

ANDALEX
RESOURCES, INC.

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

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

Received 11/13/19
C/007/0019
Task #6014

Attn: Steve Christensen
Permit Supervisor

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

Dear Mr. Christensen,

Attached you will find the deficiency responses to the Centennial Midterm Review, Task #5986. Changes have been made to the bonding calculations as requested.

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

Sincerely,

Karin Madsen
Engineering Tech
UtahAmerican Energy, Inc.

APPLICATION FOR PERMIT PROCESSING

| | | | | | | |
|---|-------------------------------------|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|
| <input checked="" type="checkbox"/> Permit Change X | <input type="checkbox"/> New Permit | <input type="checkbox"/> Renewal | <input type="checkbox"/> Transfer | <input type="checkbox"/> Exploration | <input type="checkbox"/> Bond Release | Permit Number: ACT/007/019 |
| Title of Proposal: T19-003 Midterm Review Task ID #5986 | | | | | | Centennial Coal Mine |
| | | | | | | Permittee: UtahAmerican Energy, Inc. |

Description, include reason for application and timing required to implement: Sent 11-13-19

Instructions: If you answer yes to any of the first 8 questions (gray), submit the application to the Salt Lake Office. Otherwise, you may submit it to your reclamation

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

X Attach 1 complete digital copy of the application. In PDF Format

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

- Karin Madsen - Engineering Tech. 102419

Subscribed and sworn to before me this 24th day of Oct, 2019.

Teresa Behunin
Notary Public
My Commission Expires: Oct 26, 2022
Attest: STATE OF Utah
COUNTY OF Carbon



Received by Oil, Gas & Mining

ASSIGNED TRACKING NUMBER

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

WordPerfect Document Compare Summary

Original document: K:\Tower\2019\T19-003 Midterm Task ID 5973\Text\Originals\Chapter 1.wpd

Revised document: K:\Tower\2019\T19-003 Midterm Task ID 5973\Text\Chapter 1 Edits.wpd

Deletions are shown with the following attributes and color:

~~Strikeout~~, **Blue** RGB(0,0,255).

Deleted text is shown as full text.

Insertions are shown with the following attributes and color:

Double Underline, Redline, **Red** RGB(255,0,0).

The document was marked with 72 Deletions, 77 Insertions, 0 Moves.

ANDALEX RESOURCES, INC.

CENTENNIAL PROJECT

MINING AND RECLAMATION PLAN

CHAPTER 1, LEGAL

CHAPTER 1, LEGAL

R645-301-100. GENERAL

The Mathis Tract and new Federal Summit Creek Lease Boundary Change is simply an extension of our underground mine workings and will in no way involve any new surface facilities or otherwise have any affect on the surface. It does not involve any new hydrologic basins. Refer to R645-301-200 through R645-301-800 for additional information.

R645-301-110. LEGAL, FINANCIAL, AND COMPLIANCE INFORMATION

Legal, Financial, Compliance and Information

The objective of this chapter is to set forth all relevant information concerning ownership and control of Andalex Resources, Inc., the ownership and control of the property to be affected by mining activities and all other information and documentation required.

Please note that right-of-entry information for all new Leases is included in Appendix J, "Other Approvals". This includes the short form of the Mathis lease recorded at Carbon County.

Compliance Information

a) Suspension and Revocation

Andalex Resources, Inc., affiliates or persons controlled by or under common control with Andalex haven't had a mining permit suspended or revoked within the last five years.

b) Forfeiture of Bond

Andalex Resources, Inc., affiliates or persons controlled by or under common control with Andalex have not forfeited a mining bond or similar security in lieu of bond.

c) History of Violations

Appendix 1, Part 3 contains a listing of all violations received within the last three years prior to the date of this application by Andalex and affiliated companies.

R645-301-111. INTRODUCTION

Overview and Summary of Project

Mining operations at the Pinnacle Mine began in the Gilson Seam on October 3, 1980, according to the Mining and Reclamation Plan approved by the State of Utah, Department of Natural Resources, Division of Oil, Gas, and Mining. The mining began on the Zion's fee lease and extended onto Andalex's federal leases according to federal approval granted in 1982. Andalex also opened the Apex Mine in the Lower Sunnyside Seam late in 1982. Mining commenced in the Aberdeen Mine in the Aberdeen Seam in mid 1988. The coal is classified as High Volatile B bituminous in the Lower Sunnyside and Gilson Seams and as High-volatile A bituminous in the Aberdeen Seam.

The mine plan area is located approximately 10 miles north-northeast of Price, Utah in Carbon County in T12 and 13S and R10 and 11E (See Figure 1-2. The mining property contains approximately 6528.83 acres. Of this, 1081.5 acres are fee surface and coal leased from the following: Zion Security Corporation (200 acres), Mathis (640 acres), Sunedco (200 acres), Andalex Resources fee (40 acres), and David Cave (1.5 acres). An additional 5435.88 acres are federal leases, consisting of SL-027304 (235.96 acres), SL-063058 (400 acres), U-010581 (1,842.39 acres), U-05067 (360 acres), UTU-66060 (1093.32 acres), UTU-69600 (801.48 acres) and UTU-79975 (702.73 acres). The remaining 11.45 acres are BLM surface rights-of-way #62045 (10 acres) and #64158 (1.45 acres). Please see Figure 1-2 and Figure 1-2(A).

This property is located in the Book Cliffs coal field and includes Alrad Canyon, Deadman Canyon, Starpoint Canyon, Straight Canyon, and Hoffman Creek Canyon areas with coal outcropping along the cliffs between 7,000 feet and 7,700 feet elevations. The topography is very rugged, the Book Cliffs being dissected by box canyons created by ephemeral streams. Large sandstone boulders eroded from the cliffs are scattered along the sides of the canyons. The land is undeveloped, used primarily for grazing, and there are no areas of national importance in the region. Mountain-Brush vegetative type covers most of the area.

There are no perennial streams or bodies of water on the property. Ground water recharge is from precipitation in the vicinity. Water supply for mine development is from water encountered in the existing underground mine workings. Culinary usage is supplied by an independent contractor who hauls Price City culinary water to the mine on an as-needed basis. Historically, coal mining has been the only industry in the permit area and there are several abandoned mines located on the

property. No oil or gas wells exist in the area.

Access to the mine plan area is by way of the Airport Road, an existing paved county road which has been upgraded and is maintained by Carbon County. It is used as an access road as well as a haul road. All surface and support facilities necessary for present operations have been completed and are located on the Zion's fee or on rights-of-way granted by the Bureau of Land Management. This is also a small private easement granted to Andalex from David Cave for a small portion of pond E. Andalex has acquired all applicable state and federal licenses, permits, and rights-of-way necessary to conduct mining activities on all private (fee) and federal leases.

As of 7-6/2007 the Apex Mine and the Pinnacle Mine have been worked out. The Apex Mine has been sealed at the portals. The Pinnacle mine is still being ventilated because the power to the Aberdeen mine runs into the Pinnacle mine from the substation and then drops down to the Aberdeen Mine through a borehole connecting the two mines. However, there are no plans to produce any more coal from the Pinnacle Mine. Therefore, all existing and future mine production from the Centennial Project will be solely from the Aberdeen Mine

The mining method being employed in the Aberdeen Mine is gateroad development utilizing continuous miners with final extraction by longwall. Certain fringe area reserves, inadequate for longwall panels, will be by room-and-pillar method.

This operation does not face any of the mining complications caused by faults or intrusives. The mine plan area is located in a region where mining has been the major industry; therefore, the nearby communities are geared for coal operations. The labor supply is excellent and well trained. With these considerations, and Andalex's prudent management, the Centennial Project will continue to be a model mining operation in the Carbon County area with very minimal environmental and socioeconomic impact.

Upon cessation of final mining activities, reclamation activities will commence as soon as is practicable, according to the plans outlined in this application. The land will be restored according to available technology to as nearly its original condition as is possible.

Organization of Application

This underground mining permit application has been organized in accordance with the general requirements for format and contents as outlined in the R645- Coal Mining Rules.

R645-301-111.100. OBJECTIVES

Objectives

The objective of this chapter is to set forth all relevant information concerning ownership and control of Andalex Resources, Inc., the ownership and control of the property to be affected by mining activities and all other information and documentation required.

Please note that right-of-entry information for all new Leases is included in Appendix J, "Other Approvals".

R645-301-111.200. RESPONSIBILITY

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

R645-301-111.300. APPLICABILITY

The requirements of R645-301-100 apply to Andalex Resources, Inc.

R645-301-112. IDENTIFICATION OF INTERESTS

a) Permit Applicant

Andalex Resources, Inc. (Employer ID # 61-0931325)
P.O. Box 910
East Carbon, Utah 84520
(801) 888-4000

b) Legal and Equitable Owners of Record

Earth work for the Aberdeen Mine was completed in 1989. Surface facilities for the Aberdeen Mine were completed early in 1990. All existing facilities are located either on land owned by Zions Securities Corporation or on federal land. The addresses of these owners of record are as follow:

Bureau of Land Management (801) 524-3004
Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

Zion Securities Corporation (801) 363-3841
10 East South Temple
Salt Lake City, Utah 84111

All coal to be mined on the permit area is owned by the

federal government, Zion Securities Corporation, Sunedco Coal Company or AMCA Coal Leasing, Inc, a wholly-owned subsidiary of UtahAmerican Energy Inc.. The addresses of these owners of record are as follow:

Bureau of Land Management
Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

AMCA Coal Leasing, Inc. (Employer No. 61-0914254)
PO Box 910
East Carbon, Utah 84520

Zion Securities Corporation
10 East South Temple
Salt Lake City, Utah 84111

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

R645-301-112.100. TYPE OF BUSINESS

Andalex Resources is a corporation organized and existing under the laws of Delaware and qualified to do business in Utah. Andalex Resources, Inc, is a wholly owned subsidiary of UtahAmerican Energy Inc., which in turn is a wholly owned subsidiary of Murray Energy Corporation, which in turn is a wholly-owned subsidiary of Murray Energy Holdings Co. Andalex began mining operations in the Pinnacle Mine October, 1980, and in the Apex Mine in late 1982. Mining commenced in the Aberdeen Mine in mid-1988. These mines are located on fee and federal lands in Carbon County, Utah. Andalex, the designated operator, along with AMCA Coal Leasing, Inc., its land acquisition and development branch, controls all federal and fee mining leases within the mine plan area. This underground mining permit application has been prepared by Andalex Resources and is being submitted for review and approval by the appropriate regulatory authorities.

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:

~~Dave Shaver~~Karin Madsen
Andalex Resources, Inc.
P.O. Box 910
East Carbon, Utah 84520
phone: (435) 888-401700

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)

Bureau of Land Management
Utah State Office
~~P.O. 440 W. Box 45155~~200 S. #500
Salt Lake City, Utah ~~84145-0155~~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)

~~Oso Energy Resources~~
~~900 Main Avenue~~
~~Durango~~WEM Castlegate LLC.
3319 N. Univeristy Ave. #100
Orem, Colorado 81301Utah 84604 (Gas rights)

Surface Owners

Bureau of Land Management
Utah State Office
~~P.O. 440 W. Box 45155~~200 S. #500
Salt Lake City, Utah ~~84145-0155~~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)

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.

R645-301-112.700. MSHA NUMBERS FOR ALL MINE-ASSOCIATED STRUCTURES

The Centennial Project includes the development of three separate mines. The names and M.S.H.A. I.D. numbers for existing mines and all sections are as follow:

Pinnacle Mine - M.S.H.A. I.D. #42-01474
Apex Mine - M.S.H.A. I.D. #42-01750
Aberdeen Mine - M.S.H.A. I.D. #42-02028

R645-301-112.800. STATEMENT OF ALL LANDS AND INTERESTS IN 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.

R645-301-113. VIOLATION INFORMATION

History of Violations

Appendix 1, Part 3 contains a listing of all violations received within the last three years prior to the date of this application by Andalex and affiliated companies.

R645-301-113.100. COMPLIANCE INFORMATION

Andalex Resources, Inc., affiliates or persons controlled by or under common control with Andalex haven't had a mining permit suspended or revoked within the last five years.

Andalex Resources, Inc., affiliates or persons controlled by or under common control with Andalex have not forfeited a mining bond or similar security in lieu of bond.

Appendix 1, Part 3 contains a listing of all violations received within the last three years prior to the date of this application by Andalex and affiliated companies.

R645-301-113.110. SUSPENDED OR REVOKED PERMITS

Andalex Resources, Inc., affiliates or persons controlled by or under common control with Andalex haven't had a mining permit suspended or revoked within the last five years.

R645-301-113.120. FORFEITED BONDS

Andalex Resources, Inc., affiliates or persons controlled by or under common control with Andalex have not forfeited a mining bond or similar security in lieu of bond.

R645-301-113.200. EXPLANATION OF PERMIT OF BOND FORFEITURE

N/A

R645-301-113.210 PERMIT AND BOND IDENTIFICATION

N/A

R645-301-113.220. REGULATORY AUTHORITIES INVOLVED

See above

R645-301-113.230. CURRENT STATUS OF PERMIT AND BOND

See above

R645-301-113.240. ADMINISTRATIVE OR JUDICIAL PROCEDURES

Appendix 1, Part 3

R645-301-113.250. CURRENT STATUS OF PROCEEDINGS

Appendix 1, Part 3

R645-301-113.300. LIST OF ALL VIOLATIONS NOTICES

Appendix 1, Part 3

R645-301-113.310. IDENTIFICATION OF VIOLATIONS

Appendix 1, Part 3

R645-301-113.320. DESCRIPTION OF VIOLATIONS

Appendix 1, Part 3

R645-301-113.330. LOCATION OF VIOLATIONS PROCEEDINGS

Appendix 1, Part 3

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 ~~6528~~2281.8319 acres of private and federal coal leases ~~and~~, rights-of-way, and surface reclamation area listed below, all of which are included in their entirety within the permit area. Andalex ~~basie~~s 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."

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. ~~7; S2SE4,~~
~~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 ~~235~~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, ~~S2SE4~~
Sec. 18; Lot 1, NW4NE4, N2NE4NW4, SW4NE4NW4
containing ~~235~~155.96 acres, more or less.)*****

2) SL-063058:

Tract 1: (original lease)
~~T.13S., R.11E., SLM, Utah~~
~~Sec. 8; S2SW4;~~
~~Sec. 17; N2NW4, SE4NW4;~~
~~Sec. 18; NE4NE4. - relinquished~~

Tract 2: (lease modification)
T.13S., R.11E., SLM, Utah
~~Sec. 17; SW4NW4, NE4NW4SW4, W2NW4SW4,~~
~~Sec. 18; E2SE4NE4, NW4SE4NE4, SW4NE4, E2NE4SE4~~ Sec. 18; SW4NE4
entire lease containing 400 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 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. 8; S2SW4~~

~~Sec. 17; NW4, NE4NW4SW4, W2NW4SW4~~

~~Sec. 18; NE4NE4, E2SE4NE4, NW4SE4NE4, SW4NE4, E2NE4SE4~~ 18; SW4NE4

containing ~~40~~40 acres, more or less.)*****

3) UTU-010581:

Tract 1: (original lease)

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

~~Sec. 5; All~~

~~Sec. 6, All~~

~~Sec. 7; Lot 1, NE4, NE4NW4, N2SE4;~~

~~Sec. 8; N2, N2S2, S2SE4;~~

~~Sec. 9; W2SW4;~~

~~Sec. 17; N2NE4.~~

NW4SE4.

Tract 2: (lease modification)

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

~~Sec. 17; S2NE4, N2NE4SW4, NE4SE4, N2NW4SE4~~

~~- relinquished~~

entire lease containing ~~1,842.39~~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. 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~~; NW4SE4
containing ~~1,842.39~~40 acres, more or less.)*****

4) U-05067-08916

~~T.13S., R.11E., SLM, Utah~~
~~Sec. 4; Lots 5-8~~
~~Sec. 9; NW4NE4, N2NW4, SW4NW4, NE4SW4~~
~~containing 360 acres, more or less~~Lease was
relinquished on March 12, 2012. See Appendix AA.

5) UTU-66060

Tract 1: (original lease)
~~T.12S., R.11E., SLM, Utah~~
~~Sec. 31; Lots 3-6, Lots 13-22~~

T.13S, R.10E., SLM, Utah
Sec. 1; Lots ~~1-8~~3 and 4, S2N2W4
~~Sec. 12; Lot 1~~

Tract 2: (lease modification)
~~T.12S., R.11E., SLM, Utah~~
~~Sec. 31; Lot 12~~
~~Sec. 32; W2SW4, SW4NW4~~
~~- relinquished~~
entire lease containing ~~1093~~161.3241 acres more or less.

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.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~~3 and 4, S2N2W4
~~Sec. 12; Lot 1~~
containing ~~1093~~161.3241 acres more or less.)*****

6) UTU-69600

T.13S., R10E. SLM, Carbon County, Utah
Sec. 1: SW4
Sec. 12: ~~lots 2-11~~3-7, Lot 11, ~~w2w2, NE4SW4W2NW4,~~
containing ~~801.48~~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

~~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.~~

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 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 ~~200~~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 ~~40~~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

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

Permit Area Total lease area (described above) ~~6528.83 acres~~
1740.48 acres

| | |
|---|--------------------------------------|
| <u>Surface Area responsibilities</u> <u>(for reclamation purposes)</u> | <u>+546.16 acres</u> |
| Less Oso gaswell area | <u>11-5.9245</u> acres |
| Total permit area | <u>65162281.9119</u> 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. 29; SW4SW4, SW4SE4 (part of UTU-79975)~~

~~Sec. 30; Lots 4,12,14-16 (part of UTU-79975)~~

~~Sec. 31; Lots 1, 2, 7-11 (part of UTU-79975)~~

~~Lots 3-6, 12-22 (part of UTU-66060)~~

~~except for 7.862-5, 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)~~

~~Sec. 32; W2NE4, E2NW4, NW4NW4, NE4SW4 (part of UTU-79975)~~

~~W2SW4, SW4NW4 (part of UTU-66060)~~

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

Sec. 1; Lots ~~1-8, S2N21-2~~ (part of UTU-66060 surface only for GVH reclamation),
except for 21.4298 acres associated with the Oso
pipeline (see Appendix Z)

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

SW4 (part of UTU-69600)

Sec. 12*; ~~Lot 1 (part of UTU-66060)~~

~~_____~~ ~~Lots 2-113-7, 11, ~~W2W2, NE4SW4~~W2NW4 (part of UTU-69600)~~

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

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

~~Sec. 4; ~~Lots 5-8 (part of U-05067)~~~~

~~_____~~ ~~Sec. 5* 7*; All NW4SE4 (part of UTU-010581)~~

~~_____~~ ~~Sec. 6*; All (part of UTU-010581)~~

~~_____~~ ~~Sec. 7*; Lot 1, NE4NW4, NE4, N2SE4 (part of UTU-010581)~~

Lot ~~4, S2SE4~~4 (part of SL-027304)

Lots 2-3, S2W4NW4, N2SW4, ~~SE4SW4~~E2SW4 (Zions Fee Lease)

~~_____~~ ~~Sec. 8*; N2, N2S2, S2SE4 (part of UTU-010581)~~

~~_____~~ ~~S2SW4 (part of SL-63058)~~

~~_____~~ ~~Sec. 9; E2NE4, SW4NE4, SE4NW4, N2SE4 (Sunedco Fee Lease)~~

~~_____~~ ~~NW4NE4, N2NW4, SW4NW4, NE4SW4 (part of U-05067)~~

~~_____~~ ~~Sec. 17; NE4, N2NE4SW4, NE4SE4, N2NW4SE4 (part of UTU-010581)~~

~~_____~~ ~~NW4, NE4NW4SW4, W2NW4SW4 (part of SL-063058)~~

~~_____~~ ~~Sec. 18; NE4NE4, E2SE4NE4, NW4SE4NE4, SW4NE4, E2NE4SE4 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)

R645-301-114.100. DOCUMENTATION

Appendix J

R645-301-114.200. SEVERED SURFACE AND MINERAL ESTATES

Appendix J

**R645-301-114.210. WRITTEN SURFACE OWNER CONSENT FOR COAL
EXTRACTION**

Appendix R

**R645-301-114.220. CONVEYANCE EXPRESSLY GRANTING RIGHT TO MINE
COAL**

Appendix J

R645-301-114.230. DOCUMENTATION OF LEGAL AUTHORITY TO MINE COAL

Appendix J

R645-301-114.300. ADJUDICATION OF PROPERTY RIGHTS DISPUTES

R645-301-114.300. ADJUDICATION OF PROPERTY RIGHTS DISPUTES

The Division does not have the authority to adjudicate property
rights disputes.

R645-301-115. STATUS OF UNSUITABILITY CLAIMS

Carbon County has authorized mining and reclamation activities
within 100 feet of County Road 299. (See Appendix B)

R645-301-115.100. IDENTIFICATION OF LANDS UNSUITABLE

The permit area is not within an area designated unsuitable for
the surface effects of underground coal mining activities or
under study for designation in an administrative proceeding
initiated under those pasts. Further, there are no occupied
dwellings within 300 feet of the permit area including the

Hoffman Creek area.

**R645-301-115.200. CLAIMS OF EXEMPTION BY COMMITMENT PRIOR TO
JANUARY 4, 1977**

None.

**R645-301-115.300. MINING AND RECLAMATION OPERATIONS WITHIN 300
FEET OF AN OCCUPIED DWELLING OR WITHIN 100
FEET OF A PUBLIC ROAD**

None.

R645-301-116. PERMIT TERM

The starting and termination dates as well as the horizontal and vertical extent of the proposed underground mining activities over the total life of the permit are indicated on the revised Pinnacle underground layout map included as Plate 30. Also refer to the underground layout maps for the Apex and Aberdeen Mines (see Plates 29 and 31). Refer to plate 41.

**R645-301-116.100. SCHEDULE OF PHASED MINING AND RECLAMATION
ACTIVITIES**

All surface facilities have been constructed for the Pinnacle, Apex and Aberdeen Mines. Earthwork for the Aberdeen Mine was completed in 1989. The surface facilities for the Aberdeen Mine were completed in early 1990. No additional surface facilities are required for any new leases.

Andalex has added a fan installation in the left-hand fork of Deadman Canyon. This installation was conducted according to measures outlined by the Bureau of Land Management as part of Right-of-Way U-64158. (Copy of Right-of-Way is included in Appendix B.) The location of this breakout is shown on Plate 29 (R.O.W.).

Andalex will fill, regrade and stabilize rills and gullies over 9 inches in depth. Further, Andalex has agreed to interim stabilization of all slopes and embankments within the disturbed area and has done so. One slope located at the bottom of the office driveway, has been attempted through hydroseeding, fertilizing and mulching techniques on three separate occasions. No significant erosion problems have occurred, Andalex will notify the Division in the event of any slides or other damage.

Andalex will cover acid or toxic forming materials if any are encountered. Andalex will advise the Division in the event of a

temporary shutdown, such as a letter sent to the Division when Andalex's Apex Mine was temporarily closed.

R645-301-116.200. PERMIT TERM IN EXCESS OF FIVE YEARS

The requested term of this permit is five years. Andalex will then apply for five year extensions over the life of the mine.

R645-301-116.210. COMPLETENESS AND ACCURACY FOR LONGER TERM

N/A

R645-301-116.220. DEMONSTRATION OF NEED FOR LONGER TERM

N/A

R645-301-117. INSURANCE, PROOF OF PUBLICATION AND FACILITIES OR STRUCTURES USED IN COMMON

Appendix B contains certificates of liability insurance covering personal injury and property damage resulting from this operation. Andalex commits to mitigate all subsidence related damage to renewable resources, including, but not limited to water, grazing, and wildlife habitat including raptor nests.

R645-301-117.100. LIABILITY INSURANCE

Appendix B

R645-301-117.200. NEWSPAPER PUBLICATION

A copy of the newspaper advertisement of this Mining and Reclamation Plan and proof of publication of the advertisement is filed with the Division and made part of the complete application. Also, please refer to this chapter for the public notice and proof of publication for the newly acquired Sunedco Lease.

R645-301-117.300. FACILITIES USED IN COMMON

The Centennial Project includes the development of three separate mines. The names and M.S.H.A. I.D. numbers for existing mines and all sections are as follow:

Pinnacle Mine - M.S.H.A. I.D. #42-01474
Apex Mine - M.S.H.A. I.D. #42-01750
Aberdeen Mine - M.S.H.A. I.D. #42-02028

All coal from the newly acquired AEP Lease will be mined simply

as an underground extension of the existing Pinnacle and Aberdeen Mines.

R645-301-118. FILING FEE

N/A Page 1-27 of document

R645-301-120. PERMIT APPLICATION FORMAT AND CONTENTS

Summary of Table of Contents

- R645-301-100. General
- R645-301-200. Soils
- R645-301-300. Biology
- R645-301-400. Land Use and Air Quality
- R645-301-500. Engineering
- R645-301-600. Geology
- R645-301-700. Hydrology
- R645-301-800. Bonding and Insurance

R645-301-121. REQUIREMENTS

R645-301-121.100. CURRENT INFORMATION

Information is current.

R645-301-121.200. CLEAR AND CONCISE

Information is clear and concise.

R645-301-121.300. FORMAT REQUIREMENTS

To facilitate review of the application, each chapter listed above has been further divided into specific parts and sections. These can be found listed in the detailed table of contents appearing at the beginning of this text along with the page numbers on which they appear. This table of contents also contains lists of figures, tables, plates, exhibits, and appendices to facilitate cross referencing between chapters.

Exhibits include appropriate supporting documents, reports and

publications and are included as appendices.

Maps which were not reduced to fit into the text are included in a separate volume as plates. All maps and plans are submitted in accordance with the requirements.

**R645-301-123. APPLICATION FOR PERMITS, CHANGES, RENEWALS,
OR TRANSFERS**

Text deleted as instructed by Technical analysis.

R645-301-130. REPORTING AND TECHNICAL DATA

Persons and Consultants Involved

The following persons and/or organizations were involved in collection and analysis of the technical data set forth in this application.

1. In-House Consulting Services
 - a) Andalex Resources, Inc. - AMCA Coal Leasing, Inc.
Samuel C. Quigley - Western Project Manager
Michael W. Glasson - Senior Geologist
Allen D. Emmel - Environmental Planning
Coordinator
2. Outside Consulting Services
 - a) Dan W. Guy - Registered Professional Engineer
(State of Utah No. 4548)
Price, Utah
- Sedimentation and Drainage Control Plan
(April, 1980)

- Wastewater Disposal System; Pinnacle Mine
(April, 1980)
Office Building (September, 1980)
 - b) Bruce T.S. Ware - Registered Land Surveyor
Price, Utah
 - c) A and W Surveying
Price, Utah
 - d) Commercial Testing & Engineering Co.
Denver, Colorado

- e) Standard Laboratories
Huntington, Utah
- f) Western Testing and Engineering
Helper, Utah
- g) VanCott, Bagely, Cornwall and McCarthy
Attorneys at Law
Salt Lake City, Utah
- h) Rollins, Brown, and Gunnel
Provo, Utah
- i) Brigham Young University
Provo, Utah
Department of Zoology
Clayton M. White
(Raptor Study)
Department of Anthropology/Archaeology
Dr. Ray T. Matheny
(Archaeological Survey)
- j) Earth Environmental Consultants
Albuquerque, New Mexico
- k) Vaughn Hansen Associates
Salt Lake City, Utah
(Hydrology Study)
- l) Horrocks Engineers
American Fork, Utah

Coordination and Consultation with Governmental Agencies

The following governmental agencies were consulted in the preparation of information set forth in this application.

U.S. Department of Agriculture
Soil Conservation Service
Price, Utah
(Soil and Vegetation Survey)

U.S. Department of the Interior
Bureau of Land Management
Price, Utah
Salt Lake City, Utah

Office of Surface Mining, Reclamation and Enforcement
Denver, Colorado

U.S. Geological Survey
Salt Lake City, Utah

State of Utah:
Department of Natural Resources
Division of Oil, Gas, and Mining
Salt Lake City, Utah

Antiquities Section (Consulting Services Branch)
Salt Lake City, Utah
(Archaeological Survey)

Department of Natural Resources
Division of Wildlife Resources
Salt Lake City, Utah

References:

AMCA Coal Leasing, Inc., 1978. Mining and Reclamation Plan, Zion's Fee. Submitted to the State of Utah, Department of Natural Resources, D.O.G.M.

Centennial Coal Associates, 1976. Mining Application. Submitted to the U.S. Geological Survey.

Doelling, H.H., 1972. Central Utah Coal Fields. U.G.M.S. Monograph Series No. 3.

U.S.D.A., 1978. Soil Survey and Interpretations of the Coal Creek Emery Portion of the Price River and Emery County Areas, Carbon and Emery Counties, Utah. S.C.S.

U.S.D.I., 1979. Final Environmental Statement, Development of Coal Resources in Central Utah, Parts 1 and 2.

U.G.M.S., 1966. Central Utah Coals. U.G.M.S. Bulletin No. 80.

R645-301-131. TECHNICAL DATA REQUIREMENTS

Where applicable, technical data submitted has been identified as to who prepared the information and is stamped by that registered professional engineer (P.E.).

R645-301-132. TECHNICAL ANALYSES REQUIREMENTS

Analyses are prepared by a qualified professional engineer.

R645-301-140. MAPS AND PLANS

R645-301-141. MAP FORMATS

R645-301-142. PHASES OF OPERATIONS AND MINING ACTIVITY

R645-301-142.100. PRIOR TO AUGUST 3, 1977

None by Andalex Resources. Several mines were operated by other independent companies or individuals in areas presently consumed by Andalex's surface facilities. Andalex's encroachment onto these previously disturbed areas transferred the responsibility for reclamation to Andalex. The specific locations of disturbed areas prior to Andalex's mining activities is irrelevant.

R645-301-142.200. AFTER AUGUST 3, 1977

All of Andalex's surface facilities and mining operations began after August 3, 1977.

R645-301-142.210. PRIOR TO MAY 3, 1978

See R645-301-142.100.

R645-301-142.220. SMALL OPERATOR'S EXEMPTION PRIOR TO JANUARY 1, 1979

N/A

R645-301-142.300. AFTER MAY 3, 1978 (OR JANUARY 1, 1979 FOR SMALL OPERATOR'S EXEMPTION) AND PRIOR TO APPROVAL OF STATE PROGRAM

N/A

R645-301-142.400. AFTER ISSUANCE OF PERMIT BY THE DIVISION

Refer to permit area map, Plate 4

R645-301-150. COMPLETENESS

Per Division.

| Violation History - Murray Energy Corporation | | | | | | | | | | | | | |
|---|---------|-----------------------|----------|-----------------|----------------|----------|-------------|--------|-------------------------------------|--|--|--|--|
| Time Period: | | January 1, 2012 to | | August 21, 2019 | | | | | | | | | |
| State | Company | Mine | MSHA ID | Permit Number | Issuing Agency | Agency | 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 | | | | |

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 acreages 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, Plates ~~37 and 36~~. This shows volumes stored currently.

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 ~~5,240~~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.

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 |
| Topsoil Pile J | <u>94,500 cubic feet</u> |

Total Topsoil Stored 365,330 cubic feet
in Deadman Canyon (13,531 cubic yards)

Deadman Canyon Topsoil Pile Summary, Proposed
(See Plates 6 and 387)

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.

~~Based on the size of the~~ ~~disturbed area and the amount~~ ~~of topsoil required (6"), we have calculated that there~~ ~~is a 8,000 yd.³ topsoil deficit~~ in Deadman Canyon (34.2 acres) will have six (6) inches of topsoil distributed at final 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 ~~5,240~~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 ~~5,240~~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.

Topsoil Handling During OperationsRemoval

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 will be 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 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, Plates ~~37~~ and ~~36~~. 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.

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 ~~with the exception of the fan break-out location in the left fork. This will be done in the autumn of 1995.~~ and stored.

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

N/A

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.

Timetable of Major Reclamation StepsIntroduction

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

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. ~~The only new surface disturbance required at this time will be for a mine-fan break-out in the left fork of Deadman Canyon.~~

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
 - 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
hailed 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.

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).

~~Revised 8/8/95~~

1989
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 |

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 | <u>200</u> |
| | Total Portal: | | | \$ 3,620 |
| 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 | <u>200</u> |
| | Total Roads: | | | \$ 3,800 |
| 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 | <u>200</u> |
| | Total Stockpile Area: | | | \$ 4,260 |
| 4. | Seal Wells | | | |
| | a. Fill, cement | | 8 | <u>\$ 1,000</u> |
| | Total Wells: | | | \$ 1,000 |
| 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 | <u>100</u> |
| | Total Material: | | | \$30,740 |

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> |

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 | \$ 400 |
| | 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.

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.

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 ~~5,240~~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 rVEGATATION 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.

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.

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 | \$86,999.00 |

| | |
|-------------------------------------|-----------------------|
| Direct Costs in 2017 Dollars | \$1,033,010.84 |
|-------------------------------------|-----------------------|

Indirect Costs

| | | |
|------------------------|--------------|-------|
| Mob/Demob | \$103,301.00 | 10.0% |
| Contingency | \$51,651.00 | 5.0% |
| Engineering Redesign | \$25,825.00 | 2.5% |
| Main Office Expense | \$70,245.00 | 6.8% |
| Project Management Fee | \$25,825.00 | 2.5% |

| | | |
|---|---------------------|--------------|
| Subtotal Indirect Costs 2017 Dollars | \$276,847.00 | 26.8% |
|---|---------------------|--------------|

| | |
|-------------------|-----------------------|
| Total Cost | \$1,309,857.84 |
|-------------------|-----------------------|

| | | |
|-------------------|--------------|--------|
| Escalation factor | | 0.0232 |
| Number of years | | 5 |
| Escalation | \$159,159.00 | |

| | |
|--|-----------------------|
| Total Reclamation Cost 2021 Dollars | \$1,469,016.84 |
|--|-----------------------|

| | |
|--|-----------------------|
| Required Bond Amount (rounded to nearest \$1,000) | \$1,469,000.00 |
| 2024 dollars | |

| | |
|--------------------|-----------------------|
| Posted Bond | \$1,520,000.00 |
|--------------------|-----------------------|

| | |
|---|--------------------|
| Difference Between Posted and Required Bond | \$51,000.00 |
|---|--------------------|

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)

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).

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 |

| 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 | |
|------|------|-------------------------------------|----------------------|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
| | | Loadout Bin No. 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 | | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 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 |

| 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. 02 | | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Disposal Cost | | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Costs | | | | | | | | | | | | | | | | | | | | |
| | | Transport Costs | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | Concrete Demolition | Concrete Demo1 | 11.72 | CY | 20 | 28 | 0.75 | | | | | | | | FT | | 16 | CY | 182 | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | 1.3 | 20 | CY | | |
| | | Loading Cost | Front End Loader 3 CY | 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 23.20 1025 | 12.40 | CY | | | | | | | | | | | | | 20 | CY | 251 | |
| | | Disposal Costs | On Site Disposal | | 11.10 | CY | | | | | | | | | | | | | | 20 | CY | 224 |
| | | Subtotal | | | | | | | | | | | | | | | | | | | 701 | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | 701 | |

| 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. 03 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo. 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 |

| 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. 04 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 4 | 4 | 250 | | | | | | | | | | 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 | | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 1440 |

| 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 | CF | 20 | 20 | 15 | | | | | | | | | | 6000 | CF | 2160 | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 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 |

| 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. 06 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 5 | 5 | 260 | | | | | | | | | | 6500 | 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 |

| 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 | |
|------|------|-------------------------------------|----------------------|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
| | | Tunnel No. 07 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 8 | 12 | 90 | | | | | | | | | | 8640 | CF | 3110 | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 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 |

| 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. 08 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 8 | 20 | 20 | | | | | | | | | | | 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 | | | | | | | | | | | | | | | | | | | | |
| | | 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 |

| 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 |
|------|------|-------------------------------------|--|------------------------|-------------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|
| | | Substation No. 09 | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | |
| | | Equipment's Disposal Cost | Mechanical equip demo, heavy | 23 05 05.10 3600 | 1250.00 Ton | | | | | | | | | | 2 | EA | | 2 | EA | 2500 |
| | | Equipment's Disposal Cost | Chain link demo, posts & fabric remove | 02 41 13.60 1700 | 4.42 LF | 104 | | | | | | | | | | FT | | 104 | FT | 460 |
| | | Subtotal | | | | | | | | | | | | | | | | | | 2960 |
| | | 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 | | | | | | | | | | | | | | | | | | 2960 |

| 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 0020 | 0.36 | CF | | | | | | 941 | | | | | | | 941 | CF | 339 | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 339 |
| | | 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 | | | | | | | | | | | | | | | | | | | | 339 |

| 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 |
|------|------|-------------------------------------|----------------------|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|
| | | Portals No. 11 | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 20 | 20 | 8 | | | | | | | 4 | EA | | 12800 | CF | 4608 |
| | | Structure's Vol. Demolished | | | | | | | | | | | | | | | | | | | |
| | | Seal Construction | Seal Portals | JennChem | 4320.00 | EA | | | | | | | | | | | | | 6 | Ea | 25920 |
| | | Seal Construction | Seal Construction L | JennChem | 265.00 | Hr | | | | | | | | | | 2 | Hr | | 6 | Ea | 3180 |
| | | 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 |

| 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 | |
|------|------|-------------------------------------|--|------------------------|-----------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|-------|------|-------|
| | | Main Office No. 12 | | | | | | | | | | | | | | | | | | | |
| | | Office Demolition Cost | Building demo, mixture, average | 02 41 16.13 0100 | 0.39 CF | | 32 | 60 | 16 | | | | | | | | | | 30720 | CF | 11981 |
| | | Trailer's Demolition Cost | Building demo, mixture, average | 02 41 16.13 0100 | 0.39 CF | | 8 | 12 | 70 | | | | | | | | | | 6720 | CF | 2621 |
| | | | Building demo, steel | 02 41 16.13 0020 | 0.36 CF | | | | | | 706 | | | | | CF | | 706 | CF | 254 | |
| | | Structure's Vol. Demolished | | | | | | | | | | | | | | | | 0.35 | 485 | CY | |
| | | Rubble's Weight (exclude steel) | | | | | | | | | | | | | | | | | | | |
| | | Truck's Capacity | | | | | | | | | | | | | | | | | | | |
| | | Haulage | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Non Steel Truck | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Non Steel Drive | | | | | | | | | | | | | | | | | | | |
| | | Disposal Cost Non Steel | City Sanitation | City Sanitation Price | 2.10 CY | | | | | | | | | | | | | | 485 | CY | 1019 |
| | | Steel's Weight | | | | | | | | | | | | | | | | | | | |
| | | Truck's Capacity | | | | | | | | | | | | | | | | | | | |
| | | Haulage | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Steel Truck | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Steel Drive | | | | | | | | | | | | | | | | | | | |
| | | Disposal Cost steel | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | 15875 |
| | | Equipment's Disposal Cost | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Vol. Demolished | | | | | | | | | | | | | | | | | | | |
| | | Loading Costs | | | | | | | | | | | | | | | | | | | |
| | | Transport Costs | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | Concrete Demolition | Concrete Demo1 | 11.72 CY | | | | | | 47.15 | | | | | CY | | | 47 | CY | 553 |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | 1.3 | 61 | CY | |
| | | Loading Cost | Front End Loader 3 CY | 31 23 16.42 1300 | 2.15 CY | | | | | | | | | | | | | | 61 | CY | 132 |
| | | Transportation Cost | 12 CY Dump Truck, 10 mi cycle, 15 min wait | 31 23 23.20 1025 | 12.40 CY | | | | | | | | | | | | | | 61 | CY | 760 |
| | | Disposal Costs | Seal Portals | | 11.10 CY | | | | | | | | | | | | | | 61 | CY | 680 |
| | | Subtotal | | | | | | | | | | | | | | | | | | | 2128 |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | 18000 |

| 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 | |
|------|------|-------------------------------------|--|------------------------|-----------|--|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|-----|
| | | Bath House No. 13 | | | | | | | | | | | | | | | | | | | | |
| | | Bath House 1's Demolition Cost | Building demo, mixture, average | 02 41 16.13 0100 | 0.39 /CF | | 14 | 65 | 8 | | | | | | | | | | 7280 | CF | 2,839 | |
| | | Bath House 2's Demolition Cost | Building demo, mixture, average | 02 41 16.13 0100 | 0.39 /CF | | 12 | 50 | 8 | | | | | | | | | | 4800 | CF | 1,872 | |
| | | Structure's Demolition Cost | Building demo, mixture, average | 02 41 16.13 0100 | 0.39 /CF | | 12 | 42 | 8 | | | | | | | | | | 4032 | CF | 1,572 | |
| | | Structure's Vol. Demolished | Building demo, steel | 02 41 16.13 0020 | 0.36 /CF | | | | | | | 941 | | | | | 2 | CF | 1882 | CF | 678 | |
| | | Rubble's Weight (exclude steel) | | | | | | | | | | | | | | | | | | | | |
| | | Truck's Capacity | | | | | | | | | | | | | | | | | | | | |
| | | Haulage | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Non Steel Truck | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Non Steel Drive | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Cost Non Steel | City Sanitation | City Sanitation Price | 2.10 /CY | | | | | | | | | | | | | 0.35 | 209 | CY | 439 | |
| | | 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 | Concrete Demolition | Concrete Demo1 | 11.72 /CY | | 14 | 65 | 0.5 | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | 1.3 | 17 | CY | 198 |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | 22 | CY | |
| | | Loading Cost | Front End Loader 3 CY | 31 23 16.42 1300 | 2.15 /CY | | | | | | | | | | | | | | | 22 | CY | 47 |
| | | Transportation Cost | 12 CY Dump Truck, 10 mi cycle, 15 min wait | 31 23 23.20 1025 | 12.40 /CY | | | | | | | | | | | | | | | 22 | CY | 272 |
| | | Disposal Costs | On Site Disposal | | 11.10 /CY | | | | | | | | | | | | | | | 22 | CY | 243 |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Concrete Demolition | Concrete Demolition | Concrete Demo1 | 11.72 /CY | | 14 | 65 | 0.5 | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | 1.3 | 17 | CY | 198 |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | 22 | CY | |
| | | Loading Cost | Front End Loader 3 CY | 31 23 16.42 1300 | 2.15 /CY | | | | | | | | | | | | | | | 22 | CY | 47 |
| | | Transportation Cost | 12 CY Dump Truck, 10 mi cycle, 15 min wait | 31 23 23.20 1025 | 12.40 /CY | | | | | | | | | | | | | | | 22 | CY | 272 |
| | | Disposal Costs | On Site Disposal | | 11.10 /CY | | | | | | | | | | | | | | | 22 | CY | 243 |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | 8,919 | |

| 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 | |
|------|------|-------------------------------------|--|------------------------|-------------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
| | | Substation No. 14 | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Disposal Cost | Mechanical equip demo, heavy | 23 05 05.10 3600 | 1250.00 Ton | | | | | | | | | | | 3 EA | | 3 EA | | 3750 | |
| | | Equipment's Disposal Cost | Chain link demo, posts & fabric remove | 02 41 13.60 1700 | 4.42 LF | 328 | | | | | | | | | | | | 328 LF | | 1450 | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | 5200 |
| | | 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 | | | | | | | | | | | | | | | | | | | 5200 |

| 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 | |
|------|------|-------------------------------------|--|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
| | | Loadout Bin No. 15 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 20 | 20 | 24 | | | | | | | | | | 9600 | CF | 3456 | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 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 Demo1 | 11.72 | CY | 20 | 24 | 0.75 | | | | | | | | FT | | 13 | CY | 156 | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | Front End Loader 3 CY | 31 23 16.42 1300 | 2.15 | CY | | | | | | | | | | | | 1.3 | 17 | CY | 37 | |
| | | Transportation Cost | 12 CY Dump Truck, 10 mi cycle, 15 min wait | 31 23 23.20 1025 | 12.40 | CY | | | | | | | | | | | | | 17 | CY | 215 | |
| | | Disposal Costs | On Site Disposal | | 11.10 | CY | | | | | | | | | | | | | 17 | CY | 192 | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | 601 |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | | 4057 |

| 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 demo, steel | 02 41 16.13 0020 | 0.36 | 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 | | | | | | | | | | | | | | | | | | | | |
| | | 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 |

| 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 | 02 41 16.13 0020 | 0.36 | 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 |

| 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 demo. steel | 02 41 16.13 0020 | 0.36 | 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 | | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 2074 |

| 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. 19 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 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 | | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 1332 |

| 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 | |
|------|------|-------------------------------------|----------------------|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
| | | Tunnel No. 20 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 8 | 12 | 90 | | | | | | | | | | | 8640 | CF | 3110 |
| | | 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 | | | | | | | | | | | | | | | | | | | | 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 |

| 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.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 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 |

| 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 | | |

| 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 | |
|------|------|-------------------------------------|-----------------------------|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
| | | Trailers No.23 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, mixture, ave | 02 41 16.13 0100 | 0.39 | CF | 10 | 55 | 8 | | | | | | | | FT | | 4400 | CF | 1716 | |
| | | Structure's Demolition Cost | Building demo, mixture, ave | 02 41 16.13 0100 | 0.39 | CF | 10 | 50 | 8 | | | | | | | | FT | | 4000 | CF | 1560 | |
| | | Structure's Demolition Cost | Building demo, mixture, ave | 02 41 16.13 0100 | 0.39 | CF | 10 | 40 | 8 | | | | | | | | FT | | 3200 | CF | 1248 | |
| | | Structure's Vol. Demolished | | | | | | | | | | | | | | | | | 0.35 | 150 | CY | |
| | | Rubble's Weight (exclude steel) | | | | | | | | | | | | | | | | | | | | |
| | | Truck's Capacity | | | | | | | | | | | | | | | | | | | | |
| | | Haulage | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Non Steel Truck | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Non Steel Drive | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Cost Non Steel | City Sanitation | City Sanitation Price | 2.10 | CY | | | | | | | | | | | | | | 150 | CY | 316 |
| | | Steel's Weight | | | | | | | | | | | | | | | | | | | | |
| | | Truck's Capacity | | | | | | | | | | | | | | | | | | | | |
| | | Haulage | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Steel Truck | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Steel Drive | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Cost steel | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | 4840 |
| | | 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 | | | | | | | | | | | | | | | | | | | | 4840 |

| 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. 24 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 20 | 20 | 8 | | | | | | | 4 | Ea | | 12800 | 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 | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Disposal Cost | | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Costs | | | | | | | | | | | | | | | | | | | | |
| | | Transport Costs | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Portal Backfilling | FE Loader, 200 HP, common earth, 150' hd | 31 23 23.14 4220 | 2.12 | CY | 20 | 20 | 8 | | | 119 | | | | 1 | Ea | | | | 119 | CY |
| | | 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 | | | | | | | | | | | | | | | | | | | | |

| 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 | | |
|------|------|-------------------------------------|--|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|------|
| | | Office No. 25 | | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 24 | 42 | 8 | | | | | | | | | | | 8064 | CF | 2903 | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 2903 | |
| | | Equipment's Disposal Cost | | | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Vol. Demolished | | | | | | | | | | | | | | | | | | | | | |
| | | Loading Costs | | | | | | | | | | | | | | | | | | | | | |
| | | Transport Costs | | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | Concrete Demolition | Concrete Demo1 | 11.72 | CY | 24 | 42 | 0.5 | | | | | | | | FT | | | 72 | CY | 844 | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | 1.3 | | | |
| | | Loading Cost | Front End Loader 3 CY | 31 23 16.42 1300 | 2.15 | CY | | | | | | | | | | | | | | 94 | CY | 201 | |
| | | Transportation Cost | 12 CY Dump Truck, 10 mi cycle, 15 min wait | 31 23 23.20 1025 | 12.40 | CY | | | | | | | | | | | | | | 94 | CY | 1161 | |
| | | Disposal Costs | On Site Disposal | | 11.10 | CY | | | | | | | | | | | | | | | 94 | CY | 1039 |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | 3245 | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | | 6148 | |

| 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 | |
|------|------|-------------------------------------|--------------------------------------|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|-------|
| | | Portals No. 26 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 20 | 20 | 7 | | | | | | | | 3 | EA | | 8400 | CF | 3024 |
| | | Structure's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Seal Construction | Seal Portals | JennChem | 4320 | EA | | | | | | | | | | | | | | 3 | Ea | 12960 |
| | | Seal Construction | Seal Construction Labor | JennChem | 265 | Hr | | | | | | | | | | | 2 | Hr | | 3 | Ea | 1590 |
| | | 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 | | | | | | | | | | | | | | | | | | | | 17574 |
| | | Equipment's Disposal Cost | | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Costs | | | | | | | | | | | | | | | | | | | | |
| | | Transport Costs | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Portal Backfilling | FE Loader, 200 HP, common earth, 150 | 31 23 23.14 4220 | 2.12 | CY | 20 | 6 | 25 | | | 111 | | | | | 1 | Ea | | 111 | CY | 235 |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | 235 |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | | 17809 |

| 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 | |
|------|------|-------------------------------------|--|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|------|
| | | ShopWarehouse No. 27 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 150 | 60 | 18 | | | | | | | | | | 162000 | CF | 58320 | |
| | | 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 | | | | | | | | | | | | | | | | | | | 58320 | |
| | | Equipment's Disposal Cost | | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Costs | | | | | | | | | | | | | | | | | | | | |
| | | Transport Costs | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | Concrete Demolition | Concrete Demo1 | 11.72 | CY | 150 | 60 | 1 | | | | | | | | FT | | 333 | CY | 3907 | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | Front End Loader 3 CY | 31 23 16.42 1300 | 2.15 | CY | | | | | | | | | | | | 1.3 | 433 | CY | 932 | |
| | | Transportation Cost | 12 CY Dump Truck, 10 mi cycle, 15 min wait | 31 23 23.20 1025 | 12.40 | CY | | | | | | | | | | | | | 433 | CY | 5373 | |
| | | Disposal Costs | Seal Portals | | 11.10 | CY | | | | | | | | | | | | | | 433 | CY | 4810 |
| | | Subtotal | | | | | | | | | | | | | | | | | | | 15022 | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | 73342 | |

| 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 | |
|------|------|-------------------------------------|---|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
| | | Loadout No. 28 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 20 | 20 | 18 | | | | | | | | | | 7200 | CF | 2592 | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 2592 |
| | | Equipment's Disposal Cost | | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Costs | | | | | | | | | | | | | | | | | | | | |
| | | Transport Costs | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | Concrete floor demo, 6" thick, rod reinforced | 02 41 16.17 0400 | 0.99 | SF | 20 | 20 | 0.75 | | | | | | | | | | 400 | SF | 396 | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | Machine load and haul demo debris, 2 mi | 02 41 19.19 3080 | 24.00 | CY | | | | | | | | | | | | | 1.3 | 14 | CY | 347 |
| | | Transportation Cost | Included | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | On Site Disposal | 02 41 16.17 4200 | 11.10 | CY | | | | | | | | | | | | | | 14 | CY | 160 |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | 903 |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | | 3495 |

| 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 | Building demo, steel | 02 41 16.13 0020 | 0.36 CF | | 4 | 4 | 350 | | | | | | | | FT | | 5600 | CF | 2016 | |
| | | 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 |

| 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. 30 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | 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 Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | | 5875 |

| 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. 31 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 24 | 24 | 16 | | | | | | | | | | 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 | | | | | | | | | | | | | | | | | | | | |
| | | Steel'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 |

| 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. 32 | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo. steel | 02 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 | | | | | | | | | | | | | | | | | | | |
| | | Steel's Weight | | | | | | | | | | | | | | | | | | | |
| | | Truck's Capacity | | | | | | | | | | | | | | | | | | | |
| | | Haulage | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Steel Truck | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Steel Drive | | | | | | | | | | | | | | | | | | | |
| | | Disposal Cost steel | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | 1800 |
| | | 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 | | | | | | | | | | | | | | | | | | | 1800 |

| 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 |
|------|------|-------------------------------------|----------------------|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|
| | | Tunnel No. 33 | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 8 | 12 | 125 | | | | | | | | | | 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 |

| 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. 34 | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, 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 | FE Loader, 200 HP, common earth, 150' | 31 23 23.14 4220 | 2.12 | CY | 20 | 20 | 6 | | | 89 | | | | | CY | | 356 | CY | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | |

| 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 demo, steel | 02 41 16.13 0020 | 0.36 | CF | | | | | 941 | | | | | | | | 941 | CF | 339 | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 339 |
| | | 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 | | | | | | | | | | | | | | | | | | | | 339 |

| 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 |
|------|------|-------------------------------------|----------------------|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|
| | | Shed No. 36 | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 10 | 50 | 8 | | | | | | | | | | 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 | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | 1440 |

| 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. 37 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo. steel | 02 41 16.13 0020 | 0.36 | CF | 4 | 4 | 6 | | | | | | | | | | 96 | CF | 35 | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 35 |
| | | 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 | | | | | | | | | | | | | | | | | | | | 35 |

| 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 | |
|------|------|-------------------------------------|--|------------------------|-----------|-----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
| | | Substation No. 38 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Mechanical equip demo, heavy | 23 05 05.10 3600 | 1250.00 | Ton | | | | | | | | | | | 2 EA | | 2 Ea | | 2500 | |
| | | 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 | | | | | | | | | | | | | | | | | | | | 2500 |
| | | Equipment's Disposal Cost | Chain link demo, posts & fabric remove | 02 41 13.60 1700 | 4.42 | LF | 105 | | | | | | | | | | FT | | 105 FT | | 464 | |
| | | Dismantling Cost | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Costs | | | | | | | | | | | | | | | | | | | | |
| | | Transport Costs | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | 464 |
| | | 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 | | | | | | | | | | | | | | | | | | | | 2964 |

| 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 | |
|------|------|-------------------------------------|--|------------------------|-----------|----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
| | | Office No. 39 | | | | | | | | | | | | | | | | | | | | |
| | | Structure's Demolition Cost | Building demo. mixture, average | 23 05 05.10 3600 | 0.39 | CF | 25 | 40 | 8 | | | | | | | | | | 8000 | CF | 3120 | |
| | | Structure's Vol. Demolished | | | | | | | | | | | | | | | | 0.35 | 104 | CY | | |
| | | Truck's Capacity | | | | | | | | | | | | | | | | | | | | |
| | | Haulage | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Non Steel Truck | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Non Steel Drive | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Cost Non Steel | City Sanitation | City Sanitation Price | 2.10 | CY | | | | | | | | | | | | | | 104 | CY | 218 |
| | | Steel's Weight | | | | | | | | | | | | | | | | | | | | |
| | | Truck's Capacity | | | | | | | | | | | | | | | | | | | | |
| | | Haulage | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Steel Truck | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost Steel Drive | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Cost steel | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | 3338 |
| | | Equipment's Disposal Cost | | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | | | | | | | | | | | | | | | | | | | | |
| | | Equipment's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Costs | | | | | | | | | | | | | | | | | | | | |
| | | Transport Costs | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | Concrete Demolition | Concrete Demo1 | 11.72 | CY | 25 | 40 | 0.5 | | | | | | | | | | | | | 217 |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | Front End Loader 3 CY | 31 23 16.42 1300 | 2.15 | CY | | | | | | | | | | | | | 1.3 | 24 | CY | 52 |
| | | Transportation Cost | 12 CY Dump Truck, 10 mi cycle, 15 min wait | 31 23 23.20 1025 | 12.40 | CY | | | | | | | | | | | | | | | | 299 |
| | | Disposal Costs | On Site Disposal | | 11.10 | CY | | | | | | | | | | | | | | | | 267 |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | 835 |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | | 4173 |

| 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 16.13 0020 | 0.36 | CF | 20 | 25 | 8 | | | | | | | | | | 4000 | CF |
| | | Structure's Demolition Cost | Building demo, steel | 02 41 16.13 0020 | 0.36 | CF | 20 | 20 | 8 | | | | | | | | | | 3200 | CF |
| | | Rubble's Weight (exclude steel) | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | |
| | | Portal Sealing | | | | | | | | | | | | | | | 2 EA | | | |
| | | Seal Construction | | | 4320.00 | Ea | | | | | | | | | | | | | | 2 Ea |
| | | Labor | | | 265.00 | Hr | | | | | | | | | | | | | | 4 Hr |
| | | Portal Backfilling | FE Loader, 200 HP, common earth, 150' | 31 23 23.14 4220 | 2.12 | CY | 20 | 25 | 8 | | | 148 | | | | | | | | 296 CY |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | |

| 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 | |
|------|------|---|--|------------------------|-----------|-----|-------------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-----|
| | | Gob 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 | | | | | | | | 2 | | | 10 | EA | | 20 | Ton |
| | | Plug Well | Lean concrete (flowable), structural, 1000 p | 03 31 13.35 4350 | 95.00 | CY | 2720 | | | 0.75 | | 45 | | | | | 10 | EA | | 450 | CY |
| | | Gob Vent Wells 1,5 and 6 have been reclaimed | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | |

| 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 | |
|------|------|-------------------------------------|---|------------------------|-----------|-----|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|----|
| | | Aberdeen Substation | | | | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | Chain link demo, posts & fabric remove only | 02 41 13.60 1700 | 4.42 | LF | 105 | | | | | | | | | | LF | | 105 | LF | 464 | |
| | | Transformer | | | | | | | | | | | | | | | | | | | | |
| | | Dismantling Cost | Mechanical equip demo, heavy | 23 05 05.10 3600 | 1250.00 | Ton | | | | | | | 2 | | | | Ton | | 2 | Ton | 2500 | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | 2964 | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | Concrete Demolition | Concrete Demo1 | 11.72 | CY | 10 | 10 | 1 | | | | | | | | FT | | 4 | CY | 43 | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | 1.3 | 5 | CY | | |
| | | Loading Cost | Front End Loader 3 CY | 31 23 16.42 1300 | 2.15 | CY | | | | | | | | | | | | | 5 | CY | 10 | |
| | | Transportation Cost | 12 CY Dump Truck, 10 mi cycle, 15 min wait | 31 23 23.20 1025 | 12.40 | CY | | | | | | | | | | | | | 5 | CY | 60 | |
| | | Disposal Costs | On Site Disposal | | 11.10 | CY | | | | | | | | | | | | | | 5 | CY | 53 |
| | | Subtotal | | | | | | | | | | | | | | | | | | | 167 | |
| | | Concrete Demolition | | | | | | | | | | | | | | | | | | | | |
| | | Demolition Cost | | | | | | | | | | | | | | | | | | | | |
| | | Concrete's Vol. Demolished | | | | | | | | | | | | | | | | | | | | |
| | | Loading Cost | | | | | | | | | | | | | | | | | | | | |
| | | Transportation Cost | | | | | | | | | | | | | | | | | | | | |
| | | Disposal Costs | | | | | | | | | | | | | | | | | | | | |
| | | Subtotal | | | | | | | | | | | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | | | | | | | 3131 | |

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 | | | | | | |

| <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 |
| | | | | |

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

Tower Mine Reclamation Bond Estimate
Revegetation Costs

| Description | Materials | Means Reference Number | Unit Cost | Unit | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |
|--|--|------------------------|-----------|------|-------|--------|--------|---------|------|--------|------|--------------|----------|------|---------------|
| Mine Site Revegetation Estimate | | | | | | | | | | | | | | | |
| Mulch Material, Labor, and Equipment | Power mulcher, large, hay 1" deep | 32 91 13.16 0390 | 30.50 | MSF | 32.12 | | | | | | ac | | 1399 | MSF | 1,983 |
| Seeding Material - Slopes | Centennial Mix 001 (see below) | Centennial 001 | 378.32 | AC | 17.55 | | | | | | ac | | 17.55 | AC | 6,639 |
| Seeding Material - Flat Areas | Centennial Mix 002 (see below) | Centennial 002 | 314.97 | AC | 14.57 | | | | | | ac | | 14.57 | AC | 4,589 |
| Transplant Seedling Material - Channels | Centennial Mix 003 (see below) | Centennial 003 | 1635.00 | AC | 2.08 | | | | | | ac | | 2.08 | AC | 3,401 |
| Seeding Equipment and Labor | Hydroseeder (equip. & labor only) | 32 92 19.14 0200 | 29.19 | MSF | 32.12 | | | | | | ac | | 1399 | MSF | 40,837 |
| Transplanting labor | Planting, seedlings, 3'-5' tall, medium soil | 32 93 43.10 0560 | 0.74 | EA | 2.08 | | | | | | ac | | 2080 | EA | 1,539 |
| Mine Site Subtotal | | | | | | | | | | | | | | | 58,988 |
| Gob Vent Well Revegetation Estimate | | | | | | | | | | | | | | | |
| Mulch Material, Labor, and Equipment | Power mulcher, large, hay 1" deep | 32 91 13.16 0390 | 30.50 | MSF | 5.43 | | | | | | ac | | 237 | MSF | 1,983 |
| Seeding Material - Flat Areas | Centennial Mix 002 (see below) | Centennial 002 | 314.97 | AC | 5.43 | | | | | | ac | | 5.43 | AC | 1,710 |
| Seeding Equipment and Labor | Hydroseeder (equip. & labor only) | 32 92 19.14 0200 | 29.19 | MSF | 5.43 | | | | | | ac | | 237 | MSF | 6,918 |
| Gob Vent Well Subtotal | | | | | | | | | | | | | | | 10,611 |
| Supplemental Revegetation | | | | | | | | | | | | | | | |
| 25% of mine area | | | | | | | | | | | | | | | 14,747 |
| 25% of Gob Vent Well area | | | | | | | | | | | | | | | 2,653 |
| Supplemental Revegetation Subtotal | | | | | | | | | | | | | | | 17,400 |
| REVEGETATION TOTAL | | | | | | | | | | | | | | | 86,999 |

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 PLS/ac) | Unit Cost (\$/lb) | Mix Cost (\$/ac) |
|--|--------------------------|-------------------|------------------|
| Centennial 001 - Slope Mix | | | |
| Grasses | | | |
| 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 | | | |
| Lewis Flax | 1.00 | 14.50 | 14.50 |
| Rocky Mountain Penstemon | 0.25 | 19.50 | 4.88 |
| Louisiana Sagebrush | 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 |
| Curleaf Mountain Mahogany | 1.00 | 38.00 | 38.00 |
| True Mountain Mahogany | 1.00 | 38.00 | 38.00 |
| Whitestem Rubber Rabbitbrush | 1.00 | 18.00 | 18.00 |
| Bitterbrush | 3.00 | 19.00 | 57.00 |
| 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 | | | |
| Grasses | | | |
| 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 porkyfarm.com.

| Common Name | Planting Rate (#/ac) | Unit Cost (\$ Each) | Plant Cost (\$/ac) |
|--|----------------------|---------------------|--------------------|
| 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 |

| | | | |
|------------------------|------|--|--------|
| Reed Canarygrass | 0.50 | 6.95 | 3.48 |
| Slender Wheatgrass | 2.00 | 2.95 | 5.90 |
| Forbs | | | |
| Yarrow | 0.10 | 39.00 | 3.90 |
| Sweet Anise | 2.00 | 19.00 | 38.00 |
| Louisiana Sagebrush | 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 | 0.10 | 18.50 | 1.85 |
| Serviceberry | 1.00 | 59.00 | 59.00 |
| Squawbush | 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 requirement = | 15.00 |
| | | Drainage seed mix unit cost = | 314.97 |

WordPerfect Document Compare Summary

Original document: K:\Tower\2019\T19-003 Midterm Task ID 5973\Text\Originals\Appendix AA.wpd

Revised document: K:\Tower\2019\T19-003 Midterm Task ID 5973\Text\Appendix AA Edits.wpd

Deletions are shown with the following attributes and color:

~~Strikeout~~, **Blue** RGB(0,0,255).

Deleted text is shown as full text.

Insertions are shown with the following attributes and color:

Double Underline, Redline, **Red** RGB(255,0,0).

The document was marked with 20 Deletions, 22 Insertions, 0 Moves.

ANDALEX RESOURCES, INC.

APPENDIX AA

CENTENNIAL PROJECT
Lease Relinquishments

C/007/019

(Revised)
~~January, 2014~~

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

~~TABLE OF CONTENTS~~

~~Section~~

~~110 MINIMUM REQUIREMENTS FOR LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION 1-1~~

~~111 Introduction 1-1~~

~~112 Identification of Interests 1-7~~

~~112.100 Business Entity 1-7~~

~~112.200 Applicant and Operator 1-7~~

~~112.300 Officers of the Applicant 1-7~~

~~112.400 Coal Mining and Reclamation Operation Owned
or Controlled 1-7~~

~~112.500 Legal or Equitable Owner of the Surface and
Mineral~~

~~— Properties 1-8~~

~~112.600 Owners of Record of Property Contiguous to
Proposed~~

~~— Permit Area 1-8~~

~~112.700 MSHA Numbers 1-9~~

~~112.800 Interest in Contiguous Land 1-9~~

~~112.900 Certification of Submittal Information 1-9~~

~~113 Violation Information 1-9~~

~~114 Right-of-Entry 1-9~~

~~115 Status of Unsuitability 1-10~~

~~116Permit Term1-10~~

~~117Insurance, Proof of Publication, and Facilities and
Structures Used
In Common1-10~~

~~118Filing Fees1-10~~

~~120PERMIT APPLICATION FORMAT AND CONTENTS
1-10~~

~~130REPORTING OF TECHNICAL DATA1-10~~

~~140MAPS AND PLANS1-10~~

~~150COMPLETENESS1-10~~

~~TABLE OF CONTENTS (Continued)~~

~~LIST OF TABLES~~

~~Table 1-1 New Lease Description 1-2~~

~~Table 1-2 Centennial Project Surface Only Permit Area
(Permit Legal Description) 1-5~~

~~110~~MINIMUM REQUIREMENTS FOR LEGAL, FINANCIAL, COMPLIANCE AND RELATED INFORMATION

~~111~~Introduction

August, 2019
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. ~~The Centennial Project mined three different seams in various areas. The Aberdeen seam ranged from approximately 5' to 8'. The Centennial seam ranged from approximately 5' to 7' and the Lower Sunnyside seam ranged from 4' to 6'.~~ Both Longwall and Room and Pillar methods of mining were utilized in mining the reserves. A significant amount of coal has been mined from all of the leases. Some leases have been mined out and others have very little remaining recoverable reserves.

UtahAmerican Energy, Inc. ~~R~~relinquished portions of the mined out leases in two ~~relinquishments~~relinquishment phases. The first relinquishment, ~~approved 3/12/2012~~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 894.550 acres ~~remaining~~. 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 2,27481.7719 acres, which is the new permit acreage. The disturbed area has not changed and remains at 47.19 acres. Since the disturbed area has not changed and the disturbed legal description stays the same, the bond does not change.

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

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

TABLE 1-1

Andalex Resources, Inc.

Tower Division

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.

TABLE 1

Centennial Project Permit Lease Areas

| | |
|--------------------------------------|---------------------|
| <i>Federal Lease UTU-66060</i> | |
| <i>T. 13 S., R. 10 E., SLM, Utah</i> | |
| <i>Section 1</i> | |
| <i>Lot 3</i> | <i>40.59 Acres</i> |
| <i>Lot 4</i> | <i>40.82 Acres</i> |
| <i>SI/2 NE</i> | <i>80.00 Acres</i> |
| <i>Total</i> | <i>161.41 Acres</i> |
| <i>Federal Lease UTU-69600</i> | |
| <i>T. 13 S., R.10 E., SLM, Utah</i> | |
| <i>Section 1</i> | |
| <i>SW1/4</i> | <i>160.00 Acres</i> |
| <i>Section 12</i> | |
| <i>Lot 3</i> | <i>36.71 Acres</i> |
| <i>Lot 4</i> | <i>37.16 Acres</i> |
| <i>Lot 5</i> | <i>44.08 Acres</i> |
| <i>Lot 6</i> | <i>45.01 Acres</i> |
| <i>Lot 7</i> | <i>47.17 Acres</i> |

| | |
|----------------|---------------------|
| <u>Lot 11</u> | <u>47.05 Acres</u> |
| <u>W1/2 NW</u> | <u>80.00 Acres</u> |
| <u>Total</u> | <u>497.18 Acres</u> |

Federal Lease UTU-010581

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

Section 7

NW SE 40.00 Acres

Total 40.00 Acres

Federal Lease UTSL-27304

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

Section 7

Lot 4 42.98 Acres

Section 18

Lot 1 42.98 Acres

NW NE 40.00 Acres

N1/2 NE NW 20.00 Acres

SW NE NW 10.00 Acres

Total 155.96 Acres

Federal Lease SL-63058

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

Section 18

SW NE 40.00 Acres

Total 40.00 Acres

Total of Federal Leases 894.55 Acres

Mathis Fee Lease

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

Section 36

All 640.00 Acres

Total 640.00 Acres

Zion Fee Lease

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

Section 7

Lot 2 42.99 Acres

Lot 3 42.99 Acres

SE NW 40.00 Acres

E1/2 SW 80.00 Acres

Total 205.98 Acres

Total of Fee Leases 845.98 Acres

Bureau of Land Management ROW U-62045

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

Section 18

SE NE NW 10.00 Acres

Total 10.00 Acres

Bureau of Land Management ROW UTU-64158

(Left fork fan and access road)

Located within:

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

Section 13

Lot 1

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

Section 18

Lot 2

NE SW

Total 1.45 Acres

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

Cave Private Easement

Located within:

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

Section 18

SE NW 1.50 Acres

Total Cave 1.50 Acres

Total Private Easements 1.50 Acres

TABLE 1-2

Andalex Resources, Inc.

Tower Division

Centennial Project Surface Only Permit Area

Federal Lease UTU-66060

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

Section 1

Lot 1 40.12 Acres

Lot 2 40.35 Acres

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

Section 31

Lot 3 7.58 Acres

Lot 4 7.60 Acres

Lot 5 7.17 Acres

Lot 12 40.00 Acres

Lot 14 40.00 Acres

Lot 15 40.00 Acres

Lot 16 40.00 Acres

Lot 21 22.86 Acres

Total 285.68 Acres

Federal Lease UTU-79975

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

Section 31

Lot 2 7.53 Acres

Lot 7 40.00 Acres

Lot 8 40.00 Acres

Lot 10 40.00 Acres

Lot 11 40.00 Acres

Total 167.53 Acres

Federal Lease UTU-010581

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

Section 7

SW NE 40.00 Acres

Total 40.00 Acres

Federal Lease UTSL-27304

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

Section 7

SW SE 40.00 Acres

Total 40.00 Acres

Surface Only Permit Area 533.21 Acres

PERMIT AREA TABULATION

Federal Coal Leases: 894.55 Acres

Fee Coal Leases: 845.98 Acres

BLM Surface R.O.W. 11.45 Acres

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
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).

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., R10E., 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

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).

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

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

Sec. 18; Portion of Lots 1-2, Portion of SE4NW4

Containing 1.45 acres.

12) Cave Private Easements: 1.50 Acres

Surface Only 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: 533.21 Acres

Permit Area Subtotal 2,286.69 Acres

Less OSO Gaswell Area -11.92 Acres

894.50 acres

Total of Fee Leases: 845.98 acres

Total of Surface ROW and Easements: 12.95 acres

Total of Surface Reclamation Only Areas: 527.76 acres

Total Permit Area: 2,274.77 Acres

112 Identification of Interests

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

112.100 Business Entity

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

112.200 Applicant and Operator

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

Contact Person and

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

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

~~_____ 112.300 Officers of the Applicant~~

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

~~_____ 112.400 Coal Mining and Reclamation Operation Owned or Controlled~~

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

~~_____ 112.500 Legal or Equitable Owner of the Surface and Mineral Properties~~

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

~~_____~~

Surface Owners

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

~~Mathis Land Co.
Sunnyside Star Route
Price, Utah 84501~~

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

Sub-Surface Owners

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

~~Mathis Land Co.
Sunnyside Star Route
Price, Utah 84501~~

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

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

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

Contiguous Surface Owners

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

Mathis Land Co.
Sunnyside Star Route
Price, Utah 84501

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

Contiguous Sub-Surface Owners

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

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

Mathis Land Co.
Sunnyside Star Route
Price, Utah 84501

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

~~—————112.700 MSHA Numbers~~

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

~~—————112.800 Interest in Contiguous Lands~~

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

~~—————112.900 Certification of Submittal Information~~

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

~~—————113 Violation Information~~

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

~~—————114 Right-of-Entry Information~~

~~Refer to the same section of the approved M&RP. A surface use agreement with the private surface owners is in place. A memorandum of this agreement is included in the MRP and is on record at the County Recorder's office. (See Appendix X-1)~~

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

~~115 Status of Unsuitability Claims~~

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

~~—————116 Permit Term~~

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

~~—————117 Insurance, Proof of Publication, and Facilities and Structures Used in Common~~

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

~~118 Filing Fees~~

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

~~120 PERMIT APPLICATION FORMAT AND CONTENTS~~

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

~~130 REPORTING OF TECHNICAL DATA~~

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

~~140 MAPS AND PLANS~~

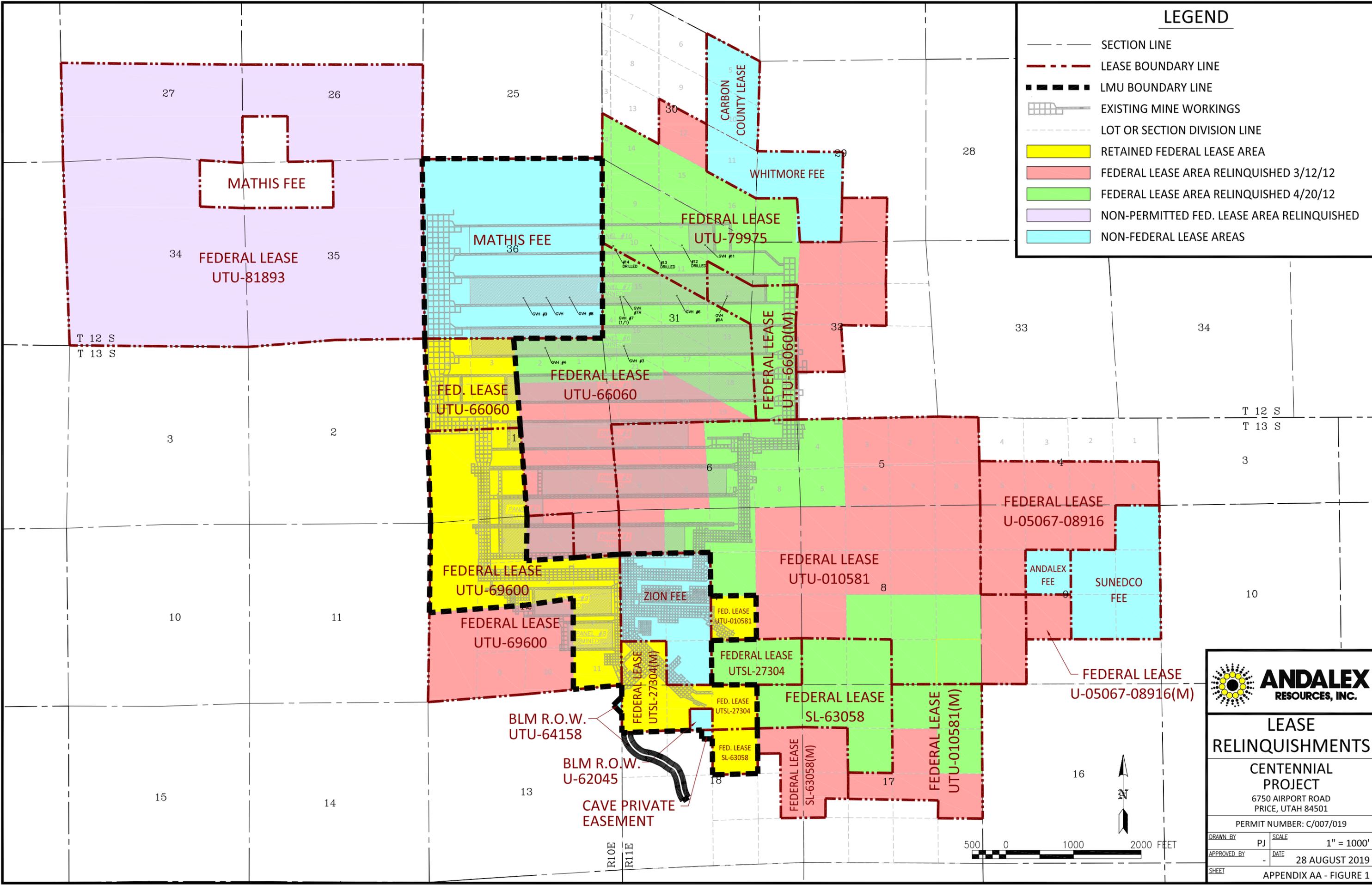
~~The maps and plans in the Mining and Reclamation Plan will correspond with the requirements in R645-301-140.~~

~~150 COMPLETENESS~~

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

2,281.19 acres

G:\Current Drawings\MRP Maps\Tower Mine\Tower Midterm 2019\Appendix AA Figure 1 - Lease History Map.dwg, Lease Relinquishments, 8/28/2019 1:03:17 PM



ANDALEX RESOURCES, INC.

LEASE RELINQUISHMENTS

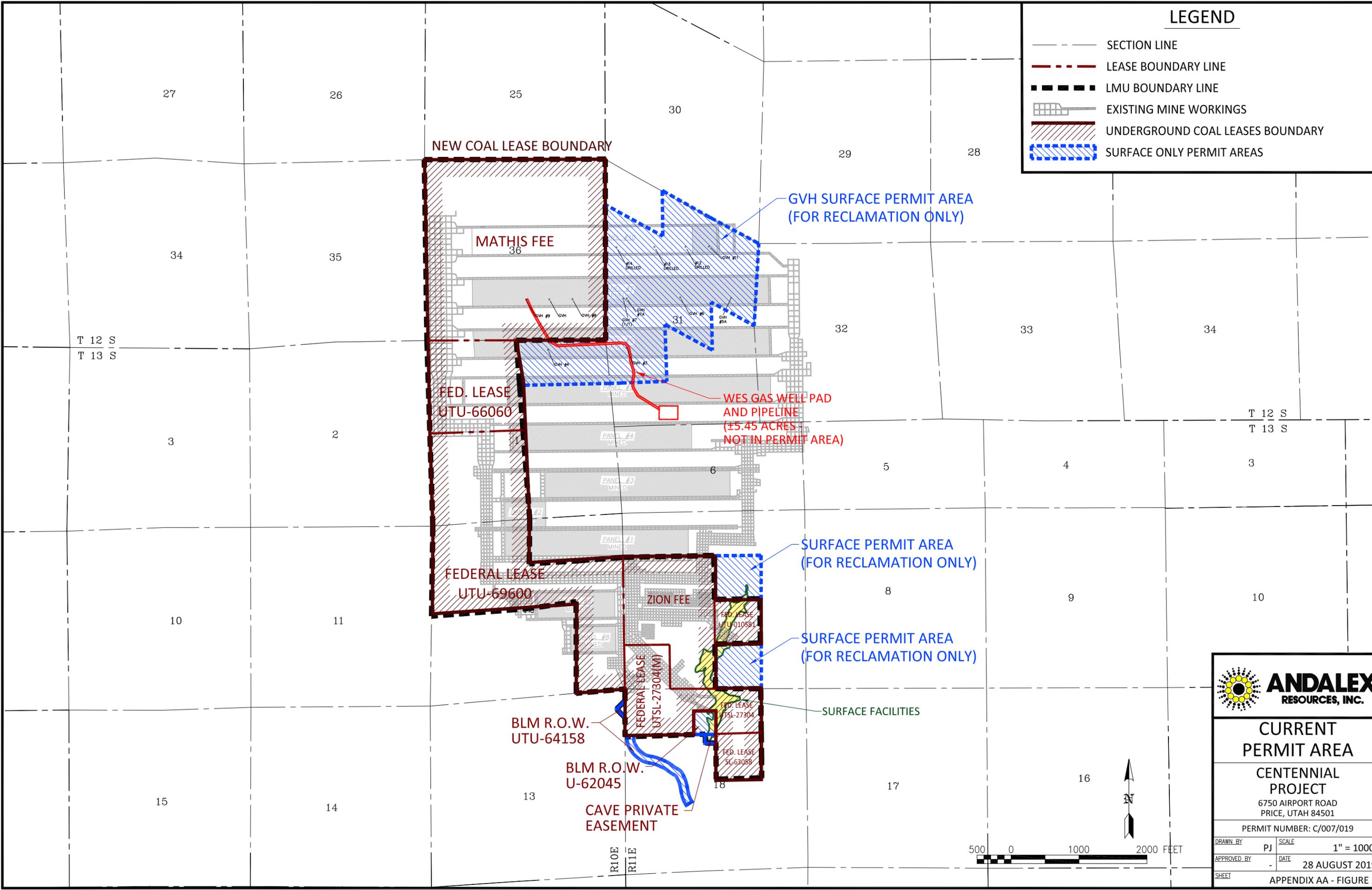
CENTENNIAL PROJECT
 6750 AIRPORT ROAD
 PRICE, UTAH 84501

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





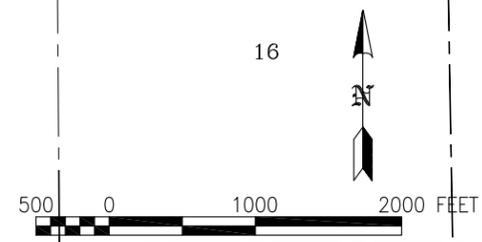
ANDALEX
RESOURCES, INC.

CURRENT PERMIT AREA

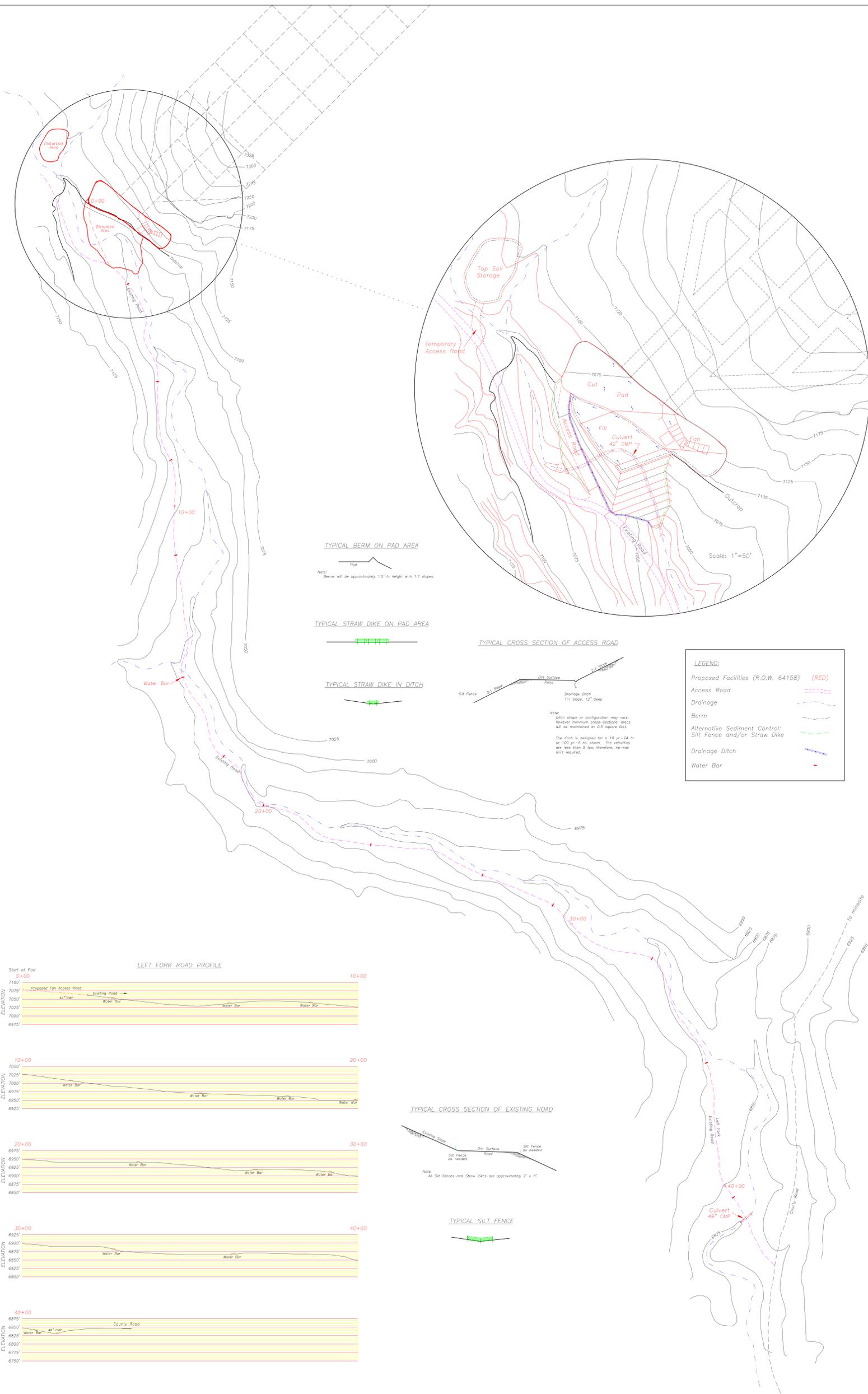
CENTENNIAL PROJECT
6750 AIRPORT ROAD
PRICE, UTAH 84501

PERMIT NUMBER: C/007/019

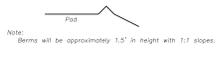
| | | | |
|-------------|------------------------|-------|----------------|
| DRAWN BY | PJ | SCALE | 1" = 1000' |
| APPROVED BY | - | DATE | 28 AUGUST 2019 |
| SHEET | APPENDIX AA - FIGURE 2 | | |



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



TYPICAL BERM ON PAD AREA



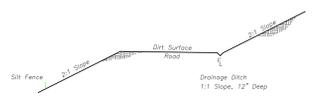
TYPICAL STRAW DIKE ON PAD AREA



TYPICAL STRAW DIKE IN DITCH

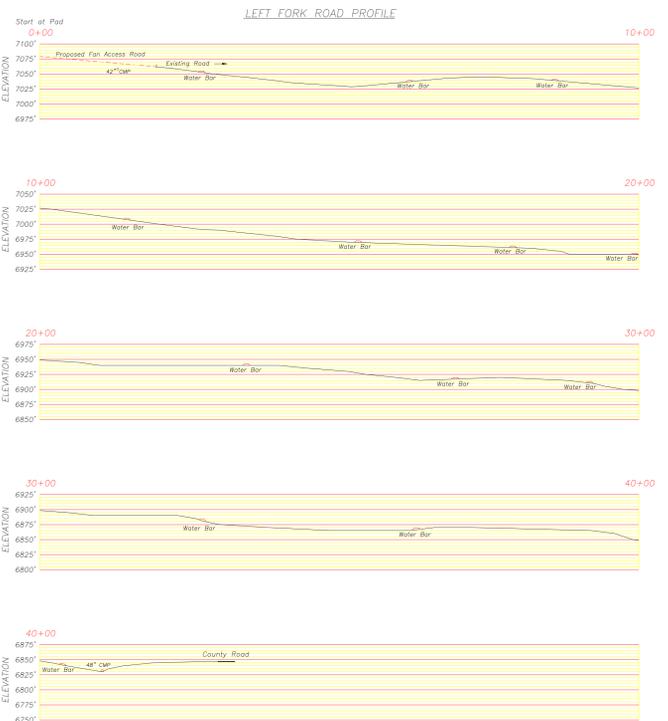


TYPICAL CROSS SECTION OF ACCESS ROAD

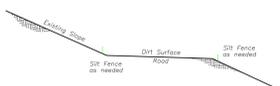


LEGEND:

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



TYPICAL CROSS SECTION OF EXISTING ROAD



TYPICAL SILT FENCE



ANDALEX
RESOURCES, INC.
Tower Division

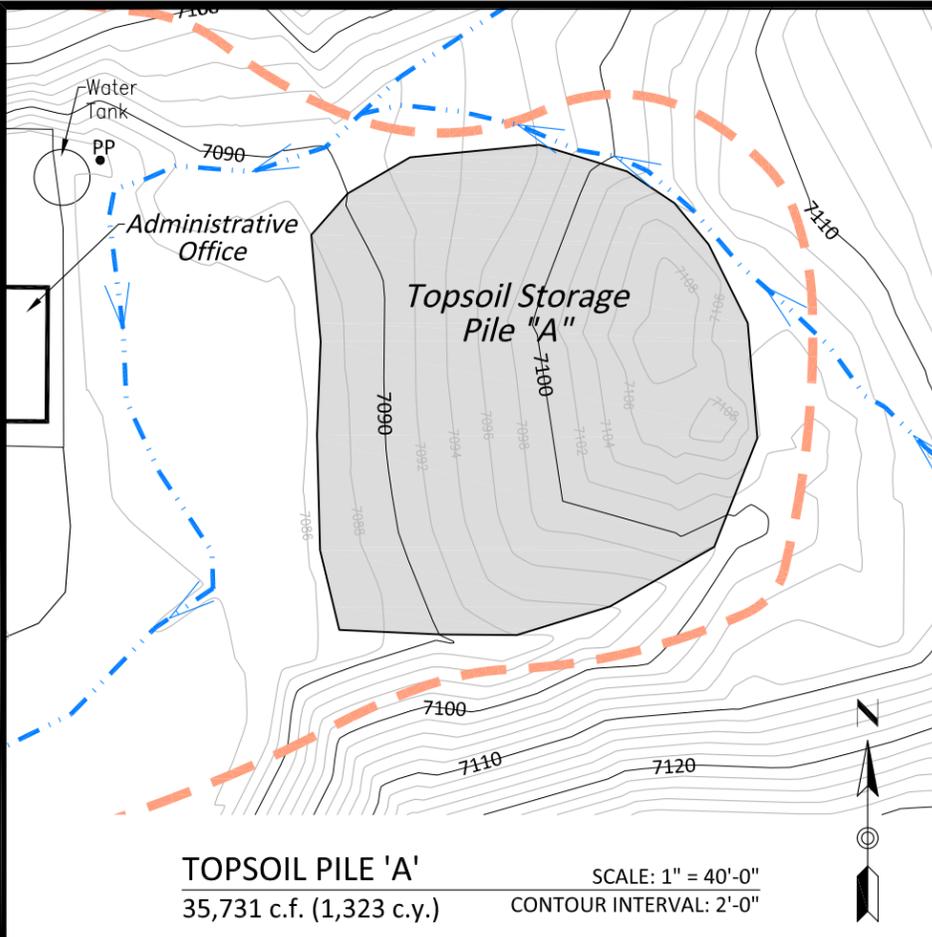
Aberdeen Mine
Left-Hand Fork
Fan Installation/
Sedimentation/
Drainage Control

SCALE: 50' 0' 100' 200'
ACAD REF: LP-1 July 10, 1995

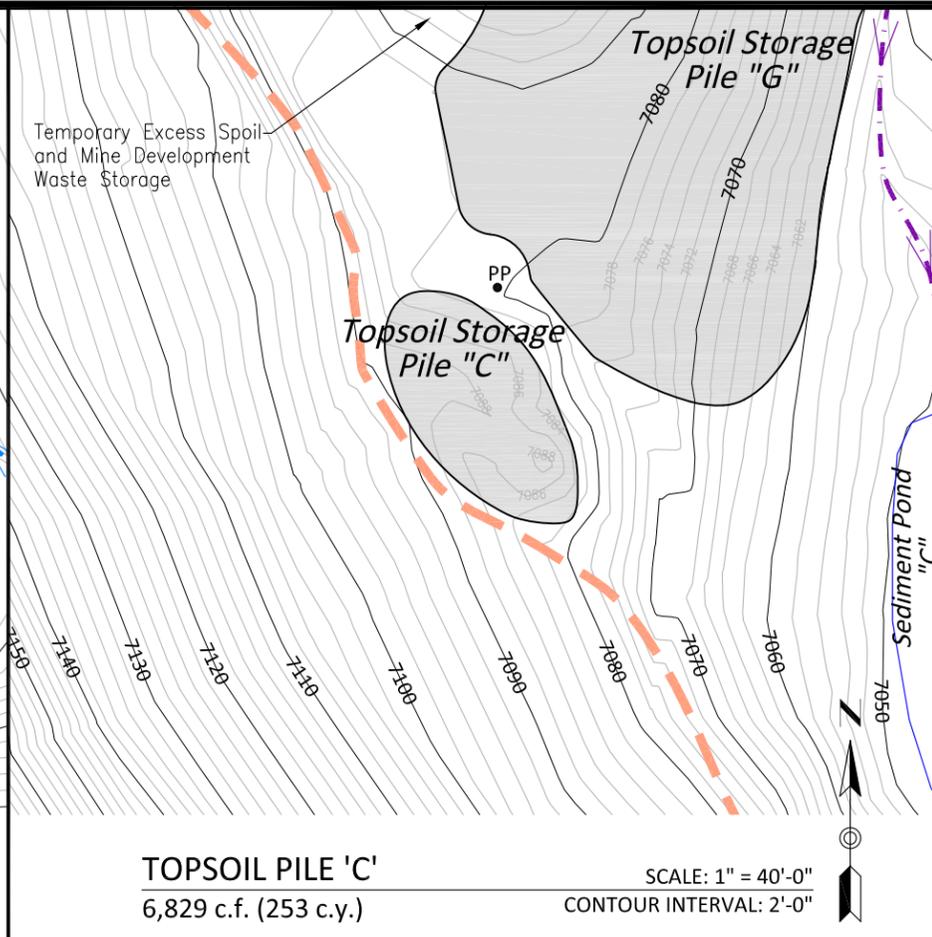


C:\Users\jgoff\OneDrive\Documents\Projects\Aberdeen Mine\LP-1.dwg, 10/10/2014, 10:53:28 AM

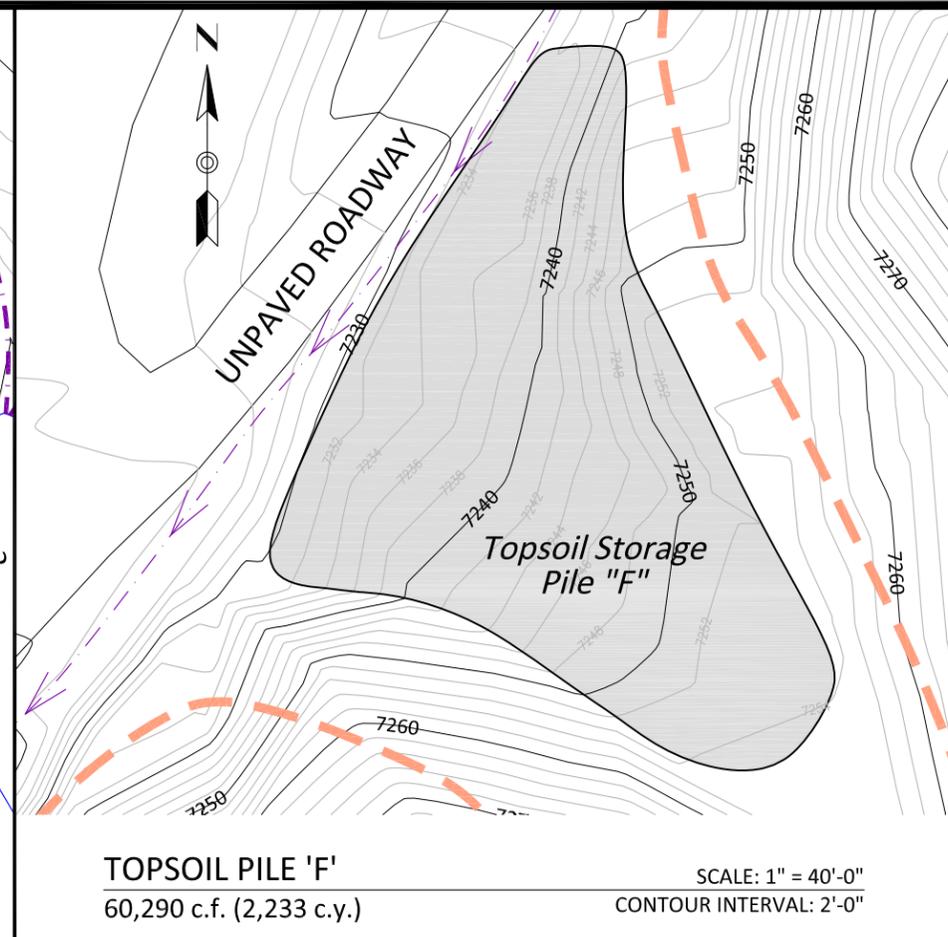
G:\Current Drawings\MRP Maps\Tower Midterm 2019\Plate 37 - Top Soil Storage Piles.dwg, Plate 37, 8/29/2019 4:03:31 PM



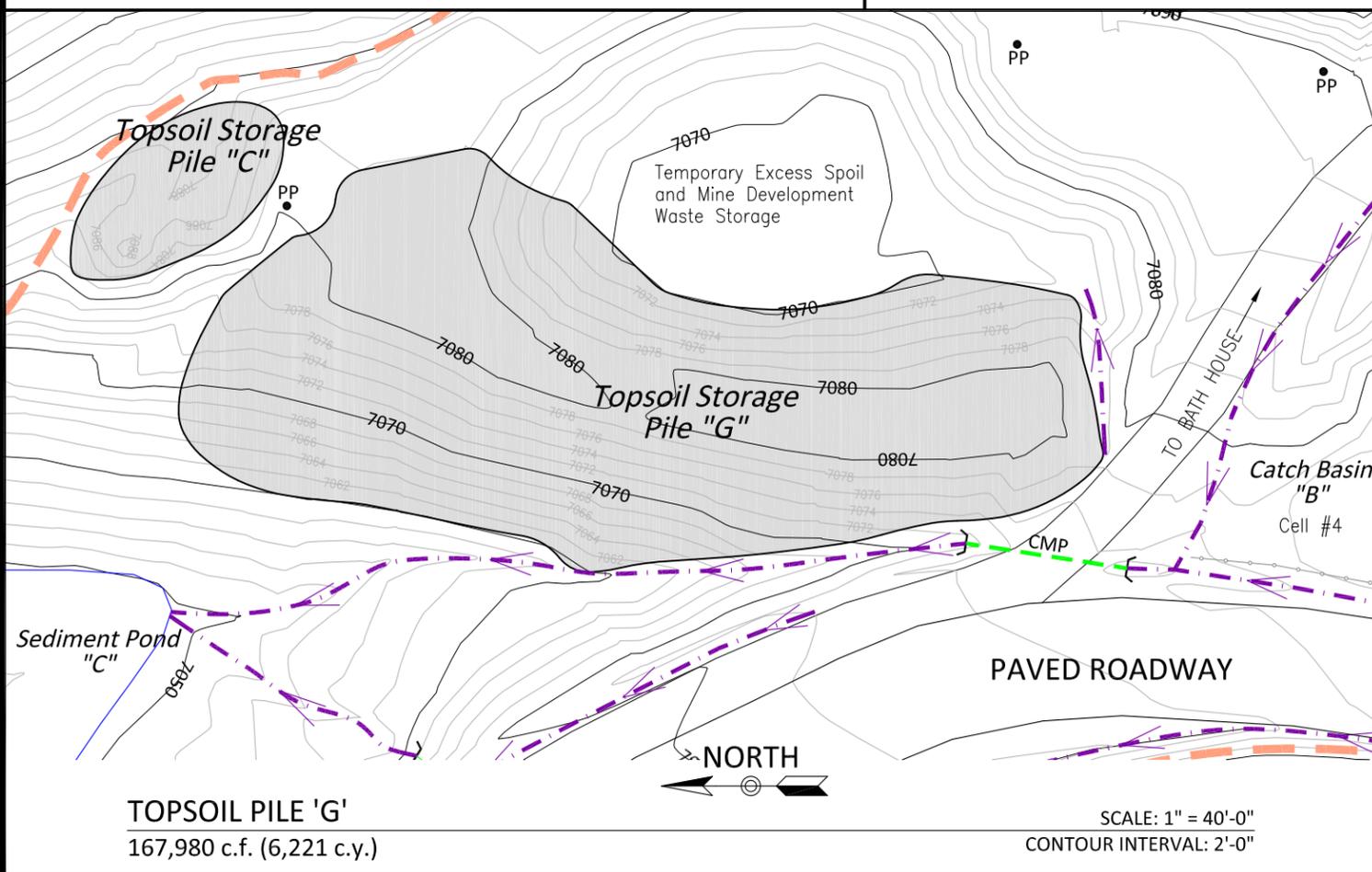
TOPSOIL PILE 'A'
35,731 c.f. (1,323 c.y.)
SCALE: 1" = 40'-0"
CONTOUR INTERVAL: 2'-0"



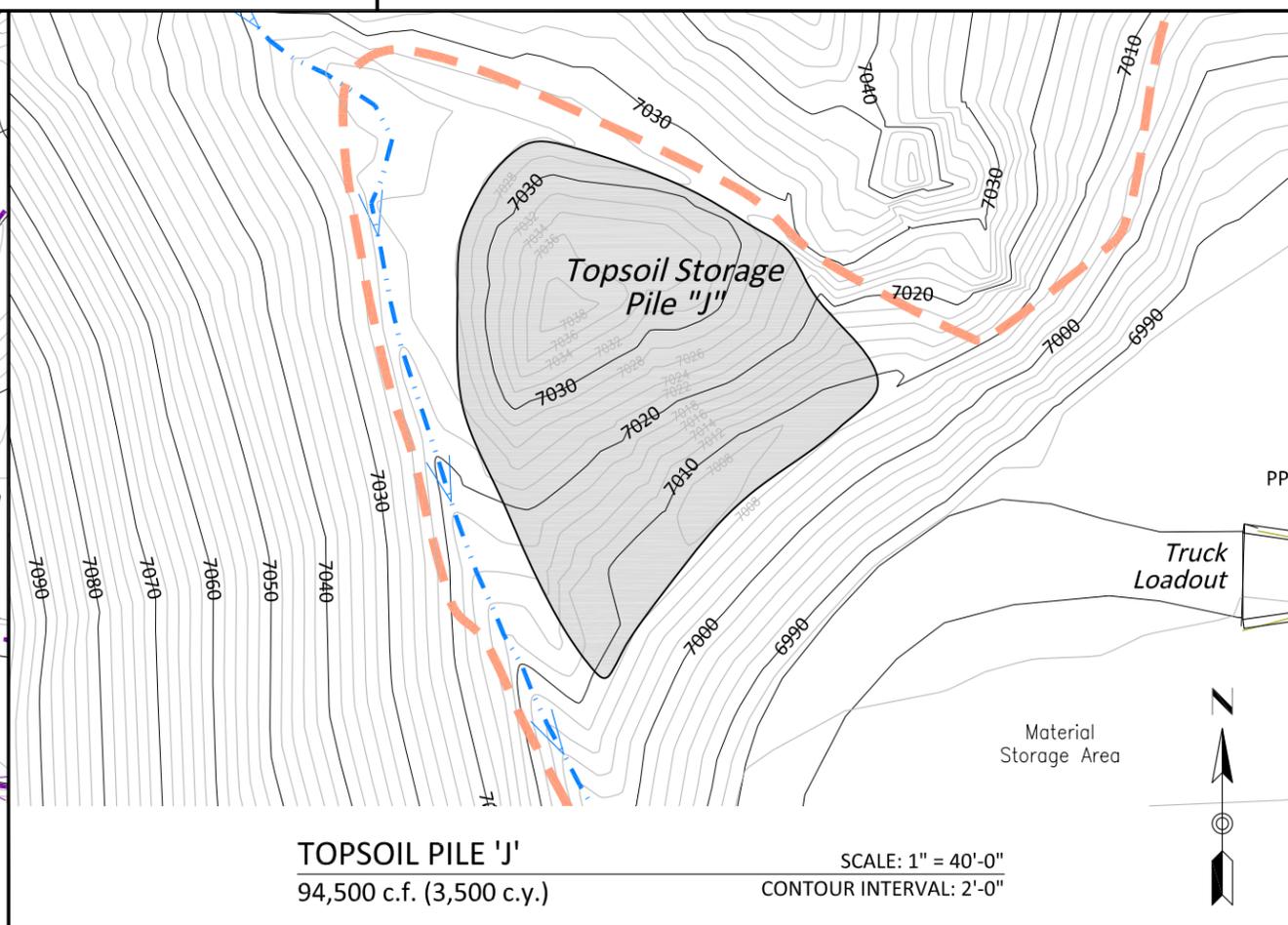
TOPSOIL PILE 'C'
6,829 c.f. (253 c.y.)
SCALE: 1" = 40'-0"
CONTOUR INTERVAL: 2'-0"



TOPSOIL PILE 'F'
60,290 c.f. (2,233 c.y.)
SCALE: 1" = 40'-0"
CONTOUR INTERVAL: 2'-0"



TOPSOIL PILE 'G'
167,980 c.f. (6,221 c.y.)
SCALE: 1" = 40'-0"
CONTOUR INTERVAL: 2'-0"

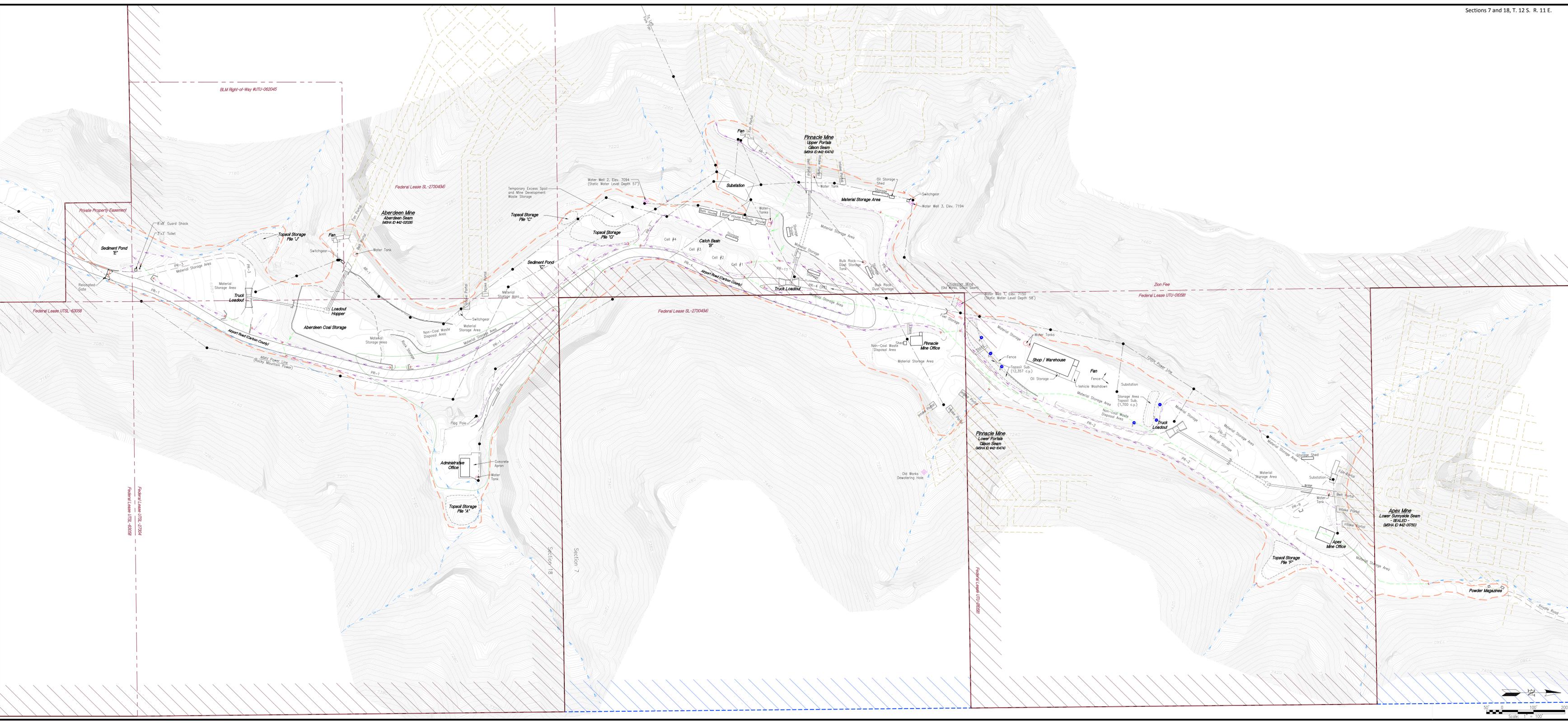


TOPSOIL PILE 'J'
94,500 c.f. (3,500 c.y.)
SCALE: 1" = 40'-0"
CONTOUR INTERVAL: 2'-0"

NOTE:
SEE PLATE 6 FOR
TOPSOIL PILE
LOCATIONS.

- Disturbed Surface Boundary
- Disturbed Surface Drainage
- Undisturbed Surface Drainage (Diversion Ditch)
- Disturbed Drainage Culvert

ANDALEX
RESOURCES, INC.
TOWER DIVISION
PRICE, UTAH



NOTES

1. See Plans 11 & 12 for Sediment Pond Details.
2. Primary roads are designated by 'PR-1', etc.
3. Auxiliary roads are designated by 'AR-1', etc.
4. See Plan 8 for surface drainage information.

LEGEND

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

LEGEND

- Soil Sample Location
- Power Pole

ANDALEX RESOURCES, INC.
Tower Division

CENTENNIAL PROJECT
6750 AIRPORT ROAD
PRICE, UTAH 84501

PLATE #6

AS-CONSTRUCTED SURFACE FACILITIES

SCALE: 1" = 100'

DATE: AUGUST 2019

APPROVED BY: [Signature]

106

