coal leased acreage from 5,436.24 down to 2,813.48. The second relinquishment, approved April 20, 2012, reduced the Federal coal lease even further down to 894.50 acres. UEI retained all areas of surface disturbance conducted in association with the underground mining, and surface access to the gob-vent holes (GVH) was retained through surface use agreements.

The permit acreage dropped from 6,516.91 down to 2,281.19 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 difficult to directly correlate the Lease Relinquishment Acres to Permit Acres. Thus, the Permit Acreage has been calculated utilizing the remaining Federal and Private coal lease acreage from the logical mining unit (LMU) and delineative parcels for surface areas for which UtahAmerican Energy, Inc. holds reclamation responsibilities.

The table below (Table 1) represents the lease relinquishment histories of the various leases accrued by the Centennial Project. See Chapter 1 for the legal description of the permit area, which includes the items below.

The attached Figure 1, "Lease Relinquishment Map," represents when and where lease areas were relinquished. Figure 2, "Current Permit Area," represents the current mineral leases, surface rights-of-way and easements, and delineative surface areas retained in the permit for reclamation purposes.

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TABLE 1

Centennial Project Permit Lease Areas

Federal Coal Leases

1) SL-027304

A. Legal description prior to lease relinquishments:

T.13S., R.11E., SLM, Utah
Sec. 7; Lot 4, S2SE4
Sec. 18; Lot 1, NW4NE4, N2NE4NW4, SW4NE4NW4
Containing 235.96 acres (more or less)

B. Areas relinquished on March 12, 2012:

None

C. Areas relinquished on April 12, 2012:

T.13S., R.11E., SLM, Utah
Sec. 7; S2SE4
Containing 80 acres (more or less).

D. Current lease description

T.13S., R.11E., SLM, Utah
Sec. 7; Lot 4
Sec. 18; Lot 1, NW4NE4, N2NE4NW4, SW4NE4NW4
Containing 155.96 acres (more or less).

2) SL-063058

A. Legal description prior to lease relinquishments:

T.13S., R.11E., SLM, Utah
Sec. 8; S2SW4
Sec. 17; NW4, NE4NW4SW4, W2NW4SW4
Sec. 18; NE4NE4, E2SE4NE4, NW4SE4NE4, SW4NE4,
E2NE4SE4
Containing 400 acres (more or less).

B. Areas relinquished on March 12, 2012:

T.13S., R.11E., SLM, Utah
Sec. 17; SW4NW4, W2NW4SW4, NE4NW4SW4
Sec. 18; E2SE4NE4, NW4SE4NE4, E2NE4SE4
Containing 120 acres (more or less).

C. Areas relinquished on April 12, 2012:

T.13S., R.11E., SLM, Utah
Sec. 8; S2SW4

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Sec. 17; N2NW4, SE4NW4
Sec. 18; NE4NE4
Containing 240 acres (more or less).

D. Current lease description

T.13S., R.11E., SLM, Utah
Sec. 18; SW4NE4
Containing 40 acres (more or less).

3) UTU-010581:

A. Legal description prior to lease relinquishments:

T.13S., R.11E., SLM, Utah
Sec. 5; All
Sec. 6; All
Sec. 7; Lot 1, NE4NW4, NE4, N2SE4
Sec. 8; N2, N2S2, S2SE4
Sec. 9; W2SW4
Sec. 17; NE4, N2NE4SW4, NE4SE4, N2NW4SE4
Containing 1,842.39 acres (more or less).

B. Areas relinquished on March 12, 2012:

T.13S., R.11E., SLM, Utah
Sec. 5; Lots 1, 2, 3, 6, 7, 8
Sec. 6; Lots 3, 4, 5, 6
Sec. 7; Lot 1, E2NE4, NE4SE4
Sec. 8; N2, NW4SW4
Sec. 9; W2SW4
Sec. 17; SW4NE4, NE4SE4, N2NW4SE4, N2NE4SW4
Containing 1,125.23 acres (more or less).

C. Areas relinquished on April 12, 2012:

T.13S., R.11E., SLM, Utah
Sec. 5; Lots 4 and 5
Sec. 6; Lots 1, 2, 7, 8
Sec. 7; W2NE4, NE4NW4
Sec. 8; NE4SW4, SE4
Sec. 17; NW4NE4, E2NE4
Containing 677.16 acres (more or less).

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D. Current lease description

T.13S., R.11E., SLM, Utah
Sec. 7; NW4SE4
Containing 40 acres (more or less).

4) U-05067-08916:

A. Legal description prior to lease relinquishments:

T.13S., R.11E., SLM, Utah
Sec. 4; Lots 5-8
Sec. 9; NW4NE4, N2NW4, SW4NW4, NE4SW4
Containing 360 acres (more or less).

B. Areas relinquished on March 12, 2012:

All - Lease fully relinquished - 360 acres (more or less).

5) UTU-66060

A. Legal description prior to lease relinquishments:

T.12S., R.11E. SLM, Utah
Sec. 31; Lots 3-6, Lots 12-22
Sec. 32; W2SW4, SW4NW4

T.13S., R.10E., SLM, UTAH
Sec. 1; Lots 1-8, S2N2
Sec. 12; Lot 1
Containing 1093.22 acres (more or less).

B. Areas relinquished on March 12, 2012:

T.12S., R.11E., SLM, Utah
Sec. 31; Lots 6, 19, 20, 22
T.13S., R.10E., SLM, Utah
Sec. 1; Lots 5, 6, 7, 8, S2NE4
Sec. 12; Lot 1
Containing 406.13 acres (more or less)

C. Areas relinquished on April 12, 2012:

T.12S., R.11E., SLM, Utah
Sec. 31; Lots 3, 4, 5, 12, 13, 14, 15, 16, 17, 18, 21
Sec. 32; W2SW4, SW4NW4

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T.13S., R.10E., SLM, Utah
Sec. 1; Lot 1-2
Containing 525.68 acres (more or less).

D. Current lease description

T.13S., R.10E., SLM, Utah
Sec. 1; Lots 3-4, S2NW4
Containing 161.41 acres (more or less).

6) UTU-69600

A. Legal description prior to lease relinquishments:

T.13S., R.10E., SLM, Carbon County, Utah
Sec. 1; SW4
Sec. 12; Lots 2-11, W2W2, NE4SW4
Containing 801.48 acres (more or less).

B. Areas relinquished on March 12, 2012:

T.13S. R.10E., SLM, Carbon County, Utah
Sec. 12; Lots 2, 8, 9, 10, W2SW4, NE4SW4
Containing 304.35 acres (more or less).

C. Areas relinquished on April 12, 2012:

No relinquishments

D. Current lease description:

T.13S., R.10E., SLM, Carbon County, Utah
Sec. 1; SW4
Sec. 12; Lots 3, 4, 5, 6, 7, 11, W2NW4
Containing 497.13 acres (more or less).

7) UTU-79975

A. Legal description prior to lease relinquishments:

T.12S., R.11E., SLM, Utah
Sec. 29; SW4SW4, SW4SE4,
Sec. 30; Lots 4, 12, 14-16
Sec. 31; Lots 1, 2, 7-11
Sec. 32; W2NE4, E2NW4, NW4NW4, NE4SW4
Containing 702.73 acres (more or less).

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B. Areas relinquished on March 12, 2012:

T12S., R11E., SLM, Utah

Sec. 29; SW4SE4,

Sec. 30; Lot 12,

Sec. 32; NE4SW4, E2NW4, W2NE4

Containing 280 acres (more or less).

C. Areas relinquished on April 12, 2012:

All - Lease fully relinquished - 422.73 acres (more or less).

Private Fee Leases

8) Mathis Fee Lease

A. Current lease description:

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

Sec. 36; All

Containing 640 acres (more or less).

9) Zion Fee Lease

A. Current lease description:

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

Sec. 7; Lots 2-3, SE4NW4, E2SW4

Containing 205.98 acres (more or less).

Surface Permit Areas

10) BLM ROW #U-62045 (southern portion of surface facilities)

A. Current ROW description:

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

Sec. 18; SE4NE4NW4

Containing 40 acres.

11) BLM ROW #UTU-64158 (left fork fan site and access road)

A. Current ROW description:

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

Sec. 13; Portion of Lot 1

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T.13S., R.10E., SLM, Utah
Sec. 18; Portion of Lots 1-2, Portion of SE4NW4
Containing 1.45 acres.

12) Cave Private Easement

A. Current easement description:

T.13S., R.11E., SLM, Utah
Sec. 18; Portion of NE4SE4NW4
Containing 1.50 acres.

13) Gob Vent Holes (for reclamation responsibilities only)

A. Current delineative area description:

T.12S., R.11E., SLM, Utah
Sec. 31; Lots 2-5, 7-8, 10-12, 14-16,21
T.13S., R.11E., SLM, Utah
Sec. 1; Lots 1-2
Less WEM Castlegate Gas Well Pad and Pipeline (5.45 acres)
Containing 447.76 acres (more or less).

14) Surface Facilities (for reclamation responsibilities only)

A. Current delineative area description:

T.13S., R.11E., SLM, Utah
Sec. 7; SW4NE4, SW4SE4
Containing 80 acres (more or less).

Permit Summary

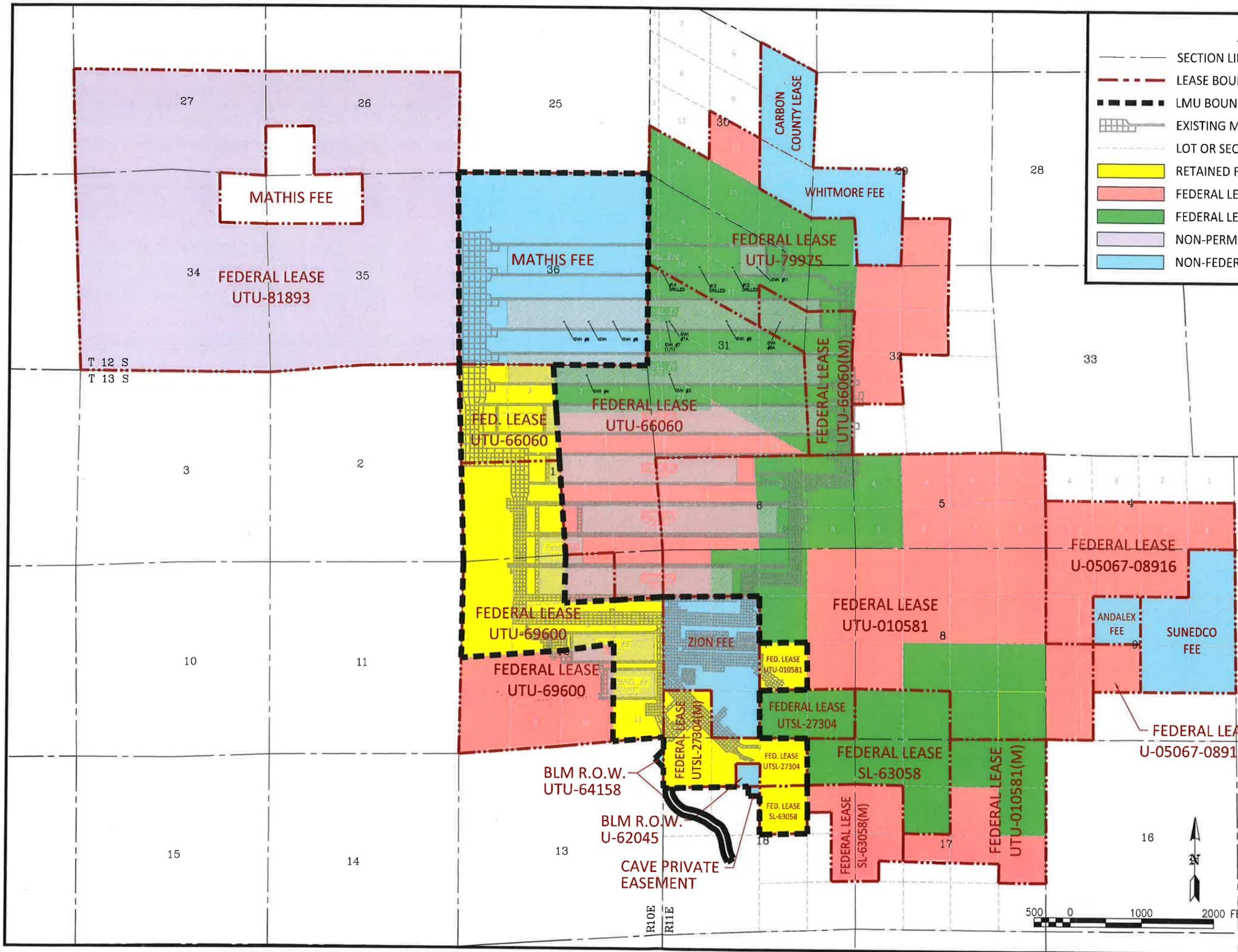
Total of Federal Leases:	894.50 acres
Total of Fee Leases:	845.98 acres
Total of Surface ROW and Easements:	12.95 acres
<u>Total of Surface Reclamation Only Areas:</u>	<u>527.76 acres</u>
Total Permit Area:	2,281.19 acres

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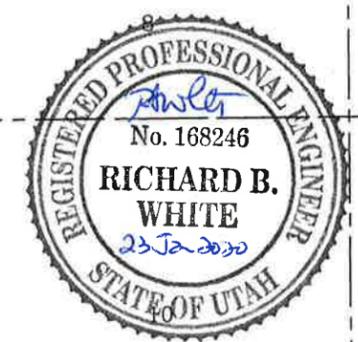
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LEGEND

- SECTION LINE
- - - LEASE BOUNDARY LINE
- LMU BOUNDARY LINE
- EXISTING MINE WORKINGS
- LOT OR SECTION DIVISION LINE
- RETAINED FEDERAL LEASE AREA
- FEDERAL LEASE AREA RELINQUISHED 3/12/12
- FEDERAL LEASE AREA RELINQUISHED 4/20/12
- NON-PERMITTED FED. LEASE AREA RELINQUISHED
- NON-FEDERAL LEASE AREAS



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ANDALEX RESOURCES, INC.

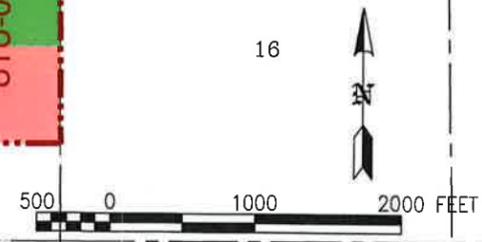
LEASE RELINQUISHMENTS

CENTENNIAL PROJECT
 6750 AIRPORT ROAD
 PRICE, UTAH 84501

PERMIT NUMBER: C/007/019

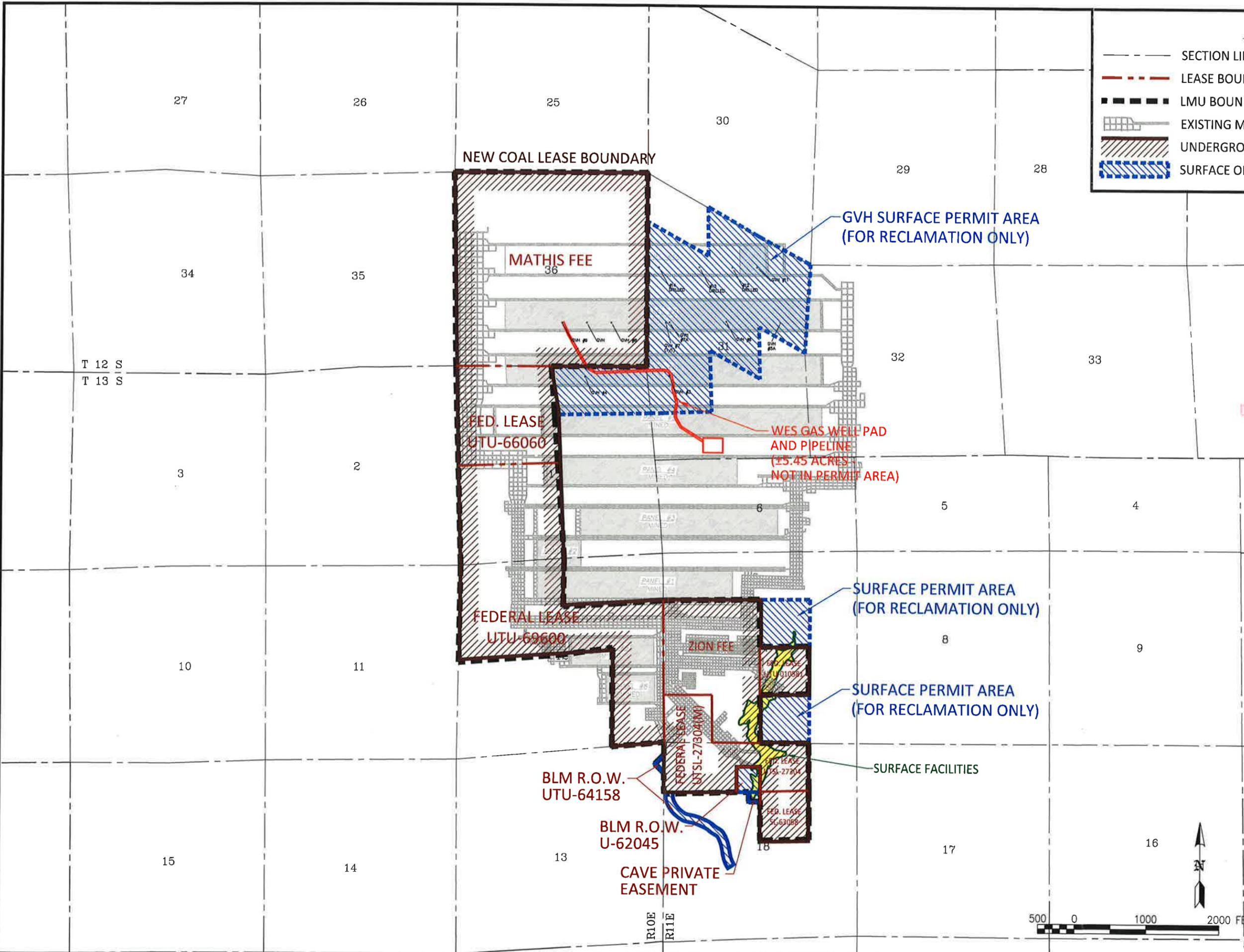
DRAWN BY	PJ	SCALE	1" = 1000'
APPROVED BY		DATE	28 AUGUST 2019
SHEET			

APPENDIX AA - FIGURE 1

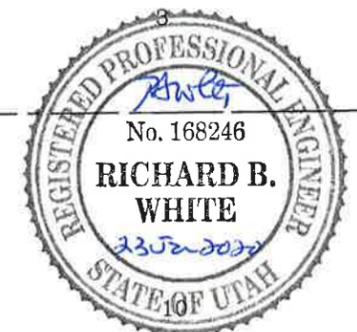


LEGEND

- SECTION LINE
- LEASE BOUNDARY LINE
- LMU BOUNDARY LINE
- EXISTING MINE WORKINGS
- UNDERGROUND COAL LEASES BOUNDARY
- SURFACE ONLY PERMIT AREAS



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CURRENT PERMIT AREA

CENTENNIAL PROJECT
 6750 AIRPORT ROAD
 PRICE, UTAH 84501

PERMIT NUMBER: C/007/019

DRAWN BY	SCALE
PJ	1" = 1000'
APPROVED BY	DATE
-	28 AUGUST 2019
SHEET	
APPENDIX AA - FIGURE 2	



G:\Current Drawings\MRP Maps\Tower Mine\Tower Midterm 2019\Appendix AA Figure 1 - Lease History Map.dwg, Current Permit Area, 8/28/2019 1:01:54 PM



R645-301-200.

SOILS

R645-301-210.

INTRODUCTION

As the Mathis Tract and New Federal Summit Creek Lease boundary change is simply an extension of underground mine workings under roughly 2,600 to 3,000 feet of cover there will be absolutely no effect on soils. Refer to Appendix X for further information regarding de-gas (GVH) wells and pad structure.

R645-301-211.

PREMINING SOIL RESOURCES

The soils map, shown as Plate 18 in Volume II, is a combination of the information provided by both EEC and SCS. EEC performed the work on the north and south one-thirds of the disturbed area and the SCS performed the work on the one-third in the middle. This was for the original Pinnacle Mine approval on the Zion's Fee area (please see second half of Appendix M).

The acreages given by EEC in the soils report does not include the entire disturbed area since we know that the SCS surveyed roughly one-third of the disturbed or "to be" disturbed area. The correct acreage within Deadman Canyon, as planimetered by Andalex staff, is 34.2 acres. This of course includes the area where the Aberdeen Mine has been developed. The area of disturbed Brycan is approximately 8 acres and the Datino is 4 acres within the SCS survey. EarthFax Engineering has performed the Order 1 soil survey for the left fork fan installation. (See Appendix M.)

R645-301-212.

STOCKPILING AND REDISTRIBUTION

Topsoil Handling During Operations

Removal

The area from which topsoil has been removed is 34.2 acres and includes poorly developed soils. Using dozers and front end loaders, the soil was scraped from the surface and dumped at a site near the facility location. The topsoil was removed as a separate operation from areas to be disturbed by surface installations such as roads and areas upon which support facilities are sited. The left fork topsoil will be salvaged according to EarthFax.

Storage

The topsoil storage areas in Deadman Canyon are shown on Plate 6. The topsoil has been segregated, stockpiled, and protected from wind and water erosion, and contaminants through revegetation and the use of berms.

Surveys conducted on the topsoil piles which were drawn into plans and profiles are now included in the plan in Volume II, Plate 37. This shows volumes stored currently.

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The completed disturbance which reports to sedimentation Pond E is 9.96 acres. Please review the top soil summaries which show totals.

The new substitute topsoil pile plan and profile is included.

The new substitute topsoil will be protected by the use of vegetation.

Disturbed areas no longer required for the conduct of mining operations have been revegetated. Upon completion of mining activities, topsoil will be distributed and reclamation will commence as outlined. Andalex will adhere to all UDOGM guidelines.

R645-301-220. ENVIRONMENTAL DESCRIPTION

Appendix M.

R645-301-221. PRIME FARMLAND INVESTIGATION

Appendix M

R645-301-222. SOIL SURVEY

Appendix M

R645-301-222.100. SOIL MAP

Plate 18

R645-301-222.200. SOIL IDENTIFICATION

Appendix M

R645-301-222.300. SOIL DESCRIPTION

Appendix M

R645-301-222.400. SOIL PRODUCTIVITY

Appendix M

R645-301-223. SOIL CHARACTERIZATION

Appendix M

R645-301.224. SUBSTITUTE TOPSOIL

Two test plot locations were decided upon based on certain known parameters. The 12,357 yard substitute material area chosen was

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once designated as substitute topsoil. Now that the shop building is in place, this should not have any impact on the suitability of the material. The second location depicted on Plate 6 near the Apex Truck Loadout is very similar, if not identical material, to the shop pad material (the revegetation test will ultimately prove this). To prove the materials suitability, Andalex has proposed to test the material using the approved seed mixture on the locations shown on Plate 6. The area of the test plots are both currently heavily vegetated indicating good potential. These test plots will be monitored for two years and evaluated for growth and species success. It is anticipated that these areas will succeed and solve the deficit problem.

These pads were constructed in 1982 during the construction of the Apex Mine. The Shop pad and the Apex truck loadout pad both have out-slopes which we currently feel contain suitable topsoil substitute material. In 1982 these slopes were groomed with heavy equipment and graded prior to being hydroseeded with the interim seed mixture and then hydromulched. Mulch in the amount of one ton per acre was used at the time. In 1990 the approved seed mixture was hand broadcasted onto these same slopes which were already fairly heavily vegetated. The seed was raked in to the extent possible and no additional mulch was used because of the vegetative cover in place. Also, samples have been taken of this substitute material (three separate locations at each site) and have been sent in to a qualified soil testing laboratory. These samples will be tested for parameters outlined in Table 6 "Guidelines for Overburden and Topsoil Management", 1988. Results of these tests will be included in the permit as soon as they are available.

Deadman Canyon Topsoil Pile Summary, Existing
(See Plates 6 and 37)

Topsoil Pile A	35,731 cubic feet
Topsoil Pile C	6,829 cubic feet
Topsoil Pile F	60,290 cubic feet
Topsoil Pile G	167,980 cubic feet
<u>Topsoil Pile J</u>	<u>94,500 cubic feet</u>
Total Topsoil Stored in Deadman Canyon	365,330 cubic feet (13,531 cubic yards)

Deadman Canyon Topsoil Pile Summary
(See Plates 6 and 37)

Topsoil Piles J contains 94,500 cubic feet which includes the original Topsoil Pile B which was moved during the construction of the Aberdeen Mine.

The disturbed area in Deadman Canyon (34.2 acres) will have six (6) inches of topsoil distributed at final

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reclamation, for a total of 27,588 cubic yards. With the total of 13,531 cubic yards of topsoil currently stored, as noted above, a deficit of 14,057 cubic yards exists. The topsoil substitutes will make up this deficit.

The test plots previously discussed regarding the topsoil deficit is further discussed here.

Two test plot locations were decided upon based on certain known parameters. The first location is south of the shop building and contains 12,357 cubic yards. The second location is southwest of the Apex Mine truck loadout and contains 1,700 cubic yards (see Plate 6). The 12,357 yard substitute material area chosen was once designated as substitute topsoil. Now that the shop building is in place, this should not have any impact on the suitability of the material. The second location depicted on Plate 6 near the Apex Truck Loadout is very similar, if not identical material, to the shop pad material (the revegetation test will ultimately prove this). To prove the materials suitability, Andalex has proposed to test the material using the approved seed mixture on the locations shown on Plate 6. The area of the test plots are both currently heavily vegetated indicating good potential. These test plots will be monitored for two years and evaluated for growth and species success. It is anticipated that these areas will succeed and solve the deficit problem. The first quantitative monitoring study will take place in the summer of 1992.

Topsoil substitute storage area signs have been placed strategically at the two substitute storage areas at the minesite. They will clearly mark the location of these storage area.

R645-301-230.

OPERATION PLAN

Topsoil Handling During Operations

Removal

The area from which topsoil has been removed is 34.2 acres in Deadman Canyon, and includes poorly developed soils. Using dozers and front end loaders, the soil was scraped from the surface and dumped at a site near the facility location. The topsoil was removed as a separate operation from areas to be disturbed by surface installations such as roads and areas upon which support facilities are sited. Topsoil was salvaged from the 1.02 acres of disturbed area, and approximately 750 cubic yards of topsoil is stored, in the left hand fork of Deadman Canyon for use during reclamation of the left fork fan installation. (See Plate LF-1.) Approximately 11.97 acres of total surface disturbance is associated with the GVH pads (see

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Appendix X). The total cumulative surface disturbance for the Centennial Project is approximately 47.19 acres.

Storage

The topsoil storage areas for Deadman Canyon are shown on Plate 6. The topsoil has been segregated, stockpiled, and protected from wind and water erosion and contaminants through revegetation and the use of berms.

Surveys conducted on the topsoil piles in Deadman Canyon, which were drawn into plans and profiles, are now included in the plan in Volume II, Plate 37. This shows volumes stored currently.

Topsoil that was salvaged for the left hand fork fan installation is stored approximately 200 feet west of the fan pad (see Plate LF-1). Each individual GVH pad site stores its respective topsoil on or near the pad site. See Appendix X for each pad's respective disturbed area and salvaged topsoil amounts.

The completed disturbance which reports to sedimentation Pond E is 9.96 acres. Please review the top soil summaries which show totals and deficiencies in R645-301-224.

The new substitute topsoil pile plan and profile is included.

The new substitute topsoil will be protected by the use of vegetation.

R645-301-231. GENERAL REQUIREMENTS

R645-301-231.100 REMOVAL AND STORAGE

See R645-301-212.

**R645-301-231.200. SUITABILITY OF TOPSOIL
SUBSTITUTES**

See R645-301-224.

R645-301-231.300. TESTING PLAN

See R645-301-224.

**R645-301-231.400. TOPSOIL HANDLING AND STORAGE
AREAS**

See R645-301-212.

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R645-301-232. TOPSOIL AND SUBSOIL REMOVAL

See R645-301-212.

R645-301-232.100. TOPSOIL SEGREGATION

See R645-301-212.

R645-301-232.200. INSUFFICIENT QUANTITY OR POOR QUALITY

See R645-301-224.

R645-301-232.300. TOPSOIL LESS THAN SIX INCHES THICK

N/A

R645-301-232.400. TOPSOIL REMOVAL FOR MINOR DISTURBANCES

N/A

R645-301-232.410. SMALL STRUCTURES

N/A

R645-301-232.420. PROTECTION OF EXISTING VEGETATION AND EROSION PROTECTION

Disturbed areas no longer required for the conduct of mining operations have been revegetated. Upon completion of mining activities, topsoil will be distributed and reclamation will commence as outlined in re Reclamation. Andalex will adhere to all UDOGM guidelines.

R645-301-232.500. SUBSOIL SEGREGATION

N/A

R645-301-232.600. TIMING

All soils have been removed and stored.

R645-301-232.700. TOPSOIL AND SUBSOIL REMOVAL UNDER ADVERSE CONDITIONS

N/A

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R645-301-232.710.	IMPRACTICABILITY
N/A	
R645-301-232.720.	IMPORTING TOPSOIL MATERIAL
N/A	
R645-301-233.	TOPSOIL SUBSTITUTES AND SUPPLEMENTS
See R645-301-224.	
R645-301-233.100.	SELECTED OVERBURDEN MATERIALS
See R645-301-224.	
R645-301-233.200.	SUITABILITY OF TOPSOIL SUBSTITUTES AND SUPPLEMENTS
See R645-301-224.	
R645-301-233.300.	PHYSICAL AND CHEMICAL ANALYSES
Appendix M	
R645-301-233.310.	SCS PUBLISHED DATA
Appendix M	
R645-301-233.320.	SCS TECHNICAL GUIDES
Appendix M	
R645-301-233.330.	OTHER PUBLISHED DATA
Appendix M	
R645-301-233.340.	RESULTS OF FIELD-SITE TRAILS OR GREENHOUSE TESTS
Appendix M	
R645-301-233.400.	DEMONSTRATION OF INSUFFICIENT TOPSOIL AND SUITABILITY OF SUBSTITUTE MATERIALS
See R645-301-224.	

R645-301-234. TOPSOIL STORAGE

See R645-301-212,224.

R645-301-234.100. STOCKPILING AND REDISTRIBUTION

See R645-301-212.

R645-301-234.200. STOCKPILING REQUIREMENTS

See R645-301-212.

R645-301-234.210. PLACEMENT

See R645-301-212.

R645-301-234.220. PROTECTION

See R645-301-212.

R645-301-234.230. VEGETATIVE COVER

Appendix M

R645-301-234.240. REHANDLING

N/A

R645-301-234.300. LONG-TERM STORAGE AND DISTRIBUTION

See R645-301-212.

R645-301-234.310. CAPABILITY OF HOST SITE

R645-301-234.320. SUITABILITY FOR REDISTRIBUTION

See R645-301-212.

R645-301-240. RECLAMATION PLAN

Timetable of Major Reclamation Steps

Introduction

As this is an underground mine, there will be a limited amount of surface disturbance, consequently, reclamation will be uncomplicated.

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All disturbed areas no longer required for the conduct of mining operations were immediately revegetated. In the future, any areas no longer required for operations will also be immediately reclaimed and revegetated.

When buildings and final site preparation had been completed, the soil was revegetated to prevent erosion.

When the project is expired, all buildings and extraneous material will be removed, all mine openings will be covered and sealed, roads will be regraded and using the most advanced technology at the time, Andalex will re-establish the terrain to as nearly the original as practical. The area will be reseeded and vegetation re-established in accordance with recommendations from the regulatory authorities.

Reclamation Timetable

This timetable represents the general sequence which will be used for final reclamation. The bond estimate has the costs broken down on a site by site basis; however, actual work will be performed simultaneously at all the sites. For example, all structures and buildings will be removed prior to any recontouring. This will allow us to have certain equipment for certain jobs the shortest time possible. It should also be noted that this project may coincide with a salvage project thereby reducing Andalex's cost; however, this is not reflected in the bond estimate. Detail of work involved in various jobs (portal seals, revegetation, etc.) is found elsewhere in this chapter. The addition of the AEP Lease will have no impact on the reclamation schedule or cost.

Phase I

Job 1. Portal Seals (include fan removal)
a. 4 Apex
b. 7 Pinnacle
c. 7 Aberdeen (includes left fork)
d. 5 Wells

Job 2. Building Removal
a. 1 Shop
b. 1 Main Office
c. 3 Trailers (2 warehouse, 1 lab)
d. 3 Lamphouses
e. 3 Bathhouses

Job 3. Structure Removal
a. 3 Mine Conveyor Structures
b. 3 Truck Loadouts
c. 1 Substation
d. Power distribution lines
e. 4 Water Tanks

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- f. 5 Fuel Tanks
- g. Main and Side Culverts * (includes left fork)

- Job 4. Recontouring & Regrading*
 - a. 105,500 yds.³ fill material
 - b. Enlarge Pond E, Remove B and C

- Job 5. Compaction, Scarification
 - a. 33.5 acres (not including Pond E)
 - b. Additional sediment measures, i.e., check dams

- Job 6. Topsoil Redistribution
 - a. 34.2 acres (additional approved substitute hauled in if necessary)

* Culverts will be removed starting at the north end so that natural drainage may be re-established as the culvert is removed.

- Job 7. REVEGATATION
 - a. 2.15 acres shrubs
 - b. 14.32 acres drainage (except Pond E)
 - c. 17.03 acres slopes

- Job 8. Commence Monitoring
 - a. REVEGATATION
 - 1. Woody plants will be quantitatively monitored in years 4 and 8
 - 2. Success for woody plants will be based on a minimum 2,000 plants-per-acre in stream bottoms and on east-facing slopes; 1,500 plants-per-acre on west-facing slopes.
 - b. Slope Stability
 - c. Water Monitoring including inlet and discharge at Pond E**

** Sampling of this water will consist of grab samples taken quarterly if any runoff occurs. Andalex's experience with this drainage is that runoff may occur every several years so that monitoring of this runoff will take place infrequently. Quarterly reports will indicate whether or not any runoff has occurred. The samples will be tested to assure that state and federal water quality requirements are being met.

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Phase II

Starts When Phase I Monitoring Allows. Sedimentation Pond E will not be removed until the revegetation requirements of 817.111-.117 are met. This includes the revegetation of the entire

disturbed area with the exception of Pond E. Also, Pond E will not be removed until the drainage entering the ponds meets applicable state and federal limitations. When Pond E is removed and revegetated, additional sediment control measures will be placed downstream from the revegetated area such as straw dikes until revegetation has been deemed complete by Phase II Monitoring.

- Job 1. Done Simultaneously
 - a. Remove (recontour) Pond E
 - b. Remove remaining culvert
- Job 2. Compact & Scarify Location
- Job 3. Distribute Remaining Topsoil
- Job 4. Revegetate
- Job 5. Continue Monitoring until Bond is released

Please note that the earthwork involved will be done during the dry season to avoid unnecessary erosion of regraded areas. Water will be implemented if dust becomes a problem.

Reclamation Cost and Bonding

Introduction

An estimate is provided in the Reclamation Cost Projection. Notably changed from the original bond estimate is the addition of the shop/warehouse complex, the removal of which will have to be added to the reclamation cost. The original estimate has also been revised to reflect current prices and wage estimate has also been revised to reflect current prices and wage schedules. Andalex frequently requires the use of dirt contractors and is therefore current on equipment rental costs, labor costs, and productivity, since we have a great deal of experience with construction projects. Andalex has used its experience in construction and earth moving projects to estimate the amount of time which will be required and the equipment needed for individual reclamation activities. Andalex has also been involved with several revegetation projects from which it drew estimates. Andalex has provided, as Plate 15, accurate as built versus reclaimed cross sections which show the mass balance for earthwork. The approximate original contours will be achieved using the material cut out to create the fill areas. No material will be hauled in. Maps depicting accurately the surface facilities including topsoil areas, structures and facilities are included in Volume II and also specific topsoil maps and cross sections are included. Andalex expects to return topsoil to a depth of up to 6" around the surface area of 34.2 acres.

Phase I of the reclamation will include, chronologically, structure removal including culverts, portal sealing, well

sealing, regrading, recontouring, distribution of topsoil and revegetation. Additional sediment control during Phase I such as straw dikes and rock check dams will be implemented as shown on Plate 16. Once Phase I is adequately achieved, Phase II will commence which includes the removal of sediment structure E and revegetation of this area. This is followed by monitoring, noting that monitoring had begun during Phase I. See 5.8 re Monitoring. This section discusses the extended period of liability as being ten years if necessary. The entire permit area receives less than 26 inches of annual precipitation; therefore, it is generally accepted that Andalex is subject to an extended period of liability. Obviously if revegetation is deemed successful prior to this ten year period, Andalex will request bond release. Andalex has not proposed any selective husbandry practices.

Cost of Reclamation

Detailed Estimate

A detailed cost projection is included.

Calculations

Calculations of the estimate are included following this page. Calculations for cuts and fills were made and are summarized following the bond estimate. This summary shows the mass balance for the entire disturbed area including the Aberdeen site, as taken from Plates 14 and 15. Station numbers are referenced on Plate 14 and cross sections are shown on Plates 15-1, 2, and 3. Similarly, topsoil piles have been surveyed for the existing minesite and are summarized following the cut and fill summary. Because of deficits Andalex has committed to testing topsoil substitute areas.

Bond or Surety Arrangement

Andalex currently holds a bond, approved by UDOGM in the amount of \$1,080,000.00 and it is included in this MRP in Appendix B.

Reclamation Plan (before bond estimate)

The productivity of equipment is somewhat difficult to predict, and therefore, Andalex feels that conservative estimates were in order. There are many variables which contribute to the productivity of a particular machine, including operator skill, type of material, and the condition of the material.

It is obvious that a front-end loader, for example, can move more topsoil from a pile than, for example, a bouldery conglomerate of highly compacted material.

However, for the purpose of this analysis, it should be assured

that based on means cost data the following prices on earthwork can be used:

Open Dozer grading : \$2.25/yd
Fill Placement : \$1.16/yd
Topsoil Placement: \$1.16/yd
Topsoil Hauling: \$4.55/yd
Compaction: \$.21/yd

The following cost projection reflects hourly rates. An additional earthwork estimate can be found following the mass balance estimates.

Regarding the left hand fork fan installation, the specific time table for this project will coincide with the reclamation of the right hand fork minesite. The bond estimate now includes this fan installation and is still well within Andalex's existing bond amount. The specific schedule for reclamation of the fan will begin with the cut slope backfill, followed by removal of the culvert from the left fork drainage and, finally, by streambed reclamation the same as will be performed in the right hand fork. According to comments received by the majority of the surface lands managers, the access road to the left hand fork fan installation will be reclaimed by recontouring to the extent possible (this road has been in existence for over 50 years) and revegetated. One of the surface owners (Gladys Artman) has specifically indicated her desire to leave the road in place, therefore, her permission will be required to reclaim the road. Topsoil redistribution and revegetation will follow the culvert removal. During both construction and reclamation phases, Andalex will provide adequate supplementary sediment control in the form of silt fences and/or straw berms to prevent additional sediment loads to the drainage.

Andalex has supplied the Division with a Drawing entitled "Left Hand Fork Cut/Fill". This drawing has a notation which indicates that the existing contours will reflect the reclamation contours (post-mining).

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Reclamation Cost Projection

Centennial Project

Lower Sunnyside Mine

Restoration to pre-mining land use will require:

	<u>Job Description</u>	<u>Equipment</u>	<u>Hours</u>	<u>Cost</u>
1.	Coal Pile Storage Area			
	a. Seal portals, remove conveyor, etc.	Loader	8	\$ 640
	b. Fill pad	Loader	55	4,400
	c. Contour slope including stream channel	D-7	50	4,000
	d. Compact	Loader	15	1,200
	e. Replace topsoil	Loader	23	1,840
	f. Grade topsoil	Grader	15	1,050
	g. Revegetate	Drill	7	350
	h. Stake	Engineer	14	<u>700</u>
	Total Coal Pile Area:			\$14,180
2.	Roads			
	a. Recontour	D-7	5	\$ 400
	b. Compact	Loader	3	240
	c. Replace topsoil	Loader	2	160
	d. Grade topsoil	Grader	2	140
	e. Revegetate	Drill	1	<u>50</u>
	Total Roads:			\$ 990
3.	Seal Wells (2)			
	a. Fill, cement			<u>\$ 800</u>
	Total Wells:			\$ 800
4.	Material Storage Area (including topsoil pile)			
	a. Remove all structures	5 man crew	120	\$ 9,000
	b. Recontour including stream channel	D-7	30	2,400
	c. Compact	Loader	4	320
	d. Replace topsoil	Loader	8	640
	e. Grade topsoil	Grader	4	280
	f. Revegetate	Drill	2	100
	g. Stake	Engineer	14	<u>700</u>
	Total Material Storage:			\$13,440

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Gilson (Pinnacle Mine)

Restoration to the pre-mining land use will require:

	<u>Job Description</u>	<u>Equipment</u>	<u>Hours</u>	<u>Cost</u>
1.	Mine Portal Area			
	a. Seal portals, remove conveyor, etc.	Loader	8	\$ 640
	b. Fill pad	Loader	12	960
	c. Contour slope	D-7	8	640
	d. Compact	Loader	4	320
	e. Replace topsoil	Loader	6	480
	f. Grade topsoil	Grader	4	280
	g. Revegetate	Drill	2	100
	h. Stake slope	Engineer	4	200
	Total Portal:			<u>\$ 3,620</u>
2.	Roads (1 mile)			
	a. Recontour	D-7	20	\$ 1,600
	b. Compact	Loader	10	800
	c. Topsoil	Loader	8	640
	d. Grade	Grader	8	560
	e. Revegetate	Drill	4	200
	Total Roads:			<u>\$ 3,800</u>
3.	Coal Pile Area			
	a. Fill pad	Loader	16	\$ 1,280
	b. Contour slope including stream channel	D-7	20	1,600
	c. Compact	Loader	4	320
	d. Topsoil	Loader	6	480
	e. Grade	Grader	4	280
	f. Revegetate	Drill	2	100
	g. Stake	Engineer	4	200
	Total Stockpile Area:			<u>\$ 4,260</u>
4.	Seal Wells			
	a. Fill, cement		8	<u>\$ 1,000</u>
	Total Wells:			<u>\$ 1,000</u>
5.	Material Storage & Building Areas			
	a. Remove all structures (including shop/warehouse)	5 man crew	240	\$27,000
	b. Recontour including stream channel	D-7	30	2,400
	c. Compact	Loader	4	320
	d. Replace topsoil	Loader	8	640
	e. Grade	Grader	4	280
	f. Revegetate	Drill	2	100
	Total Material:			<u>\$30,740</u>

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Aberdeen Mine

Restoration to the pre-mining land use will require:

	<u>Job Description</u>	<u>Equipment</u>	<u>Hours</u>	<u>Cost</u>
1.	Mine Portal Area			
a.	Seal portals, remove conveyor, etc.	Loader	8	\$ 640
b.	Fill pad	Loader	24	1,920
c.	Contour slope	D-7	16	1,280
d.	Compact	Loader	8	640
e.	Replace topsoil	Loader	12	960
f.	Grade topsoil	Grader	8	560
g.	Revegetate	Drill	4	200
h.	Stake slope	Engineer	8	400
	Total Portal Area:			<u>\$ 6,600</u>
2.	Coal Pile Area (including topsoil storage and sedimentation pond)			
a.	Fill pad	Loader	50	\$ 4,000
b.	Contour slope including stream channel	D-7	50	4,000
c.	Compact	Loader	15	1,200
d.	Replace topsoil	Loader	22	1,760
e.	Grade topsoil	Grader	15	1,050
f.	Revegetate	Drill	7	350
g.	Stake slope	Engineer	14	700
	Total Stockpile Area:			<u>\$13,060</u>

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Office Site

Restoration to pre-mining land use will require:

<u>Job Description</u>	<u>Equipment</u>	<u>Hours</u>	<u>Cost</u>
1. Office Site			
a. Remove structures	5 man crew	50	\$ 3,750
b. Recontour	D-7	8	640
c. Compact	Loader	4	320
d. Replace topsoil	Loader	4	320
e. Grade topsoil	Grader	4	280
f. Revegetate	Drill	2	100
g. Stake slope	Engineer	4	200
Total Office Site:			<u>\$ 5,610</u>
2. Seal Well (1)			
a. Fill, cement		4	<u>\$ 400</u>
Total Well:			<u>\$ 400</u>
3. Roads 1/4 Mile			
a. Recontour	D-7	5	\$ 400
b. Compact	Loader	3	240
c. Replace topsoil	Loader	2	160
d. Grade topsoil	Grader	2	140
e. Revegetate	Drill	1	50
Total Roads:			<u>\$ 990</u>

Total Projected Reclamation Costs:

Lower Sunnyside Mine	\$ 29,410
Gilson (Pinnacle) Mine	43,420
Aberdeen Mine	19,660
Office Site	7,000
Monitoring (5 years)	<u>10,000</u>
Total Reclamation, 1987 \$	\$109,490
Contingency 10%	<u>10,950</u>
Grand Total*	\$120,440

* Please note that as no reclamation is required for the Centennial Seam Mine no costs for reclamation are described above.

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MASS BALANCE SUMMARY

<u>Station</u>	<u>CUT</u>		<u>FILL</u>	
	<u>ft²</u>	<u>yds³</u>	<u>ft²</u>	<u>yds³</u>
-1 + 00	520	963	160	2148
0 + 00	0	815	1000	1889
1 + 00	440	1000	20	407
2 + 00	100	1074	200	1259
3 + 00	480	3333	480	1519
4 + 00	1320	2593	340	2259
5 + 00	80	2889	880	1852
6 + 00	1480	6778	120	2704
7 + 00	2180	9037	1340	4074
8 + 00	2700	8259	860	2556
9 + 00	1760	6000	520	4297
10 + 00	1480	6444	1800	6519
11 + 00	2000	6259	1720	5593
12 + 00	1380	9222	1300	5074
13 + 00	3600	7037	1440	6148
14 + 00	200	370	1880	8852
15 + 00	0	370	2900	5815
16 + 00	200	407	240	2111
17 + 00	20	1889	900	5593
18 + 00	1000	2889	2120	8185
19 + 00	560	2000	2300	5319
20 + 00	520	4444	572	3059
21 + 00	1880	8704	1080	3185
22 + 00	2820	8556	640	3037
23 + 00	1800	3741	1000	3370
24 + 00	220	1148	820	2963
25 + 00	400	926	780	4519
26 + 00	100	2630	1660	10222
27 + 00	1320	4444	3860	7407
28 + 00	1080	3111	140	1741
29 + 00	600	2222	800	2815
30 + 00	600	2074	720	2222
31 + 00	520	1889	480	1741
32 + 00	500	1482	460	2185
33 + 00	300	2037	720	1815
34 + 00	800	3111	260	852
35 + 00	880	3185	200	1630
36 + 00	840	1963	680	3482
37 + 00	220	1741	1200	5407
38 + 00	720	2741	1720	4037
39 + 00	760	3000	460	6111
40 + 00	860	2704	2840	5593
41 + 00	600	1444	180	1148
42 + 00	180	482	440	963
43 + 00	80	148	80	148

* Total Cut = 147,555 yds³; * Total Fill = 163,825 yds³

* Ratio of fill to cut = 1.11:1.00. This allows for an expansion factor of 1.11 or 11% on the cut material.

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As Constructed Earthwork Volume (Aberdeen Mine)

Cut	63,506 yds. ³
Fill	66,625 yds. ³
Topsoil	3,500 yds. ³ (Piles H & J)

As Constructed Earthwork Volumes
(including Aberdeen Site)

Cut	117,273 yds. ³
Fill	112,969 yds. ³
Topsoil	8,500 yds. ³

For purposes of reclamation costs for earthwork, the following estimates can be used. Please keep in mind that as built cross sections for the Aberdeen Mine will aid in the final earthwork estimates.

Open Grading (including 10% swell factor)	
66,625 + 6663 = 73,288 @ \$2.22	
112,969 + 11,297 = <u>124,266</u> @ \$2.25	
197,554 @ \$2.25 = \$444,500	
Topsoil Hauling and Placement	
22,000 + 2200 = 24,200 @ \$5.71 = \$138,000	
Compaction	
158,294 @ \$.21 = \$33,242	
Total Earthwork:	\$615,742

There is a 8,000 yd.³ topsoil deficit. The topsoil substitutes will make up this deficit.

The test plots previously discussed regarding the topsoil deficit is further discussed here.

Two test plot locations were decided upon based on certain known parameters. The 12,357 yard substitute material area chosen was once designated as substitute topsoil. Now that the shop building is in place, this should not have any impact on the suitability of the material. The second location depicted on Plate 6 near the Apex Truck Loadout is very similar, if not identical material, to the shop pad material (the REVEGETATION test will ultimately prove this). To prove the materials suitability, Andalex has proposed to test the material using the approved seed mixture on the locations shown on Plate 6. The area of the test plots are both currently heavily vegetated indicating good potential. These test plots will be monitored for two years and evaluated for growth and species success. It is anticipated that these areas will succeed and solve the deficit problem.

R645-301-241. GENERAL REQUIREMENTS

R645-301-242. SOIL REDISTRIBUTION

Soil is to be redistributed to a depth of 6-inches across the entire 34.2 acre disturbed area.

R645-301-242.100. CRITERIA FOR REDISTRIBUTION

The only criteria is that it will be redistributed to a depth of 6 inches.

R645-301-242.110. UNIFORMITY AND CONSISTENCY

The soil will be redistributed uniformly and consistent with the regraded contours.

R645-301-242.120. PREVENTION OF COMPACTION

Once redistributed, unnecessary compaction from equipment will be avoided.

R645-301-242.130. PROTECTION FROM WIND AND WATER EROSION

The topsoil will be protected from wind and water erosion through mulching.

R645-301-242.200. REGRADING AND TREATMENT

Not applicable, unless unacceptable rills and gullies are observed.

R645-301-242.300. EMBANKMENTS OF PERMANENT IMPOUNDMENTS OR ROADS

N/A

R645-301-242.310. PREVENTION OF SEDIMENTATION

Pond E will be in place until the release of Phase I reclamation.

R645-301-242.320. OTHER METHODS OF STABILIZATION

Other methods may include excelsior matting on steep slopes and rip-rap.

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R645-301-243. SOIL NUTRIENTS AND AMENDMENTS

As needed to be determined through Phase I monitoring.

R645-301-244. SOIL STABILIZATION

See R645-301-242.

R645-301-244.100. EROSION CONTROL AND AIR POLLUTION

See R645-301-242.

R645-301-244.200. SOIL STABILIZING PRACTICES

See R645-301-242.

R645-301-244.300. RILLS AND GULLIES

See R645-301-242.

**R645-301-244.310. DISRUPTION OF POSTMINING LAND USE
OR ESTABLISHMENT OF VEGETATIVE
COVER**

Vegetative cover will be in accordance with rEVEGATATION practices found in R645-301-331.

**R645-301-244.320. CAUSE OR CONTRIBUTE TO A
VIOLATION OF WATER QUALITY
STANDARDS**

Andalex will not violate water quality standards. This will be demonstrated through monitoring practices.

R645-301-250. PERFORMANCE STANDARDS

All performance standards will be adhered to.

R645-301-251. SOIL REMOVAL

See R645-301-212.

R645-301-252. SOIL STORAGE AND REDISTRIBUTION

See R645-301-212.

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Violation History - Murray Energy Corporation

Time Period: January 1, 2012 to August 21, 2019

State	Company	Mine	MSHA ID	Permit Number	Issuing Agency	Agency NOV Number	Date Issued	Status	Description
Utah	UAEI	Centennial/Tower Mine	42-02028	007/019	DOGM	21197	9/18/2017	Abated	excess thistle on GVH pads
Utah	UAEI	Centennial/Tower Mine	42-02028	007/019	DOGM	CO 21214	6/1/2018	Abated	Failure to cap and seal degas wells

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Tower Mine Reclamation Bond Estimate

BONDING CALCULATIONS

Direct Costs

Subtotal Demolition and Removal	\$521,461.84
Subtotal Backfilling and Grading	\$424,550.00
Subtotal Revegetation	\$144,415.00

Direct Costs in 2017 Dollars	\$1,090,426.84
------------------------------	-----------------------

Indirect Costs

Mob/Demob	\$109,043.00	10.0%
Contingency	\$54,521.00	5.0%
Engineering Redesign	\$27,261.00	2.5%
Main Office Expense	\$74,149.00	6.8%
Project Management Fee	\$27,261.00	2.5%

Subtotal Indirect Costs 2017 Dollars	\$292,235.00	26.8%
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Total Cost	\$1,382,661.84
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Escalation factor		0.0232
Number of years		5
Escalation	\$168,005.00	

Total Reclamation Cost 2021 Dollars	\$1,550,666.84
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Required Bond Amount (rounded to nearest \$1,000) \$1,551,000.00
2024 dollars

Posted Bond **\$1,520,000.00**

Difference Between Posted and Required Bond **-\$31,000.00**

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Tower Mine Reclamation Bond Estimate

Unit Costs

All unit costs were obtained from RS Means 2019 Site Work and Landscape Costs, except as noted. All costs include overhead and profit.

Means Number	Material	Unit Cost	Units
Concrete Demo1	Concrete Demolition	11.72	CY
31 23 16.42 1300	Front End Loader 3 CY	2.15	CY
City Sanitation Price	City Sanitation	2.10	CY
02 41 13.40 0150	Demo 12" diameter steel culvert	2.64	LF
02 41 13.40 0160	Demo 18" diameter steel culvert	3.97	LF
02 41 13.40 0170	Demo 24" diameter steel culvert	14.80	LF
02 41 13.40 0180	Demo 36" diameter steel culvert	17.70	LF
02 41 13.40 0190	Demo 42" diameter steel culvert	22.00	LF
02 41 16.13 0020	Building demo, steel	0.36	CF
02 41 13.60 1700	Chain link demo, posts & fabric remove only	4.42	LF
23 05 05.10 3600	Mechanical equip demo, heavy	1250.00	Ton
31 23 23.20 1025	12 CY Dump Truck, 10 mi cycle, 15 min wait	12.40	CY
02 41 16.17 0400	Concrete floor demo, 6" thick, rod reinforced	0.99	SF
02 41 16.17 4200	On Site Disposal	11.10	CY
02 41 19.19 3080	Machine load and haul demo debris, 2 mi	24.00	CY
JennChem	Seal Portals	4320.00	EA
JennChem	Seal Construction Labor	265.00	Hr
03 31 13.35 4350	Lean concrete (flowable), structural, 1000 psi	95.00	CY
02 41 16.13 0100	Building demo, mixture, average	0.39	CF
31 23 16.42 0260	Excavator, hydraulic, 2 CY	1.80	CY
31 23 16.13 3080	Backfill Trench, minimal haul 2-1/4 CY	2.49	CY
31 23 23.20 3014	16.5 CY Truck, 15 min wait, 0.5 mile cycle	2.71	CY
Centennial 001	Seed Mix - Centennial Drainage	378.32	AC
Centennial 002	Seed Mix - Centennial Slopes	314.97	AC
Centennial 003	Transplant Seedlings - Centennial Mine	1635.00	AC
32 92 19.14 0200	Hydroseeder (equip. & labor only)	29.19	MSF
32 91 13.16 0390	Power mulcher, large, hay 1" deep	30.50	MSF
31 23 23.14 4220	FE Loader, 200 HP, common earth, 150' haul	2.12	CY
02 41 13.66 0600	Metal gate demo, 4'-6'h x 3'-4'w	98.00	EA
02 41 13.62 0300	Chain link gate demo, 8'x15'	132.00	EA
32 91 13.23 3100	Scarify subsoil, large proj, 75 HP dozer	5.95	MSF
32 93 43.10 0560	Planting, seedlings, 3"-5" tall, medium soil	0.74	EA
Crew A-3A	Operator with pickup truck, 4x4	754.27	Day
Crew B-9A	5000 gallon water truck w opr & laborers	2060.98	Day
Crew B-10B	Dozer, 200 HP, w operator & laborer	194.08	HR
Crew B-10M	Dozer, 300 HP, w operator & laborer	243.68	HR
Crew B-10X	Dozer, 410 HP, w operator & laborer	283.82	HR
Crew B-12D	Hyd excavator, 3.5 CY, w opr and laborer	229.28	HR
Crew B-33H	S.P scraper, 44 CY, w dozer and operators	479.75	HR

Note: The RS Means unit cost for hydroseeding includes the cost of seed as well as the cost of the hydromulch. The seed cost for this project was determined based on the actual seed mix (see the Revegetation tab). Therefore, the above unit cost for hydroseeding was determined by first subtracting the material cost of 32 92 19.14 0020 (\$10.40, assumed to all seed cost)

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from the total (without O&P) cost of 32 92 19.14 0200 (\$33.20), resulting in an unburdened cost of \$22.80/MSF for equipment and labor. The burdened cost of hydroseeding (equipment and labor only) was then calculated by multiplying the unburdened equipment and labor cost (\$22.80/MSF) by the ratio of the total Means burdened cost to the unburdened cost (42.50/33.20), resulting in a burdened unit cost of \$29.19/MSF for hydroseeding (equipment and labor only).

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Tower Mine Reclamation Bond Estimate

Demolition and Removal Cost Summary

Loadout Bin No. 01	2,880
Concrete No. 02	701
Reclaim No. 03	5,184
Conveyor No. 04	1,440
Hopper No. 05	2,160
Conveyor No. 06	2,340
Tunnel No. 07	3,110
Fan No. 08	1,152
Substation No. 09	2,960
Water Tank No. 10	339
Portals No. 11	33,708
Main Office No. 12	18,000
Bath House No. 13	8,919
Substation No. 14	5,200
Loadout Bin No. 15	4,057
Conveyor No. 16	1,152
Reclaim No. 17	829
Hopper No. 18	2,074
Conveyor No. 19	1,332
Tunnel No. 20	3,110
Water Tank No.21	508
Rock Dust Tank No. 22	565
Trailers No.23	4,840
Portals No. 24	24,260
Office No. 25	6,148
Portals No. 26	17,809
ShopWarehouse No. 27	73,342
Loadout No. 28	3,495
Conveyor No. 29	2,016
Reclaim No. 30	5,875
Hopper No. 31	3,318
Conveyor No. 32	1,800
Tunnel No. 33	4,320
Portals No. 34	23,611
Water Tank No. 35	339
Shed No. 36	1,440
Magazines No. 37	35
Substation No. 38	2,964
Office No. 39	4,173
Portals No. 40	12,920
Culverts 41	114,052
Vent Shaft Fan 45	41,575
Security gates 47	531
Gob Vent Wells	67,750
Aberdeen Substation	3,131
DEMO SUBTOTAL	521,462

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Leadline 81a 01																			
		Structure's Demolition Cost	Building demo, steel	02 41 16 13 0020	0.36 CF	20	20	20											8000 CF		2880
		Structure's Vol. Demolished																			
		Truck's Capacity																			
		Haftage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haftage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Drive																			
		Disposal Cost steel																			
		Subtotal																			2880
		Equipment's Disposal Cost																			
		Dismantling 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																			
		Total																			2880

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Div. of Cit. Serv. & Public Works

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Unit Factor	Quantity	Unit	Cost	
		Concrete No. 02																			
		Structure Demolition Cost																			
		Structure Vol. Demolished																			
		Truck Capacity																			
		Hourly																			
		Transportation Cost Min Steel Truck																			
		Transportation Cost Max Steel Drive																			
		Dispatch Cost Iron Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Hourly																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Drive																			
		Dispatch Cost Steel																			
		Subtotal																			
		Equipment's Expense Cost																			
		Dismanting Cost																			
		Equipment's Vol. Demolished																			
		Leasing Costs																			
		Transport Costs																			
		Dispatch Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete Demolition	Concrete Demol1	11.22/CY	20	20	0.75							11	FT		16	CY	182	
		Concrete Vol. Demolished															1.1				
		Leasing Cost	Front End Loader 3CY		31.23	16.42	1300				2.15	CY						20	CY	43	
		Transportation Cost	12 CY Dump Truck, 10 mi. cycle, 15 min wait		31.23	23.26	1925				12.40	CY						20	CY	251	
		Dispatch Costs	500 Size Driveway								11.50	CY						20	CY	224	
		Subtotal																			307
		Concrete Demolition																			
		Demolition Cost																			
		Concrete Vol. Demolished																			
		Leasing Cost																			
		Transportation Cost																			
		Dispatch Costs																			
		Subtotal																			
		Total																			307

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Ref	Task	Description	Materials	Main Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Reclaim No. 63																		
		Structure's Demolition Cost	Building demis. steel	02 41 16 13 0020	0.36/CF		8	12	150									14400	CF	5184
		Structure's Vol. Demolished																		
		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 Drive																		
		Disposal Cost steel																		
		Subtotal																		5184
		Equipment's Disposal Cost																		
		Dismantling 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																		
		Total																		5184

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Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Overlayer No. 04																			
		Structure's Demolition Cost	Building dems. steel	02-41 16 13 0020	0.36 CF	4	4											4000 CF		1440	
		Structure's Vol. Demolished																			
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			1440
		Equipment's Disposal Cost																			
		Unloading 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																			
		Total																			1440

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Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Hopper No. 05																		
		Structure's Demolition Cost	Building demo, steel	02 41 16 13 0020	0.36 C/F	20	20	95										6000 C/F		2160
		Structure's Vol. Demolished																		
		Truck's Capacity																		
		Haulage																		
		Transportation Cost Non Steel Truck																		
		Transportation Cost Non Steel Drive																		
		Disposal Cost Non Steel																		
		Sheet Weight																		
		Truck's Capacity																		
		Haulage																		
		Transportation Cost Steel Truck																		
		Transportation Cost Steel Drive																		
		Disposal Cost Steel																		
		Subtotal																		2160
		Equipment's Disposal Cost																		
		Dismantling 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																		
		Total																		2160

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Div. of Oil, Gas & Mining

Ref.	Task	Description	Material	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swit Factor	Quantity	Unit	Cost
		Crane/hoist No. 06																		
		Structure's Demolition Cost	Building demo, steel	02 41 10 13 0020	0.36 /CF	5	5	200										6000	CF	2340
		Structure's Vol. Demolished																		
		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 Drive																		
		Disposal Cost steel																		
		Subtotal																		2340
		Equipment's Disposal Cost																		
		Dismantling 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																		
		Total																		2340

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Div. of Oil, Gas & Mining

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swear Factor	Quantity	Unit	Cost	
		Tunnel No. 67																			
		Structure's Demolition Cost	Building demo. steel	32 41 16 13 0020	0.36 CF		8	12	90										8540 CF	3110	
		Structure's Vol. Demolished																			
		Truck's Capacity																			
		Heulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Heulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Drive																			
		Disposal Cost Steel																			
		Subtotal																			3110
		Equipment's Disposal Cost																			
		Dismantling 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																			
		Total																			3110

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Div. of Oil Gas & Services

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Fan No. 03																			
		Structure's Demolition Cost	Building demo. steel	02 41 16 13 0020	0.30	CF	8	20	20												
		Structure's Vol. Demolished																			3200
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			1152
		Equipment's Disposal Cost																			
		Dismantling 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																			
		Total																			1152

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 Div. of Oil, Gas & Power

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swel Factor	Quantity	Unit	Cost	
		Substation No. 68																			
		Structure's Demolition Cost																			
		Structure's Vtr. Demolished																			
		Truck's Capacity																			
		Material																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Crane																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Material																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Crane																			
		Disposal Cost Steel																			
		Subtotal																			2800
		Equipment's Disposal Cost	Mechanical equip. dem. heavy	33 05 05 10 3600	1250.00	1 Ton										2 EA			2 EA	2500	
		Equipment's Disposal Cost	Chain link dem. posts & fabric removal	02 41 13 60 7200	4.42	LF	104									FT			104 FT	460	
		Subtotal																			2960
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vtr. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Cost																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vtr. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Cost																			
		Subtotal																			
		Total																			2960

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 Div. of Oil, Gas & Mining

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Water Tank No. 10																			
		Structure's Demolition Cost	Building demo. steel	02.41.16.13.0030	0.36 CF						941							941 CF		330	
		Structure's Vol. Demolished																			
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			330
		Equipment's Disposal Cost																			
		Demarcation 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																			
		Total																			330

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 Div. of Cit. Gov. & Planning

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swart Factor	Quantity	Unit	Cost	
		Portals No. 11																			
		Structure's Demolition Cost	Building demo steel	02 41 16 13 0020	0.30 CP	20	20	8								EA		12800	CP	4068	
		Structure's Vol. Demolished																			
		Seal Construction	Seal Portals	JenChem	4320.00/EA																35920
		Seal Construction	Seal Construction L	JenChem	265.00/Hr											2 Hr					3160
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			33708
		Equipment's Disposal Cost																			
		Dismantling 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																			
		Total																			33708

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 Div. of Oil, Gas & Mining

Ref	Task	Description	Material	Mass Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Man Office No. 12																			
		Office Demolition Cost	Building demo, masonry, average	02 41 18 13 0100	0.39/CF		32	60	16									30730	CF	11881	
		Truck Demolition Cost	Building demo, masonry, average	02 41 18 13 0100	0.39/CF													42200	CF	1671	
			Building demo, steel	02 41 18 13 0010	0.26/CF		8	12	20									704	CF	254	
		Structure Vol. Demolished																			
		Structure Weight (includes steel)																			
		Truck Capacity																			
		Hourly Rate																			
		Transportation Cost Iron Steel Truck																			
		Transportation Cost Iron Steel Drive																			
		Disposal Cost Iron Steel	City Sanitation	City Sanitation Price	2.10/CF																
		Hourly Rate																			
		Truck Capacity																			
		Hourly Rate																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Drive																			
		Disposal Cost steel																			
		Subtotal																			19375
		Equipment & Disposal Cost																			
		Disposal Cost																			
		Equipment & Vol. Demolished																			
		Loading Costs																			
		Equipment Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete Demolition	Concrete Demol	11.72/CF						47.50										
		Concrete Vol. Demolished																			
		Loading Cost	Front End Loader 3 CF	31 23 18 42 1300	2.10/CF																
		Transportation Cost	17 CF Dump Truck, 10 m cubic, 15 min wait	31 23 23 20 1810	12.40/CF																
		Disposal Costs	Steel Poles		11.50/CF																
		Subtotal																			2125
		Concrete Demolition																			
		Demolition Cost																			
		Concrete Vol. Demolished																			
		Loading Costs																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			18000

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THE OFFICE OF THE CITY CLERK

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swer Factor	Quantity	Unit	Cost
		Bath House No. 13																		
		Bath House 1's Demolition Cost	Building demo, masonry average	02-41-18-13-0150	0.33/cf	14	66	8										7280/cf		2839
		Bath House 2's Demolition Cost	Building demo, masonry average	02-41-18-13-0150	0.33/cf	72	262	8										4600/cf		1874
			Building demo, masonry average	02-41-18-13-0150	0.33/cf	15	43	8										4937/cf		1752
		Structure's Demolition Cost	Building demo, steel	02-41-18-13-0020	0.38/cf						841							1882/cf		678
		Structure's Weight (excludes steel)																		
		Truck's Capacity																		
		Material																		
		Transportation Cost Non Street Truck																		
		Transportation Cost Non Street Drive																		
		Waste Cost Non Street	City Sanitation	City Sanitation Price	2.16/cv													0.33	269/cv	439
		Site's Weight																		
		Truck's Capacity																		
		Material																		
		Transportation Cost Street Truck																		
		Transportation Cost Street Drive																		
		Waste Cost Street																		
		Subtotal																		
		Equipment's Disposal Cost																		
		Demolition Cost																		
		Equipment's Vol. Demolished																		
		Loading Costs																		
		Transportation Costs																		
		Disposal Costs																		
		Subtotal																		
		Concrete Demolition	Concrete Demolition	Concrete Demol	11.72/cv	14	43	0.5												
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Cost	Front End Loader 3 CV	11.23 16.42 1300	2.55/cv															
		Transportation Cost	12 CV Dump Truck, 10 mi. cycle, 15 min. wait	12 23 23 20 1025	12.46/cv															
		Disposal Costs	On Site Disposal		11.10/cv															
		Subtotal																		
		Concrete Demolition	Concrete Demolition	Concrete Demol	11.72/cv	14	66	0.5												
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Cost	Front End Loader 3 CV	11.23 16.42 1300	2.55/cv															
		Transportation Cost	12 CV Dump Truck, 10 mi. cycle, 15 min. wait	12 23 23 20 1025	12.46/cv															
		Disposal Costs	On Site Disposal		11.10/cv															
		Subtotal																		
		Total																		8.910

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 Div of Oil, Gas & Mining

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swif Factor	Quantity	Unit	Cost
		Substation No. 14																		
		Structure's Demolition Cost																		
		Structure's Vol. Demolished																		
		Truck's Capacity																		
		Material																		
		Transportation Cost Non Steel Truck																		
		Transportation Cost Non Steel Drive																		
		Equipment Cost Non steel																		
		Steel's Weight																		
		Truck's Capacity																		
		Material																		
		Transportation Cost Steel Truck																		
		Transportation Cost Steel Drive																		
		Equipment Cost steel																		
		Subtotal																		3750
		Equipment's Capital Cost	Mechanical equip dems heavy		23 85 65 10 3600	1350 08	1 ton								3 EA			3 155		3750
		Equipment's Capital Cost	Chain link fence posts & fabric remains		02 41 13 80 1 N01	4 42 17	328											278 17		1450
		Subtotal																		5200
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Equipment Costs																		
		Subtotal																		
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Equipment Costs																		
		Subtotal																		
		Total																		8200

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Div. of Oil, Gas & Mining

Ref	Task	Description	Materials	Main Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Rate	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Subtotal for No. 15																			
		Structure's Demolition Cost	Building Demol. Steel	02 41 10 13 6030	0.34 GCF	20	20	24										9600 GCF		3456	
		Truck's Capacity																			
		Wasteage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Wasteage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Drive																			
		Disposal Cost steel																			
		Subtotal																			3456
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete Demolition	Concrete Demol	11.74 CV	20	24	0.75													158
		Concrete's Vol. Demolished																1.3			19 CV
		Wasteage	Paint and Liner 3 CV		31 23 18 42 1300																31
		Transportation Cost	12 CV Dump Truck, 10 mi cycle, 18 min wait		31 23 23 20 1025																19 CV
		Disposal Costs	On Site Disposal																		19 CV
		Subtotal																			193
																					691
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			4021

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 Div. of Oil, Gas & Mining

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Conveyor No. 16																		
		Structure's Demolition Cost	Building demas. steel	02-41 16 13 0020	0.35	CF	4	4	200									3200	CF	1152
		Structure's Vol. Demolished																		
		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 Drive																		
		Disposal Cost steel																		
		Subtotal																		1152
		Equipment's Disposal Cost																		
		Disassembling 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																		
		Total																		1152

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BY: [Signature]

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Reclaim No. 17																			
		Structure's Demolition Cost	Building demo. steel	03 41 16.13 0020	0.38 /CF		8	12	24									2304 /CF		829	
		Structure's Vol. Demolished																			
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			829
		Equipment's Disposal Cost																			
		Dismantling 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																			
		Total																			829

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Div. of Oil, Gas & Mining

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Hopper No. 18																			
		Structure's Demolition Cost	Building dems. steel	02 41 16 13 0020	0.30	CF	10	24	24										5760	CF	2074
		Structure's Vol. Demolished																			
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			2074
		Equipment's Disposal Cost																			
		Demolition 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																			
		Total																			2074

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DR. J. C. GLENN

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Concrete No. 19																		
		Structure's Demolition Cost	Building demo. steel	02.41 16.12 0020	0.36 CF		4	5	185									3700	CF	1332
		Structure's Vol. Demolished																		
		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 Drive																		
		Disposal Cost steel																		
		Subtotal																		1332
		Equipment's Disposal Cost																		
		Disassembly Cost																		
		Equipment's Vol. Demolished																		
		Loading Cost																		
		Transport 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																		1332

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swamp Factor	Quantity	Unit	Cost
		Tunnel No. 20																		
		Structure's Demolition Cost	Building items, steel	02 41 16.13 0020	0.30 CF	8	12	10											8840 CF	3110
		Structure's Vol. Demolished																		
		Truck's Capacity																		
		Haulage																		
		Transportation Cost Non Steel Truck																		
		Transportation Cost Non Steel Drive																		
		Disposal Cost Non Steel																		
		Sheet's Weight																		
		Truck's Capacity																		
		Haulage																		
		Transportation Cost Steel Truck																		
		Transportation Cost Steel Drive																		
		Disposal Cost steel																		
		Subtotal																		3110
		Equipment's Disposal Cost																		
		Dismantling 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																		
		Total																		3110

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Div. of Oil, Gas & Mining

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swelt Factor	Quantity	Unit	Cost	
		Water Tank No 21																			
		Structure's Demolition Cost	Building demo. steel	02 41 16 13 0020	0.36 CF						1412							1412	CF	508	
		Structure's Vol. Demolished																			
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			508
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete's 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																			508

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Ref.	Task	Description	Materials	Means Reference Number
		Rock Dust Tank No.21		
		Structure's Demolition Cost	Building demo, steel	02 41 16.13 0020
		Structure's Vol. Demolished		
		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 Drive		
		Disposal Cost steel		
		Subtotal		
		Equipment's Disposal Cost		
		Dismantling 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		
		Total		

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 Div. of Oil, Gas & M&E

Ref	Task	Description	Materials	Alans Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Steel Factor	Quantity	Unit	Cost
		Item No 23																		
		Structure's Demolition Cost	Existing demo. mixture	02 41 18 13 0100	0.79 CF	18	55	8								FT		4400 CF		1718
		Structure's Demolition Cost	Existing demo. mixture	02 41 18 13 0100	0.39 CF	10	50	8								FT		4000 CF		1560
		Structure's Vol. Demolished	Existing demo. mixture	02 41 18 13 0100	0.39 CF	10	40	8								FT		3200 CF		1248
		Structure's Weight (include steel)															0.33	195 CF		
		Truck's Capacity																		
		Material																		
		Transportation Cost Non Steel Truck																		
		Transportation Cost Non Steel Drive																		
		Disposal Cost Non Steel	City Sanitation	City Sanitation Price	2.10 CF															
		Steel's Weight																		
		Truck's Capacity																		
		Material																		
		Transportation Cost Steel Truck																		
		Transportation Cost Steel Drive																		
		Disposal Cost steel																		
		Subtotal																		4840
		Equipment's Disposal Cost																		
		Equipment's 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 Cost																		
		Subtotal																		
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Disposal Cost																		
		Subtotal																		
		Total																		4840

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swelt Factor	Quantity	Unit	
		Part 24																		
		Structure's Demolition Cost	Bubbing demo. steel	02 41 16 13 0020	0.36 CF	20	20	8								EA		12800	CF	
		Structure's Vol. Demolished																		
		Seal Construction	Seal Putata	JenoChem	4320 EA															
		Seal Construction	Seal Construction Labor	JenoChem	265/hr											HR				
		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 Drive																		
		Disposal Cost steel																		
		Subtotal																		
		Equipment's Disposal Cost																		
		Dismantling Cost																		
		Equipment's Vol. Demolished																		
		Loading Costs																		
		Transport Costs																		
		Disposal Costs																		
		Subtotal																		
		Concrete Demolition																		
		Dismantling Cost																		
		Concrete's Vol. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Disposal Costs																		
		Subtotal																		
		Total																		

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 Div. of Oil, Gas & Mining

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Open Factor	Quantity	Unit	Cost	
		Office No. 24																			
		Structure Demolition Cost	Building demm. steel	02 41 18 13 0020	0.26 CF	24	43	8										8064	CF	2502	
		Structure V.W. Demolished																			
		Truck Capacity																			
		Manpower																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Dispatch Cost Non Steel																			
		Steer's Weight																			
		Truck Capacity																			
		Manpower																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Drive																			
		Dispatch Cost Steel																			
		Subtotal																			2002
		Equipment's Dispatch Cost																			
		Dispatching Cost																			
		Equipment's Wt. Demolished																			
		Lifting Costs																			
		Transport Costs																			
		Dispatch Costs																			
		Subtotal																			
		Concrete Demolition	Concrete Demolition	Concrete Demol	11.22 CY	24	43	8.5													844
		Demolition Cost																			
		Concrete V.W. Demolished																			
		Loading Cost	Front End Loader 3 CY		31.23 18 43 1300																201
		Transportation Cost	12 CY Dump Truck 30 mi cycle 19 min wait		31.23 23 20 1625																1161
		Dispatch Costs	On Site Dispatch		11.30 CY																1079
		Subtotal																			3245
		Concrete Demolition																			
		Demolition Cost																			
		Concrete V.W. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Dispatch Costs																			
		Subtotal																			
		Total																			6148

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PROFESSIONAL ENGINEER

Ref	Task	Description	Materials	Name Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Portals No. 26																		
		Structure's Demolition Cost	Building Demo Steel	02 41 18 13 0020	0.30	CF	20	20	7							EA		8400	CF	3024
		Steel Construction	Steel Portals	Inv/Chem	4330	EA													EA	17560
		Steel Construction	Steel Construction Labor	Inv/Chem	355	hr													EA	1950
		Haulage																		
		Transportation Cost Non Steel Truck																		
		Transportation Cost For Steel Drive																		
		Disposal Cost Non Steel																		
		Time & Material																		
		Truck's Capacity																		
		Haulage																		
		Transportation Cost Steel Frame																		
		Transportation Cost Steel Drive																		
		Disposal Cost steel																		
		Subtotal																		17574
		Equipment's Disposal Cost																		
		Dismantling Cost																		
		Equipment & Tool Demolition																		
		Loading Costs																		
		Transport Costs																		
		Disposal Costs																		
		Subtotal																		755
		Water Backfill																		
		Demolition Cost																		
		Concrete & Vitr. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Disposal Costs																		
		Subtotal																		755
		Concrete Demolition																		
		Demolition Cost																		
		Concrete & Vitr. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Disposal Costs																		
		Subtotal																		
		Total																		17809

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Div of CR, DC - 1212

Ref	Task	Description	Materials	Make Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Rate	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Shop/warehouse No. 22																		
		Structure Demolition Cost																		
		Structure's Mfr. Demolished	Reinforcing dem. steel	32 41 16 13 0020	0.39 CF	156	40	18										162000 CF		64200
		Truck's Capacity																		
		Haulage																		
		Transportation Cost Non Steel Truck																		
		Transportation Cost Non Steel Crane																		
		Disposal Cost Non Steel																		
		Steel's Weight																		
		Truck's Capacity																		
		Haulage																		
		Transportation Cost Steel Truck																		
		Transportation Cost Steel Crane																		
		Disposal Cost steel																		
		Subtotal																		68320
		Structure's Disposal Cost																		
		Demolition Cost																		
		Structure's Mfr. Demolished																		
		Loading Costs																		
		Transport Costs																		
		Disposal Costs																		
		Subtotal																		
		Concrete Demolition																		
		Demolition Cost	Concrete Demolition	Concrete Demol.	11.72 CY	156	40	1												
		Concrete's Mfr. Demolished																		
		Loading Costs	Fruit End Loader 3 CY	11 23 16 42 1200	2.18 CY															
		Transportation Cost	12 CY Dump Truck, 10 mi cycle, 15 min wait	21 22 22 20 1020	12.40 CY															
		Disposal Costs	Seal Pallets		11.10 CY															
		Subtotal																		15620
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Mfr. Demolished																		
		Loading Costs																		
		Transportation Cost																		
		Disposal Costs																		
		Subtotal																		
		Total																		73340

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 Div. of Oil, Gas & Mining

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Structural No. 28																			
		Structure Demolition Cost																			
		Structure W/ Reinforcement																			
		Truck Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Truck																			
		Disposal Cost Non Steel																			
		Truck Weight																			
		Truck Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck																			
		Disposal Cost Steel																			
		Subtotal																			
		Equipment's Disposal Cost																			
		Equipment's Cost																			
		Equipment's W/ Demolished																			
		Working Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete W/ Demolished																			
		Working Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete W/ Demolished																			
		Working Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			

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Div. of OJ, City of Reno

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Conveyor No. 29																			
		Structure's Demolition Cost																			
		Structure's Vol. Demolished																			
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			2016
		Equipment's Disposal Cost																			
		Dismantling 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																			
		Total																			2016

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 Div. of Oil, Gas & Mining

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swath Factor	Quantity	Unit	Cost	
		Rectam No. 30																			
		Structure's Demolition Cost	Building items steel	02 41 16 13 0020	0.30 CF	8	12	170											16320 CF		5875
		Structure's Vol. Demolished																			
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			5875
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Costs																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Costs																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			5875

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BY GEOIL, INC.

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swall Factor	Quantity	Unit	Cost	
		Hopper No. 31																			
		Structure's Demolition Cost	Building demo. steel	02 41 16.13 0020	0.36	CF	24	24	18									9216	CF	3318	
		Structure's Vol. Demolished																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Truck's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Drive																			
		Disposal Cost steel																			
		Subtotal																			3318
		Equipment's Disposal Cost																			
		Dismantling 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																			
		Total																			3318

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 Div. of Oil, Gas & Mining

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Concrete No. 32																			
		Structure's Demolition Cost	Building dems. steel	92 41 16 13 0020	0.36 CF		5	4	250										5000 CF		1800
		Structure's Vol. Demolished																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Disposal Cost Non Steel																			
		Sheet's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Drive																			
		Disposal Cost steel																			
		Subtotal																			1800
		Equipment's Disposal Cost																			
		Demerality 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																			
		Total																			1800

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Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swill Factor	Quantity	Unit	Cost
		Tunnel No. 33																		
		Structure's Demolition Cost	Building dema. steel	02 41 16 13 020	0.36 CF		8	12	1.8									12000	CF	4320
		Structure's Vol. Demolished																		
		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 Drive																		
		Disposal Cost steel																		
		Subtotal																		4320
		Equipment's Disposal Cost																		
		Dismantling 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																		
		Total																		4320

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 Div. of Oil Gas & Power

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	
		Portal No. 34																		
		Structure's Demolition Cost	Building dems. steel	02.41.16.13.0020	0.36	CF	20	20	6							4 EA		9600	CF	
		Structure's Vol. Demolished																		
		Seal Construction	Seal Portals	JennChem	4320	EA												4	EA	
		Seal Construction	Seal Construction Labor	JennChem	265	HR										2	HR	4	EA	
		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 Drive																		
		Disposal Cost steel																		
		Subtotal																		
		Portal Backfilling	FB Leader, 200 HP, common earth, 1507	11.23.23.14.4220	2.12	CY	20	20	6		49					CY		386	CY	
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Disposal Cost's																		
		Subtotal																		
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Disposal Cost's																		
		Subtotal																		
		Total																		

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Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Water Tank No. 35																		
		Structure's Demolition Cost	Building dems. steel	02 41 18 13 0020	0.36 CF					941								941 CF		330
		Structure's Vol. Demolished																		
		Truck's Capacity																		
		Haulage																		
		Transportation Cost Non Steer Truck																		
		Transportation Cost Non Steer Drive																		
		Disposal Cost Non Steel																		
		Steel's Weight																		
		Truck's Capacity																		
		Haulage																		
		Transportation Cost Steel Truck																		
		Transportation Cost Steel Drive																		
		Disposal Cost steel																		
		Subtotal																		330
		Equipment's Disposal Cost																		
		Dismantling 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																		
		Total																		330

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THE OIL COMPANY

Ref.	Task	Description	Miletons	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swelt Factor	Quantity	Unit	Cost	
		Shed No. 36																			
		Structure's Demolition Cost	Building dema. steel	02 41 16 13 0020	0.36 CF	10	50	8										4600 CF		1440	
		Structure's Vol. Demolished																			
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			1440
		Equipment's Disposal Cost																			
		Demantling 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																			
		Total																			1440

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 Div. of Oil, Gas & Surface

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Magazines No. 32																			
		Structure's Demolition Cost	Building demo steel	02 41 16 13 0020	0.36 CF		4	4	6												
		Structure's Vol. Demolished																			96 CF
		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 Drive																			
		Disposal Cost steel																			
		Subtotal																			38
		Equipment's Disposal Cost																			
		Disassembling 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																			
		Total																			38

INCORPORATED
 FEB 11 2020
 Div. of Oil, Gas & Mining

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swat Factor	Quantity	Unit	Cost	
		Substation No. 38																			
		Structure's Demolition Cost	Mechanical equip.demol. heavy	23 05 05 10 3600	1250.00	Ton										2 EA		2 EA		2500	
		Structure's Vol. Demol. steel																			
		Truck's Capacity																			
		Material																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Supplier Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Material																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Drive																			
		Supplier Cost steel																			
		Subtotal																			3250
		Equipment's Supplier Cost	Other Loks demol. parts & labor removal	02 41 13 60 1700	4.43	LF	65									1 FT		65 FT		461	
		Unloading Cost																			
		Equipment's Vol. Demolished																			
		Unloading Costs																			
		Equipment Costs																			
		Subtotal																			461
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Unloading Cost																			
		Transportation Cost																			
		Supplier Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Unloading Cost																			
		Transportation Cost																			
		Supplier Costs																			
		Subtotal																			
		Total																			2061

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 City of Oil, Gas & Mining

Item	Task	Description	Materials	Name Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Sheet Factor	Quantity	Unit	Cost	
		Office No. 39																			
		Structure's Demolition Cost	Building demo. average	23.03.05.10.000	0.33	CF	21	40	8									6000	CF	3120	
		Structure's Vol. Demolished																0.25	104	CF	
		Truck's Capacity																			
		Transportation Cost Non Street Truck																			
		Transportation Cost Non Street Drive																			
		Disposal Cost Non Street	City Sanitation	City Sanitation Price	2.18	CF													104	CF	228
		Steel's Weight																			
		Truck's Capacity																			
		Transportation Cost Street Truck																			
		Transportation Cost Street Drive																			
		Disposal Cost steel																			
		Subtotal																		3338	
		Equipment's Disposal Cost																			
		Demolition Cost																			
		Equipment's Vol. Demolished																			
		Loading Cost	Front End Loader 3 CY	31.23.18.42.1308	2.13	CF															
		Transportation Cost	12 CY Dump Truck, 16 m cycle, 15 min wait	31.23.22.20.1029	12.40	CF															
		Disposal Costs	On Site Disposal		17.10	CF															
		Subtotal																		335	
		Concrete Demolition																			
		Demolition Cost	Concrete Demolition	Concrete Demol	11.22	CF	26	40	0.5												
		Concrete's Vol. Demolished																			
		Loading Cost	Front End Loader 3 CY	31.23.18.42.1308	2.13	CF															
		Transportation Cost	12 CY Dump Truck, 16 m cycle, 15 min wait	31.23.22.20.1029	12.40	CF															
		Disposal Costs	On Site Disposal		17.10	CF															
		Subtotal																		4123	

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 DIV. OF OIL & GAS REG. CO.

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit
		Portals No. 40																	
		Structure's Demolition Cost	Building demo, steel	02 41 18.13 0020	0.36 CF	20	24	8										4000	CF
		Structure's Demolition Cost	Building demo, steel	02 41 18.13 0020	0.36 CF	20	20	8										3200	CF
		Rubble's Weight (exclude steel)																	
		Truck's Capacity																	
		Heavilage																	
		Transportation Cost Non Steel Truck																	
		Transportation Cost Non Steel Drive																	
		Disposal Cost Non Steel																	
		Steel's Weight																	
		Truck's Capacity																	
		Heavilage																	
		Transportation Cost Steel Truck																	
		Transportation Cost Steel Drive																	
		Disposal Cost steel																	
		Subtotal																	
		Portal Sealing																	
		Seal Construction			4320.00														
		Labor			265.00														
		Portal Backfilling	FE Loader, 200 HP, common earth, 150	31 23 23.14 4220	2.12	20	25	8			148								
		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																	

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FILED AT OIL, GAS & MINES

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	UM	Unit Factor	Quantity	UM	Cost
		Subtotal																		114052
		Equipment's Original Cost																		
		Dismantling Cost																		
		Equipment's Vol. Demolished																		
		Loading Costs																		
		Transport Costs																		
		Dismantling Costs																		
		Subtotal																		
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Costs																		
		Transportation Cost																		
		Dismantling Costs																		
		Subtotal																		
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Costs																		
		Transportation Cost																		
		Dismantling Costs																		
		Subtotal																		
		Total																		114052

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 City of St. Louis, Missouri

Ref	Task	Description	Materials	Means Reference Number	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swif Factor	Quantity	Unit	Cost	
		Wind Shield 7 in 45																			
		Structure's Demolition Cost							370	16										2755	CY
		Structure's Vol. Demolished																		3308	CY
		Removal of logs															1.2				
		Transportation Cost Truck	18.5 CY Truck, 15 min wait, 6.5 mile cycle	31 23 23 00 3014	2.71	CY														3306	CY
		Place Backfill	Excavator hydraulic, 3 CY	31 23 18 43 3050	1.80	CY														3306	CY
		Backfill at all	Exc. Loader, 200 HP, common earth, 150 haul	31 23 23 14 4200	2.72	CY														3308	CY
		Subtotal																			21910
		Fan																			
		Dismantling Cost	Mechanical equip.demol. heavy	33 05 05 10 3600	1270.00	Ton										5				5	Ton
		Transfermer																			
		Dismantling Cost	Mechanical equip.demol. heavy	33 05 05 10 3600	1270.00	Ton										2				2	Ton
		Subtotal																			2968
																					8760
		Concrete Demolition																			
		Demolition Cost	Concrete Demolition	Concrete Demol	11.72	CY					242									242	CY
		Concrete's Vol. Demolished																			2838
		Loading Cost	Front End Loader 3 CY	31 23 18 43 1100	2.25	CY														315	CY
		Transportation Cost	12 CY Dump Truck, 10 mi cycle, 15 min wait	31 23 23 20 1025	12.40	CY														315	CY
		Disposal Costs	On Site Disposal		11.10	CY															3492
		Subtotal																			10008
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			41975

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Elmer J. Hill, Sec. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Materials	Means Reference Number	Unit Cost		Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
Metal Gates	02 41 13.66 0600	66.25	CF		3'-4"	4'-6"										4		265
Metal Gates	02 41 13.62 0300	88.5			15'	8'										3		266
Labor is included with cost																		
																		531

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Engineering, Gas & Water

Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Length Avg.	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	
		Job Vent Holes 3, 4, 5B, 6, 7, 7A, 8, 8A, 9, and 11																		
		Structure's Demolition Cost	Mechanical equip demo, heavy	23 05 05, 10 3600	1250.00	Ton										EA		20	Ton	
		Plug Well																		
		Job Vent Walls 1, 5 and 6 have been reclaimed																		
		Truck's Capacity																		
		Wastage																		
		Transportation Cost Non Steel Truck																		
		Transportation Cost Non Steel Drive																		
		Disposal Cost Non Steel																		
		Steel's Weight																		
		Truck's Capacity																		
		Wastage																		
		Transportation Cost Steel Truck																		
		Transportation Cost Steel Drive																		
		Disposal Cost steel																		
		Subtotal																		
		Equipment's Disposal Cost																		
		Dismantling Cost																		
		Equipment's Val. Demolished																		
		Loading Costs																		
		Transport Costs																		
		Disposal Costs																		
		Subtotal																		
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Val. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Disposal Costs																		
		Subtotal																		
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Val. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Disposal Costs																		
		Subtotal																		
		Total																		

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 DECEMBER 11 2019

Id	Task	Description	Materials	Mass Reference	Unit Cost	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swal Factor	Quantity	Unit	Cost	
		Asbestos Substition																			
		Structure's Demolition Cost																			
		Structure's Vol. Demolished																			
		Truck's Capacity																			
		Heavilage																			
		Transportation Cost New Steel Truck																			
		Transportation Cost Min. Size Drive																			
		Wheccal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Heavilage																			
		Transportation Cost Super Truck																			
		Transportation Cost Steel Drive																			
		Disposal Cost steel																			
		Subtotal																			
		Dismantling Cost	Chain link, dems, pipes & fabric, remove only	02 41 13 60 1500	# 42 LF	109										LF		164 LF		444	
		Transformer																			
		Dismantling Cost	Mechanical equip dems heavy	23 66 05 10 3600	1250 00 Ton											3 Ton		2 Ton		2500	
		Subtotal																			2944
		Concrete Demolition																			
		Demolition Cost	Concrete Demolition	Concrete Demol	11 72 0Y	10	50	1								FT		4 CV		43	
		Concrete's Vol. Demolished																1.3		5 CV	
		Leavilage Cost	Front End Loader 3 CV	31 23 16 43 1300	2 15 0Y															10	
		Transportation Cost	12 CV Dump Truck, 10 mi cycle, 15 min wait	31 23 23 20 1025	12 40 0Y															65	
		Disposal Costs	On Site Disposal		11 10 0Y															5 CV	53
		Subtotal																			167
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Leavilage Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			3131

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1000 2000 3000 4000 5000

Tower Mine Reclamation Bond Estimate
Earthwork Costs

<i>Description</i>	<i>Quantity</i>	<i>Units</i>	<i>Production Rate</i>	<i>Units</i>	<i>Production Time</i>	<i>Units</i>
Mine Site Earthwork Estimate						
Backfill and Grade Pond, Canyon, and Bench Areas						
D9R Semi-U EROPS	81812	CY	241	CY/HR	339.5	HR
Backfill and Grade Benches, Outsoles and Highwalls						
627G Scraper with D9 Dozer	81812	CY	330	CY/HR	247.9	HR
Rip Area to be Topsoiled (32.12 acres)						
D7R Semi-U EROPS	1399	MSF	240	MSF/Day	5.8	Day
Haul and Spread Topsoil						
627G Scraper with D9 Dozer	27588	CY	330	CY/HR	83.6	HR
Pock Topsoiled Area (Half of placed topsoil)						
325L Excavator	13794	CY	300	CY/HR	46	HR
Gob Vent Holes 3, 4, 5B, 6, 7, 7A, 8, 8A, 9, and 11						
Backfill disturbed area (D8R dozer)	55000	CY	250	CY/HR	220	HR
Rip area to be topsoiled (dozer)	237	MSF	240	MSF/Day	7.9	HR
Spread topsoil (D8R dozer)	13041	CY	250	CY/HR	52.2	HR
Pock topsoiled area (325L excavator)	6500	CY	300	CY/HR	21.7	HR
Support						
Foreman with pickup truck						
Water Truck						
EARTHWORK SUBTOTAL						

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<i>Materials/Equipment/Labor</i>	<i>Cost Reference RSMMeans Ref #</i>	<i>Unit Cost</i>	<i>Units</i>	<i>Quantity</i>
Dozer, 410 HP, w operator & laborer	Crew B-10X	283.82	HR	339.5
S.P scraper, 44 CY, w dozer and operators	Crew B-33H	479.75	HR	247.9
Scarify subsoil, large proj, 75 HP dozer	32 91 13.23 3100	5.95	MSF	1399
S.P scraper, 44 CY, w dozer and operators	Crew B-33H	479.75	HR	83.6
Hyd excavator, 3.5 CY, w opr and laborer	Crew B-12D	229.28	HR	46
Dozer, 300 HP, w operator & laborer	Crew B-10M	243.68	HR	220
Scarify subsoil, large proj, 75 HP dozer	32 91 13.23 3100	5.95	MSF	7.9
Dozer, 300 HP, w operator & laborer	Crew B-10M	243.68	HR	52.2
Hyd excavator, 3.5 CY, w opr and laborer	Crew B-12D	229.28	HR	21.7
Operator with pickup truck, 4x4	Crew A-3A	754.27	Day	50.0
5000 gallon water truck w opr & laborers	Crew B-9A	2060.98	Day	20.0

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Original of [unclear]

Cost
\$96,357
\$118,930
\$8,324
\$40,107
\$10,547
\$53,610
\$47
\$12,720
\$4,975
\$37,714
\$41,220
\$424,550

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REG. SEC. & FIN. DIV.

Tower Mine Reclamation Bond Estimate
Revegetation Costs

Category	Material	Quantity	Unit	Rate	Cost	Plant	Quantity	Unit	Rate	Cost
Mine Site Revegetation Estimate										
Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91.13.10.0390		30.50/MSP	32.12					
Seeding Material - Slopes	Centennial Mix 001 (see below)			378.32/AC	17.55					
Seeding Material - Flat Areas	Centennial Mix 002 (see below)			314.97/AC	14.57					
Transplant Seeding Material - Channels	Centennial Mix 003 (see below)			163.00/AC	2.08					
Seeding Equipment and Labor	Hydroseeder (equip. & labor only)	32 92.19.14.0200		23.19/MSP	32.12					
Transplanting labor	Planting, seedlings, 3"-5" tall, medium soil	32 93.43.10.0560		0.74/EA	2.08					
Subtotal										
Job Vent Well Revegetation Estimate										
Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91.13.10.0390		30.50/MSP	3.20					
Seeding Material - Flat Areas	Centennial Mix 002 (see below)			314.97/AC	4.41					
Seeding Equipment and Labor	Hydroseeder (equip. & labor only)	32 92.19.14.0200		23.19/MSP	4.41					
Subtotal										
Supplemental Revegetation										
25% of mine area										
25% of Job Vent Well area										
Subtotal										
REVEGETATION TOTAL										

Seed mix cost based on the species and application rates provided on pages 3-21 and 3-22 of the Centennial MRP. Seed prices downloaded August 2019 from greatbasinseeds.com

Common Name	Seeding Rate (lb./Acre)	Unit Cost (\$/lb)	Mix Cost (\$/Acre)
Centennial 001 - Slope Mix			
Groases			
Western Wheatgrass	3.00	5.95	17.85
Indian Ricegrass	2.00	6.95	13.90
Mountain Brome	3.00	4.25	12.75
Sandberg Bluegrass	0.25	8.50	2.13
Bluebunch Wheatgrass	2.00	8.95	17.90
Slender Wheatgrass	2.00	2.95	5.90
Forbs			
Lewitt Flax	1.00	14.50	14.50
Rocky Mountain Penstemon	0.25	19.50	4.88
Louisiana Sagelbrush	0.10	18.00	1.80
Northern Sweetvetch	1.00	75.00	75.00
Yellow Sweetclover	0.50	2.85	1.43
Shrubs			
Mountain Big Sagebrush	0.20	18.50	3.70
Serviceberry	1.00	59.00	59.00
Curlleaf Mountain Mahogany	1.00	38.00	38.00
True Mountain Mahogany	1.00	35.00	35.00
Whitestem Hubber Rabbitbrush	1.00	18.00	18.00
Bitterbrush	2.00	19.00	37.00
Mountain Snowberry	1.00	49.00	49.00
Subtotal = 360.30			
5% increase to account for PLS requirement = 18.02			
Slope seed mix unit cost = 378.32			
Centennial 002 - Drainage Mix			
Groases			
Western Wheatgrass	2.00	5.95	11.90
Great Basin Wildrye	2.00	16.95	33.90
Mountain Brome	3.00	4.25	12.75
Sandberg Bluegrass	0.10	8.50	0.85

Transplant seedling species and rates based on the table provided on page 3-22 of the MRP. Prices downloaded August 2019 from portyfarm.com.

Common Name	Planting Rate (1000)	Unit Cost (\$ Each)	Plant Cost (\$/Acre)
Centennial 003 - Transplant Seedlings			
Narrowleaf Cottonwood	250	3.20	800.00
Box Elder	250	0.70	175.00
Chokecherry	250	0.85	212.50
Gambel Oak	250	0.70	175.00
Subtotal =			1362.50
Shipping (20% of subtotal) =			272.50
Transplant seedling cost =			1635.00

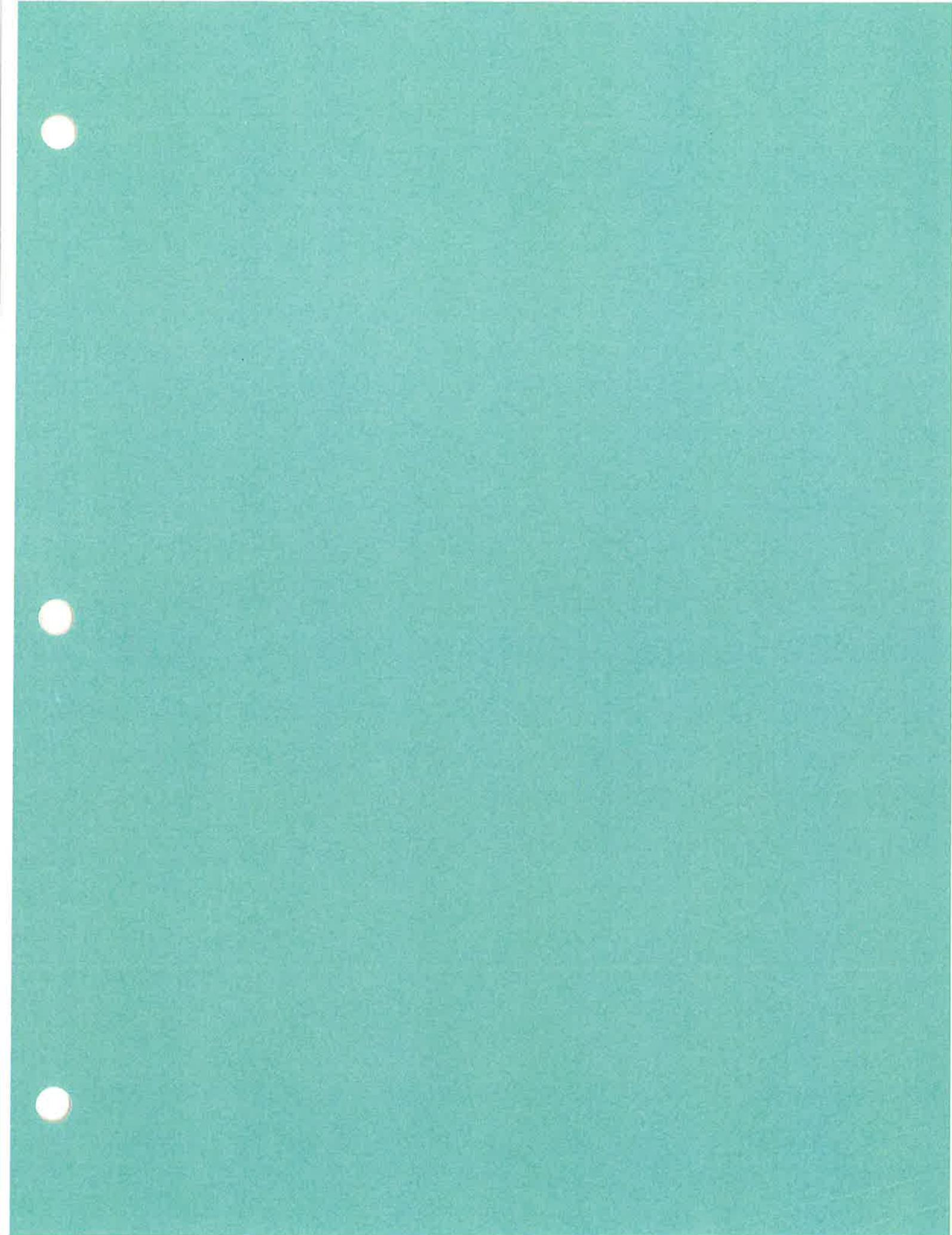
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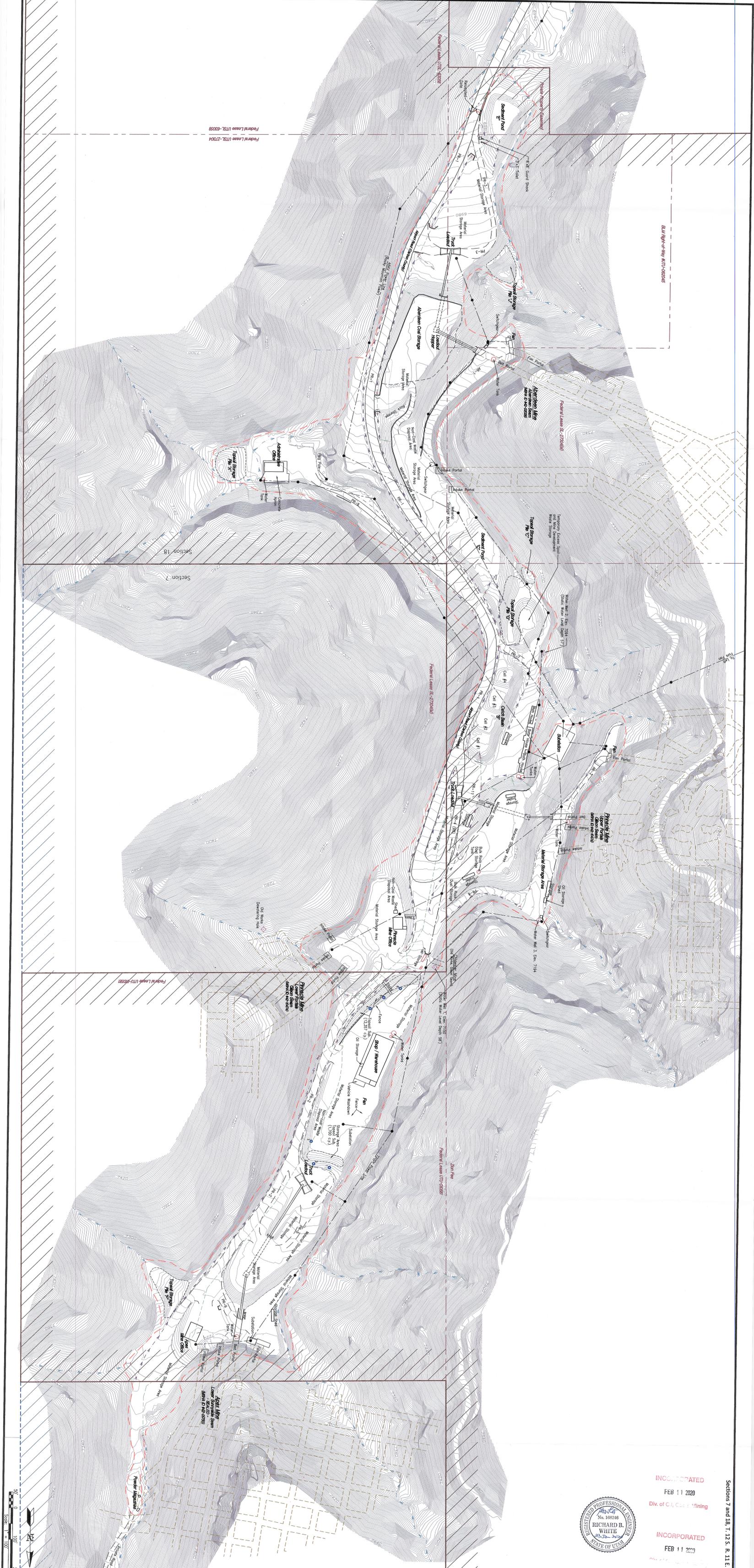
Red Canarygrass	0.50	6.95	3.44
Slender Wheatgrass	2.00	2.95	5.90
Forbs			
Yarrow	0.10	39.00	3.90
Sweet Arose	2.00	19.00	38.00
Louisiana Sagebrush	0.50	18.00	9.00
Northern Sagebrush	1.00	75.00	75.00
Yellow Sweetclover	0.50	2.85	1.41
Shrubs			
Mountain Big Sagebrush	0.10	18.50	1.85
Serviceberry	1.00	59.00	59.00
Spicebush	1.00	21.00	21.00
Blue Elderberry	1.00	49.00	49.00
Mountain Snowberry	1.00	49.00	49.00
		Subtotal =	299.98
		5% increase to account for PLS requirements =	15.00
		Drainage seed mix unit cost =	314.97

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FEB 11 2020

DPK





INCORPORATED
 FEB 11 2020
 Div. of C.I., C.E. & Mining
 INCORPORATED
 FEB 11 2020



Sections 7 and 18, T. 12 S., R. 11 E.

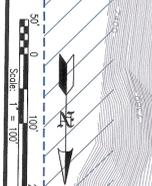


PLATE #6 106

AS-CONSTRUCTED SURFACE FACILITIES

SCALE: 1" = 100'

DATE: AUGUST 2019

DRAWN BY: PJ

APPROVED BY: KM

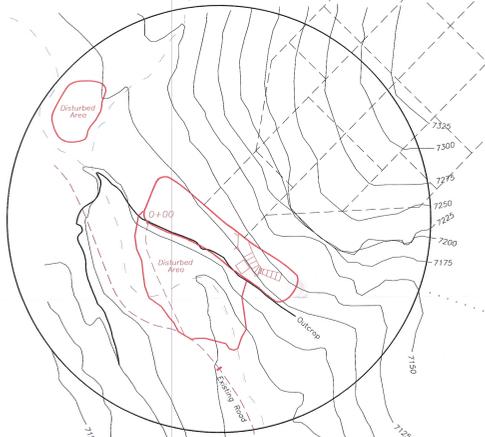
ANDALEX RESOURCES, INC.
 Tower Division

CENTENNIAL PROJECT
 6750 AIRPORT ROAD
 PRICE, UTAH 84501

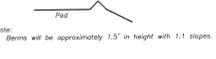
LEGEND

	Disturbed Surface Boundary		Soil Sample Location
	Lease Boundary		Power Pole
	Disturbed Surface Drainage		
	Undisturbed Surface Drainage (Diversion Ditch)		
	Disturbed Drainage Culvert		
	Power Line		
	Previously Disturbed Area		
	Permit Boundary		
	Permit Boundary - Surface Only		

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



TYPICAL BERM ON PAD AREA



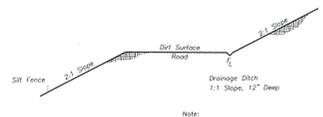
TYPICAL STRAW DIKE ON PAD AREA



TYPICAL STRAW DIKE IN DITCH

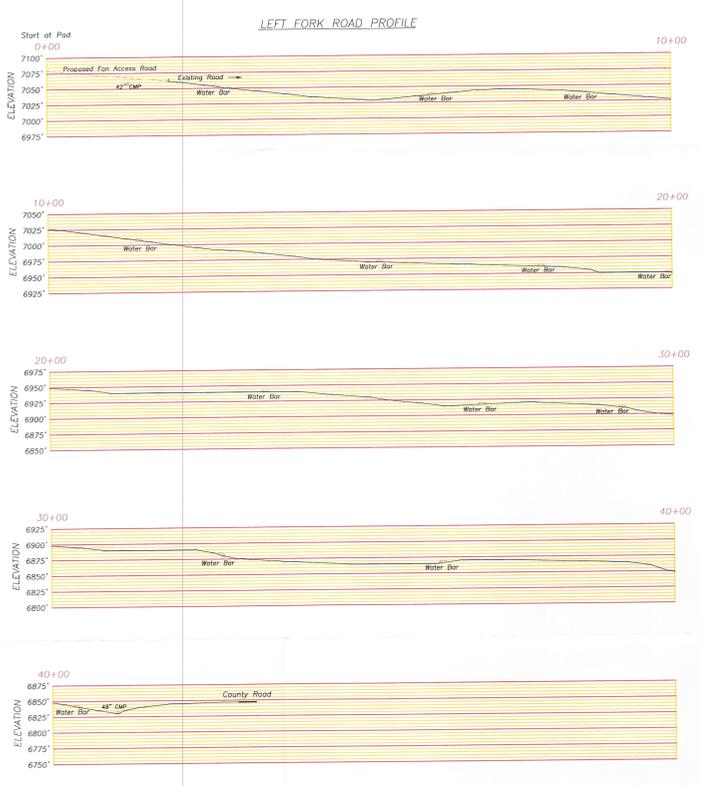


TYPICAL CROSS SECTION OF ACCESS ROAD

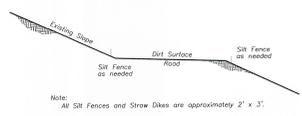


LEGEND:

- Proposed Facilities (R.O.W. 64158) (RED)
- Access Road
- Drainage
- Berm
- Alternative Sediment Control: Silt Fence and/or Straw Dike
- Drainage Ditch
- Water Bar



TYPICAL CROSS SECTION OF EXISTING ROAD



TYPICAL SILT FENCE



INCORPORATED
FEB 11 2020
Div. of Oil, Gas & Mining



Aberdeen Mine
Left-Hand Fork
Fan Installation/
Sedimentation/
Drainage Control

SCALE: 50' 100' 200'
ACAD REF: LF-1 July 10, 1995

