



**Lila Canyon Project**  
**P. O. Box 910**  
**East Carbon, Utah 84520**  
**Phone: (435) 888-4000**  
**(435) 650-3157**  
**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

April 25, 2018

Attn: Daron Haddock  
Permit Supervisor

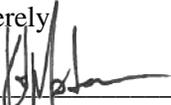
Re: Lila Canyon Mine C/007/013

Dear Mr. Haddock,

Attached you will find an amendment to the Lila MRP to add the new Bathouse structure to the MRP as well as information regarding a gantry that will be needed for the . A surface facilities map and bonding calculations have are also included for this amendment.

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

Sincerely,

  
\_\_\_\_\_  
Karin Madsen  
Engineering Tech  
UtahAmerican Energy, Inc.





**Horse Canyon Extension  
Lila Canyon Mine**

**Chapter 5  
Engineering**

**Volume 4 of 7**

## Table of Contents

|      |   |           |
|------|---|-----------|
| 500. | ENGINEERING   | Page -1-  |
| 510. | Introduction  | Page -1-  |
| 511. | General Requirements.                                   | Page -1-  |
| 512. | Certification   | Page -3-  |
| 513. | Compliance With MSHA Regulations and<br>MSHA Approvals. | Page -4-  |
| 514. | Inspections.  | Page -4-  |
| 515. | Reporting and Emergency Procedures.                     | Page -6-  |
| 516. | Prevention of Slides:                                   | Page -8-  |
| 520. | Operation Plan.   | Page -8-  |
|      | Current Temporary / Long-term Mine Facilities List      | Page -8-  |
| 521. | General:  | Page -19- |
| 522. | Coal Recovery.  | Page -25- |
| 523. | Mining Methods:   | Page -26- |
| 524. | Blasting and Explosives:                                | Page -28- |
| 525. | Subsidence:   | Page -34- |
| 526. | Mine Facilities.  | Page -46- |
| 527. | Transportation Facilities.                              | Page -50- |
| 528. | Handling and Disposal                                   | Page -51- |
| 529. | Management of Mine Openings:                            | Page -54- |
| 530. | Operational Design Criteria and Plans.                  | Page -55- |
| 531. | General.  | Page -55- |
| 532. | Sediment Control:                                       | Page -55- |
| 533. | Impoundments.   | Page -55- |
| 534. | Roads.  | Page -57- |
| 535. | Spoil:  | Page -58- |
| 536. | Coal Mine Waste.  | Page -58- |
| 537. | Regraded Slopes.  | Page -60- |
| 540. | Reclamation Plan.                                       | Page -60- |
| 541. | General.  | Page -60- |
| 542. | Narratives, Maps and Plans.                             | Page -61- |
| 550. | Reclamation Design Criteria and Plans.                  | Page -63- |
| 551. | Casing and Sealing of Underground Openings.             | Page -63- |
| 552. | Permanent Features.                                     | Page -63- |
| 560. | Performance Standards.                                  | Page -66- |

## List of Appendixes

|              |   |
|--------------|---|
| Appendix 5-1 | Inspection Form for Excess Spoil        |
| Appendix 5-2 | Inspection Form for Impoundments        |
| Appendix 5-3 | Coal Mine Waste Fire Extinguishing Plan |
| Appendix 5-4 | New Facility Designs                    |
| Appendix 5-5 | Slope Stability Analysis                |
| Appendix 5-6 | Mine Openings (Closures)                |
| Appendix 5-7 | Rock Slope Material (Refuse Pile)       |
| Appendix 5-8 | Reclamation Plan                        |

## List of Plates

|              |  |
|--------------|--|
| Plate 5-1    | Previously Mined Areas   |
| Plate 5-1A   | Premining Contours   |
| Plate 5-2    | Surface Area Lila Canyon Mine (Official Disturbed Area Boundary Map) |
| 5-2A         | IBC Area - Graben Breakout   |
| 5-2B         | Fan Pad As-Built   |
| Plate 5-3    | Subsidence Control Map   |
| Plate 5-3    | CONFIDENTIAL Subsidence Control Map with Raptor Information          |
| Plate 5-4    | Coal Ownership   |
| Plate 5-5    | Mine Map   |
| Plate 5-6    | Post Mining Topography   |
| Plate 5-7A-1 | Mine Site Cross Sections   |
| Plate 5-7A-2 | Mine Site Cross Sections   |
| Plate 5-7A-3 | Mine Site Cross Sections   |
| Plate 5-7A-4 | Mine Site Cross Sections   |
| Plate 5-7B-1 | Mine Site Cross Sections   |
| Plate 5-7B-2 | Mine Site Cross Sections   |
| Plate 5-7B-3 | Mine Site Cross Sections   |
| Plate 5-7C   | Reclaimed Profile  |
| Plate 5-7D-1 | New Storage Pad and Roads - Plans and Profiles                       |
| Plate 5-7D-2 | New Storage Pad and Roads - Road Sections                            |
| Plate 5-7D-3 | New Storage Pad and Roads - Road Sections                            |
| Plate 5-8    | Coal Handling Facilities   |
| Plate 5-9    | Portal Plan and Sections   |

## Chapter 5

### 500. ENGINEERING

#### 510. Introduction

This section presents the engineering portion for the Lila Canyon Extension to the Horse Canyon Mine Reclamation Plan and is based upon previous publications, permit applications for the adjacent Sunnyside and South Lease areas and design which follows basic engineering standards. The objective of this chapter is to provide sufficient engineering design to support the mining and reclamation plan for the Lila Canyon Mine (ACT/007/013) and to satisfy the rules found in R645-301-500. All of the activities associated with the coal mining and reclamation operations are designed, located, constructed, maintained, and reclaimed in accordance with the operation and reclamation plan. The engineering section of the permit application is divided into the introduction, the operation plan, operational design criteria, reclamation plan, and performance standards. All design criteria associated with the operation and reclamation plans have been met.

#### 511. General Requirements.

- 511.100** The permit application includes a description of the proposed coal mining and reclamation operations with appropriate maps, plans, and cross sections.
- 511.200** A description of the proposed mining operation and its potential impacts to the environment as well methods and calculations utilized to achieve compliance with design criteria are addressed within this chapter.
- 511.300** A description of the proposed reclamation plan is included in this chapter.

#### 512. Certification

- 512.100.** Cross Sections and Maps that require certification have been prepared by, or under the direction of, and certified by a qualified, registered, professional engineer, with assistance from experts in related fields when needed. Cross Sections and Maps will be updated as needed or required by the Division. Listed below are some of the maps and cross sections that have been certified by a qualified registered professional engineer.

- 512.110.** A map showing the extent of known existing mine workings and the approximate year mined has been included and certified by a qualified registered professional engineer and included as Plate 5-1.
- 512.120.** All Surface facilities (temporary and long-term) and operations are shown on the appropriate maps, and have been certified by a qualified registered professional engineer.
- 512.130** Maps showing final surface configuration with cross sections have been included and certified by a qualified registered professional engineer. (See Plate 5-6, 5-7c, and Appendix 5-4)
- 512.140** Appropriate hydrology drawings and cross sections have been certified by a qualified registered professional engineer. (See Chapter 7)
- 512.150** Geologic cross sections and maps that are required to be certified, have been certified by a qualified registered professional engineer. See Chapter 6 and Plate 7-1B.
- 512.200** Plans and Engineering Designs which may include: Excess spoil piles, durable rock fills, coal mine waste, impoundments, primary roads and variances from approximate original contour. These Plans and Designs have been certified by a qualified registered professional engineer if appropriate.
- 512.210** Lila Canyon Mine is an underground operation, therefore it is anticipated that no excess Spoil will be produced. This section does not apply.
- 512.220** The professional engineer experienced in the design of earth and rock fills has certified that the durable rock fill design will ensure the stability of the fill and that the fill meets design requirements.
- 512.230** The professional engineer experienced in the design of coal mine waste piles has certified the design of the coal mine waste disposal facility. (See Appendix 5-7)

- 512.240** Prudent engineering practices are used in the design and construction of impoundments in the permit area. The impoundment designs have been certified by a qualified registered professional engineer. (See Plates 7-6a and 7-6b)
- 512.250** The professional engineer has certified the design and construction or reconstruction of primary roads as meeting the appropriate design criteria.
- 512.260** The operator is not requesting a variance from the approximate original contours (AOC).

### **513. Compliance With MSHA Regulations and MSHA Approvals.**

- 513.100** Neither Coal processing waste dams nor embankments are anticipated during the term of this permit. Therefore, this section is not applicable.
- 513.200** Planned impoundments and sedimentation ponds do not meet the size or other qualifying criteria of MSHA, 30 CFR 77.216(a). Therefore, this section is not applicable.
- 513.300** Underground development waste transported to the surface, coal processing waste and excess spoil will not be disposed of underground. However, material such as overcast material, rock falls, and slope material, not transported to the surface, may be disposed of underground according to the appropriate MSHA regulations.
- 513.400** Refuse piles meet the requirements of MSHA, 30 CFR 77.214 and 30 CFR 77.215 and all appropriate R645 regulations. (See Appendix 5-7)
- 513.500** Shafts, drifts, adits, tunnels, exploratory holes, entryways or other opening to the surface from the underground will be capped, sealed, backfilled or otherwise properly managed

consistent with MSHA, 30 CFR 75.1711.

- 513.600** Surface water discharges into the underground mine workings is not anticipated or planned, Therefore, this section is not applicable.
- 513.700** Surface mining within 500 feet to an active underground mine is not planned nor anticipated. Therefore, this section does not apply.
- 513.800** Coal mine waste fires plans will be submitted to MSHA and the Division for their approval prior to extinguishing any coal mine waste fires. (See Appendix 5-3)

#### **514. Inspections**

All engineering inspections, except the quarterly inspections of impoundments not subject to MSHA, will be conducted by a qualified registered professional engineer or other qualified professional specialist under the direction of the professional engineer.

- 514.100** Lila Canyon is an underground operation and it is not anticipated that any spoil will be produced. Therefore, this section does not apply.
- 514.200** Refuse Piles. A professional engineer or specialist experienced in the construction of similar earth and waste structures will inspect the refuse pile during construction.
- 514.210** Regular inspections by the engineer or specialist will also be conducted during placement and compaction of coal mine waste materials. If it has been determined that a danger of harm exists to the public health and safety or the environment, more frequent inspections will be conducted. Inspections will continue until the refuse pile has been finally graded and revegetated or until a later time as required by the Division.
- 514.220** The refuse pile inspections will be performed at least quarterly throughout construction and during the following construction periods:
- 514.221** In addition to quarterly inspections, an inspection

- will be performed during foundation preparation which includes the removal of all organic material and topsoil;
- 514.222** Since no under-drain or protective filter systems are planned, this section is not applicable.
- 514.223** In addition to quarterly inspections, an inspection will be performed during the installation of the final surface drainage systems.
- 514.224** In addition to quarterly inspections, an inspection will be performed after the final grading and the facility has been revegetated.
- 514.230** The division will be provided a certified report prepared by, or under the supervision of, the qualified registered professional engineer after each inspection. The report will certify that the refuse pile has been constructed and maintained as designed and in accordance with the approved plan and R645 Rules. This report will include statements stating the appearances of instability, structural weakness, and other hazardous conditions if found. (See Appendix 5-1)
- 514.240** Since protective filters and under-drain are not required in the current design criteria this section is not applicable.
- 514.250** Required refuse pile reports will be retained at or near the mine site in an area convenient to the resident agent and the qualified registered professional engineer. Appendix 5-1 is an example of the refuse pile inspection form.
- 514.300** Impoundments
- 514.310** A professional engineer or specialist experienced in the construction of impoundments will inspect impoundments.

- 514.311** During construction, inspections will be made on a regular basis, and upon completion of the ponds. The inspections will be performed at least yearly. Inspections will continue yearly until the pond is removed or the performance bond is released.
- 514.312** After each inspection the qualified registered professional engineer will promptly provide to the Division a certified report. This report will state that the impoundment has or has not been constructed and maintained as designed and in accordance with the approved plan and the R645 Rules. The report will include a discussion of any appearances of instability, structural weakness or other hazardous conditions. All so included in the report will be the depth and elevation of any impounded waters, existing storage capacity, any existing or required monitoring procedures and instrumentation and any other aspects of the structure affecting stability.
- 514.313** Required impoundment inspection reports will be retained at or near the mine site in an area convenient to the resident agent and the qualified registered professional engineer. Appendix 5-2 is an example of the impoundment inspection form.
- 514.320** Since the pond contained in the Lila Canyon Project is less than 20 feet high and stores less than 20 acre-feet of water, it is not subject to MSHA, 30 CFR 77.216. Therefore, this section does not apply.

## **515. Reporting and Emergency Procedures.**

- 515.100** If a slide occurs, the operator will telephone DOGM to notify them of the situation and recommend remedial measures to be taken to alleviate the problem. Additional remedial measures required by DOGM will be implemented.

- 515.200** During impoundment inspections, any potential hazards noted will be reported to DOGM, along with measures to be implemented to eliminate the hazard.
- 515.300** In the case of temporary cessation of operations the following will apply:
- 515.310** All provisions of the approved permit will be complied with during temporary cessation or abandonment.
  - 515.311** In case of temporary cessation, the operator will support and maintain all surface access openings to underground operations, and secure surface facilities in areas in which there are no current operations, but operations are to be resumed under an approved permit.
  - 515.312** Since Lila Canyon Mine is an underground operation, this section does not apply.
- 515.320** Prior to a temporary cessation of coal mining and reclamation operations which is expected to last longer than 30 days, or when a temporary cessation is extended longer than 30 days, the operator will submit to the Division a notice of intention to cease or abandon operations. The following will be included in the notice of temporary cessation.
- 515.321** The temporary cessation notice will contain the exact number of surface acres and the horizontal and vertical extent of subsurface strata included in the permit area. In addition, a description of the reclamation activities accomplished and activities such as backfilling regrading, revegetation, environmental monitoring, underground opening closures and water treatment activities that will continue during the temporary cessation.
  - 515.322** Since the Lila Canyon Mine is an underground operation, this section does not apply.

**516. Prevention of Slides:** Since the Lila Canyon Mine is an underground operation, this section does not apply.

## **520. Operation Plan.**

At first glance it would appear to a non-mining person that the best access to UEI's leases would be from the existing (sealed) Horse Canyon portals using the current Horse Canyon surface disturbance. However, the existing Horse Canyon site is not suitable for a large longwall operation. The old Horse Canyon Mine was not designed to produce 4.5 million tons as will be Lila. Some strategic pillars in the old mains were extracted upon retreat preventing any future access. The number of entries in the old works is not adequate for ventilation purposes. Portions of the old mine are flooded preventing reentry. The distance from the old portals to the current leases would result in unacceptable travel times for crews and supplies. Rehabilitating and maintaining an old mine is extremely hazardous and expensive. As a result of the conditions described above it has been determined that new portals at the Lila Canyon site are the most logical and only feasible access to the permittee's coal leases.

## **Lila Canyon Current Temporary / Long-term Mine Facilities List**

Current temporary and long-term structures and facilities are shown on Plate 5-2. The Keyed Mine Facilities from Plate 5-2 are numbered as follows:

### **Buildings**

- 1) Temporary Bath House
- 2) Temporary Office Trailer
- 3) Temporary Office / Shop Building
- 4) Temporary Storage Shed (Wooden)
- 5) Temporary Storage Building (Metal)
- 7) Temporary Office Building
- 9) Temporary Storage Tent with concrete floor
- 22) Temporary Crusher/Screen Building

### **Utilities**

- |                  |                                   |
|------------------|-----------------------------------|
| <i>No Number</i> | <i>Mine Substation</i>            |
| 8)               | Potable Water Tank                |
| 10)              | Power Poles                       |
| 11)              | Electrical Transformer            |
| 12)              | Overhead Power Transmission Lines |
| 13)              | Buried Power Transmission Lines   |

- 28) Electrical Grounding Field
- 37) Non-Potable Water Storage Tanks
- 40) Concrete Electrical Junction Box
- 41) Temporary Concrete Septic Tank

### **Mine Facilities**

- 14) Rock Dust Silo
- 16) Temporary Underground Reclaim Room
- 17) Temporary Concrete Retaining Wall
- 18) Temporary Loadout Conveyor (48")
- 19) Temporary Loadout MCC Building
- 20) Temporary Loadout Structure
- 21) Temporary Crusher Conveyor (48")
- 23) Temporary Crushed Coal Conveyor (48")
- 24) Temporary Crusher MCC Building
- 27) Concrete Equipment Pad
- 30) Existing ROM Coal Conveyor from Underground (60")
- 31) Steel Portal Canopy Structure
- 32) Concrete Conveyor Bay at Belt Portal
- 34) Mine MCC Building / Electrical Tower
- 35) Backup Ventilation Fans
- 36) Main Mine Ventilation Fan / Electrical Tower
- 39) Chain Link Fencing
- 43) Temporary Conveyor Counterweight Structure
- 44) Jersey Barrier Guard Rails
- 45) Concrete Trash Chute
- 46) [Gantry Lift Assembly](#)

### **Support Facilities**

- No Number* *Mine Facilities Access Road / Truck Loadout Road*
- No Number* *Rock Slopes*
- No Number* *Sediment Ponds*
- No Number* *Slope Access Road / Portal Access Road*
- No Number* *New Storage Pad*
- No Number* *New Storage Pad Access Road*
- No Number* *New Storage Pad Service Road*
- No Number* *Topsoil Pile*
- 6) Temporary Concrete Walkway
- 15) Temporary Fuel Storage Tanks
- ~~25) [Diversion Weir with Slide Gates](#)~~
- 29) Sediment Pond Spillway Structure

- 42) Temporary Loadout Light Board
- 38) Powder and Cap Magazines

Note: Long-Term Underground Pipes are not shown.

Note: Culvert locations are shown on Plate 7-5.

A description of current temporary and long-term structures and facilities:

## **BUILDINGS**

### **1) Temporary Bath House**

The temporary bath house is shown on Plate 5-2. This complex is made up of fivenine (59) interconnected portable structures (trailers and metal intermodal structures). Shower and toilet facilities for all male employees are at this location. Female employees utilize a separate, nearby temporary trailer for showers and toilet facilities (see #2 below). The bath house provides a location for underground miners to change from clean street clothes to clothing suitable for underground use. The area provides showers for employees for use after their scheduled work shifts so they can clean up prior to returning home. The trailers and metal intermodal structures rest upon stacked concrete blocks for stability and leveling purposes. Once the long-term bath house (per Plate 8-1) is constructed, the temporary bath house and all supporting structures will be removed.

### **2) Temporary Office Trailer**

The temporary office trailer is a prefabricated, self-contained, modular trailer, similar to those often seen on construction sites. The trailer can be moved using a vehicle with a tow hitch. Each trailer typically contains two (2) or three (3) offices and one (1) restroom. Each trailer is equipped with a waste water storage tank for the rest room. The waste water storage tank is emptied on a regular basis. One (1) temporary office trailer has been modified to provide shower and toilet facilities for female employees similarly to the temporary bath house (see #1 above). The office trailers are used by mine personnel in support positions to mine operations. Multiple trailers are currently used. The locations of these trailers are shown on Plate 5-2. Once long-term office areas are constructed, the temporary office trailers and all supporting structures will be removed.

### **3) Temporary Office / Shop Building**

The Temporary Office / Shop Building is shown on Plate 5-2. The building is a prefabricated metal building on a concrete foundation system, with a 4"

thick concrete floor slab. The building is split down the middle width-wise with one side being the shop area, and the other office space for mine personnel in support positions to mine operations. The shop area is used to perform minor equipment repairs. The building measures approximately 30' by 62'. Once long-term offices and the long-term Shop/Warehouse have been constructed, the temporary office / shop building will be razed.

#### **4) Temporary Storage Shed (Wooden)**

The temporary wooden storage shed measures approximately 10' by 20' by 8' high, with a wooden floor structure. The shed is used to store various equipment and supplies needed for mine operations. Multiple sheds are currently used. The locations of these sheds are shown on Plate 5-2. Once the long-term Shop/Warehouse has been constructed, the temporary storage sheds will be removed.

#### **5) Temporary Storage Building (Metal)**

The temporary metal storage building is a prefabricated, metal, intermodal container used for storage. These structures are sometimes referred to as "conex containers." The containers are typically 20' to 40' long by 8' wide by 8.5' high. These structures are used to store various equipment and supplies needed for mine operations. The metal storage structures typically provide a higher level of security than do wooden sheds. Multiple metal storage buildings are currently used. The locations of these buildings are shown on Plate 5-2. Once the long-term Shop/Warehouse has been constructed, the temporary storage buildings will be removed.

#### **7) Temporary Office Building**

The temporary office / storage building is shown on Plate 5-2. The office space is used by mine personnel in support positions to mine operations. The building measures 20' by 12' by 10' high. The building is a wood frame on a concrete foundation. The floor is a 4" thick concrete slab. Once the long-term office areas and Shop/Warehouse have been constructed, the temporary office building will be razed.

#### **9) Temporary Storage Tent with Concrete Floor**

The temporary storage tent is constructed of an arched metal wall/roof structure covered with a canvas overlay. The tent rests on a 6" concrete floor slab. Two tents are currently in use at the mine site. One tent measures 30' by 30'. The other measures 70' by 48'. The tents are used to store large wares and supplies needed for mining operations that need some protection from the weather. The temporary storage tents with concrete floors are shown on Plate 5-2. Once the long-term Shop/Warehouse has been

constructed, the temporary storage tents and associated concrete floor slabs will be removed.

## **22) Temporary Crusher / Screen Building**

The temporary crusher / screen building is shown on Plate 5-2, and houses the screen and crusher assemblies. The screen assembly sorts the coal as it enters the building, via the temporary crusher conveyor (see #21 below), between the larger lump sizes that need to be crushed (2"-8" in size) and the smaller nuggets that do not need to be crushed (less than 2" in size). The crusher assembly reduces the larger 2" to 8" sized coal lumps to nuggets measuring less than 2" in size. The coal that is now 2" or less in size falls onto the crushed coal conveyor (see #23 below) and exits the building. The building itself is constructed of a wide flange steel frame and rests on a 12" thick monolithic concrete slab base. The building measures approximately 48' by 22', and stands approximately 58' at its peak. The temporary crusher / screen building has been constructed to meet MSHA regulations. Once the long-term coal handling facilities have been constructed, the temporary crusher / screen building will be razed.

## **UTILITIES**

### **Mine Substation**

The mine substation is shown on Plate 5-2, and provides power to surface and underground areas of the mine property. The substation includes approximately four transformers setting on a concrete pad approximately 20' by 20' by 12" and fully fenced. The total fenced area of the substation is approximately 215' by 112'. Power is fed into the transformers at 138 KVA and will be transformed down to usable voltages for both the surface and underground facilities. It is anticipated that voltages of 110V, 220V, 440V will be used on the surface, and 12,470 volts will be utilized underground. The mine substation is constructed to fulfill all appropriate MSHA regulations. The Mine Substation will remain throughout the life of the mine, and will be removed during final reclamation.

### **8) Potable Water Tank**

The potable water tank is shown on Plate 5-2. Potable water is purchased off-site and is transported to the mine site via tanker truck, which in turn fills the tank. The potable water is stored in this 15' diameter by 20' high metal tank. Water from this tank is used for toilets and showering in the temporary bath house (see #1 above). The tank is set on a 15' by 15' concrete pad designed for adequate support of the tank. The location of the potable water tank can be found on Plate 5-2. The potable water tank will remain

throughout the life of the mine, and will be removed during final reclamation.

#### **10) Power Poles**

Multiple wooden power poles are utilized throughout the disturbed area. Locations of power poles are shown on Plate 5-2. The power poles are large, upright wooden poles used to support overhead power transmission lines and other wires as needed. The power poles will remain throughout the life of the mine and will be removed during final reclamation.

#### **11) Electrical Transformer**

An electrical transformer is used to adjust and transfer electrical energy in electric power applications. Each transformer rests on a 4" thick concrete slab of suitable size to support the weight of the transformer. The transformer feeds various mine facilities. Multiple transformers are currently utilized. Their locations are shown on Plate 5-2. Transformers will be removed as their respective temporary facilities are removed and replaced upon the completion of long-term facilities (see Plate 8-1).

#### **12) Overhead Power Transmission Lines**

Within the disturbed area, both overhead and underground power lines will be utilized. Overhead power lines will be run where underground power lines are not feasible. Vertical power poles (see #10 above) support the overhead lines to provide adequate and safe clearances below the power transmission lines. The overhead power transmission lines have been spaced to protect raptors. As-built drawings will be provided upon completion of the long-term surface facilities. Overhead power lines will remain through the life of the mine, and will be removed upon final reclamation.

#### **13) Buried Power Transmission Lines**

Within the disturbed area both overhead and buried power lines will be utilized. Buried power transmission lines will be run where feasible. All buried power transmission lines will be run in conduits. As-built drawings will be provided upon completion of the long-term surface facilities. Long-term underground power lines will remain throughout the life of the mine. Upon final reclamation, the long-term underground power transmission lines will be abandoned and left in place.

#### **28) Electrical Grounding Field**

The electrical grounding field is composed of a grounding grid and rods buried below the soil. The electrical grounding field has been designed and constructed to meet MSHA requirements and regulations. It is used to ground the Mine Substation (see above). The location of the electrical

grounding field is shown on Plate 5-2. The electrical grounding field will remain throughout the life of the mine, and will be removed during final reclamation.

### **37) Non-Potable Water Storage Tanks**

Three non-potable water storage tanks are used to store water for mine-related purposes including dust suppression on roadways and other points as required by the approved Air Quality Order. The location of the non-potable water storage tanks is shown on Plate 5-2. The non-potable water storage tanks will remain throughout the life of the mine, and will be removed upon final reclamation.

### **40) Concrete Electrical Junction Box**

The location of the concrete electrical junction box is shown on Plate 5-2. The concrete electrical junction box is a buried 6' by 6' by 6' concrete box with 6" thick walls, top and floor. A steel manhole allows access to the interior of the box. Within the junction box, high-voltage connections are made that allow power to be transferred from the Mine Substation to the overhead power lines. The concrete electrical junction box will remain throughout the life of the mine, and will be removed upon final reclamation.

### **41) Temporary Concrete Septic Tank**

The temporary concrete septic tank facilitates the existing employees working on rotating shifts. The tanks are used in conjunction with the tanks that are a part of the bath house trailer (see #1 above) and other temporary office trailers (see #2 above). The tanks will be pumped out regularly. Multiple tanks are currently used. The locations of these tanks are shown on Plate 5-2. The temporary concrete septic tanks will be removed upon the completion of the long-term office areas and long-term bath house facilities.

## **MINE FACILITIES**

### **14) Rock Dust Silo**

The Rock Dust Silo is a tower silo used to store bulk rock dust for use within the mine. Rock dust is used to reduce the combustible fraction of coal dust in the air within the mine. The silo is constructed of a steel container supported by a steel frame on a concrete foundation with a 6" thick concrete pad and apron. The rock dust silo will remain throughout the life of the mine, and will be removed during final reclamation.

### **16) Temporary Underground Reclaim Room**

The temporary underground reclaim rooms form a portion of the temporary coal handling facilities for the mine. The reclaim rooms are buried concrete

and steel structures, measuring approximately 20' by 17' by 17' high. The floor, roof, and all walls, except one (1) wall, are constructed of steel reinforced concrete. The remaining wall is constructed of plate steel and steel angles, with an opening for a tubed conveyor structure. The roof of the structure has an opening and gate that allows coal to fall from the bottom of the stockpile above onto a conveyor belt for transportation to either the Crusher Building or Loadout Structure. Two (2) temporary underground reclaim rooms are currently in use. These structures are shown on Plate 5-2. At the completion of the long-term coal handline facilities' construction, the rooms will be filled with rocks and other backfill material, then left in-place after final reclamation.

### **17) Temporary Concrete Retaining Wall**

The temporary concrete retaining walls form a portion of the temporary coal handling facilities for the mine. The walls are constructed of steel reinforced concrete, and provide support for conveyor assemblies emanating from the temporary underground reclaim rooms (see #16 above). Two (2) temporary concrete retaining walls are currently in use. These structures are shown on Plate 5-2. At the completion of the long-term coal handling facilities' construction, the temporary concrete retaining walls will be razed.

### **18) Temporary Loadout Conveyor (48")**

The temporary loadout conveyor is a portion of the temporary coal handling facilities for the mine. The temporary loadout conveyor moves crushed coal from the temporary underground reclaim room (see #16 above) below the crushed coal storage pile to the top of the temporary loadout structure (see #20 below) in order to fill coal haulage trucks. The conveyor structure is a steel framework running a 48" conveyor belt. A large portion of the conveyor is contained within a 9' diameter steel plate tube that extends underground to the temporary underground reclaim room (see #16 above). The temporary loadout conveyor is shown on Plate 5-2. At the completion of the long-term coal handling facilities' construction, the temporary loadout conveyor will be removed.

### **19) Temporary Loadout MCC Building**

The temporary loadout MCC building is a portion of the temporary coal handling facilities for the mine. The building is the Motor Control Center (MCC) for the temporary loadout conveyor (see #18 above). The structure is a steel plate building measuring approximately 6' by 16' by 8' tall. The electrical control for the conveyor motor and other electrical components for the temporary loadout assembly are housed within the MCC building. The temporary loadout MCC building is shown on Plate 5-2. At the completion of the long-term coal handling facilities' construction, the temporary loadout

MCC building will be removed.

### **20) Temporary Loadout Structure**

The temporary loadout structure is a portion of the temporary coal handling facilities for the mine. The loadout structure is a wide flange steel-framed structure on a concrete foundation system, with a 6" thick concrete pad and apron. The top of the structure supports the motor that drives the temporary loadout conveyor (see #18 above). Coal is transferred, via the temporary loadout conveyor, from the crushed coal stockpile to the top of the loadout structure, where it falls through a spreader assembly into coal haulage trucks below for delivery off-site. The temporary loadout structure is shown on Plate 5-2. At the completion of the long-term coal handling facilities' construction, the temporary loadout structure will be removed.

### **21) Temporary Crusher Conveyor**

The temporary crusher conveyor is a portion of the temporary coal handling facilities for the mine. The temporary crusher conveyor conveys coal from the temporary underground reclaim room (see #16 above) below the ROM coal stockpile to the temporary crusher / screen building (see #22 above) for sorting and crushing. The conveyor structure is a steel framework running a 48" conveyor belt. A portion of the conveyor is contained within a 9' diameter steel plate tube that extends underground to the temporary underground reclaim room (see #16 above). The temporary crusher conveyor is shown on Plate 5-2. At the completion of the long-term coal handling facilities' construction, the temporary crusher conveyor will be removed.

### **23) Temporary Crushed Coal Conveyor (48")**

The temporary crushed coal conveyor is a portion of the temporary coal handling facilities for the mine. The temporary crushed coal conveyor conveys coal from the temporary crusher / screen building (see #22 above) that has been sorted and crushed on the Upper Pad to the crushed coal stockpile on the Middle Pad. The conveyor structure is a steel framework, supported by steel bents on concrete foundations, running a 48" conveyor belt. The temporary crushed coal conveyor is shown on Plate 5-2. At the completion of the long-term coal handling facilities' construction, the temporary crushed coal conveyor will be removed.

### **24) Temporary Crusher MCC Building**

The temporary crusher MCC building is a portion of the temporary coal handling facilities for the mine. The building is the Motor Control Center (MCC) for the temporary crusher / screen building (see #22 above). The

structure is a steel plate building measuring approximately 6' by 16' by 8' tall. The electrical control for the conveyor motors and other electrical components for the temporary crusher / screen building are housed within the MCC building. The temporary crusher MCC building is shown on Plate 5-2. At the completion of the long-term coal handling facilities' construction, the temporary crusher MCC building will be removed.

### **27) Concrete Equipment Pad**

The concrete equipment pad is a portion of the temporary coal handling facilities for the mine. The pad is a 12" thick, steel reinforced concrete slab. The drive motor and take-up equipment for the temporary crushed coal conveyor (see #21 above) rest upon this concrete pad. The concrete equipment pad is shown on Plate 5-2. The concrete equipment pad will remain until final reclamation, at which point it will be buried with other concrete materials as described in the Reclamation Plan.

### **30) Existing ROM Coal Conveyor from Underground (60")**

The ROM (Run of Mine) coal conveyor from underground is a part of the temporary AND long-term coal handling facilities for the mine. The ROM coal conveyor from underground ties into the coal conveyor system within the underground mine workings to convey mined coal from the working face to the surface. The surface portion of the ROM coal conveyor measures approximately 300' long. The assembly is a steel framework, supported by steel bents on concrete foundations, running a 60" conveyor belt. The ROM coal conveyor from underground is shown on Plate 5-2. The existing ROM coal conveyor from underground will remain through the life of the mine. The alignment and elevation of the conveyor structure are such that when the long-term coal handling system is constructed, the existing ROM coal conveyor structure will be extended to the future ROM coal stacking tube as shown on Plate 8-1. The entire assembly (existing and future) will be removed upon final reclamation.

### **31) Steel Portal Canopy Structure**

A steel portal canopy structure is constructed at each portal of the mine. The canopy consists of steel wide flange posts and beams, and sheathed with steel plate. The canopy structure protects the portals (openings) to the underground workings. The canopies are constructed to meet MSHA regulations. Multiple steel portal canopy structures are utilized for the mine. The locations of the steel portal canopies are shown on Plates 5-2 and 5-2a, and in Appendix 5-9. The steel portal canopy structures will each remain throughout the life of the mine, or until its respective portal is no longer necessary and is sealed and reclaimed; whichever comes first. All remaining steel portal canopy structures will be removed during final reclamation.

**32) Concrete Conveyor Bay at Belt Portal**

The concrete conveyor bay at the belt portal is a portion of the temporary AND long-term coal handling facilities for the mine. The bay was originally used to house the belt drive for the original ROM conveyor structure, which has since been removed. The concrete conveyor bay now cradles and supports the westernmost end of the ROM coal conveyor from underground (see #30 above) at the surface. The concrete conveyor bay is shown on Plate 5-2. The concrete conveyor bay will remain in place for the life of the mine, and will be removed upon final reclamation.

**34) Mine MCC Building / Electrical Tower**

The Mine MCC (Motor Control Center) building is the main hub for electrical power running from the surface to the underground mine workings. Nearly all power to the underground mine equipment runs through this 21' by 12' by 11.5' tall, steel plate building. The Mine MCC building shares a concrete foundation with an electrical tower that is approximately 45.5' tall, and constructed of 10"x10" tube steel. The electrical tower receives overhead power lines extending from the Mine Substation (see above). Some power lines extend to the Main Mine Ventilation Fan (see #36 below), but most power runs to a transformer at the base of the tower, then into the Mine MCC Building for distribution to the underground mine workings. The Mine MCC Building, Electrical Tower and transformer all share a common poured concrete foundation. The Mine MCC Building / Electrical Tower assembly is shown on Plate 5-2. The Mine MCC Building / Electrical Tower will remain through the life of the mine, and the entire assembly and foundation will be removed upon final reclamation.

**35) Backup Ventilation Fans**

The original ventilation fans for the mine remain in-place on a concrete foundation. These fans are attached to Portal #0. When the main mine ventilation fan (see #36 below) came online, the original ventilation fans became the backup ventilation fans. The backup ventilation fans are 250 horsepower fans that will blow fresh air into the mine's underground workings in the event that the main mine ventilation fan (see #36 below) fails. The backup ventilation fans are shown on Plate 5-2. The backup ventilation fans and their respective concrete foundation will remain in-place through the life of the mine, and will be removed at final reclamation.

**36) Main Mine Ventilation Fan / Electrical Tower**

The main mine ventilation fan is a 1,500 horsepower blowing fan, located on the ledge that is the exposed top of the Sunnyside Sandstone, at the North Breakout of the underground workings. The fan's purpose is to blow fresh

air into the underground mine workings for mine personnel throughout the mine, and to ventilate all open areas within the mine. The fan blows into Portal #2 of the North Breakout. The main mine ventilation fan rests on a poured concrete foundation that it shares with a 35' tall electrical tower, similar to the electrical tower at the Mine MCC Building (see #34 above). Overhead power transmission lines (see #12 above) extend from the Mine MCC Building/Electrical tower (see #34 above) to provide power for the main mine ventilation fan. The main mine ventilation fan and associated concrete pad and electrical tower have been constructed to meet MSHA regulations and requirements. The location of the Main Mine Ventilation Fan is shown on Plate 5-2. The fan, electrical tower and concrete foundation will remain throughout the life of the mine, and will be removed upon final reclamation.

### **39) Chain Link Fencing**

Six foot high chain-link fencing has been, and will be installed as shown on Plate 5-2. The fencing will be constructed to protect the public and wildlife from the Mine Substation (see above) and along sections of County Road RS-2477, along the western edge of the permit boundary. The fencing will remain throughout the life of the mine, and will be removed upon final reclamation.

### **43) Temporary Conveyor Counterweight Structure**

The temporary conveyor counterweight structure adds weight to conveyor belts to keep them taut during operation. The Temporary Loadout Conveyor (see #18 above) and the Temporary Crusher Conveyor (see #21 above) each have a temporary conveyor counterweight structure. The structure is constructed of a steel framework that guides the counterweight for the respective conveyor. The structure rests on a 12" thick, steel reinforced concrete slab. The locations of the temporary conveyor counterweight structures are shown on Plate 5-2. Upon the completion of the long-term coal handling facilities' construction, the temporary conveyor counterweight structures will be removed.

### **44) Jersey Barrier Guard Rails**

A Jersey Barrier is a prefabricated, modular concrete barrier used to guide vehicular traffic and minimize damage in cases of incidental contact. When placed end-to-end, these barriers prevent vehicles from running off designated roadways. Jersey barrier guard rails are installed according to MSHA requirements. The locations of the jersey barrier guard rails are shown on Plate 5-2. The jersey barrier guard rails will be utilized throughout the life of the mine and will be removed upon final reclamation.

**45) Concrete Trash Chute**

The concrete trash chute is used for deposition and storage of trash until the refuse can be hauled to a nearby State-approved solid waste disposal area (landfill). The trash chute is constructed of concrete walls and floor; open at one end to allow for vehicles to dump and remove trash as necessary. Chain link fencing will be stretched horizontally across a portion of the top of the chute to prevent the wind from blowing lighter pieces of trash out of the enclosure. The location of the Concrete Trash Chute is shown on Plate 5-2. The concrete trash chute will remain through the life of the mine, and will be removed upon final reclamation.

**46) Gantry Lift Assembly**

The Gantry Lift Assembly is a stationary assembly consisting of two (2) lifting crane structures, working together to lift heavy equipment and machinery from a trailer that cannot be lifted by other equipment (i.e. a forklift or other mobile machinery). Each of the lifting crane structures is rated for forty (40) tons. A set of two poured, steel reinforced concrete footing and foundations will support the legs of both crane structures. Each footing and foundation assembly will extend approximately forty (40) feet in length. The location of the Gantry Lift Assembly is shown on Plate 5-2. The Gantry Lift Assembly will remain through the life of the mine, and will be removed upon final reclamation.

**SUPPORT FACILITIES****Mine Facilities Access Road / Truck Loadout Road**

The mine facility road, shown on Plate 5-2, begins at the edge of County Road 164 (Lila Canyon Road), and allows for access to the Lower Pad and the temporary loadout structure (see #20 above). The road has been located in the most practical location taking into consideration grade, stability, and alignment. Employees will use this road to access the office & bathhouse facilities on the Lower Pad. Coal haul trucks use this road to access the temporary truck loadout (see #20 above) on the Middle Pad. All supplies will be hauled on a short portion of this road from the Lower Pad and Storage Area Pad to the slope access road. The road is paved with crushed granite and is regularly watered with a sprinkler system in order to minimize dust and provide a good surface for heavy truck traffic, as well as facility access. The facility access road is approximately 30' wide to provide for two-lane traffic, and has the appropriate drainage controls to insure long term life and low maintenance. The road has been constructed according to the appropriate R645-534 and R645-527 regulations. The road will remain throughout the life of the mine, and will be removed upon final reclamation.

### **Rock Slopes**

Access to the underground workings of the Lila Canyon Mine is provided through two rock slopes driven from the top of the Mancos shale, sloping up to the intersection of the coal seam. One portal provides access for men, equipment and material to the mine. The second access slope contains the underground portion of run-of-mine belt line that attaches to the existing ROM Coal Conveyor from Underground at the surface (see #30 above) that transports mined coal to the run of mine stock pile at the Upper Pad. The two rock slopes incline upward at approximately 12%, from a starting elevation of approximately 6150'. The intersection of the coal seam and the rock slope takes place at approximately the 6,300 feet elevation. The lengths of the slopes were minimized by taking advantage of the coal seam dip which is approximately 12% to the east. The rock material removed from the slopes has been used as fill material for the pads of the surface facilities. The rock slope material / underground development waste contains mostly shale, sandstone and mudstone. Traces of coal may be found, but the amount is insignificant. There are no known coal seams or significant rider seams found below the Sunnyside Seam in the Lila Canyon Portal Area. The rock slope and rock slope material fill locations are shown on Plate 5-2. The rock slopes will be sealed at the portals according to MSHA regulations at the completion of mining operations, and reclaimed per the Reclamation Plan.

### **Sediment Ponds**

The sediment ponds have been designed to provide for adequate sediment protection for the project area. Surface water running off disturbed areas will be routed into the sediment ponds. The sediment ponds have been designed according to the appropriate R645 regulations, and the designs can be found in Appendix 7-4, and Plates 7-6a and 7-6b. Because the sediment ponds do not meet the requirement of 30 CFR 77.216(a), an MSHA number for the sediment ponds is not required. Sediment Pond #1 is located on the southwest corner of the property. Sediment Pond #2 is located on the northwest corner of the property. Both ponds are shown on Plate 5-2. Please refer to Chapter 7 for detailed information on drainage reporting to both ponds. Both sediment ponds will remain through the life of the mine, and will be removed during final reclamation according to the approved reclamation plan.

### **Slope Access Road / Portal Access Road**

The slope access road connects to the facility access road near the northeast corner of the Middle Pad, and follows an alignment that takes into consideration grade and direct access. The slope access road is used to provide access to the rock slopes (see above), which in-turn provides access

to the underground workings. The slope access road is used as access for all men, material and equipment needed within the mine. Since the slope access road provides for frequent access for men, equipment and materials for a period of six months or longer, the slope access road is classified as a primary road and will be paved. The slope access road has been designed, constructed, and maintained according to appropriate R645 regulations. The slope access road is shown on Plate 5-2. The slope access road will remain throughout the life of the mine, and will be removed during final reclamation.

### **New Storage Pad**

A new supply and materials storage pad will be constructed directly south of the Mine Substation (see above), but within the existing disturbed boundary line as shown on Plate 5-2. The new pad will be constructed similarly to the existing Lower, Middle and Upper Pads (see Chapter 2, Section 232.500), with a gravel covering. The new storage pad is needed so large trucks delivering and/or collecting materials and supplies will not congest the parking and supply areas already in-place on the Lower Pad, or interfere with the Mine Facilities Access Road / Truck Loadout Road (see above) and trucks preparing to load coal or loaded trucks hauling coal from the mine site. Moving the delivery trucks to the new storage pad will reduce vehicular congestion, and decrease the possibility of accidents resulting from said congestion. The new storage pad will be utilized throughout the life of the mine, and will be reclaimed per the Reclamation Plan.

### **New Storage Pad Access Road**

The new storage pad access road will extend from the Middle Pad to the New Storage Pad (see above), which lies just south the Mine Substation (see above). The new storage pad access road will be used to provide access between the two pads for mine personnel, equipment and supplies. Since the new storage pad access road will provide access for men, equipment and materials for a period of six months or longer, the new storage pad access road is classified as a primary road, and will be paved. The new storage pad access road has been designed and will be constructed and maintained according to appropriate R645 regulations. The new storage pad access road is shown on Plate 5-2. The new storage pad access road will remain throughout the life of the mine, and will be removed upon final reclamation.

### **New Storage Pad Service Road**

The new storage pad service road, shown on Plate 5-2, will begin at the edge of County Road 164 (Lila Canyon Road), and will allow for access to the new storage pad (see above) directly south of the Mine Substation (see above). The first approximately 350 feet of the new storage pad service road from County Road 164 (Lila Canyon Road) will be a reworking of the existing

County Road RS-2477. The new storage pad service road will then continue to the new storage pad (see above). The new storage pad service road will be approximately 30 feet wide and provide access for trucks to deliver and/or collect supplies, materials or equipment related to mine activities, without increasing congestion on the mine facilities access road / truck loadout road (see above). Since the new storage pad service road will provide access for men, equipment and materials for a period of six months or longer, the new storage pad service road is classified as a primary road, and will be paved. The new storage pad service road has been designed and will be constructed and maintained according to appropriate R645 regulations. The new storage pad service road is shown on Plate 5-2. The new storage pad service road will be removed during the course of construction of the long-term coal handling facilities. The portion of the new storage pad road that lies along the existing County Road RS-2477 may remain or be reclaimed. The BLM and Emery County will be consulted when appropriate, and the Division will be advised as to the course of action for the roadway (remain or be reclaimed). Access to the new storage pad (see above) will be rerouted through the new truck loadout road when the long-term truck loadout road is completed. When this happens, the existing truck loop will become the new truck loading/unloading area per Plate 8-1 for the future warehouse on the Upper Pad.

### **Topsoil Pile**

The topsoil pile has been located on the southwest end of the surface facilities. The pile has been designed to contain adequate topsoil for redistribution according to the reclamation plan found in Chapter 5. The proposed location provides for good protection from wind contamination, as well as protection from mine related activities. The location of the topsoil pile is shown on Plate 5-2. The topsoil will be redistributed across the disturbed area according to the mine reclamation plan.

### **6) Temporary Concrete Walkway**

Temporary concrete walkways have been constructed at temporary buildings, the temporary bath house (see #1 above) and temporary office trailers (see #2 above). The walkways are generally 6' wide by 4" thick. The locations of the temporary concrete walkways are shown on Plate 5-2. The temporary concrete walkways will be removed as their respective temporary buildings are removed.

### **15) Temporary Fuel Storage Tanks**

The temporary locations of the fuel storage tanks are on the Middle Pad as shown on Plate 5-2. The tanks are bulk fuel storage tanks containing gasoline or diesel fuel for mine vehicles. The tanks are supported by steel

legs above integral steel secondary containment basins. Upon completion of the long-term surface facilities' construction, the fuel tanks will be relocated to their long-term location on the Upper Pad, as shown on Plate 8-1. The fuel tanks will remain in their long-term locations for the life of the mine, and will be removed upon final reclamation.

#### **25) Diversion Weir with Slide Gates**

A weir constructed of steel-reinforced concrete will be constructed across disturbed area ditch DD-14a (see Chapter 7). The weir will support two (2) slide gates to direct surface water flow to the undisturbed culvert UC-1 or to Sediment Pond #1. During times of precipitation and/or active surface runoff within the disturbed area boundary, water flowing in ditch DD-14a will be diverted to Sediment Pond #1. Otherwise, any flowing surface water will be directed to the undisturbed culvert UC-1 and bypass the pond in accordance with the current UPDES permit. The location of the diversion weir with slide gates is shown on Plate 5-2. The diversion weir will remain throughout the life of the mine and will be removed during final reclamation.

#### **29) Sediment Pond Spillway Structure**

As shown on Plate 5-2, and in Chapter 7, Sediment Ponds #1 and #2 each have a spillway structure constructed of corrugated metal pipe to allow for surplus water to exit the respective pond. Each spillway is equipped with an oil skimmer structure. See Plates 7-6a and 7-6b for detailed drawings. The sediment pond spillway structures will remain throughout the life of the mine and will be removed during final reclamation.

#### **38) Powder and Cap Magazines**

Powder and cap magazines will be mobile, temporary, and supplied by the explosive distributor. Upon reclamation, the powder and cap magazines will be returned to the distributor.

#### **42) Temporary Loadout Light Board**

The temporary loadout light board consists of a free standing metal post pedestal with traffic control lights for the temporary loadout structure (see #20 above). The pedestal is mounted upon a steel reinforced concrete pad. The lights provide information to coal haul truck drivers as coal is loaded into their trucks at the temporary loadout structure. The temporary loadout light board location is shown on Plate 5-2. Upon the completion of the long-term coal handling facilities' construction, the temporary light board and concrete support pad will be removed.

#### **Long-Term Underground Pipes**

The locations of the long-term underground pipes have yet to be determined.

Once detailed engineering design is completed, the underground pipes will be added to Plate 5-2, or other appropriate plates as required. Long-term underground pipes will be abandoned and left in place upon final reclamation.

### **Culverts**

A complete list and design for the culverts can be found in Appendix 7-4, Tables 9 and 10; and are shown on Plate 7-5. A summary of the culverts follows:

| <u>Culvert</u> | <u>Length</u> | <u>Size</u> |
|----------------|---------------|-------------|
| DC-1           | 72'           | 24"         |
| DC-2           | 60'           | 18"         |
| DC-3           | 65'           | 18"         |
| DC-4           | 400'          | 24"         |
| DC-5           | 350'          | 24"         |
| DC-6           | 107'          | 24"         |
| DC-7           | 155'          | 24"         |
| DC-8           | 167'          | 24"         |
| DC-9           | 186'          | 24"         |
| DC-10          | 60'           | 24"         |
| DC-11          | 101'          | 24"         |
| DC-12a         | 140'          | 24"         |
| DC-12b         | 79'           | 24"         |
| DC-12c         | 357'          | 24"         |
| DC-12d         | 9'            | 24"         |
| DC-13          | 60'           | 24"         |
| DC-14          | 40'           | 24"         |
| DC-15          | 45'           | 18"         |
| DC-16          | 25'           | 18"         |
| DC-17          | 120'          | 18"         |
| DC-18          | 27'           | 18"         |
| SP2-1          | 165'          | 18"         |
| UC-1           | 480'          | 60"         |

As per the approved Air Quality Order and R645-201-534.300, all primary roads will be paved or surfaced with rock, crushed gravel, asphalt or other approved material. Roads and pad areas used by mobile equipment will be treated with water or other dust suppressant. Open stockpiles will be watered as conditions warrant.

- 521.** Included in this section are maps, cross sections, narratives, descriptions and calculations used to satisfy the relevant requirements. This section describes and identifies the lands subject to coal mining and reclamation operations covering the estimated life of the project.

**521.100** This application includes the cross sections, maps and plans needed to present the relevant information required by the Division. This information includes the following:

**521.110.** Plate 5-1 Shows area previously mined and approximate dates of mining.

**521.111** Plates 5-1 and 2-2 show the location and extent of known workings of inactive, or abandoned underground mines. The surface portals or mine openings to the surface are shown. Plates 5-1 and 2-2 have been prepared and certified by or under the direction of a registered professional engineer.

Doelling lists several coal mines and mining activity within or adjacent to the permit area. Doelling lists the Calkins prospect, the Lila Canyon prospect, and the Prentiss prospect. In addition, Doelling lists several coal mines: Prentiss, Utah Blue Diamond, Blue Diamond and Heiner Mines. The research has shown that the Prentiss, Utah Blue Diamond, Blue Diamond and Heiner Mines were engulfed by the Book Cliffs mine. The Lila Canyon prospect refers to the old Lila Canyon mine fan portals used to ventilate the Geneva (Horse Canyon) mine. The Calkins prospect is believed to have been engulfed by the Geneva mine.

An outcrop fire has been detected in an area north of the exiting permit area "A." The fire is off the permit area and located in an area that has been sealed from the old horse canyon works. The outcrop fire is not anticipated to cause any problems with mining at the Lila Canyon Mine.

**521.112** No surface mined areas are found within the permit area. Therefore, this section does not apply.

**521.120** Three existing structures, a 48" and a 60" CMP culvert

located near the new proposed sediment pond, and the Little Park Road can be found at the Lila Canyon Mine. The existing culverts are shown on plate 5-1A and the road on Plate 5-1. Existing Horse Canyon facilities are discussed in part "A" of this plan, and used for historical purposes only.

- 521.121** There are no buildings within 1000 feet of the proposed permit area, except those used as a part of the Lila Canyon mining operation.
- 521.122** There are no subsurface man-made features, other than the culverts discussed in 521.200, within, passing through, or passing over the proposed permit area.
- 521.123** Plate 4-1, as well as others, shows the existing County Road 126 which is located partly within 100 feet of the proposed permit area. In addition, the Little Park road is located above the surface facilities within the permit area. The Little Park Road is also shown on plate 4-1
- 521.124** There are no known existing areas of spoil, waste, coal development waste, or non-coal waste disposal, dams, embankments, other impoundments, and water treatment and air pollution control facilities, except those used as part of the mining operation.
- 521.125** There are no existing sedimentation ponds, permanent water impoundment, coal processing waste banks or coal processing waste dams near or within the permit area.
- 521.130** Landowner and right of entry maps are included in the permit application. These maps and cross sections show the following:
- 521.131** Plate 4-1 shows the surface ownership and Plate 5-4 shows the coal ownership of land included in or contiguous to the permit area.

- 521.132** The applicant has the legal right to enter and begin coal mining and reclamation operations on all areas shown within the permit area. The permit area is shown on Plates 5-3 and 5-4 as well as others.
- 521.133** Coal mining or reclamation operations are planned within 100 feet of a public road. There are no plans to relocate public roads.
- 521.133.1** Emery County has given permission to conduct coal mining or reclamation operations within 100 feet of the county road. (See Appendix 1-4)
- 521.133.2** The current permit does not propose any relocation of public roads. Therefore, this section is not applicable.
- 521.140** Mine maps and permit area maps and/or cross-sections will clearly indicate the following:
- 521.141** Plate 5-1 shows the permit boundary and Plate 5-2 shows the disturbed area boundary. Additional subareas that might require additional permits are addressed in Section 112.800 and 4-1B.
- 521.142** The underground workings are shown on Plate 5-5.
- 521.143** The proposed disposal site for placing the slope rock is shown on Plate 5-2 as well as other appropriate plates.
- 521.150** Plates 6-2, 6-3, and 6-4, show surface contours that represent the existing land surface configuration of the proposed permit area.
- 521.151** The Plates show the surface contours for all areas to be disturbed as well as over the total permit area. The Plates showing the surface contours have been prepared by or under the supervision of a registered engineer.

- 521.152** No previously mined areas are included within Part "B." Therefore, this section does not apply.
- 521.160** The maps, plates, and cross sections associated with this chapter clearly show:
- 521.161** Proposed buildings, utility corridors, and facilities are shown on Plates 5-2 and 8-1, as well as others.
- 521.162** The area of land affected according to the sequence of mining and reclamation is shown on the appropriate plates.
- 521.163** Land for which a performance bond will be posted is shown on the appropriate plate. Plates 5-2 and 8-1, as well as others, show the area for which the performance bond will be posted. All disturbed areas within the permit boundary have been bonded.
- 521.164** Existing coal storage and loading areas are shown on Plates 5-2 and certified as required. Future coal storage and loading areas are shown on Plate 8-1 and certified as required. Additional information can be found in Appendix 5-4.
- 521.165** Topsoil and waste piles are shown on Plate 5-2, as well as others.
- 521.166** The waste disposal areas are shown for non-coal waste and underground mine waste on Plate 5-2.
- 521.167** No explosives are expected to be stored on-site. However, if explosives are stored, they will be stored as discussed in Section 520. on Plate 5-2.
- 521.168** Since Lila Canyon mine is an underground operation, this paragraph is not applicable.
- 521.169** The refuse pile is shown on Plate 5-2 and discussed in Appendix 5-7.

- 521.170** Transportation facility maps describing roads and conveyors maintained within the permit are shown with descriptions of roads, embankments, culverts, and drainage structures are presented in section 520 and are shown on Plates 5-2, 7-2, and 7-5.
- 521.180** Support facilities are described in section 520 and are shown on Plate 5-2. Plate 5-2 is the official disturbed area boundary map.
- 521.190** Other relevant information required by the Division will be addressed.
- 521.200** Signs and markers will:
- 521.210** Signs and markers will be posted maintained, and removed by the person who conducts the coal mining and reclamation operations.
- 521.220** Signs and markers will be of uniform design that can be easily seen and read and be made of durable material and conform to local laws and regulations.
- 521.230** Signs and marker will be maintained during all activities to which they pertain.
- 521.240** Mine and Permit Identification Signs.
- 521.241** Mine and permit identification signs will be displayed at each point of access from public roads to areas of surface operations and facilities on permit areas.
- 521.242** Since Lila Canyon Mine is an underground operation, this section is not applicable.
- 521.243** Mine and permit identification signs, where required, will show the name, business address, and telephone number of the permittee and the identification number of the permanent program permit authorizing coal mining and reclamation operations.
- 521.244** Mine and permit identification signs will be retained and maintained until after the release of

all bonds for the permit area.

**521.250** Perimeter Markers

**521.251** The perimeter of all areas affected by surface operations or facilities before beginning mining activities will be clearly marked with perimeter markers.

**521.252** Since Lila Canyon Mine is an underground operation, this section is not applicable.

**521.260** Buffer Zone Markers

**521.261** Signs will be erected to mark buffer zones as required and will be clearly marked to prevent disturbance by surface operations and facilities.

**521.262** Since Lila Canyon Mine is an underground operation, this section is not applicable.

**521.270** Topsoil Markers will be erected to mark where topsoil or other vegetation-supporting material is physically segregated and stockpiled.

**522. Coal Recovery**

Additional Details can be found in the R2P2 on file at the BLM Office.

Effective barrier and pillar designs are essential for safe and productive underground mining. Barrier pillars will be sized according to accepted engineering practices. One or more of the following methods may be used to properly size barrier pillars: Dunn's Rule, the Old English Barrier Pillar Law, Pennsylvania Mine Inspector's Formula, Ash and Eaton Impoundment Formula, Pressure Arch Method, British Coal Rule of Thumb, North American Method, Holland Rule of Thumb, or Holland Convergent Method.

Regardless of the methods or care taken to properly size barrier pillars, the true effectiveness on any design can only be determined by conducting full-scale in-mine performance evaluations. Mine experience and history in the local area will have as much influence on pillar sizes as does the engineering formulas.

Barrier pillars will be utilized to isolate the abandoned Horse Canyon Mine

from the new Lila Canyon Mine. Barrier pillars will also be used to simplify ventilation, to provide independent escape routes, and to possibly retain large quantities of mine water. Barrier pillars will be employed along the outcrop in order to maintain ventilation courses.

A barrier pillar, where no second mining will be allowed within the barrier, will be used to protect the escarpments. The width of the escarpment barrier will be determined by implementing a 21.5° angle of draw projected, downward from the surface to the coal seam. Development mining, or first mining, will be allowed within the escarpment barrier.

For longwall mining applications, the abutment loading is of prime importance. Initial longwall pillars will be designed using the ALPS method. Again, mine experience and history in the local area will have as much influence on pillar sizes as does the engineering formulas.

Mine pillars will be sized taking into consideration the coal strength, depth of cover, width and height of pillars, using one or more of the following methodologies: Obert-Duvall, Holand-Graddy, Holland, Salamon-Munro, or Bieniawski. Again, mine experience and history in the local area will have as much influence on pillar sizes as does the engineering formulas.

### **523. Mining Methods:**

Mining will begin in Section 15, T16S, R14E, in the Sunnyside seam. Development of the Sunnyside seam will be in a down dip direction toward the east. The seam will be accessed by two 1,200 foot slopes driven up at 12% from the base of the cliffs.

Production during the first year is estimated to be 200,000 tons. The second through the fifth year production should be between 1,000,000 and 1,500,000 using continuous mining methods. If and when tonnage demand increases to justify longwall mining, production could peak as high as 4,500,000 tons a year and continue at that level for the life of the mine.

Mine production will begin with the slope construction. Once the coal is encountered, development will continue using continuous miners and various haulage types. Battery, cable, or continuous haulage may be used in conjunction with continuous miners in development. Continuous miners will account for all the production during the first two to five years. Mining will consist of driving mains, developing room and pillar panels and gate entries for future longwall mining.

The majority of the second mining will be performed using longwall equipment. However, in isolated areas room and pillar type of mining may be used in areas not suitable for longwall mining. Longwall panels are sited approximately parallel lengthwise to the strike with a slight up dip orientation to provide drainage for the development faces. This practice will be applied to the continuous miner panels wherever possible. (See plate 5-5)

Roof control and ventilation plans will be submitted to MSHA and approved prior to any underground mining activities.

An air quality permit from the State Division of Air Quality has been obtained and will be modified as needed.

Ventilation of the mine will be by an exhaust and/or blowing type system. It has been estimated that 900,000 cfm will be required at full production. Intake air will be supplied by slopes and entries from the surface.

A water supply system will be installed. Potable water from an approved source will be hauled by truck and stored in a mine site storage tank located near the man and coal slope portals. Alternative sources for potable water are being considered. A treatment plant may be indicated. Process water will be hauled from the Price River or other approved source by truck and stored in another mine site storage tank. It is anticipated that once the old two entry development panel is encountered, adequate process water may be obtained from the old works. This process water will provide for dust control, water to the mine and fire suppression. Mine water will be used with the process water. See Appendix 7-3 (PHC) for water usage calculations.

Dust suppression will be accomplished by the use of sprays on all underground equipment as required. Sprays will also be used along sections of the conveyors and at transfer points.

No major de-watering concerns are anticipated at this property. The workings are expected to produce some water with more water being produced as the depth of mining increases. Part of this water will be used for dust suppression. The remainder will be collected in sumps and pumped to mined out sections of the mine or to the surface and treated when necessary.

Underground mining equipment to be used at Lila Canyon is typical of most room-and-pillar and longwall mines. A list of major equipment which may be used underground is listed below. Additional equipment not on the list may be used as needed.

Continuous Miners  
Roof Bolters  
Battery Shuttle Cars  
Electric Shuttle Cars  
Diesel Ram Cars  
Feeder Breakers  
Continuous Haulage Units  
Battery Scoops  
Diesel Scoops  
Diesel Service Vehicles  
Diesel Material Haulers  
Diesel  
Belts and Terminal Groups  
Battery and Diesel Man Trips  
Longwall Shields  
Longwall Pan-lines  
Longwall Shears  
Longwall Stage-loaders  
Longwall Pumps  
Various Water Pumps  
Various Transformers and Switches  
Rock Drills  
Loaders

- 523.100** No Surface Coal Mining and Reclamation Activities are proposed to be conducted within the permit area within 500 feet of an underground mine. Therefore, this section is not applicable.
- 523.200** No Surface Coal Mining and Reclamation Activities are proposed with 500 feet of an underground mine. Therefore, this section is not applicable.
- 523.210** No Surface Coal Mining and Reclamation Activities are proposed to be conducted within the permit area within 500 feet of an underground mine. Therefore, this section is not applicable.
- 523.220** No Surface Coal Mining and Reclamation Activities are proposed to be conducted within the permit area within 500 feet of an underground mine. Therefore, this section is not applicable.

- 524. Blasting and Explosives:** Surface blasting activities incident to underground coal mining are planned for the Lila Canyon mine during construction of the access slopes only.
- 524.100** Steps have been taken to achieve compliance with the blaster certification program and are described in this permit application.
- 524.110** Surface blasting involving 5 lbs. of explosives or more will be done under the direction of a certified blaster.
- 524.120** Blasting certificates will be carried by the blasters or will be on file at the permit area during blasting operations.
- 524.130** The blaster and at least one other person will be present at the firing of a blast.
- 524.140** Persons responsible for blasting operations at a blasting site will be familiar with the blasting plan, if required, and site-specific performance standards and give on-the-job training to persons who are not certified and who are assigned to the blasting crew or assist in the use of explosives.
- 524.200** Since the planned blasting does not meet the requirements of 524.211 or 524.212, a blast design is not included in the permit application. If, in the future, blasting falls under section 524.200, then a plan will be submitted to Division for approval.
- 524.210** Since the planned blasting does not meet the requirements of 524.211 or 524.212, anticipated blast designs are not required.
- 524.300** Since planned blasting requires more than 5 lbs. of explosives, the preblasting survey is addressed where applicable in this permit application.
- 524.310** There are no dwellings or other structures located within one-half mile of the permit area owned by anyone but the operator. The operator will prepare the preblast survey if required. Notification procedures implied in this section are not applicable.

- 524.320** Since the operator is the only owner of structures and no dwelling exists within one-half mile of any part of the permit area, this section is not applicable.
- 524.330** Because the operator is the only owner of structures or dwellings within one-half mile of any part of the permit area, this section is not applicable.
- 524.340** Because the operator is the only owner of structures or dwellings within one-half mile of any part of the permit area, this section is not applicable.
- 524.350** Because the operator is the only owner of structures or dwellings within one-half mile of any part of the permit area, this section is not applicable.
- 524.400** The blast schedule is as follows:
- 524.410** Since there are no residents within one-half mile of the projected blasting site, this section does not apply.
- 524.420** All surface blasting will be conducted between sunrise and sunset, unless nighttime blasting is approved by the Division.
- 524.430** Since there are no residents within one-half mile of the projected blasting site, this section does not apply.
- 524.440** Since there are no residents within one-half mile of the projected blasting site, a flexible blasting schedule is allowable. Surface blasting may take place anytime during daylight hours, unless approved differently by the Division.
- 524.450** Because of the remote location of the Lila Canyon Mine, over six miles from the nearest locality (Columbia), this section does not apply.
- 524.460** Since the town of Columbia is the nearest locality and is over six miles distance from the permit area, this section does not apply.
- 524.500** The blasting signs, warnings and access control are described below.

- 524.510** Blasting signs will meet the specifications of R645-301-521.200. The following will apply.
- 524.511** Signs reading “Blasting Area” will be conspicuously placed at the point where any road provides access to the blasting area.
  - 524.512** The signs posted at all entrances to the permit area from public roads, or highways will be placed in a conspicuous location and will state “Warning! Explosives in Use,” and will clearly list and describe the meaning of the audible blast warning and all clear signals that are in use.
- 524.520** Audible warning and all-clear signals of different character or pattern will be given. Each person within the permit area will be trained in the meaning of the signals.
- 524.530** Access within the blasting area will be controlled until the operator has reasonably determined the following:
- 524.531** No unusual hazards, such as imminent slides or undetonated charges, exist; and
  - 524.532** Access to and travel within the blasting area can be safely resumed.
- 524.600** Adverse blasting effects are described as follows:
- 524.610** Blasting will be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel, or availability of surface or ground water outside the permit area.
  - 524.620** Airblast Limits
    - 524.621** Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, this section does not apply.

- 524.622** Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, this section does not apply.
- 524.630** Monitoring: Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, this section does not apply.
- 524.640** Ground Vibration: Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, this section does not apply.
- 524.650** Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, this section does not apply.
- 524.660** Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, this section does not apply.
- 524.670** Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, this section does not apply.
- 524.680** Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, this section does not apply.
- 524.690** Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, sections 524.620 through 524.632 and 524.640 through 524.680 do not apply.
- 524.700** Records of blasting operations will be maintained at the mine site for at least three years, and will be available for inspection by the Division or the public.

- 524.710** Blasting records will include:
- 524.711** The name of the operator will be on the blasting record.
- 524.712** The location, date, and time of the blast will be recorded on the blasting record.
- 524.713** The name, signature, and certification number of the blaster will be recorded on the blasting record.
- 524.720** Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, this section does not apply.
- 524.730** Weather conditions will be recorded on the blasting record.
- 524.740** A record of the blast will include the following:
- 524.741** The type of material blasted will be recorded on the blasting records.
- 524.742** Sketches of the blast pattern including number of holes, spacing, burden, decks, and delay pattern will be recorded on the blasting record.
- 524.743** The diameter and depth of holes will be recorded on the blasting record.
- 524.744** The type of explosives used will be recorded on the blasting record.
- 524.745** The total weight of the explosives used per hole will be recorded on the blasting record.
- 524.746** The maximum weight of explosives detonated in an eight-millisecond period will be recorded on the blasting record.
- 524.747** Information on the initiation system will be recorded on the blasting record.

**524.748** The type and length of the stemming will be recorded on the blasting record.

**524.749** Mats or other protections used will be recorded on the blasting record.

**524.750** Since all structures are either owned by the permittee and not leased to another person, or are located over six miles distance from the permit area, a record of seismographic and airblast information is not required.

**524.760** Since a blasting schedule is not required, this section does not apply.

**524.800** The operator will comply with the various appropriate State and Federal laws and regulations in the use of explosives.

**525. Subsidence:** The permittee will comply with the appropriate R645-301-525 requirements.

#### **525.100** Subsidence Control Plan

**525.110** Plate 5-3 shows the location of State appropriated water and Plate 5-3 (Confidential) shows the eagle nests that potentially could be diminished or interrupted by subsidence.

#### **525.120 SUBSIDENCE POTENTIAL**

A review of renewable resources in and adjacent to the permit area found resources consisting of ground water, grazing, timber, and recharge areas. Subsidence from underground coal mines has been believed to affect overlying forest and grazing resource lands in the following ways:

- o Formation of surface fissures which intercept near surface soil moisture thus draining the water away from the root zone with deleterious effects.
- o Alterations in ground slope and destabilization of critical slopes and cliffs.

- o Modification of surface hydrology due to the general downward migration of surface water through vertical fractures.
- o Modification of groundwater hydrology including connection of previously separated aquifers, reduction in flows of seeps and springs which rely upon tight aquitards for their flow, and changes in recharge mechanisms.
- o Emissions of methane originating from the coal seam through open fissures to the surface or at least the base of the surficial soil which has been known to have deleterious effects on woody plants.

Because these renewable resources exist with and adjacent to the permit area, a subsidence control plan is required. This plan is presented in Section 525.400.

A great deal of baseline data is available from many mining settings to develop subsidence damage criteria for surface structures (Bhattacharya et al. 1984). The formation of cracks and fissures are the general effects of subsidence and can have minor deleterious effects on groundwater resources without any fissuring to the surface. In the arid areas of Utah, impacts to and modification of the groundwater regime can be disruption of flow from natural seeps and springs which rely on the permeability contrast of interbedded sandstones and shale for their flows. These water resources are generally near surface occurrences and are essentially surface waters and subject to the same limiting damage criteria as surface water bodies. Subsidence damage to surface water bodies has been studied by a number of workers including Dunrud (1976), Wardell and Partners (1976), and U.S. Bureau of Mines (1977). The result of the Wardell and Partners studies of subsidence effects in a number of countries indicates that the limiting strain for the onset of minor impacts to surface waters is approximately  $5 \times 10^{-3}$ . The SME Mining Engineering Handbook also suggests a limiting extension strain value of  $5 \times 10^{-3}$  for pasture, woodland, range or wildlife food and cover.

Table 10.6.19 in the Mining Engineers Handbook suggests that the minimum safe cover required for total extraction of the coal resources under surface waters is approximately 60 times the

seam thickness for coal beds at least 6 feet thick or approximately 450 feet. In their review of the foregoing, Singh and Bhattacharya (1984) recommended that the same limiting safe strain values and cover thickness ratios be used for protecting groundwater resources and recharge areas over coal mines. Where extension strain is greater than this limiting value, it is likely that surface fissures and cracks may develop. As the strain value decreases below the limiting value, the potential for surface damage decreases.

Figure 1 in Appendix 7-3 shows a typical subsidence profile. As shown in Figure 1, the zones are: a caved zone that occurs in the six to 10 times the thickness of the coal seam, a fractured zone which occurs 10 to 30 times the thickness of the coal seam, and deformation zone which occurs 30 to 60 times the thickness of the coal seam, and finally, a soil zone which occurs on the ground surface. The cover thickness of 1,000 to over 2,000 feet, over most of the mine area is also much greater than the limiting thickness of 630 feet recommended by International Engineers Inc. (1979) (10.5' x 60).

The Lila Canyon mine will be a longwall operation. As projected, 15 longwall panels at various depths will be mined. The longwall panels are laid out with the gate roads running along the strike roughly north-south, which will result in the longwall shear cutting up and down the dip. The depth of cover over the longwall panels approaches but never gets less than 500 feet toward the southwest and increases to over 2500 feet in the northeast. Only three of the 13 planned longwall panels are under less than 1,000 feet of cover. The remaining 10 panels are under 1,000 plus feet of cover. Maximum subsidence is expected to be approximately 9.5 feet in the areas approaching 500 feet of cover and less than 3' in the deeper cover areas. Extension strain varies from  $12.4 \times 10^{-3}$  in the 500 foot cover areas to  $.9 \times 10^{-3}$  in the 2,500 foot cover areas. Extension strain values of  $5.0 \times 10^{-3}$  and above occurs in areas of approximately 1000' of cover and less.

A typical longwall panel at the Lila Canyon Mine will have dimensions of approximately 950 feet wide and up to 7,000 feet long and 2,000 feet deep. Using the methods described in the National Coal Board's *Subsidence Engineers' Handbook*,

the S/m ratio for this geometry would be 0.38 where "S" is the maximum subsidence and "m" is the seam extraction thickness. For an average seam extraction thickness of 10.5 feet, the total subsidence would be 4.0 feet. However, as described above, the major impacts of this subsidence are due to extension strains and not total vertical subsidence. The prediction of average extension strain is accomplished with the use of the formula:

$$+E = 0.75 S/h \text{ where } S=\text{subsidence, and } h=\text{depth of cover}$$

**NOTE:** The .75 factor is only an average. The factor changes with various w/h ratios. Figure 15 found in NCB's Subsidence Engineers Handbook takes into account the w/h ratio.

The solution of this equation for the Lila Canyon Mine configuration discussed above produces a predicted, average extension strain of  $1.5 \times 10^{-3}$  which is less than the limiting strain of  $5 \times 10^{-3}$  for protecting surface waters, groundwater sources, pasture, woodland, range or wildlife food and cover. Thus, it is unlikely that the gradual compression expected over much of the subsidence area will have any deleterious effects on the overlying renewable surface resources.

The table below shows the expected subsidence amounts and expected extension strain for longwall panels at various mining depths. These calculations were done for a flat multiple seam mining. There are adjustments for single seam mining and for dipping seams. However, these adjustments are minor and are not expected to result in significant changes in values.

**Maximum Subsidence  
& Expected Extensive  
Strain (NCB 1975)**

|               |      |        |
|---------------|------|--------|
|               | Feet | Meters |
| Panel Width = | 900  | 274    |
| Seam Height = | 10.5 | 3      |

| Depth of Cover |               | Width to Depth<br>(a) | Maximum<br>Subsidence(S) |               | Factor<br>NCB Fig.<br>15 | Extension<br>Strain (E) |
|----------------|---------------|-----------------------|--------------------------|---------------|--------------------------|-------------------------|
| <u>Feet</u>    | <u>Meters</u> | <u>Ratio</u>          | <u>Feet</u>              | <u>Meters</u> | <u>Factor</u>            | <u>x 10<sup>3</sup></u> |
| 500            | 152           | 0.9                   | 9.5                      | 2.9           | .65                      | 12.4                    |
| 1000           | 305           | 0.75                  | 7.9                      | 2.4           | .66                      | 5.2                     |
| 1100           | 335           | 0.71                  | 7.5                      | 2.3           | .68                      | 4.6                     |
| 1200           | 366           | 0.68                  | 7.1                      | 2.2           | .70                      | 4.1                     |
| 1300           | 396           | 0.65                  | 6.8                      | 2.1           | .70                      | 3.7                     |
| 1400           | 427           | 0.59                  | 6.2                      | 1.9           | .75                      | 3.3                     |
| 1500           | 457           | 0.54                  | 5.7                      | 1.7           | .78                      | 3.0                     |
| 2000           | 610           | 0.38                  | 4.0                      | 1.2           | .82                      | 1.6                     |
| 2500           | 762           | 0.28                  | 2.9                      | 0.9           | .80                      | 0.9                     |

The most favored technique until recently has been the use of the empirical charts developed by the National Coal Board (NCB). The above calculations were obtained using the empirical charts developed by the National Coal Board (NCB). Comparisons, as stated in the SME handbook, of US subsidence data with NCB predictions highlight the following differences between coalfields in the US and UK: Most of the studies in the US are limited to the Eastern US coalfields with a very limited data base applicable to western conditions.

With the exception of Illinois, maximum subsidence factors observed in US coalfields are less than predicted by NCB.

The limit (draw angles in the US coalfields tend to be less than the 35 degree value generally accepted by NCB.

The points of inflection of the subsidence profiles over US coal mines are generally closer to the panel centerline compared to the NCB profile. This effect is dependent not only on the percentage of competent strata in the overburden but also on their locations relative to the ground surface and their thickness.

Surface strains and curvatures observed over US longwall panels have been shown to be significantly higher than NCB predictions, almost four times larger in many cases.

The pace at which subsidence occurs depends on many controls including the type and speed of coal extraction, the width, length and thickness of the coal removed, and the strength and thickness of the overburden. Observations of subsidence by Dunrud over the Geneva and Somerset Mines indicate that subsidence effects on the surface occurred within months after mining was completed, and the maximum subsidence was essentially completed within 2 years of the completion of retreat mining.

Dr. Roy Sidle found in his study of Burnout Creek that subsidence impacts to streams are temporary and self healing.

The Sidle Study is representative of the conditions found in the Lila area because:

- the lithology is very similar between the Book Cliffs and the Wasatch Plateau
- the cover thickness ranges from 600 - 800 feet which falls within the range expected at Lila, and
- the seam thickness of 8-10 feet is in the same range expected at Lila.

An Executive Summary of his study and published findings follows:

**Title : Stream response to subsidence from underground coal mining in central Utah**

5. Authors: Sidle-RC Kamil-I Sharma-A Yamashita-S

Short-term geomorphic and hydrologic effects of subsidence induced by longwall mining under Burnout Creek, Utah were evaluated. During the year after longwall mining, 0.3-1.5 m of subsidence was measured near impacted reaches of the mountain stream channel. The major channel changes that

occurred in a 700-m reach of Burnout Creek that was subsided from 1992 to 1993 were: extent glides; (2) increases in pool length, numbers and volumes; (3) increases in median particle diameter of bed sediment in pools; and (4) some constriction in channel geometry. Most of the changes appeared short-lived, with channel recovery approaching pre-mining conditions by 1994. In a 300-m reach of the South Fork drainage that was subsided from 1993 to 1994, only channel constriction was observed, although any impacts on pool morphology may have been confounded by heavy grazing in the riparian reaches during the dry summer of 1994. Similar near-channel sedimentation and loss of pool volume between 1993 and 1994 were noted throughout Burnout Creek and in adjacent, unmined James Creek. Subsidence during the 3-year period had no effect on baseflows or near-channel landslides.

No major impacts of subsidence to the surface, caused by the underground mining methods proposed during the permit term are anticipated.

The coal seam is approximately 12.5 feet thick with only about 10.5 feet being extracted, and the depth of cover ranges from 0' to approximately 2,500'. The rocks overlying the coal seam are sandstones and mudstones with some thin bands of coal. Due to the strength of the overburden, and depth of workings, even with full seam extraction, only minimal subsidence, if any, is anticipated.

Some surface expressions of tension cracks, fissures, or sink holes may be experienced, but should be insignificant. The chances of subsidence-related damage to any perceived renewable resource is minimal.

All dirt roads above the mine are in areas in excess of 1,000 feet of cover or in areas where mining will not take place. The chance of subsidence negatively effecting these dirt roads is minimal. However, in the unlikely event that cracks, fissures or sink holes are observed as a result of subsidence, the road will remain accessible by regrading and filling in the cracks, fissures or sinkholes.

The unnamed ephemeral channel in the southwest corner of the permit area is located in an area where no mining is planned or over the top of a bleeder system that will not be second mined. The chance of subsidence negatively effecting this ephemeral channel is minimal. However, in the unlikely event that cracks, fissures or sink holes are observed as a result of subsidence the channel will be regraded and the cracks, fissures or sinkholes will be filled in by hand methods due to its inaccessibility.

A small portion of Little Park Wash, which is ephemeral, has less than 1,000 feet of cover in the southwest corner of the permit area. The portion with less than 1,000 feet of cover runs diagonally across one longwall panel and then parallel to the bleeder system in the second longwall panel. In the unlikely event that cracks, fissures or sink holes are observed as a result of subsidence the channel will be regraded and cracks, fissures or sinkholes will be filled in. Since this stream channel is accessible and is traversable by 4 wheel drive, access for repairs would not be a problem. If any subsidence repairs cannot be fixed using hand methods, small earth moving equipment could be used.

DWR and BLM Wildlife Biologists, in consultation with the Division, have determined that any loss of snake dens to subsidence would be random and a minor impact to the population of snakes.

**525.130**

A survey was conducted within the proposed permit area and adjacent area and it was determined that limited renewable resource lands exist within the area surveyed. Limited areas were found which contribute to the long-range productivity of water supply or fiber products. No structures exist within the permit area in which subsidence, if it occurred, could cause material damage or diminution for reasonably foreseeable use. See Plates 5-5 and 5-3 for areas of potential subsidence. Identification and data for the State appropriated water supplies can be found in chapter 7 section 727.

All State Appropriated water rights within the maximum limit of subsidence that could be affected, are either owned by the Operator or by the BLM. The BLM has been notified of the water rights survey by means of the submittal of the permit application.

According to Mark Page (State Water Rights), there is not a water conversation district associated with Lila Canyon Mine.

#### **525.200. Protected Areas**

**525.210.** Since there are no public buildings or other facilities such as churches, school or hospitals, and since there are no impoundments with a storage capacity of more than 20 acre-feet, this section does not apply.

**525.220.** Since R645-301-525.210 does not apply, this section does not apply.

**525.230.** Since there are no planned operations under urbanized areas, cities, towns, and communities, or adjacent to industrial or commercial buildings, major impoundments, or perennial streams this section does not apply.

**525.240.** A detailed plan of the underground workings, including maps and descriptions of significant features of the underground mine, including the size, configuration, and approximate location of pillars and entries, extraction ratios, measures taken to prevent or minimize subsidence and related damage, and areas of full extraction can be found in the R<sup>2</sup>P<sup>2</sup> on file with the BLM local and state offices.

**525.300.** Subsidence control.

**525.310.** Measures to prevent or minimize damage.

**525.311** No attempt will be made to prevent subsidence in any area except where the escarpment near the outcrop is to be protected and to insure that subsidence remains within the permit area. The

use of continuous miners in a pillar section as well as longwall technology provides for planning subsidence in a predictable and controlled manner. Some surface expressions of tension cracks, fissures, or sink holes may be experienced but should be insignificant. The chances of subsidence related damage to any perceived renewable resource is minimal. The value and foreseeable use of the surface lands will not be affected by potential subsidence.

**525.312** Since there are no buildings or occupied residential dwellings or structures within the Lila Canyon project area this section does not apply.

**525.313** Room-and-pillar mining in addition to longwall methods will be used at the Lila Canyon Mine.

**525.400.** Since state-appropriated water supplies exist on the surface, 525.400 has been addressed.

**525.410** Coal will be removed using a combination of continuous miner and long wall methods as described in sections 522 and 523. Sequence and timing for the development of underground workings are also discussed in sections 522 and 523.

**525.420** Plate 5-5 shows the underground workings, and depicts areas where first mining or partial mining will be utilized to protect the escarpment and raptor nests that may exist on the escarpment, and to insure that subsidence remains within the permit area. State-appropriated water rights are shown on Plates 5-3, 5-5 as well as Plate 7-1.

**525.430** No major impacts of subsidence to the surface caused by the underground mining methods proposed during the permit term are anticipated.

The coal seam is approximately 12.5 feet thick with only about 10.5 feet being extracted, and the depth of cover ranges from 0' to approximately 2,300'. The rocks overlaying the coal seam are sandstones and mudstones with some thin bands of coal. Due to the strength of the overburden and depth of workings, even

with full seam extraction, only minimal subsidence, if any, is anticipated.

**525.440**

Aerial subsidence monitoring will be done annually while the significant subsidence is taking place. The subsidence monitoring will be initiated in an area prior to any 2<sup>nd</sup> mining being done within that area. Initially a 200 foot grid along with baseline photograph will be established prior to any 2<sup>nd</sup> mining. Approximately 12-16 control points will be needed to cover the total mining area. Six of these points will be located outside of the subsidence zone. The accuracy of this survey will be plus or minus 6" horizontally and vertically. From this data a map will be created that will show subsided areas. Once per year a follow up aerial will be performed to determine the extent and degree of active subsidence. Subsidence monitoring will continue for a minimum of 5 years after the mining ceases. If at the end of the 5 year period the annual subsidence in any of the 3 prior years measures more than 10 percent of the highest annual subsidence amount, subsidence monitoring will continue until there are 3 consecutive years where the annual subsidence amount is less than 10 percent of the highest annual subsidence amount. If for three years in a row the subsidence is measured to be less than 10% of the highest subsidence year, subsidence will be determined to be complete, and no additional monitoring for that area will be required.

“A ground survey of the mine permit area ‘where secondary extraction has occurred over the last year’ will be conducted in conjunction with the quarterly water monitoring program.” Identified features will be monitored until they are repaired or self-healed. The survey will be conducted on roads, adjacent to stock watering ponds, and in drainage channels where they cross tension areas relative to the underground extraction areas.”

“The results of this survey will be documented quarterly in a written report which provides global positioning coordinates as well as the following information;

- A) a description of the identified subsidence related feature,
- B) length, and width measurements, and compass bearing,
- C) dated photographic documentation,
- D) located on a topographic overlay map of the underground disturbed area.
- E) if the feature is determined as significant, the Division will be notified within a 48 hour period.
- F) A written report, compiling the four quarterly reports for the monitoring year, will be submitted as part of the Annual Report required by the Division.
- G) The commitment “to restore the land where subsidence damage has affected the use of the surface” must be revised to read “to restore the land where subsidence damage has been determined as significant enough to require repair, as determined by the Division”.

Two areas of the permit have stream reaches with less than 1,000 feet of cover over the coal seam. As discussed in Section 525.120, it is not envisioned that subsidence will negatively impact these areas. During periods of 2<sup>nd</sup> mining under areas of intermittent or perennial streams, a ground survey will be conducted of the stream channels every two weeks. These ground surveys will be continued for a period of 3 months following the 2<sup>nd</sup> mining.

The ground survey will consist of walking and photographing the various areas of the surface over the mine where subsidence might occur. If evidence of subsidence is identified, the area of subsidence will be surveyed and the extent of the disruption identified. Depending on the extent and location of the damage, mitigation measures will be reviewed and implemented. Due to the fact that mitigation options change with time as new technology and measures are developed, better options may be implemented in the future. However, UEI provides a commitment that where subsidence damage affects uses of the surface, the land will be restored to a condition capable of maintaining the value and reasonable foreseeable uses which it was capable

of supporting before the subsidence. The surface effects will be repairs as described in Section 525.500.

**525.450** Subsidence control measures.

- 525.451.** No backstowing or backfilling of voids used as a subsidence control measure is planned at this time. Therefore, this section is not applicable.
- 525.452.** Support pillars as a subsidence control measure is not anticipated at this time. However, an area of partial mining where an unmined coal block will be left for subsidence control is shown on Plate 5-5. First mining indicates an area where a block of coal is roomed leaving pillars for support with no mining of the remaining pillars. Partial mining as shown on Plate 5-5 indicates an area where a block of coal has been isolated without the rooms being developed. Both first mining and partial mining will leave support that can be used to control subsidence. If the partially mined area shown on Plate 5-5 is ever roomed out, the area now defined as partially mined would become an area defined as being first mined.
- 525.453.** An outcrop barrier of coal will be left to protect the escarpments at the outcrop. As per the R2P2, only first mining will be allowed within 200' of the outcrop. Mains, submains, and ventilation portals will be allowed within the outcrop.
- 525.454** No measures will be taken on the surface to prevent material damage or lessening of the value or reasonable foreseeable use of the surface.
- 525.460.** Anticipated effects of planned subsidence may include tension cracks, fissures, or sink holes. Areas of minimal ground lowering may be anticipated. The chances of subsidence-related damage to any perceived renewable resource is minimal.
- 525.470.** Since no urbanized areas, cities, towns, public buildings, facilities, churches, schools, or hospitals exist within the permit area this section does not apply.

- 525.480.** There are no plans to change or modify the mining plan to protect any springs or seeps. Springs with water rights will be monitored for flow and quality as described in Chapter 7 Section 731.211. UEI has committed to provide for mitigation of any lost water rights as per Chapter 7 Section 727.
- 525.490.** Other information specified by the Division as necessary to demonstrate that the operation will be conducted in accordance with R645-301-525.300 will be provided.
- 525.500.** Repair of damage.
- 525.510.** If effects of subsidence are confirmed, any material damage to the surface lands will be restored to the extent technologically and economically feasible. The land will be restored to a condition capable of maintaining the value and reasonable foreseeable uses which it was capable of supporting before the subsidence.
- 525.520.** Since no structures exist within or adjacent to the permit area which could be damaged by subsidence, should it occur, this section does not apply.
- 525.530.** The Little Park Road exists in the subsidence zone. In the unlikely event the road is damaged by subsidence, UEI will repair the damage as per Section 525.120.
- 525.600.** Public Notice.  
At least six months prior to mining, or within that period if approved by the Division, the underground mine operator will mail a notification to all owners and occupants of surface property and structures above the underground workings. The notification will include, at a minimum, identification of specific areas in which mining will take place, dates that specific areas will be undermined, and the location or locations where the operator's subsidence control plan may be examined.
- 526.** A narrative explaining the construction, modification, use, maintenance and removal of the mine facilities follows. Additional information can be found in Appendix 5-4 and Chapter 8.

**526.100** Mine Structures and Facilities.

**526.110** The only existing structures are found in Horse Canyon (Part "A" of this permit) and are the remains of the United States Steel operation. Horse Canyon has received phase II bond release, and the remaining structures have been left in place for future use. Only three existing structures, a 60" and a 48" CMP culverts located near the new proposed surface facilities, and the County road on top of Little Park, can be found within the Lila Canyon Permit. The existing culvert is shown on plate 5-1A. The existing road on Little Park can be found on Plate 5-1 as well as most other plates showing the surface area of the Lila Canyon Permit. Several vehicle ways will be used for water and subsidence monitoring. These ways branch off the Little Park Road and generally follow the ephemeral drainages. The ways are shown on Plate 5-1 as well as most other plates showing the surface area of the Lila Canyon Permit. More detail of the existing Little Park Road can be found in Appendix 5-4.

**526.111** The location of the existing culverts is shown on Plate 5-1A.

**526.112** Most of the existing 48" culvert is outside the permit boundary and is Emery County's responsibility. UEI will grade the site so that during reclamation and operations surface flows will be directed away from the 48" culvert. The 60" culvert is in poor condition and will be replaced by the County. UEI will add on to the culvert during the operation and reclamation phase. The bottom 30' is the responsibility of the County, the upper portion is the responsibility of UEI.

**526.113** It is believed that the existing culverts were installed with the road construction around 1940.

**526.114** Since the existing culvert is going to be removed upon construction of the sediment pond, this section does not apply.

- 526.115** Since the existing culvert is going to be removed upon construction of the sediment pond, this section does not apply. The County road and the culvert within the disturbed area boundary will be modified or reconstructed by the County.
- 526.115.1.** Since the existing culvert is going to be removed upon construction of the sediment pond, this section does not apply. See Appendix 5-4 for existing road details.
- 526.115.2.** Since the existing culvert is going to be removed upon construction of the sediment pond, this section does not apply. See Appendix 5-4 for existing road details.
- 526.115.3.** Since the existing culvert is going to be removed upon construction of the sediment pond, this section does not apply. See Appendix 5-4 for existing road details.
- 526.115.4.** Since the existing culvert is going to be removed upon construction of the sediment pond, this section does not apply. See Appendix 5-4 for existing road details.
- 526.116** The only coal mining and reclamation operations that are planned within 100 feet of the County Road are an office complex, sediment ponds, topsoil pile, and security shack. The permit area adjacent to the county road will be fenced to protect the public from the sediment pond and other mine associated buildings. Other than fencing, no additional measures are planned after the construction phase. During construction, measures to control traffic on the County Road will be taken to protect the public from construction related hazards.

**526.116.1.** A cooperative agreement with Emery County ,as stated in Appendix 1-4, requires a six foot chain link fence to be constructed adjacent to the Lila Canyon Road to provide safety to the general public in the proximity to the mine site and mine related structures and activities.

**526.116.2.** At the current time, there are no plans to relocate any public road.

**526.200** Utility Installation and Support Facilities.

**526.210** All coal mining and reclamation operations will be conducted in a manner which minimizes damage, destruction, or disruption of services provided by oil, gas, and water wells, oil, gas, and coal-slurry pipelines, railroads, electric and telephone lines, and water and sewage lines which may pass over, under, or through the permit area, unless otherwise approved by the owner of those facilities and the Division. Since no existing services are found within the projected disturbed area, no negative impact to any service is anticipated.

**526.220** The new support facilities are described in section 520 and in Appendix 5-4 and shown on plate 5-2 and will be operated in accordance with the mine reclamation plan. Plans and drawings for each support facility to be constructed, used or maintained within the permit area are found in Appendix 5-4, Plates 5-7A, 5-7B, and 5-8.

**526.221** The new facilities designs shown in Appendix 5-4 prevent or control erosion and siltation, water pollution, and damage to public or private property, and:

**526.222** The new facilities designs shown in Appendix 5-4 minimize damage to fish, wildlife, and related environmental values; and minimize additional contributions of suspended solids to stream flow or runoff outside the permit area to the extent possible by using the best technology currently available.

Islands of undisturbed areas within the permit area will be visually monitored for coal fines deposition. If monitoring reveals coal fine deposition, then water sprays on the area from which the fines are originating will be warranted as per the August 27, 1999 Approval Order.

**526.300** Water pollution control facilities consist of sedimentation control and properly designed sewage systems.

The sedimentation control is accomplished by containing all disturbed area runoff in a properly sized sedimentation pond. Complete designs are presented in Appendix 7-4 and on Plate 7-6.

The sewage system will consist of a septic tank and drainfield. Complete designs are presented in Appendix 5-4.

The drain field design and layout are shown on plate 5-2, and details are shown in Appendix 5-4.

**526.400** Since Lila Canyon Mine is an underground operation, this section does not apply.

## 527. Transportation Facilities.

**527.100** All new roads within the disturbed area have been classified as primary.

**527.110** See Sections 527.120 and 527.130.

**527.120** The Slope Access Road / Portal Access Road and the Mine Facilities Road / Truck Loadout Road will be used frequently for access for a period in excess of six months, and or will transport coal. They are classified as primary roads.

**527.121** See 527.120 above.

**527.122** See 527.120 above.

**527.123** Since none of the new roads planned within the disturbed area will be retained for an approved postmining land use, this section does not apply.

- 527.130** There are no ancillary roads within the disturbed area.
- 527.200** A detailed design and description for each road, and conveyor to be constructed used, and maintained within the proposed permit area is included in Appendix 5-4. The roads are show on Plate 5-2.
- 527.210** The specifications for each road width, road gradient, road surface, road cut, fills, embankments culverts, drainage ditches and drainage structures are shown on Plate 5-2 and in Appendixes 5-4 and 7-4.
- 527.220** Since no alteration or relocation of natural drainage ways is anticipated, this section is not applicable.
- 527.230** Roads shall be maintained in manner that allows them to meet their design standards throughout their use.
- 527.240** If any of the roads on the disturbed area is damaged by a catastrophic event, the road will be repaired as soon as practical after the damage has occurred.
- 527.250** Steep cut slopes or requests for alternative specifications are not anticipated at this time therefore this section does not apply.

**528. Handling and Disposal of Coal, Overburden, etc:**

A narrative explaining the construction modifications, use, maintenance and removal of coal, overburden, excess spoil and coal mine waste.

- 528.100** Coal will be mined using continuous miners and longwall equipment. The coal will be transported from the face and deposited on the underground mine belts using shuttle cars or continuous haulage equipment. The coal will be transported by a series of conveyor belts from the section to the run of mine stockpile. The coal will be removed from the run of mine stockpile by a reclaim belt to an enclosed crusher/screen. Once crushed the coal will be conveyed to a storage bin from which it will loaded in to coal haul trucks for transportation to a unit train loadout.
- 528.200** Overburden: Lila Canyon is an underground operation, and it is not anticipated that any material that overlays the coal seam,

consolidated, or unconsolidated, other than topsoil, will be disturbed. Therefore, this section does not apply.

**528.300** Spoil, coal processing waste, mine development waste, and noncoal waste removal, handling, storage, transportation, and disposal areas and structures are discussed below.

**528.310** Excess Spoil: Since Lila Canyon is an underground operation, it is not anticipated that any spoil will be generated. Therefore, this section does not apply.

**528.320** Coal Mine Waste: All underground development waste brought to the surface will be placed in the temporary rock pile and then blended back into the ROM product for sale. There will be no coal processing waste generated on the surface. Any oversized coal chunks from the screens will be crushed and put back into the ROM stream. Portions of the rock slope material, not containing coal, will be used as structural fill for the shop/warehouse pad. The temporary mine development waste pile and slope rock disposal area are shown on Plate 5-2 and in Appendix 5-7.

**528.321** Coal processing waste produced from the screen will not be returned to any abandoned underground workings. Any and all of the coal processing waste from the screen will be crushed and reintroduced into the ROM stream for sale.

**528.322** Refuse Piles. Each pile will meet the requirements of MSHA, 30 CFR 77.214 and 30 CFR 77.215, meet the design criteria of R645-301-210, R645-301-512.230, R645-301-513.400, R645-301-514.200, R645-301-515.200, R645-301-528.320, R645-301-536 through R645-301-536.200, R645-301-536.500, R645-301-536.900, R645-301-542.730, R645-301-553.250, R645-301-746.100, R645-301-746.200, and any other applicable requirements.

**528.323** Burning and Burned Waste Utilization.

**528.323.1.** Coal mine waste fires will be extinguished by the person who conducts coal mining

and reclamation operations, in accordance with a plan approved by the Division and MSHA. The plan will contain, at a minimum, provisions to ensure that only those persons authorized by the operator, and who have an understanding of the procedures to be used, will be involved in the extinguishing operations. The coal mine waste fire plan can be found in Appendix 5-3. MSHA approval is not required unless you have an actively burning fire. (Phone conversation with Billy Owens MSHA Denver 5/31/05)

**528.323.2.** No burning or burned coal mine waste will be removed from the permitted disposal area.

**528.330** Noncoal Mine Waste.

**528.331** Noncoal mine wastes including, but not limited to, grease, lubricants, paints, flammable liquids, garbage, abandoned mining machinery, lumber and other combustible materials generated during mining activities will be placed and stored in a controlled manner in a designated portion of the permit area. The noncoal mine waste will be placed in dumpsters and emptied on an as needed basis. The designated noncoal waste area (concrete trash chute) is shown on Plate 5-2.

**528.332** It is anticipated that final disposal of noncoal mine wastes will be at the ECDC facility near East Carbon City. Concrete will be disposed of in a specified area, refer to Plate 5-6 for this location. The disposal site will be located under the reclaimed coal stockpile. This area will receive the maximum fill during reclamation. Placement of this fill around the concrete will help to eliminate runoff. This will ensure that leachate and drainage does not degrade surface or underground water. The noncoal mine waste will be placed in dumpsters and emptied on an as-needed basis.

- 528.333** The noncoal mine waste will be disposed of at the ECDC facility near East Carbon City.
- 528.334** Notwithstanding any other provision to the R645 Rules, any noncoal mine waste defined as "hazardous" under 3001 of the Resource Conservation and Recovery Act (RCRA) (Pub. L. 94-580, as amended) and 40 CFR Part 261 will be handled in accordance with the requirements of Subtitle C of RCRA and any implementing regulations.
- 528.340** A description of the disposal methods for placing underground waste and excess spoil generated at surface areas according to R645-301-211, R645-301-212, R645-301-412.300, R645-301-512.210, R645-301-512.220, R645-301-514.100, R645-301-528.310, R645-301-535.100 through R645-301-535.130, R645-301-535.300 through R645-301-535.500, R645-536.300, R645-301-536.600, R645-301-542.720, R645-301-553.240, R645-301-745.100, R645-301-745.300, and R645-301-745.400 is covered in sections 535, and 536.
- 528.350** A description of measures to be employed to ensure that all debris, acid-forming and toxic-forming materials, and materials constituting a fire hazard are disposed of in accordance with R645-301-528.330, R645-301-537.200, R645-301-542.740, R645-301-553.100 through R645-301-553.600, R645-301-553.900, and R645-301-747 is included.
- 528.400** Dams, embankments and other impoundments.  
See Section 700 and Appendix 7-4.

**529. Management of Mine Openings:**

The permit application includes a description of the measures to be used to seal or manage the openings within the proposed permit area. New slope or drift openings required to be sealed shall be sealed with solid, substantial, noncombustible material for a distance of at least 25 feet into such openings. The closure design for portals, slopes, and drifts, can be found in Appendix 5-6.

- 529.100** Shafts or other exposed underground opening when no longer in use will be cased, lined, or otherwise managed as approved by the Division. All openings exposed by mining operations within the permit area will be permanently closed unless approved for water monitoring.
- 529.200** For the purposes of Underground Coal Mining and Reclamation Activities:
- 529.210** Mine entries which are temporarily inactive, but have a further projected useful service under the approved permit application, will be protected by barricades or other covering devices, fenced, and posted with signs, to prevent access into the entry and to identify the hazardous nature of the opening. These devices will be periodically inspected and maintained in good operating condition by the person who conducts the activity.
- 529.220** Since no portals are projected to return underground development waste, coal processing waste or water to the mine, this section does not apply. There is no current need to return any waste to the underground workings.
- 529.300** Section 529 does not apply to holes drilled and used for blasting.
- 529.400** No openings have been identified for use to return coal processing waste to underground workings. Therefore, this section is not applicable.

### **530. Operational Design Criteria and Plans.**

- 531.** General plans for the sediment pond and refuse pile are found within this section.
- 532.** Sediment control measures can be found in Chapter 7.
- 532.100** The smallest practicable area will be disturbed during the life of the project. Progressive backfilling, grading, and prompt revegetation of applicable will be completed as per R645-301-353.200.
- 532.200** Backfilled material will be stabilized to promote a

reduction of the rate and volume of runoff in accordance with R645-301-537.200, R645-301-552 through R645-301-553.230, R645-301-553.260 through R645-301-553.420, R645-301-553.600, and R645-301-553.900.

**533.** Impoundments.

**533.100** Since no impoundments meeting the criteria of 30 CFR 77.216(a), this section does not apply.

**533.200** Two impoundments are planned for this site: Pond #1 and Pond #2. The sediment ponds are temporary structures. A detailed design for the Sediment ponds can be found in Appendix 7-4, Section 3.1; and on Plates 7-6a and 7-6b.

**533.210** The sediment ponds will be incised, except for the dam/road embankment. This embankment will be reconstructed and compacted to at least 95%. A detailed design for the Sediment ponds can be found in Appendix 7-4, Section 3.1; and on Plates 7-6a and 7-6b.

**533.220** Where fill is to be placed, natural ground shall be removed 12" below the structure. A detailed design for the Sediment ponds can be found in Appendix 7-4, Section 3.1; and on Plates 7-6a and 7-6b.

**533.300** Rip-rap or other protection (culverts, concrete) will be placed at all inlets and outlets to prevent scouring. A detailed design for the Sediment ponds can be found in Appendix 7-4, Section 3.1. Also see Plates 7-6a and 7-6b.

**533.400** External slopes of the impoundment will be planted with an approved seed mix to help prevent erosion and promote stability. A detailed design for the Sediment ponds can be found in Appendix 7-4, Section 3.1; and on Plates 7-6a and 7-6b.

**533.500** This section does not apply. There are no vertical highwalls associated with this impoundment.

**533.600** Since no impoundments are planned that meet the criteria

of MSHA, 30 CFR 77.216(a), this section does not apply.

**533.700** Design and construction requirements, as well as operation and maintenance requirements, are detailed in Appendix 7-4, Section 3.1.

**534. Roads.** The designs for surface roads can be found in Appendix 5-4.

**534.100** The roads have been designed, located, constructed and will be maintained to:

**534.110** The roads have been designed, located, constructed and will be maintained to prevent or control damage to public or private property.

**534.120** Non-acid or nontoxic-forming substances will be used in road surfacing.

**534.130** The designs for the roads can be found in Appendix 5-4.

**534.140** The reclamation plan for the roads can be found in section 542.600.

**534.150** The roads have been designed to prevent or control erosion, siltation and air pollution.

**534.200** Appropriate limits for grade, width, and surface materials have been used in the design of the roads.

**534.300** Primary Roads. Primary roads will meet the requirements of R645-301-358, R645-301-527.100, R645-301-527.230, R645-301-534.100, R645-301-534.200, R645-301-542.600, R645-301-542.600, and R645-301-762, and any necessary design criteria established by the Division, and the following requirements. Primary roads will:

**534.310** The roads will be located insofar as practical, on the most stable available surfaces.

**534.320** The roads will be surfaced with rock, crushed gravel, asphalt, or other material approved by the Division as being sufficiently durable for the anticipated volume of traffic and the weight and speed of vehicles using the

road;

**534.330** The roads will be routinely maintained to include repairs to the road surface, blading, filling potholes and adding replacement gravel or asphalt. It will also include revegetating, brush removal, and minor reconstruction of road segments as necessary.

**534.340** Culverts, if required, will be designed, installed, and maintained to sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of vehicles using the road.

**535. Spoil:** It is anticipated that no spoil will be produced at the Lila Canyon Mine. Therefore, this section is not applicable.

**536. Coal Mine Waste:** The proposed Lila Canyon Mine could produce 2 separate types of coal mine waste:

1. Normal coal processing waste or refuse and;
2. Underground development waste (rock slope material).

All underground development waste brought to the surface will be placed in the temporary rock pile and then blended back into the ROM product for sale. There will be no coal processing waste generated on the surface. The rock slope material / underground development waste will be examined and tested as necessary to determine acid- or toxic-forming potential.

**536.100** All underground development waste, other than the rock slope material, will be brought to the surface and will be placed in the temporary rock pile and then blended back into the ROM product for sale. There will be no coal processing waste generated on the surface.

**536.110** The refuse pile will be designed to attain a minimum long-term slope stability safety factor of 1.5. See Appendix 5-7.

**536.200** Underground development waste brought to the surface will be deposited according to the plan described in Appendix 5-7.

**536.300** Since no spoil fills will be generated this section does not apply.

- 536.400** Since there will not be any impounding structures constructed of coal mine waste this section does not apply.
- 536.500** As discussed in Section 536 and 536.300, it is proposed to dispose of the rock slope material / underground development waste within the rock disposal area and be used as structural fill as shown on Plate 5-2.
- 536.510** It is not anticipated that coal mine waste materials from activities located outside the permit area be disposed of in the permit area. Therefore this section does not apply.
- 536.520** It is not anticipated that coal mine waste will be brought to the surface then taken back underground for disposal therefore this section does not apply.
- 536.600** In areas where slope rock or coal processing waste is deposited, the topsoil will be removed and stored in the topsoil stockpile area until reclamation.
- 536.700** It is not anticipated that coal processing waste will be returned to abandoned underground workings therefore this section does not apply
- 536.800** Since no coal processing waste banks, dams, or embankments are planned for the Lila Canyon Mine therefore, this section does not apply.
- 536.900** Refuse Piles. (See Appendix 5-7) The refuse pile is designed to meet the requirements of R645-301-210, R645-301-512.230, R645-301-513.400, R645-301-514.200, R645-301-515.200, R645-301-528.322, R645-301-528.320, R645-301-536 through R645-301-536.200, R645-301-536.500, R645-301-536.900, R645-301-542.730, R645-301-553.250, R645-301-746.100 through R645-301-746.200, and the requirements of MSHA, 30 CFR 77.214 and 30 CFR 77.215.

### **537. Regraded Slopes.**

- 537.100** Each application will contain a report of appropriate geotechnical analysis, where approval of the Division is required for alternative specifications or for steep cut slopes under R645-301-358, R645-301-512.250, R645-301-527.100, R645-301-527.230, R645-301-534.100, R645-301-534.200, R645-301-

534.300, R645-301-542.600, R645-301-742.410, R645-301-742.420, R645-301-752.200, and R645-301-762.

**540. Reclamation Plan.** (See Appendix 5-8 for reclamation plan.)

**541. General.**

- 541.100.** The operator is committed to performing all reclamation as in accordance with R645 rules.
- 541.200.** N/A. The operator is not involved in surface mining activities.
- 541.300.** The operator is committed to the removal of all equipment facilities and structures upon cessation of mining activities.
- 541.400.** The operator will address all reclamation activities as referenced in Chapter 5 of this document.

**542 Narratives, Maps and Plans.**

- 542.100.** See Table 3-3 time table based on project reserves markets and life of mine.
- 542.200.** The perimeter of the disturbed area contains approximately 40.26 surface acres within the disturbed area but only 37.02 acres will be disturbed leaving 3.84 acres of undisturbed islands within the disturbed area. The following R645 regulations will give detailed description and reclamation procedures to address these areas of disturbance. The reclamation plan for the sediment pond and drainage control structures can be found in Appendix 7-4.

Topsoil amounts can be found in Section 232.100 and are calculated from Plate 2-3. Concrete amounts can be calculated from the text in Section 520. Coal Mine Waste volumes can be found in Appendix 5-7. Volumes were

calculated using a Cad system.

- 542.300.** Included.
- 542.310.** Included. (See Plates 5-6 & 7-7)
- 542.320.** There will not be any surface facilities left post mining.
- 542.400.** Not applicable. No surface facilities will remain post bond liability period.
- 542.500.** A reclamation time table is included as Table 3-3.
- 542.600.** All roads within the disturbed area will be reclaimed immediately after they are no longer needed for mining and reclamation operations, except for the upgraded portion of County Road #R.S. 2477. At the time of reclamation, the Bureau of Land Management (BLM) and Emery County will be given the option of keeping the upgrades to this portion of the roadway, reclaim the roadway to its original condition. The Division will be notified of the final decision.
- 542.610.** The time table of reclamation activities will enable the roads to be removed concurrently with reclamation activities. So, no closures specific to traffic would be anticipated except for the upgraded portion of the Emery County Road #R.S. 2477. Minimal closures may be required for the upgraded portion, if it is reclaimed.
- 542.620.** All bridges and culverts will be removed concurrent with reclamation.
- 542.630.** All disturbed areas will be ripped and top soiled prior to revegetation activities in compliance with all applicable R645 regulations. (See Appendix 5-8)
- 542.640.** Road surfacing materials such as sand and gravel, which are not suitable for revegetation establishment, will be buried on site and covered

with a minimum of two feet of material that would support vegetation. Concrete will be disposed of in the designated area and covered with four feet of cover. Asphalt will be disposed of off site, either in a landfill or sent to a recycling facility.

**542.700.** Final Abandonment of Mine Openings and Disposal Areas.

**542.710.** Appendix 5-6 depicts a typical seal that will be constructed at all mine openings.

**542.720.** No excess spoil is anticipated at this time.

**542.730.** All underground development waste brought to the surface will be placed in the temporary rock pile and then blended back into the ROM product for sale. There will be no coal processing waste generated on the surface.

**542.740.** Disposal of Noncoal Mine Wastes.

**542.741.** All non coal waste will be temporarily stored on site in approved waste bins and commercially picked up and transported to an approved disposal site. Non Coal waste generated during reclamation (such as concrete structure, buried culverts, utility lines, septic systems etc.) will be buried in the refuse disposal area and covered with a minimum of four feet of fill.

**542.742.** No noncoal waste will be stored on site or disposed of on site during the life of the mine.

**542.800.** A detailed cost break down is included in Chapter 8, Appendix 8-1 relative to bonding.

**550 Reclamation Design Criteria and Plans.** Each permit application will include site specific plans that incorporate the following design criteria for reclamation

activities.

**551.** All underground openings will be sealed as detailed in Appendix 5-6.

**552.** Permanent Features.

**552.100.** In the course of reclamation, areas that have been recontoured and top soiled will be "pock-marked," creating small basins that will facilitate vegetation establishment as well as minimizing erosion.

**552.200.** No permanent impoundments will be left post reclamation.

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

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

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

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

**553.120** Since Lila Canyon is an underground operation, no spoil piles will be created. Minor highwalls may be created with the development of the rock slope portals. Upon completion of mining these entries will be sealed as per Closure for Mine Openings Appendix 5-6 and all highwalls will be eliminated during the reclamation phase of the operation. Plate 5-9 shows the proposed portal plan. During reclamation, suitable material will be placed against

the portals. This material will be shaped to eliminate the highwall and to bring the slope back to the approximate original contour.

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

**553.140** Erosion and water pollution will be minimized on site by the use of drainage control structures (berms, channels and silt fence) and the use of small depressions, soil tackifiers, mulch and sediment pond design. No water is anticipated leaving the reclaimed site prior to adequate treatment in the form of retention and/or filtration that does not meet and/or exceed UPDES standards.

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

**553.200** Spoil and Waste.

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

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

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

**553.222** All useable topsoil or topsoil substitute will be removed from the structural fill and refuse

areas prior to use. Table 2-1 shows estimates of salvageable soil by soil type based on current NRCS soil inventories. The location of the soil storage is shown on Plate 5-2. This material will be spread over the recontoured structural fill and refuse areas prior to seeding and mulching.

- 553.223** Since no spoil will be produced this section does not apply.
- 553.230** All recontoured areas will be compacted to minimize slippage. The area will then be overlaid with topsoil and ripped. In addition the area will be "pock-marked" to minimize the potential for erosion, as well as enhance revegetation establishment. It is not anticipated that soil will be disturbed in areas too steep for equipment to operate.
- 553.240** The structural fill area will have slopes of less than 8% upon final recontouring, and revegetated to enhance the post mining land use of grazing and wildlife habitat.
- 553.250** A need for a refuse pile at Lila Canyon is not anticipated.
- 553.260** The operator will commit to all applicable R645 regulations relative to disposal of coal processing waste.
- 553.300** All underground development waste brought to the surface will be placed in the temporary rock pile and then blended back into the ROM product for sale. There will be no coal processing waste generated on the surface. Any oversized from the screens will be crushed and put back into the ROM stream.
- 553.400** Cut-and-fill terraces may be allowed by the Division
- 553.410** No cut and fill terraces will be required.
- 553.420** No terraces will be required for post mining land

use.

**553.500-540 and 553.600-553.650.500**

The only area that falls under these provisions are the reclaimed Horse Canyon mine which lies in the north west portion of the lease area and is addressed under approved MRP Act #0013.

**553.700-553.900**

This operation will only involve underground mining, and as such the above referenced regulations do not apply.

- 560.** Performance Standards. Coal mining and reclamation operations will be conducted in accordance with the approved permit and requirements of R645-301-510 through R645-301-553.

## Lila Canyon Mine Reclamation Bond Estimate

### Bonding Calculations

#### Direct Costs

|                                  |              |
|----------------------------------|--------------|
| Subtotal Demolition and Removal  | \$698,330.00 |
| Subtotal Backfilling and Grading | \$452,273.00 |
| Subtotal Revegetation            | \$151,618.00 |

|                                     |                       |
|-------------------------------------|-----------------------|
| <b>Direct Costs in 2017 Dollars</b> | <b>\$1,302,221.00</b> |
|-------------------------------------|-----------------------|

#### Indirect Costs

|                        |              |       |
|------------------------|--------------|-------|
| Mob/Demob              | \$130,222.00 | 10.0% |
| Contingency            | \$65,111.00  | 5.0%  |
| Engineering Redesign   | \$32,556.00  | 2.5%  |
| Main Office Expense    | \$88,551.00  | 6.8%  |
| Project Management Fee | \$32,556.00  | 2.5%  |

|   |                     |              |
|---|---------------------|--------------|
| <b>Subtotal Indirect Costs 2017 Dollars</b> | <b>\$348,996.00</b> | <b>26.8%</b> |
|---|---------------------|--------------|

|                   |                       |
|-------------------|-----------------------|
| <b>Total Cost</b> | <b>\$1,651,217.00</b> |
|-------------------|-----------------------|

|                   |        |       |
|-------------------|--------|-------|
| Escalation factor |        | 0.000 |
| Number of years   |        | 5     |
| Escalation        | \$0.00 |       |

|  |                       |
|--|-----------------------|
| <b>Total Reclamation Cost 2021 Dollars</b> | <b>\$1,651,217.00</b> |
|--|-----------------------|

|   |                       |
|---|-----------------------|
| <b>Bond Amount (rounded to nearest \$1,000)</b> | <b>\$1,651,000.00</b> |
|---|-----------------------|

2021 dollars

|             |                |
|-------------|----------------|
| Bond Posted | \$1,799,000.00 |
|-------------|----------------|

|  |                     |
|--|---------------------|
| Difference Between Posted Bond and Cost Estimate | <b>\$148,000.00</b> |
|--|---------------------|

### Lila Canyon Mine Reclamation Bond Estimate

#### Unit Costs

All unit costs were obtained from RS Means 2017 Site Work and Landscape Costs or RS Means 2017 Heavy Construction Costs, except as noted.  
All costs include overhead and profit.

| Means Number        | Item  | Unit Cost | Units  |   |
|---------------------|---|-----------|--------|---|
| 32 91 13.23 3100    | 75 HP Dozer with scarifier                      | 5.85      | MSF    |   |
| 32 91 13.16 0390    | Power mulcher, large, hay 1" deep               | 30.50     | MSF    |   |
| 32 01 90.13 0180    | Fertilizer, hydro spread, 1.5 lb/MSF            | 5.00      | MSF    |   |
| 32 92 19.14 4600    | Hydroseeder (equipment and labor only)          | 22.00     | MSF    |   |
| 05 05 05.10 0380    | Fabricated steel demo, 121-500 lb               | 68.00     | EA.    |   |
| 05 05 05.10 0390    | Fabricated steel demo, 501-1000 lb              | 91.00     | EA.    |   |
| 02 41 19.27 0020    | Torch cutting, steel, 1" thick plate            | 3.21      | LF     | Unit cost reduced 30% for no interior walls<br>(see 02 41 16.13 5000) |
| 02 41 16.13 0020    | Building Demolition - Steel                     | 0.27      | CF     |   |
| 02 41 16.13 0100    | Building Demolition - Mixture of Types          | 0.40      | CF     |   |
| 13 05 05.50 0650    | Pre-engineered steel bldg demo, >12,500 SF      | 1.68      | SF Fir |   |
| 02 41 16.17 0280    | Concrete Floor Demolition, 4" thick, reinforced | 0.89      | SF     |   |
| 02 41 16.17 0420    | Concrete Floor Demolition, 6" thick, reinforced | 1.11      | SF     | Unit cost increased 10% for reinforcing<br>(see 02 41 16.17 2600)     |
| 02 41 16.17 2500    | Concrete Wall/Floor Demo, 12" thick, reinforced | 1.57      | SF     |   |
| 03 05 05.10 0060    | Concrete, Selective Demo, Reinf 1-2% of X Sec   | 167.00    | CY     |   |
| 31 23 16.42 1300    | Front End Loader 3CY                            | 2.21      | CY     |   |
| 31 23 23.20 1014    | 12 CY (16 Ton) Dump Truck 1/2 rod, Trip         | 3.74      | CY     |   |
| 02 41 16.17 4200    | On Site Disposal                                | 11.40     | CY     |   |
| Crew B-1            | Portal seal, site preparation crew              | 1464.40   | Day    | See JennChem bid  |
| 04 22 10.34 1500    | Block wall, reinforced, 4" thick (2 each seal)  | 8.50      | SF     |   |
| JennChem            | Seal portals, materials                         | 4320.00   | EA.    |   |
| JennChem            | Seal portals, labor                             | 265.00    | HR     |   |
| Classic Helicopters | Portal seal support, material haulage           | 11965.00  | Job    |   |
| 23 05 05.10 3600    | Mechanical Equipment Demolition, Heavy          | 1225.00   | Ton    |   |
| 26 05 05.10 1570    | Demo of elec transformer, 3 ph, 750kVA          | 1700.00   | EA.    |   |
| Crew A-3H           | Hydraulic crane, 12 ton, with operator          | 1518.58   | Day    |   |
| G1030 1100          | Cut and fill common earth, 8" lift, 2 passes    | 7.00      | CY     |   |
| 31 23 16.42 0260    | Excavation Bulk Bank 2 CY (322BL)               | 1.81      | CY     |   |
| 31 23 16.13 3080    | Backfill Trench, min haul, FE loader 2 1/4 CY   | 2.50      | CY     |   |
| Crew B-10M          | Dozer, 300 HP, 50' haul, sandy clay and loam    | 2978.00   | Day    |   |
| Crew B-14A          | Loader, 500 HP, wheel mounted, 5 CY cap         | 4306.40   | Day    |   |
| Crew B-10G          | Sheepsfoot roller, 315 HP, 8" lifts, 2 passes   | 2313.60   | Day    |   |
| Crew B-33K          | Self-propelled scraper, 34 CY, 500 HP           | 418.20    | HR     |   |
| Crew B-34F          | Off-highway rear dump truck, 40 ton, 10 MPH     | 2234.80   | Day    |   |
| Crew B-9A           | 5000 gallon water truck                         | 2041.01   | Day    |   |
| 02 41 13.60 1700    | Chain link removal, 8'-10' high                 | 4.44      | LF     |   |
| 02 41 13.17 5050    | Pavement Removal, bituminous, 4" to 6" thick    | 9.80      | SY     | See Scamp bid   |
| 02 41 13.30 1600    | Median barrier, precast conc, remove and store  | 14.00     | LF     |   |
| Scamp               | Demolition debris, off-site haul and disposal   | 6.00      | Ton    |   |
| 02 41 13.80 0200    | Wood utility poles, 35'-45' high                | 370.00    | EA.    |   |
| 02 41 13.80 0300    | Wood cross arms, 4'-6' long                     | 136.00    | EA.    |   |
| Crew B-6            | Backhoe loader, 2 laborers, equip operator      | 1980.00   | Day    |   |
| Crew B-7            | Log chipper, crew, and assoc equipment          | 5025.34   | Day    |   |
| 26 05 05.10 1900    | Electrical demolition, #2 wire, from conduit    | 30.50     | CLF    |   |
| 02 65 10.30 0110    | 3000 to 5000 gal. undgrnd steel tank removal    | 860.00    | EA.    |   |
| 02 65 10.30 1023    | 3000 to 5000 gal. tank, disposal, 100 mi RT     | 830.00    | EA.    |   |
| 02 65 10.30 0300    | 3000 to 5000 gal. tank, sludge removal          | 285.00    | EA.    |   |
| 02 65 10.30 0390    | Dispose of sludge off site                      | 6.80      | Gal    |   |
| 1305 05.75 0530     | 5000 to 12000 gal. abovegrnd steel tank removal | 1625.00   | EA.    |   |
| 02 41 13.40 0110    | Demolition, CMP pipe, steel, 12"                | 2.60      | LF     |   |
| 02 41 13.40 0160    | Demolition, CMP pipe, steel, 18"                | 3.90      | LF     |   |
| 02 41 13.40 0170    | Demolition, CMP pipe, steel, 24"                | 14.70     | LF     |   |
| 02 41 13.40 0180    | Demolition, CMP pipe, steel, 30"-36"            | 17.65     | LF     |   |
| 24 41 13.40 0190    | Demolition, CMP pipe, steel, 48-60"             | 22.00     | LF     |   |
| 13 05 05.60 0050    | Silos, Selective Demolition, steel              | 2900.00   | EA.    |   |
| 01 52 13.20 0800    | Haul Connex units offsite                       | 12.10     | Mile   |   |

## Lila Canyon Mine Reclamation Bond Estimate

### Demolition and Removal Cost Summary

| Structure/Item                            | Cost (\$)      |
|---|----------------|
| 01 Office/Bathhouse                       | 73,121         |
| 02 ROM Coal Stockpile                     | 0              |
| 03 Shop/Warehouse                         | 66,094         |
| 04 Storage Shed                           | 348            |
| 05 Employee Parking                       | 96,771         |
| 06 Truck Loading/Unloading Area           | 0              |
| 07 Equipment/Materials Storage Area       | 0              |
| 08 Potable Water Tank                     | 3,741          |
| 09 Sewer Treatment Plant                  | 887            |
| 10 Power Poles                            | 11,603         |
| 11 Electrical Transformers                | 4,961          |
| 12 Overhead Power Lines                   | 2,952          |
| 13 Buried Power Lines                     | 816            |
| 14 Rock Dust Silo                         | 3,147          |
| 15 Fuel Tanks                             | 6,265          |
| 16 Reclaim Tunnel                         | 23,160         |
| 17 Reclaim Conveyor                       | 3,709          |
| 18 Crusher Conveyor to Loadout Bin        | 2,739          |
| 19 Crusher MCC Building                   | 364            |
| 20 Truck Loadout                          | 512            |
| 21 Refuse Conveyor                        | 826            |
| 22 Crusher/Screen Plant                   | 3,913          |
| 23 Reclaim Escape Tunnel                  | 12,851         |
| 24 Reclaim Feeder Gate                    | 137            |
| 26 Extended ROM Conveyor                  | 3,258          |
| 27 Refuse/Non-Coal Waste Pile             | 0              |
| 28 Electrical Grounding Field             | 1,986          |
| 29 Sedimentation Pond Spillways           | 1,430          |
| 30 Existing ROM Conveyor                  | 6,432          |
| 31 Portal Closure                         | 63,312         |
| 32 Concrete Conveyor Bay                  | 371            |
| 33 ROM Coal Staking Tube                  | 8,858          |
| 34 Mine MCC Building and Electrical Tower | 1,595          |
| 35 Backup Ventilation Fans                | 37,668         |
| 36 Main Ventilation Fan                   | 37,599         |
| 37 Non-Potable Water Tanks                | 7,670          |
| 38 Powder and Cap Magazines               | 4,924          |
| 39 Chain Link Fence                       | 6,676          |
| 40 Concrete Electrical Junction Box       | 73             |
| 41 Loadout MCC Building                   | 289            |
| 42 Mine Parking                           | 35,311         |
| 43 Abandoned Concrete Reclaim Room        | 5,364          |
| 44 Jersey Barrier                         | 10,640         |
| 45 Concrete Trash Chute                   | 1,280          |
| 46 Emergency Reclaim Feeder Gate          | 69             |
| 47 Gantry Lift Assembly                   | 5,727          |
| Mine Substation                           | 8,476          |
| Paved Mine Roads                          | 53,341         |
| Culvert Demolition                        | 46,055         |
| Lila Old Fan Portals                      | 24,586         |
| Visual Disconnect                         | 6,279          |
| Drop Box                                  | 145            |
| <b>TOTAL</b>                              | <b>698,330</b> |

| Ref. | Description                          | Materials                                       | Means Reference Number | Unit Cost | Unit   | Length | Width | Height | Diameter | Area  | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit   | Cost  |       |
|------|--------------------------------------|---|------------------------|-----------|--------|--------|-------|--------|----------|-------|--------|--------|---------|------|--------|-------|--------------|----------|--------|-------|-------|
|      | 01 Office/Bathhouse                  |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Structure's Demolition Cost          | Pre-engineered steel bldg demo.>12,500 SF       | 13 05 05.50 0650       | 1.68      | SF Fir | 150    | 100   | 15     |          | 15000 |        |        |         |      |        |       |              | 15000    | SF Fir | 25200 |       |
|      | Structure's Vol. Demolition          |   |                        |           |        |        |       |        |          |       | 225000 |        |         |      |        |       |              | 0.3      | 2500   | CY    |       |
|      | Bathhouse New Addition Demo          | Building Demolition - Mixture of Types          | 02 41 16.13 0100       | 0.40      | CF     |        |       | 10     |          | 432   | 4320   |        |         |      |        |       |              | 0.3      | 1296   | CF    | 518   |
|      | Truck's Capacity                     |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Haulage                              |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Loading Cost Bathhouse New           | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY     |        |       |        |          |       |        |        |         |      |        |       |              |          | 48     | 106   |       |
|      | Transportation Cost Bathhouse New    | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY     |        |       |        |          |       |        |        |         |      |        |       |              |          | 48     | 180   |       |
|      | Disposal Cost Bathhouse New          | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY     |        |       |        |          |       |        |        |         |      |        |       |              |          | 48     | 547   |       |
|      | Steel's Weight                       |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Truck's Capacity                     |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Haulage                              |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Transportation and Disposal Cost All | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton    |        |       |        |          |       |        |        | 480     |      |        |       |              |          | 600    | Tons  | 3600  |
|      | Transportation Cost Steel Drive      |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Disposal Cost Steel                  |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Subtotal                             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       | 0     |
|      |                                      |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       | 30151 |
|      | Equipment's Disposal Cost            |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Dismantling Cost                     |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Equipment's Vol. Demolished          |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Load Connex Units                    | Hydraulic crane, 12 ton, with operator          | Crew A-3H              | 1518.58   | Day    |        |       |        |          |       |        |        |         |      | 1      | Day   |              |          |        |       | 1519  |
|      | Haul Connex Units to SLC, UT         | Haul Connex units offsite                       | 01 52 13.20 0800       | 12.10     | Mile   |        |       |        |          |       |        |        |         |      |        | 140   | Miles        |          | 3      | EA    | 5082  |
|      | Disposal Costs                       |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Subtotal                             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       | 6601  |
|      | Concrete Demolition                  | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | SF     | 150    | 100   | 1      |          |       |        |        |         |      |        | 15000 | SF           |          | 555.6  | CY    | 23550 |
|      | Concrete Footings - Connex Units     | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | SF     | 60     | 2     | 1      |          |       |        |        |         |      |        | 120   | SF           | 1.3      | 4.4    |       | 188   |
|      | Concrete Vol. Demolished             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Loading Costs                        | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY     |        |       |        |          |       |        |        |         |      |        |       |              |          |        | 728   | 1609  |
|      | Transportation Costs                 | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY     |        |       |        |          |       |        |        |         |      |        |       |              |          |        | 728   | 2723  |
|      | Disposal Costs                       | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY     |        |       |        |          |       |        |        |         |      |        |       |              |          |        | 728   | 8299  |
|      | Subtotal                             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       | 36369 |
|      | Concrete Demolition                  |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Concrete Cost                        |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Concrete Vol. Demolished             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Loading Costs                        |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Transportation Costs                 |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Disposal Costs                       |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Subtotal                             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Total                                |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       | 73121 |

| Ref. | Description                          | Materials  | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |          |
|------|--------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|----------|
|      | 02 ROM Coal Stockpile                |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Structure's Demolition Cost          | <b>WILL BE GRADED WITH THE REMAINDER OF THE FILL AT THE TIME OF RECLAMATION. EXCESS COAL TO BE BURIED AS INDICATED IN THE MRP.</b> |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Structure's Vol. Demolition          |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | 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 and Disposal Cost All |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Cost Steel Drive      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Equipment's Disposal Cost            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Dismantling Cost                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Equipment's Vol. Demolished          |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Slab                                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | <b>Total</b>                         |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |

| Ref. | Description                          | Materials                                       | Means Reference Number | Unit Cost | Unit   | Length | Width | Height | Diameter | Area  | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit   | Cost  |       |
|------|--------------------------------------|---|------------------------|-----------|--------|--------|-------|--------|----------|-------|--------|--------|---------|------|--------|-------|--------------|----------|--------|-------|-------|
|      | 03 Shop/Warehouse                    |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Structure's Demolition Cost          | Pre-engineered steel bldg demo.>12,500 SF       | 13 05 05.50 0650       | 1.68      | SF Fir | 150    | 100   | 20     |          | 15000 |        |        |         |      |        |       |              | 15000    | SF Fir | 25200 |       |
|      | Structure's Vol. Demolition          |   |                        |           |        |        |       |        |          |       | 300000 |        |         |      |        |       |              | 0.3      | 3333   | CY    |       |
|      | 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 and Disposal Cost All | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton    |        |       |        |          |       |        |        | 480     |      |        |       |              |          | 800    | Ton   | 4800  |
|      | Transportation Cost Steel Drive      |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Subtotal                             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       | 0     |
|      |                                      |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       | 30000 |
|      | Equipment's Disposal Cost            |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Dismantling Cost                     |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Equipment's Vol. Demolished          |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Loading Costs                        |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Transportation Costs                 |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Disposal Costs                       |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Subtotal                             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Slab                                 |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Concrete Demolition                  |   |                        |           |        | 150    | 100   | 1      |          |       | 556    |        |         |      |        | 15000 | SF           |          |        |       |       |
|      | Concrete Cost                        | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | SF     |        |       |        |          |       |        |        |         |      |        |       |              |          | 15000  | SF    | 23550 |
|      | Concrete Vol. Demolished             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              | 1.3      | 723    | CY    |       |
|      | Loading Costs                        | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY     |        |       |        |          |       |        |        |         |      |        |       |              |          | 723    | CY    | 1598  |
|      | Transportation Costs                 | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY     |        |       |        |          |       |        |        |         |      |        |       |              |          | 723    | CY    | 2704  |
|      | Disposal Costs                       | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY     |        |       |        |          |       |        |        |         |      |        |       |              |          | 723    | CY    | 8242  |
|      | Subtotal                             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       | 36094 |
|      | Concrete Demolition                  |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Concrete Cost                        |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Concrete Vol. Demolished             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Loading Costs                        |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Transportation Costs                 |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Disposal Costs                       |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Subtotal                             |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       |       |
|      | Total                                |   |                        |           |        |        |       |        |          |       |        |        |         |      |        |       |              |          |        |       | 66094 |

| Ref. | Description                          | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |     |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|-----|
|      | 04 Storage Shed                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Structure's Demolition Cost          | Building Demolition - Mixture of Types          | 02 41 16.13 0100       | 0.40      | CF   | 8      | 8     | 8      |          |      |        |        |         |      |        |      |              | 512      | CF   | 204.8 |     |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              | 0.3      | 6    | CY    |     |
|      | 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 and Disposal Cost All | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          | 6    | CY    | 68  |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Disposal Cost Steel                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       | 273 |
|      | Concrete Demolition                  | Concrete Floor Demolition, 4" thick, reinforced | 02 41 16.17 0280       | 0.89      | SF   | 8      | 8     | 0.33   |          |      |        |        |         |      |        |      |              |          | 64   | SF    | 57  |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Loading Costs                        | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      | 0.8    | CY   | 1.3          |          | 1    | CY    | 2   |
|      | Transportation Costs                 | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          | 1    | CY    | 4   |
|      | Disposal Costs                       | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          | 1    | CY    | 12  |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       | 75  |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       | 348 |

| Ref. | Description                         | Materials                                    | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area  | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |
|------|-------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|-------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|
|      | 05 Employee Parking                 |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Structure's Demolition Cost         |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Structure's Vol. Demolition         |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | 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     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Equipment's Disposal Cost           |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Dismantling Cost                    |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Equipment's Vol. Demolished         |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Pavement Removal                    | Pavement Removal, bituminous, 4" to 6" thick | 02 41 13.17 5050       | 9.80      | SY   |        |       |        | 0.33     | 76200 |        |        |         |      |        | SF   |              | 8467     | SY   | 82977 |
|      | Disposal Costs                      | On Site Disposal                             | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |       | 931    |        |         |      |        | CY   | 1.3          | 1210     | CY   | 13794 |
|      |                                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      |                                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      | 96771 |
|      | Concrete Demolition                 |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Cost                       |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Vol. Demolished            |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | <b>Total</b>                        |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      | 96771 |

| Ref. | Description                          | Materials  | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |          |
|------|--------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|----------|
|      | 06 Truck Loading/Unloading Area      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Structure's Demolition Cost          | <b>WILL BE GRADED WITH THE REMAINDER OF THE FILL AT THE TIME OF RECLAMATION. EXCESS COAL TO BE BURIED AS INDICATED IN THE MRP.</b> |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Structure's Vol. Demolition          |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | 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 and Disposal Cost All |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Cost Steel Drive      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Equipment's Disposal Cost            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Dismantling Cost                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Equipment's Vol. Demolished          |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Slab                                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | <b>Total</b>                         |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |

| Ref. | Description                          | Materials  | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |          |
|------|--------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|----------|
|      | 07 Equipment/Materials Storage Area  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Structure's Demolition Cost          | <b>WILL BE GRADED WITH THE REMAINDER OF THE FILL AT THE TIME OF RECLAMATION. EXCESS COAL TO BE BURIED AS INDICATED IN THE MRP.</b> |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Structure's Vol. Demolition          |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | 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 and Disposal Cost All |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Cost Steel Drive      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Equipment's Disposal Cost            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Dismantling Cost                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Equipment's Vol. Demolished          |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Slab                                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | <b>Total</b>                         |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |

| Ref. | Description                          | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |     |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|-----|
|      | 08 Potable Water Tank                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Structure's Demolition Cost          | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   |        |       | 20     | 15       |      |        |        |         |      |        |       |              | 3534     | CF   | 954  |     |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              | 1296     | SF   |      |     |
|      | 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 and Disposal Cost All | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 1.00    |      |        | LB/SF |              | 0.65     | Ton  | 4    |     |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Disposal Cost Steel                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0    |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 958  |     |
|      | Equipment's Disposal Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Dismantling Cost                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Cost                        | Concrete Floor Demolition, 6" thick, reinforced | 02 41 16.17 0420       | 1.11      | SF   | 15     | 15    | 0.5    |          |      |        |        |         |      |        |       |              |          | 225  | SF   | 250 |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              | 1.3      |      |      |     |
|      | Loading Costs                        | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 146  | 323  |     |
|      | Transportation Costs                 | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 146  | 546  |     |
|      | Disposal Costs                       | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 146  | 1664 |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 2783 |     |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 3741 |     |



| Ref. | Description                          | Materials                              | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |
|------|--------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|
|      | 10 Power Poles                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Structure's Demolition Cost          | Wood utility poles, 35'-45' high       | 02 41 13.80 0200       | 370.00    | EA.  |        |       |        |          |      |        |        |         |      | 13     | EA   |              | 13       | EA   | 4810  |
|      | Structure's Demolition Cost          | Wood cross arms, 4'-6' long            | 02 41 13.80 0300       | 136.00    | EA.  |        |       |        |          |      |        |        |         |      | 13     | EA.  |              | 13       | EA.  | 1768  |
|      | Rubble's Weight (exclude steel)      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Truck's Capacity                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Haulage                              |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Cost Non Steel Truck  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation and Disposal Cost All | Log chipper, crew, and assoc equipment | Crew B-7               | 5025.34   | Day  |        |       |        |          |      |        |        |         |      |        |      |              | 1.00     | Day  | 5025  |
|      | Disposal Cost Non Steel              |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Steel's Weight                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Truck's Capacity                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Haulage                              |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Cost Steel Truck      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Cost Steel Drive      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Cost Steel                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 11603 |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | <b>Total</b>                         |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 11603 |

| Ref. | Description                          | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|
|      | 11 Electrical Transformers           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Structure's Demolition Cost          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | 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      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0    |
|      | Equipment's Demolition Cost          | Demo of elec transformer, 3 ph, 750kVA        | 26 05 05.10 1570       | 1700.00   | EA.  |        |       |        |          |      |        |        |         |      | 2      |      |              | 2        | EA.  | 3400 |
|      | Dismantling Cost                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                        | Hydraulic crane, 12 ton, with operator        | Crew A-3H              | 1518.58   | Day  |        |       |        |          |      |        |        |         |      |        |      |              | 1        | Day  | 1519 |
|      | Transportation and Disposal Cost All | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        |         |      |        |      |              | 7        | Ton  | 42   |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 4961 |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0    |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 4961 |

| Ref. | Description                          | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost        |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|-------------|
|      | 12 Overhead Power Lines              |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Structure's Demolition Cost          | Electrical demolition, #2 wire, from conduit  | 26 05 05.10 1900       | 30.50     | CLF  | 3220   |       |        |          |      |        |        |         |      | 3      |       |              | 9660     | FT   | 2946        |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Rubble's Weight (exclude steel)      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Truck's Capacity                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Haulage                              |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Transportation Cost Non Steel Truck  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Transportation and Disposal Cost All | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 201     |      |        | lb/MF |              | 0.97     | Ton  | 6           |
|      | Disposal Cost Non Steel              |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Steel's Weight                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Truck's Capacity                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Haulage                              |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Transportation Cost Steel Truck      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Disposal Cost Steel                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | <b>2952</b> |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |             |
|      | <b>Total</b>                         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | <b>2952</b> |

| Ref. | Description                          | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost       |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------------|
|      | 13 Buried Power Lines                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Structure's Demolition Cost          | Electrical demolition, #2 wire, from conduit  | 26 05 05.10 1900       | 30.50     | CLF  | 890    |       |        |          |      |        |        |         |      | 3      |       |              | 2670     | FT   | 814        |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Rubble's Weight (exclude steel)      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Truck's Capacity                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Haulage                              |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Transportation Cost Non Steel Truck  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Transportation and Disposal Cost All | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 201     |      |        | lb/MF |              | 0.27     | Ton  | 2          |
|      | Disposal Cost Non Steel              |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Steel's Weight                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Truck's Capacity                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Haulage                              |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Transportation Cost Steel Truck      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Disposal Cost Steel                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | <b>816</b> |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |            |
|      | <b>Total</b>                         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | <b>816</b> |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|
|      | 14 Rock Dust Silo                   |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Structure's Demolition Cost         | Silos, Selective Demolition, steel              | 13 05 05.60 0050       | 2900.00   | EA   |        |       |        |          |      |        |        |         |      | 1      | EA   |              | 1        | Ea   | 2900 |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Rubble's Weight (exclude steel)     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Truck's Capacity                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Haulage                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Cost Non Steel Truck | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        | 4      |         |      |        | Ton  |              | 4        | Ton  | 24   |
|      | 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                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 2924 |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 16     | 16    | 1      |          |      | 256    |        |         |      |        | CF   |              | 9        | CY   | 14   |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              | 1.3      |      | 12   |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 27   |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 45   |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 137  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 223  |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 3147 |

| Ref. | Description                         | Materials                                   | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |      |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
|      | 15 Fuel Tanks                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Structure's Demolition Cost         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | 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     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 0    |
|      | Equipment Disposal Cost             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Tank Removal                        | 3000 to 5000 gal. undrgrnd steel tank remov | 02 65 10.30 0110       | 860.00    | EA   |        |       |        |          |      |        |        |         |      | 3      | EA   |              | 3        | EA   | 2580 |      |
|      | Remove Sludge                       | 3000 to 5000 gal. tank, sludge removal      | 02 65 10.30 0300       | 285.00    | EA   |        |       |        |          |      |        |        |         |      | 3      | EA   |              | 3        | EA   | 855  |      |
|      | Tank Disposal                       | 3000 to 5000 gal. tank, disposal, 100 mi RT | 02 65 10.30 1023       | 830.00    | EA.  |        |       |        |          |      |        |        |         |      | 3      | EA   |              | 3        | EA   | 2490 |      |
|      | Sludge Disposal                     | Dispose of sludge off site                  | 02 65 10.30 0390       | 6.80      | Gal  |        |       |        |          |      |        |        |         |      | 50     | Gal  |              | 50       | Gal  | 340  |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 6265 |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 6265 |

| Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost         |       |
|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|--------------|-------|
| 16 Reclaim Tunnel                   |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Conveyor Demolition Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| 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                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| <b>Subtotal</b>                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | <b>0</b>     |       |
| Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| <b>Subtotal</b>                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 810    | 8     | 8      |          |      | 960    |        |         |      |        |      |              | 960      | CY   | 1507         |       |
| Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              | 1.3      |      |              |       |
| Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          | 1248 | CY           | 2758  |
| Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          | 1248 | CY           | 4668  |
| Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          | 1248 | CY           | 14227 |
| <b>Subtotal</b>                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | <b>23160</b> |       |
| Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| <b>Subtotal</b>                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |              |       |
| <b>Total</b>                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | <b>23160</b> |       |

| Ref. | Description                         | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |      |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|------|
|      | 17 Reclaim Conveyor                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Conveyor Demolition Cost            | Building Demolition - Steel                   | 02 41 16.13 0020       | 0.27      | CF   | 810    | 4     | 4      |          |      |        |        |         |      |        | FT    |              | 12960    | CF   | 3499 |      |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 0.3          | 144      | CY   |      |      |
|      | 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     | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              | 35       | Ton  | 210  |      |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 0    |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 3709 |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 3709 |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |     |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|-----|
|      | 18 Crusher Conveyor to Loadout Bin  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Structure's Demolition Cost         | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   | 230    | 6     | 6      |          |      |        |        |         |      |        | FT    |              | 8280     | CF   | 2236 |     |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 0.3          | 92       | CY   |      |     |
|      | 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     | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              | 22       | Ton  | 132  |     |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0    |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 2368 |     |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   |        |       |        |          |      | 15     |        |         |      |        |       |              |          | 15   | CY   | 24  |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 1.3          | 20       | CY   |      |     |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 20   | CY   | 44  |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 20   | CY   | 75  |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 20   | CY   | 228 |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 371  |     |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 2739 |     |

| Ref. | Description                         | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |  |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|--|
|      | 19 Crusher MCC Building             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Structure's Demolition Cost         | Building Demolition - Steel                   | 02 41 16.13 0020       | 0.27      | CF   | 20     | 8     | 8      |          |      |        |        |         |      |        | FT    |              | 1280     | CF   | 346  |  |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 0.3          | 14       | CY   |      |  |
|      | 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     | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              | 3        | Ton  | 18   |  |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0    |  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 364  |  |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0    |  |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 364  |  |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|
|      | 20 Truck Loadout                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Structure's Demolition Cost         | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   | 5      | 5     | 20     |          |      |        |        |         |      | 500    | CF    |              | 500      | CF   | 135  |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 0.3          | 6        | CY   |      |
|      | 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     | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        |         | 480  |        | lb/CY |              | 1        | Ton  | 6    |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0    |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 141  |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   |        |       |        |          |      | 15     |        |         |      |        |       |              | 15       | CY   | 24   |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 1.3          | 20       | CY   |      |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |       |              | 20       | CY   | 44   |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |       |              | 20       | CY   | 75   |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |       |              | 20       | CY   | 228  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 371  |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 512  |

| Ref. | Description                         | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |  |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|--|
|      | 21 Refuse Conveyor                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Conveyor Demolition Cost            | Building Demolition - Steel                   | 02 41 16.13 0020       | 0.27      | CF   | 180    | 4     | 4      |          |      |        |        |         |      |        | FT    |              | 2880     | CF   | 778  |  |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 0.3          | 32       | CY   |      |  |
|      | 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     | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              | 8        | Ton  | 48   |  |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0    |  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 826  |  |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |  |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 826  |  |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|
|      | 22 Crusher/Screen Plant             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Structure's Demolition Cost         | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   |        |       |        |          |      | 12000  |        |         |      |        | CF    |              | 12000    | CF   | 3240 |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 0.3          | 133      | CY   |      |
|      | 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     | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              | 32       | Ton  | 192  |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0    |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 3432 |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12' thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   |        |       |        |          |      | 20     |        |         |      |        |       |              | 20       | CY   | 31   |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 1.3          |          |      |      |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |       |              | 26       | CY   | 57   |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |       |              | 26       | CY   | 97   |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |       |              | 26       | CY   | 296  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 481  |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 3913 |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost  |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|-------|
|      | 23 Reclaim Escape Tunnel            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Corrugated Steel                    | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   |        |       |        |          |      | 26880  |        |         |      |        | CF    |              | 26880    | CF   | 7258  |
|      | Escape Tunnel                       | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   |        |       |        |          |      | 1257   |        |         |      |        |       |              | 1257     | CF   | 339   |
|      | Fan                                 | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   |        |       |        |          |      | 64     |        |         |      |        |       |              | 64       | CF   | 17    |
|      | Fan House                           | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   |        |       |        |          |      | 512    |        |         |      |        |       |              | 512      | CF   | 138   |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 0.3          | 319      | CY   |       |
|      | 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     | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              | 77       | Ton  | 462   |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 8214  |
|      | Excavation and Backfill             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Reclaim Tunnel                      | Excavation Bulk Bank 2 CY (322BL)               | 31 23 16.42 0260       | 1.81      | CY   | 350    | 14    | 10     |          |      |        |        |         |      |        | FT    |              | 1815     | CY   | 3285  |
|      | Escape Tunnel                       | Excavation Bulk Bank 2 CY (322BL)               | 31 23 16.42 0260       | 1.81      | CY   | 325    | 4     | 10     |          |      |        |        |         |      |        |       |              | 481      | CY   | 871   |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 4156  |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   |        |       |        |          |      | 20     |        |         |      |        |       |              |          |      | 31    |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |       | 1.3          |          | 26   | CY    |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 26   | CY    |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 26   | CY    |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 481   |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |       |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 12851 |

| Ref. | Description                          | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |     |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|-----|
|      | 24 Reclaim Feeder Gate               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Structure's Demolition Cost          | Fabricated steel demo, 121-500 lb             | 05 05 05.10 0380       | 68.00     | EA.  |        |       |        |          |      |        |        |         |      |        |       |              | 2        | EA.  | 136  |     |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | 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 & Disposal Cost Steel | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  | 3      | 3     |        |          |      |        |        | 20.4    |      |        | lb/SF |              | 0.18     | Ton  | 1    |     |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 137 |
|      | Equipment's Disposal Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Dismantling Cost                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Foundation                           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Tube                                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |     |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 0   |
|      | <b>Total</b>                         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 137 |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|
|      | 26 Extended ROM Conveyor            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Structure's Demolition Cost         | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   | 300    | 6     | 6      |          |      |        |        |         |      |        | FT    |              | 10800    | CF   | 2916 |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              | 0.3      | 120  | CY   |
|      | 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     | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              | 29       | Ton  | 174  |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0    |
|      |                                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 3090 |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 10     | 10    | 1      |          |      |        |        |         |      |        | 2     |              | 7        | CY   | 11   |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              | 1.3      |      |      |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      |      |        |       |        |          |      |        |        |         |      |        |       |              |          | 9    | CY   |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 9    | CY   |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          | 9    | CY   |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 168  |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 3258 |

| Ref. | Description                          | Materials  | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |          |
|------|--------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|----------|
|      | 27 Refuse/Non-Coal Waste Pile        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Structure's Demolition Cost          | <b>WILL BE GRADED WITH THE REMAINDER OF THE FILL AT THE TIME OF RECLAMATION. EXCESS COAL TO BE BURIED AS INDICATED IN THE MRP.</b> |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Structure's Vol. Demolition          |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | 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 and Disposal Cost All |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Cost Steel Drive      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Equipment's Disposal Cost            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Dismantling Cost                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Equipment's Vol. Demolished          |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Slab                                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | Concrete Demolition                  |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Cost                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Concrete Vol. Demolished             |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Loading Costs                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Transportation Costs                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | Disposal Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |          |
|      | <b>Subtotal</b>                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |
|      | <b>Total</b>                         |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | <b>0</b> |

| Ref. | Description                         | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|
|      | 28 Electrical Grounding Field       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Structure's Demolition Cost         | Backhoe loader, 2 laborers, equip operator    | Crew B-6               | 1980.00   | Day  |        |       |        |          |      |        |        |         |      | 1      |      |              | 1        | Day  | 1980 |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | 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     | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        |         |      |        |      |              | 1        | Ton  | 6    |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | <b>Subtotal</b>                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 1986 |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | <b>Subtotal</b>                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | <b>Subtotal</b>                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0    |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | <b>Subtotal</b>                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | <b>Total</b>                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 1986 |

| Ref. | Description                     | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density   | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |      |
|------|---------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|-----------|------|--------|------|--------------|----------|------|------|------|
|      | 29 Sedimentation Pond Spillways |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Pond #2 Barrel Excavation       | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 165    | 1.5   | 3      |          |      |        |        |           |      |        | FT   |              | 28       | CY   | 50   |      |
|      | Subtotal                        |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      | 50   |
|      | Equipment's Disposal Cost       |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Dismantling Cost                |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Equipment's Vol. Demolished     |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Loading Costs                   |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Transportation Costs            |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Disposal Costs                  |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Subtotal                        |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Pond #1 - 30" Principal Riser   | Demolition, CMP pipe, steel, 30"-36"          | 02 41 13.40 0180       | 17.65     | LF   | 20     |       |        |          |      |        |        | 30 lb/ft  |      |        | FT   |              | 20       | FT   | 353  |      |
|      | Pond #1 - 30" Emergency Riser   | Demolition, CMP pipe, steel, 30"-36"          | 02 41 13.40 0180       | 17.65     | LF   | 19     |       |        |          |      |        |        | 30 lb/ft  |      |        | FT   |              | 19       | FT   | 335  |      |
|      | Pond #2 - 12" Principal Riser   | Demolition, CMP pipe, steel, 12"              | 02 41 13.40 0110       | 2.60      | LF   | 5      |       |        |          |      |        |        | 103 lb/ft |      |        | FT   |              | 5        | FT   | 13   |      |
|      | Pond #2 - 15" Emergency Riser   | Demolition, CMP pipe, steel, 18"              | 02 41 13.40 0160       | 3.90      | LF   | 6      |       |        |          |      |        |        | 10 lb/ft  |      |        | FT   |              | 6        | FT   | 23   |      |
|      | Pond #2 Barrel (SP2-1)          | Demolition, CMP pipe, steel, 18"              | 02 41 13.40 0160       | 3.90      | LF   | 165    |       |        |          |      |        |        | 15 lb/ft  |      |        | FT   |              | 165      | FT   | 644  |      |
|      | Concrete Vol. Demolished        |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Loading Costs                   |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Transportation & Disposal Costs | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        | 4160   | lb        |      |        |      |              | 2        | Tons | 12   |      |
|      | Disposal Costs                  |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      |      |
|      | Subtotal                        |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      | 1380 |
|      | Total                           |   |                        |           |      |        |       |        |          |      |        |        |           |      |        |      |              |          |      |      | 1430 |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|
|      | 30 Existing ROM Conveyor            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Structure's Demolition Cost         | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   | 475    | 6     | 6      |          |      |        |        |         |      |        | FT    |              | 17100    | CF   | 4617 |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 0.3          | 190      | CY   |      |
|      | 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     | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              | 46       | Ton  | 276  |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 0    |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 4893 |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 24     | 24    | 1      |          |      |        |        |         |      |        | 3     |              | 64       | CY   | 100  |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 1.3          |          |      |      |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 83   |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 310  |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 946  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 1539 |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 6432 |

| Ref. | Description                         | Materials                                      | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |  |
|------|-------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|--|
|      | 31 Portal Closure                   |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Canopy Demolition Cost              | Building Demolition - Steel                    | 02 41 16.13 0020       | 0.27      | CF   | 16     | 16    | 10     |          |      |        |        |         |      | 8      | EA   |              | 20480    | CF   | 5530  |  |
|      | Structure's Vol. Demolition         |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      | 0.3          | 228      | CY   |       |  |
|      | 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     | Demolition debris, off-site haul and disposal  | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        |      |              | 55       | Ton  | 330   |  |
|      | Transportation Cost Steel Drive     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Disposal Cost Steel                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0     |  |
|      | Subtotal                            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 5860  |  |
|      | Earthwork - North & South Breakouts |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Cut and fill - North Breakout       | Cut and fill common earth, 8" lift, 2 passes   | G1030 1100             | 7.00      | CY   |        |       |        |          |      | 80     |        |         |      |        |      |              | 80       | CY   | 560   |  |
|      | Cut and fill - South Breakout       | Cut and fill common earth, 8" lift, 2 passes   | G1030 1100             | 7.00      | CY   |        |       |        |          |      | 20     |        |         |      |        |      |              | 20       | CY   | 140   |  |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Subtotal                            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 700   |  |
|      | Concrete Demolition                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Concrete Cost                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Concrete Vol. Demolished            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Subtotal                            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0     |  |
|      | Portal Sealing                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Seal Construction                   | Seal portals, materials                        | JennChem               | 4320.00   | EA   |        |       |        |          |      |        |        |         |      |        |      |              | 8        | EA   | 34560 |  |
|      | Labor                               | Seal portals, labor                            | JennChem               | 265.00    | HR   |        |       |        |          |      |        |        |         |      | 4      | HR   |              | 32       | HR   | 8480  |  |
|      | Site preparation                    | Portal seal, site preparation crew             | Crew B-1               | 1464.40   | Day  |        |       |        |          |      |        |        |         |      | 1      | Day  |              | 8        | Day  | 11715 |  |
|      | Block retaining walls               | Block wall, reinforced, 4" thick (2 each seal) | 04 22 10.34 1500       | 8.50      | SF   |        | 20    | 8.6    |          | 344  |        |        |         |      | 16     | EA   |              | 5504     | SF   | 46784 |  |
|      | Transportation Costs                | Portal seal support, material haulage          | Classic Helicopters    | 11965.00  | Job  |        |       |        |          |      |        |        |         |      | 1      | Job  |              | 1        | Job  | 11965 |  |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Subtotal                            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |  |
|      | Total                               |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 63312 |  |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |     |     |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|-----|-----|
|      | 32 Concrete Conveyor Bay            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Structure's Demolition Cost         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | 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                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 0   |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 0   |     |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   |        |       |        |          |      | 15     |        |         |      |        |      |              |          | 15   | CY   | 24  |     |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              | 1.3      |      |      |     |     |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 20   | CY  | 44  |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 20   | CY  | 75  |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 20   | CY  | 228 |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 371 |     |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 371 |     |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |      |      |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|------|------|
|      | 33 ROM Coal Staking Tube            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Structure's Demolition Cost         | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   |        |       | 80     | 20       |      |        |        |         |      |        | CF    |              | 25133    | CF   | 6786 |      |      |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              | 0.3      | 279  | CY   |      |      |
|      | 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     | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              |          | 67   | Ton  | 402  |      |
|      | Transportation Cost Steel Drive     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Disposal Cost Steel                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 0    |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 7188 |      |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Concrete Demolition                 | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 25     | 25    | 3      |          |      |        |        |         |      |        | FT    |              |          | 69   | CY   | 108  |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              | 1.3      |      |      |      |      |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 90   | CY   | 199  |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 90   | CY   | 337  |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |       |              |          |      | 90   | CY   | 1026 |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 1670 |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |      |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 8858 |      |

| Ref. | Description                               | Materials                                     | Means Reference Number | Unit Cost | Unit   | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit   | Cost |      |
|------|---|---|------------------------|-----------|--------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|--------|------|------|
|      | 34 Mine MCC Building and Electrical Tower |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | MCC Bldg Demolition Cost                  | Pre-engineered steel bldg demo.>12,500 SF     | 13 05 05.50 0650       | 1.68      | SF Flr | 30.5   | 12    | 9      |          |      |        |        | 480     |      |        | lb/CY | 0.3          | 366      | SF Flr | 615  |      |
|      | Elec Tower Demolition Cost                | Torch cutting, steel, 1" thick plate          | 02 41 19.27 0020       | 3.21      | LF     | 220    |       |        |          |      |        |        | 76.33   |      |        | lb/FT |              | 220      | LF     | 706  |      |
|      | 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           | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton    |        |       |        |          |      |        |        |         |      |        |       |              |          | 17     | Ton  | 102  |
|      | Transportation Cost Steel Drive           |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Disposal Cost Steel                       |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Subtotal                                  |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      | 1423 |
|      | Equipment's Disposal Cost                 |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Dismantling Cost                          |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Equipment's Vol. Demolished               |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Loading Costs                             |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Transportation Costs                      |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Disposal Costs                            |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Subtotal                                  |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Concrete Demolition                       |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Concrete Cost                             | Front End Loader 3CY                          | 31 23 16.42 1300       | 2.21      | CY     | 30.5   | 12    | 0.5    |          |      |        |        |         |      |        |       |              |          | 7      | CY   | 15   |
|      | Concrete Vol. Demolished                  |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       | 1.3          |          |        |      |      |
|      | Loading Costs                             | Front End Loader 3CY                          | 31 23 16.42 1300       | 2.21      |        |        |       |        |          |      |        |        |         |      |        |       |              |          | 9      | CY   | 20   |
|      | Transportation Costs                      | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip       | 31 23 23.20 1014       | 3.74      | CY     |        |       |        |          |      |        |        |         |      |        |       |              |          | 9      | CY   | 34   |
|      | Disposal Costs                            | On Site Disposal                              | 02 41 16.17 4200       | 11.40     | CY     |        |       |        |          |      |        |        |         |      |        |       |              |          | 9      | CY   | 103  |
|      | Subtotal                                  |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      | 172  |
|      | Concrete Demolition                       |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Concrete Cost                             |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Concrete Vol. Demolished                  |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Loading Costs                             |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Transportation Costs                      |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Disposal Costs                            |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      |      |
|      | Subtotal                                  |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      | 0    |
|      | Total                                     |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |      | 1595 |

| Ref. | Description                          | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |     |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|-----|
|      | 35 Backup Ventilation Fans           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Structure's Demolition Cost          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | 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            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0     |     |
|      | Equipment's Disposal Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Dismantling Cost                     | Mechanical Equipment Demolition, Heavy          | 23 05 05.10 3600       | 1225.00   | Ton  |        |       |        |          |      |        | 30     |         |      |        | Ton  |              | 30       | Ton  | 36750 |     |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Transportation and Disposal Cost All | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        |         |      |        |      |              |          | 30   | Ton   | 180 |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 36930 |     |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Concrete Cost                        | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | SF   | 20     | 20    | 0.5    |          | 400  |        |        |         |      |        | SF   |              | 400      | SF   | 628   |     |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0     |     |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0     |     |
|      | Disposal Costs                       | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      | 7.4    |        |         |      |        |      | 1.3          | 10       | CY   | 110   |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 738   |     |
|      | Shot Crete                           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |     |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0     |     |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 37668 |     |

| Ref. | Description                          | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |       |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|-------|
|      | 36 Main Ventilation Fan              |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Structure's Demolition Cost          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | 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 Helicopter | Portal seal support, material haulage           | Classic Helicopters    | 11965.00  | Job  |        |       |        |          |      |        |        |         |      | 0.2    | Day  |              | 0.2      | Day  | 2393  |       |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 2393  |       |
|      | Equipment's Disposal Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Dismantling Cost                     | Mechanical Equipment Demolition, Heavy          | 23 05 05.10 3600       | 1225.00   | Ton  |        |       |        |          |      |        | 28     |         |      |        | Ton  |              | 28       | Ton  | 34300 |       |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Transportation and Disposal Cost All | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        |         |      |        |      |              |          | 28   | Ton   | 168   |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       | 34468 |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Concrete Cost                        | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | SF   | 20     | 20    | 0.5    |          | 400  |        |        |         |      |        | SF   |              | 400      | SF   | 628   |       |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Disposal Costs                       | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        | 7.4    |         |      |        |      | 1.3          | 10       | CY   | 110   |       |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       | 738   |
|      | Shot Crete                           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |       |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       | 0     |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       | 37599 |

| Ref. | Description                          | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |      |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
|      | 37 Non-Potable Water Tanks           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Structure's Demolition Cost          | 5000 to 12000 gal. abovegrnd steel tank removal | 1305 05.75 0530        | 1625.00   | EA   |        |       |        |          |      |        |        |         |      | 3      | EA   |              | 3        | EA   | 4875 |      |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | 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 and Disposal Cost All | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 2       |      |        | Ton  |              | 2.00     | Ton  | 12   |      |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Disposal Cost Steel                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 4887 |
|      | Equipment's Disposal Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Dismantling Cost                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Cost                        | Concrete Floor Demolition, 6" thick, reinforced | 02 41 16.17 0420       | 1.11      | SF   | 15     | 15    | 0.5    |          |      |        |        |         |      |        |      |              |          |      |      | 250  |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Loading Costs                        | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |      | 1.3          |          |      |      | 323  |
|      | Transportation Costs                 | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 546  |
|      | Disposal Costs                       | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 1664 |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 2783 |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 7670 |

| Ref. | Description                          | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|
|      | 38 Powder and Cap Magazines          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Structure's Demolition Cost          | Mechanical Equipment Demolition, Heavy        | 23 05 05.10 3600       | 1225.00   | Ton  |        |       |        |          |      |        | 4      |         |      |        | Ton  |              | 4        | Ton  | 4900 |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | 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 and Disposal Cost All | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        | 4      |         |      |        | Ton  |              | 4        | Ton  | 24   |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 4924 |
|      | Equipment's Disposal Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Dismantling Cost                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 4924 |

| Ref. | Description                         | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |      |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
|      | 39 Chain Link Fence                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Structure's Demolition Cost         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | 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     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 0    |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Fence Demolition                    | Chain link removal, 8'-10' high               | 02 41 13.60 1700       | 4.44      | FT   | 1500   |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 6660 |
|      | Transportation and Disposal         | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 3.5     |      |        |      |              |          |      |      | 16   |
|      |                                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 6676 |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 6676 |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |    |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|----|
|      | 40 Concrete Electrical Junction Box |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Structure's Demolition Cost         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | 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     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Footing                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Structure                           | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 2      | 2     | 1      |          |      | 1      |        |         |      |        | CY   |              | 1        | CY   | 2    |    |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 4      | 4     | 1      |          |      | 2      |        |         |      |        | CY   |              | 2        | CY   | 3    |    |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              | 1.3      |      | 4    | CY |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 4    | CY |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 4    | CY |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 4    | CY |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 73 |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |    |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 73 |

| Ref. | Description                         | Materials                                     | Means Reference Number | Unit Cost | Unit   | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit   | Cost       |
|------|-------------------------------------|---|------------------------|-----------|--------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|--------|------------|
|      | 41 Loadout MCC Building             |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | MCC Bldg Demolition Cost            | Pre-engineered steel bldg demo,>12,500 SF     | 13 05 05.50 0650       | 1.68      | SF Flr | 16     | 8     | 8      |          |      |        |        |         |      |        |       |              | 128      | SF Flr | 215        |
|      | 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     | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton    |        |       |        |          |      |        | 480    |         |      |        | lb/CY | 0.3          | 3        | Ton    | 18         |
|      | Transportation Cost Steel Drive     |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Disposal Cost Steel                 |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | <b>Subtotal</b>                     |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        | <b>233</b> |
|      | Equipment's Disposal Cost           |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Dismantling Cost                    |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Equipment's Vol. Demolished         |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Loading Costs                       |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Transportation Costs                |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Disposal Costs                      |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | <b>Subtotal</b>                     |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Concrete Demolition                 |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Concrete Cost                       | Front End Loader 3CY                          | 31 23 16.42 1300       | 2.21      | CY     | 16     | 8     | 0.5    |          |      |        |        |         |      |        |       |              | 2        | CY     | 4          |
|      | Concrete Vol. Demolished            |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       | 1.3          |          |        |            |
|      | Loading Costs                       | Front End Loader 3CY                          | 31 23 16.42 1300       | 2.21      |        |        |       |        |          |      |        |        |         |      |        |       |              | 3        | CY     | 7          |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip       | 31 23 23.20 1014       | 3.74      | CY     |        |       |        |          |      |        |        |         |      |        |       |              | 3        | CY     | 11         |
|      | Disposal Costs                      | On Site Disposal                              | 02 41 16.17 4200       | 11.40     | CY     |        |       |        |          |      |        |        |         |      |        |       |              | 3        | CY     | 34         |
|      | <b>Subtotal</b>                     |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        | <b>56</b>  |
|      | Concrete Demolition                 |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Concrete Cost                       |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Concrete Vol. Demolished            |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Loading Costs                       |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Transportation Costs                |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | Disposal Costs                      |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        |            |
|      | <b>Subtotal</b>                     |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        | <b>0</b>   |
|      | <b>Total</b>                        |   |                        |           |        |        |       |        |          |      |        |        |         |      |        |       |              |          |        | <b>289</b> |

| Ref. | Description                         | Materials                                    | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area  | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |
|------|-------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|-------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|
|      | 42 Mine Parking                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Structure's Demolition Cost         |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Structure's Vol. Demolition         |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | 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     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Equipment's Disposal Cost           |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Dismantling Cost                    |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Equipment's Vol. Demolished         |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      | 0     |
|      | Pavement Removal                    | Pavement Removal, bituminous, 4" to 6" thick | 02 41 13.17 5050       | 9.80      | SY   |        |       |        | 0.33     | 27800 |        |        |         |      |        | SF   |              | 3089     | SY   | 30272 |
|      | Disposal Costs                      | On Site Disposal                             | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |       | 340    |        |         |      |        | CY   | 1.3          | 442      | CY   | 5039  |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      | 35311 |
|      | Concrete Demolition                 |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Cost                       |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Vol. Demolished            |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |
|      | <b>Total</b>                        |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      | 35311 |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|
|      | 43 Abandoned Concrete Reclaim Room  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Structure's Demolition Cost         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | 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     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Fence Demolition                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 15     | 20    | 10     |          |      |        | 111    |         |      | 2      | CY   |              | 222      | CY   | 349  |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      | 1.3          |          |      |      |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |      |              | 289      | CY   | 639  |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              | 289      | CY   | 1081 |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              | 289      | CY   | 3295 |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 5364 |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 5364 |

| Ref. | Description                         | Materials                                      | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |
|------|-------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|
|      | 44 Jersey Barrier                   |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Structure's Demolition Cost         |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Structure's Vol. Demolition         |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | 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     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Equipment's Disposal Cost           |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Dismantling Cost                    |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Equipment's Vol. Demolished         |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Median Barrier                      | Median barrier, precast conc, remove and store | 02 41 13.30 1600       | 14.00     | FT   | 760    |       |        |          |      |        |        |         |      |        |      |              | 760      | FT   | 10640 |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 10640 |
|      | Concrete Demolition                 |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Cost                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Vol. Demolished            |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | <b>Total</b>                        |  |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 10640 |

| Ref. | Description                         | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|
|      | 45 Concrete Trash Chute             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Structure's Demolition Cost         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | 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     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |
|      | Walls                               |   |                        |           |      | 10     | 10    | 0.67   |          |      |        | 5      |         |      |        | CY   |              |          |      |      |
|      | Walls                               |   |                        |           |      | 50     | 10    | 0.67   |          |      |        | 25     |         |      |        | CY   |              |          |      |      |
|      | Floor                               |   |                        |           |      | 52     | 12    | 1      |          |      |        | 23     |         |      |        | CY   |              |          |      |      |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinford | 02 41 16.17 2500       | 1.57      | CY   |        |       |        |          |      |        | 53     |         |      |        | CY   |              |          |      | 83   |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      | 1.3          |          |      |      |
|      | Loading Costs                       | Front End Loader 3CY                          | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 152  |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip       | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 258  |
|      | Disposal Costs                      | On Site Disposal                              | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 787  |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 1280 |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 1280 |

| Ref. | Description                          | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |    |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|----|
|      | 46 Emergency Reclaim Feeder Gate     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Structure's Demolition Cost          | Fabricated steel demo, 121-500 lb             | 05 05 05.10 0380       | 68.00     | EA.  |        |       |        |          |      |        |        |         |      |        |       |              | 1        | EA.  | 68   |    |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | 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 & Disposal Cost Steel | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  | 3      | 3     |        |          |      |        |        | 20.4    |      |        | lb/SF |              | 0.09     | Ton  | 1    |    |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 69 |
|      | Equipment's Disposal Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Dismantling Cost                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Foundation                           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Tube                                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |    |
|      | <b>Subtotal</b>                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 0  |
|      | <b>Total</b>                         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 69 |

| Ref. | Description                          | Materials  |
|------|--------------------------------------|--|
|      | <b>47 Gantry Lift Assembly</b>       |  |
|      | Structure's Demolition Cost          | Fabricated steel demo, 121-500 lb                    |
|      | <b>Structure's Demolition Cost</b>   | <b>Fabricated steel demo, 501-1000 lb</b>            |
|      | 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 & Disposal Cost Steel |  |
|      | Transportation Cost Steel Drive      |  |
|      | <b>Subtotal</b>                      |  |
|      |                                      |  |
|      | Equipment's Disposal Cost            |  |
|      | Dismantling Cost                     |  |
|      | Equipment's Vol. Demolished          |  |
|      | Loading Costs                        |  |
|      | Transportation Costs                 |  |
|      | Disposal Costs                       |  |
|      | <b>Subtotal</b>                      |  |
|      |                                      |  |
|      | Concrete Demolition                  |  |
|      | <b>Footings</b>                      | <b>Concrete, Selective Demo, Reinf 1-2% of X Sec</b> |
|      | Concrete Vol. Demolished             |  |
|      | Loading Costs                        | Front End Loader 3CY                                 |
|      | Transportation Costs                 | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip              |
|      | Disposal Costs                       | On Site Disposal                                     |
|      | <b>Subtotal</b>                      |  |
|      |                                      |  |
|      | Concrete Demolition                  |  |
|      | Foundation                           | <b>Concrete, Selective Demo, Reinf 1-2% of X Sec</b> |
|      | Tube                                 |  |
|      | Concrete Cost                        |  |
|      | Concrete Vol. Demolished             |  |
|      | Loading Costs                        | Front End Loader 3CY                                 |
|      | Transportation Costs                 | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip              |
|      | Disposal Costs                       | On Site Disposal                                     |
|      | <b>Subtotal</b>                      |  |
|      |                                      |  |
|      | <b>Total</b>                         |  |





| Ref. | Description                          | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |      |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|------|
|      | Mine Substation                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Structure's Demolition Cost          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | 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      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 0    |
|      | Equipment's Demolition Cost          | Demo of elec transformer. 3 ph. 750kVA          | 26 05 05.10 1570       | 1700.00   | EA.  |        |       |        |          |      |        |        |         |      | 2      |      |              | 2        | EA.  | 3400 |      |
|      | Dismantling Cost                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Loading Costs                        | Hydraulic crane, 12 ton, with operator          | Crew A-3H              | 1518.58   | Day  |        |       |        |          |      |        |        |         |      |        |      |              | 1        | Day  | 1519 |      |
|      | Transportation and Disposal Cost All | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        |         |      |        |      |              | 7        | Ton  | 42   |      |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 4961 |
|      | Fence Demolition                     | Chain link removal, 8'-10' high                 | 02 41 13.60 1700       | 4.44      | FT   | 654    |       |        |          |      |        |        |         |      |        |      |              |          | 654  | FT   | 2904 |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 2904 |
|      | Concrete Demolition                  | Concrete Floor Demolition, 6" thick, reinforced | 02 41 16.17 0420       | 1.11      | SF   | 20     | 20    | 0.5    |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |      |
|      | Loading Costs                        | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 21   |
|      | Transportation Costs                 | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 36   |
|      | Disposal Costs                       | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 110  |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 611  |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 8476 |

| Ref. | Description                         | Materials                                    | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area  | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |       |
|------|-------------------------------------|--|------------------------|-----------|------|--------|-------|--------|----------|-------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|-------|
|      | Paved Mine Roads                    |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Structure's Demolition Cost         |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Structure's Vol. Demolition         |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | 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     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      |                                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Equipment's Disposal Cost           |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Dismantling Cost                    |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Equipment's Vol. Demolished         |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      |                                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Pavement Removal                    | Pavement Removal, bituminous, 4" to 6" thick | 02 41 13.17 5050       | 9.80      | SY   | 1750   | 24    | 0.33   |          | 42000 |        |        |         |      |        | SF   |              | 4667     | SY   | 45737 |       |
|      | Disposal Costs                      | On Site Disposal                             | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |       | 513    |        |         |      |        | CY   | 1.3          | 667      | CY   | 7604  |       |
|      |                                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      |                                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       | 53341 |
|      |                                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Concrete Demolition                 |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Concrete Cost                       |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Concrete Vol. Demolished            |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Loading Costs                       |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Transportation Costs                |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | Disposal Costs                      |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | <b>Subtotal</b>                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      |                                     |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       |       |
|      | <b>Total</b>                        |  |                        |           |      |        |       |        |          |       |        |        |         |      |        |      |              |          |      |       | 53341 |

| Ref.   | Description                     | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time  | Number | Unit | Swell Factor | Quantity | Unit | Cost  |
|--------|---------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|-------|--------|------|--------------|----------|------|-------|
|        | Culvert Demolition              |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
| DC-1   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 60     | 1.5   | 3      |          |      |        |        |         |       |        | FT   |              | 10       | CY   | 18    |
| DC-2   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 60     | 1.5   | 3      |          |      |        |        |         |       |        | FT   |              | 10       | CY   | 18    |
| DC-3   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 65     | 1.5   | 3      |          |      |        |        |         |       |        | FT   |              | 11       | CY   | 20    |
| DC-4   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 400    | 2     | 3      |          |      |        |        |         |       |        | FT   |              | 89       | CY   | 161   |
| DC-5   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 350    | 2     | 3      |          |      |        |        |         |       |        | FT   |              | 78       | CY   | 141   |
| DC-6   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 107    | 2     | 3      |          |      |        |        |         |       |        | FT   |              | 24       | CY   | 43    |
| DC-7   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 155    | 2     | 3      |          |      |        |        |         |       |        | FT   |              | 34       | CY   | 62    |
| DC-8   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 167    | 2     | 3      |          |      |        |        |         |       |        | FT   |              | 37       | CY   | 67    |
| DC-9   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 186    | 2     | 3      |          |      |        |        |         |       |        | FT   |              | 41       | CY   | 75    |
| DC-10  |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 60     | 2     | 3      |          |      |        |        |         |       |        | FT   |              | 13       | CY   | 24    |
| DC-11  |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 101    | 2     | 3      |          |      |        |        |         |       |        | FT   |              | 22       | CY   | 41    |
| DC-12a |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 140    | 2.5   | 3.5    |          |      |        |        |         |       |        | FT   |              | 45       | CY   | 82    |
| DC-12b |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 79     | 2.5   | 3      |          |      |        |        |         |       |        | FT   |              | 22       | CY   | 40    |
| DC-12c |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 357    | 2.5   | 3      |          |      |        |        |         |       |        | FT   |              | 99       | CY   | 179   |
| DC-12d |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 9      | 2.5   | 3.5    |          |      |        |        |         |       |        | FT   |              | 3        | CY   | 5     |
| DC-13  |                                 | <b>PREVIOUSLY REMOVED</b>                     |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      | 0     |
| DC-14  |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 40     | 1.5   | 3      |          |      |        |        |         |       |        | FT   |              | 7        | CY   | 12    |
| DC-15  |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 45     | 1.5   | 3      |          |      |        |        |         |       |        | FT   |              | 8        | CY   | 14    |
| DC-16  |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 25     | 1.5   | 3      |          |      |        |        |         |       |        | FT   |              | 4        | CY   | 8     |
| DC-17  |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 120    | 1.5   | 3      |          |      |        |        |         |       |        | FT   |              | 20       | CY   | 36    |
| DC-18  |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 27     | 1.5   | 3      |          |      |        |        |         |       |        | FT   |              | 5        | CY   | 8     |
| UC-1   |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 120    | 5     | 6      |          |      |        |        |         |       |        | FT   |              | 133      | CY   | 241   |
| UC-1a  |                                 | Excavation Bulk Bank 2 CY (322BL)             | 31 23 16.42 0260       | 1.81      | CY   | 360    | 5     | 6      |          |      |        |        |         |       |        | FT   |              | 400      | CY   | 724   |
|        | <b>Subtotal</b>                 |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | Equipment's Disposal Cost       |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | Dismantling Cost                |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | Equipment's Vol. Demolished     |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | Loading Costs                   |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | Transportation Costs            |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | Disposal Costs                  |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | <b>Subtotal</b>                 |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | Demolition Cost 18" CMP         |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        |                                 | Demolition, CMP pipe, steel, 18"              | 02 41 13.40 0160       | 3.90      | LF   | 402    |       |        |          |      |        |        | 15      | lb/ft |        | FT   |              | 402      | FT   | 1568  |
|        |                                 | Demolition Cost 24" CMP                       | 02 41 13.40 0170       | 14.70     | LF   | 2151   |       |        |          |      |        |        | 19      | lb/ft |        | FT   |              | 2151     | FT   | 31620 |
|        |                                 | Demolition Cost 60" CMP                       | 24 41 13.40 0190       | 22.00     | LF   | 480    |       |        |          |      |        |        | 103     | lb/ft |        |      |              | 480      | FT   | 10560 |
|        | Concrete Vol. Demolished        |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | Loading Costs                   |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | Transportation & Disposal Costs |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        |                                 | Demolition debris, off-site haul and disposal | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        | 96339  | lb      |       |        |      |              | 48       | Tons | 288   |
|        | Disposal Costs                  |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | <b>Subtotal</b>                 |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |
|        | <b>Total</b>                    |   |                        |           |      |        |       |        |          |      |        |        |         |       |        |      |              |          |      |       |

| Ref. | Description                          | Materials                                     | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost  |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|-------|
|      | Lila Old Fan Portals                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Structure's Demolition Cost          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Structure's Vol. Demolition          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | 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      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Old Horse Canyon Lila Fan Portals    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Equipment's Disposal Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Dismantling Cost                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Equipment's Vol. Demolished          |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation and Disposal Cost All |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 0     |
|      | Portal Sealing                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Seal Construction                    | Seal portals, materials                       | JennChem               | 4320.00   | EA.  |        |       |        |          |      |        |        |         |      | 2      | EA.  |              | 2        | EA.  | 8640  |
|      | Labor                                | Seal portals, labor                           | JennChem               | 265.00    | HR   |        |       |        |          |      |        |        |         | 8    | HR     |      | 16           | HR       | 4240 |       |
|      | Site preparation                     | Portal seal, site preparation crew            | Crew B-1               | 1464.40   | Day  |        |       |        |          |      |        |        |         | 2    | Day    |      | 4            | Day      | 5858 |       |
|      | Block retaining walls                | Block wall, reinforced, 4" thick (2 each seal | 04 22 10.34 1500       | 8.50      | SF   |        | 20    | 8.6    |          | 344  |        |        |         |      | 2      |      | 688          | SF       | 5848 |       |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 24586 |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |       |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      | 24586 |

| Ref. | Description                          | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit  | Swell Factor | Quantity | Unit | Cost |      |
|------|--------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|-------|--------------|----------|------|------|------|
|      | Visual Disconnect                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Structure's Demolition Cost          | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   | 20     | 30    | 8      |          |      |        |        |         |      |        | FT    |              | 4800     | CF   | 1296 |      |
|      | Structure's Demolition Cost          | Building Demolition - Steel                     | 02 41 16.13 0020       | 0.27      | CF   | 40     | 10    | 8      |          |      |        |        |         |      |        | FT    |              | 3200     | CF   | 864  |      |
|      | 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 & Disposal Cost Steel | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        | 480     |      |        | lb/CY |              | 71       | Ton  | 426  |      |
|      | Transportation Cost Steel Drive      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 2586 |
|      | Equipment's Disposal Cost            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Dismantling Cost                     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Equipment's Vol. Demolished          | Mechanical Equipment Demolition, Heavy          | 23 05 05.10 3600       | 1225.00   | Ton  |        |       |        |          |      |        | 1      |         |      |        | Ton   |              | 3        | Ton  | 3675 |      |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Transportation & Disposal Cost Steel | Demolition debris, off-site haul and disposal   | Scamp                  | 6.00      | Ton  |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 3675 |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Cost                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Loading Costs                        |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Transportation Costs                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Disposal Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Demolition                  |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      |      |
|      | Concrete Cost                        | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 4      | 6     | 0.5    |          |      |        |        |         |      |        | FT    |              | 0.4      | CY   | 1    |      |
|      | Concrete Vol. Demolished             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       | 1.3          | 1        | CY   |      |      |
|      | Loading Costs                        | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |       |              | 1        | CY   | 2    |      |
|      | Transportation Costs                 | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |       |              | 1        | CY   | 4    |      |
|      | Disposal Costs                       | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |       |              | 1        | CY   | 11   |      |
|      | Subtotal                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 18   |
|      | Total                                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |       |              |          |      |      | 6279 |

| Ref. | Description                         | Materials                                       | Means Reference Number | Unit Cost | Unit | Length | Width | Height | Diameter | Area | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost |     |     |
|------|-------------------------------------|---|------------------------|-----------|------|--------|-------|--------|----------|------|--------|--------|---------|------|--------|------|--------------|----------|------|------|-----|-----|
|      | Drop Box                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Structure's Demolition Cost         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Structure's Vol. Demolition         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | 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     |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Equipment's Disposal Cost           |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Dismantling Cost                    |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Equipment's Vol. Demolished         |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Footing                             |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Structure                           | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 2      | 2     | 3.44   |          |      | 2      |        |         |      |        | CY   |              | 2        | CY   | 3    |     |     |
|      | Concrete Cost                       | Concrete Wall/Floor Demo, 12" thick, reinforced | 02 41 16.17 2500       | 1.57      | CY   | 4      | 4     | 1.5    |          |      | 4      |        |         |      |        | CY   |              | 4        | CY   | 6    |     |     |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              | 1.3      | 8    | CY   | 6   |     |
|      | Loading Costs                       | Front End Loader 3CY                            | 31 23 16.42 1300       | 2.21      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          | 8    | CY   | 18  |     |
|      | Transportation Costs                | 12 CY (16 Ton) Dump Truck 1/2 rod. Trip         | 31 23 23.20 1014       | 3.74      | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          | 8    | CY   | 30  |     |
|      | Disposal Costs                      | On Site Disposal                                | 02 41 16.17 4200       | 11.40     | CY   |        |       |        |          |      |        |        |         |      |        |      |              |          | 8    | CY   | 91  |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      | 145 |     |
|      | Concrete Demolition                 |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Concrete Cost                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Concrete Vol. Demolished            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Loading Costs                       |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Transportation Costs                |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Disposal Costs                      |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Subtotal                            |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     |     |
|      | Total                               |   |                        |           |      |        |       |        |          |      |        |        |         |      |        |      |              |          |      |      |     | 145 |

**Lila Canyon Mine Reclamation Bond Estimate**  
Earthwork Costs

| Description   | Quantity | Units | Production Rate | Units   | Production Time | Units | Materials/Equipment/Labor                     | Cost Reference<br>RSMMeans Ref # | Unit Cost | Units | Quantity | Cost             |
|---|----------|-------|-----------------|---------|-----------------|-------|---|----------------------------------|-----------|-------|----------|------------------|
| <b>Mine Site Earthwork Estimate</b>                     |          |       |                 |         |                 |       |   |                                  |           |       |          |                  |
| <b>Load and Haul Backfill</b>                           |          |       |                 |         |                 |       |   |                                  |           |       |          |                  |
| 631G (9-51)(2nd04)                                      | 43783    | CY    | 393             | CY/HR   | 111.4           | HR    | Self-propelled scraper, 34 CY, 500 HP         | Crew B-33K                       | 418.20    | HR    | 111.4    | \$46,587         |
| <b>Spread, Compact, and Scarify Backfill</b>            |          |       |                 |         |                 |       |   |                                  |           |       |          |                  |
| D8, Track-mounted                                       | 43783    | CY    | 1850            | CY/Day  | 23.7            | Day   | Dozer, 300 HP, 50' haul, sandy clay and loam  | Crew B-10M                       | 2978.00   | Day   | 23.7     | \$70,579         |
| 825G (6-13)(4Q03)                                       | 43783    | CY    | 4100            | CY/Day  | 10.7            | Day   | Sheepsfoot roller, 315 HP, 8" lifts, 2 passes | Crew B-10G                       | 2313.60   | Day   | 10.7     | \$24,756         |
| Scarify subsoil   | 28.70    | ac    | 240             | MSF/Day | 5.2             | Day   | 75 HP Dozer with scarifier                    | 32 91 13.23 3100                 | 5.85      | MSF   | 1250     | \$7,313          |
| <b>Backfill, Grade, and Scarify Upper Road Area</b>     |          |       |                 |         |                 |       |   |                                  |           |       |          |                  |
| 770 (20-11)(3Q03)                                       | 5000     | CY    | 882             | CY/Day  | 5.7             | Day   | Off-highway rear dump truck, 40 ton, 10 MPH   | Crew B-34F                       | 2234.80   | Day   | 5.7      | \$12,738         |
| 988G EROPS (9-38)(3Q04)                                 | 5000     | CY    | 1480            | CY/Day  | 3.4             | Day   | Loader, 500 HP, wheel mounted, 5 CY cap       | Crew B-14A                       | 4306.40   | Day   | 3.4      | \$14,642         |
| D8, Track-mounted                                       | 5000     | CY    | 1850            | CY/Day  | 2.7             | Day   | Dozer, 300 HP, 50' haul, sandy clay and loam  | Crew B-10M                       | 2978.00   | Day   | 2.7      | \$8,041          |
| Scarify subsoil   | 4.24     | ac    | 240             | MSF/Day | 0.8             | Day   | 75 HP Dozer with scarifier                    | 32 91 13.23 3100                 | 5.85      | MSF   | 185      | \$1,082          |
| <b>Load, Haul, and Spread Topsoil - Main Area</b>       |          |       |                 |         |                 |       |   |                                  |           |       |          |                  |
| 631G (9-51)(2nd04)                                      | 61086    | CY    | 393             | CY/HR   | 155.4           | HR    | Self-propelled scraper, 34 CY, 500 HP         | Crew B-33K                       | 418.20    | HR    | 155.4    | \$64,988         |
| D9R Semi-U EROPS (9-54 (2H04)                           | 61086    | CY    | 1850            | CY/Day  | 33              | Day   | Dozer, 300 HP, 50' haul, sandy clay and loam  | Crew B-10M                       | 2978.00   | Day   | 33       | \$98,274         |
| <b>Load, Haul, and Spread Topsoil - Upper Road Area</b> |          |       |                 |         |                 |       |   |                                  |           |       |          |                  |
| 770 (20-11)(3Q03)                                       | 10000    | CY    | 882             | CY/Day  | 11.3            | Day   | Off-highway rear dump truck, 40 ton, 10 MPH   | Crew B-34F                       | 2234.80   | Day   | 11.3     | \$25,253         |
| 988G EROPS (9-38)(3Q04)                                 | 10000    | CY    | 1480            | CY/Day  | 6.8             | Day   | Loader, 500 HP, wheel mounted, 5 CY cap       | Crew B-14A                       | 4306.40   | Day   | 6.8      | \$29,284         |
| D8, Track-mounted                                       | 10000    | CY    | 1850            | CY/Day  | 5.4             | Day   | Dozer, 300 HP, 50' haul, sandy clay and loam  | Crew B-10M                       | 2978.00   | Day   | 5.4      | \$16,081         |
| <b>Support</b>  |          |       |                 |         |                 |       |   |                                  |           |       |          |                  |
| Water Truck   |          |       |                 |         |                 |       | 5000 gallon water truck                       | Crew B-9A                        | 2041.01   | Day   | 16.0     | \$32,656         |
| <b>Subtotal</b>   |          |       |                 |         |                 |       |   |                                  |           |       |          | <b>\$452,273</b> |

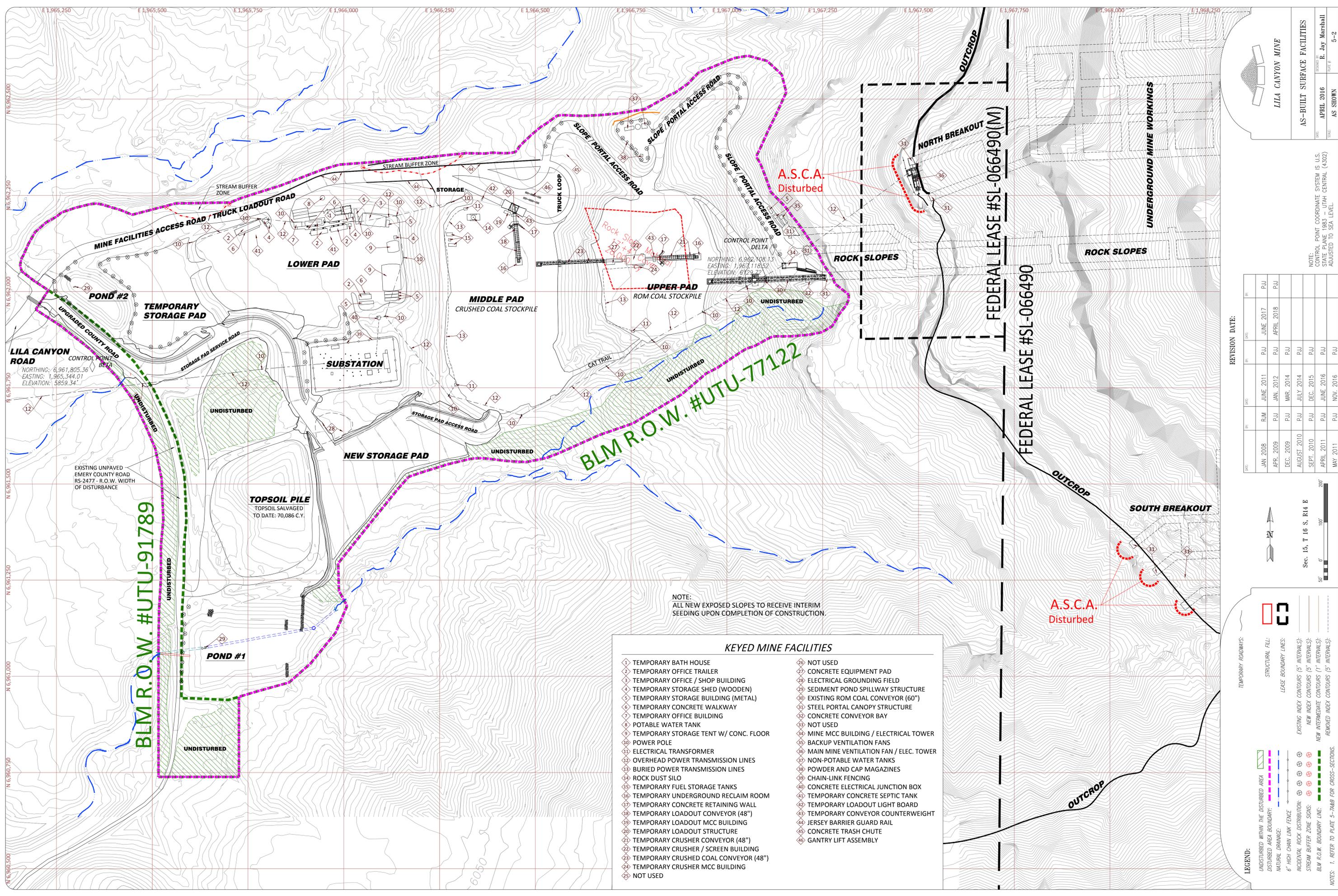
**Lila Canyon Mine Reclamation Bond Estimate**

Revegetation Costs

| Ref. | Description                              | Materials                              | Means Reference Number | Unit Cost | Unit | Area  | Volume | Weight | Density | Time | Number | Unit | Swell Factor | Quantity | Unit | Cost           |
|------|--|--|------------------------|-----------|------|-------|--------|--------|---------|------|--------|------|--------------|----------|------|----------------|
|      | <b>Mine Site Revegetation Estimate</b>   |  |                        |           |      |       |        |        |         |      |        |      |              |          |      |                |
|      | <i>Ground Preparation</i>                |  |                        |           |      |       |        |        |         |      |        |      |              |          |      |                |
|      | Pocking                                  | Excavation Bulk Bank 2 CY (322BL)      | 31 23 16.42 0260       | 1.81      | CY   | 37.02 | ac     |        |         | 340  | CY/ac  |      |              | 12586.8  | CY   | 22782          |
|      | <i>Site Revegetation</i>                 |  |                        |           |      |       |        |        |         |      |        |      |              |          |      |                |
|      | Mulch Material, Labor, and Equipment     | Power mulcher, large, hay 1" deep      | 32 91 13.16 0390       | 30.50     | MSF  | 37.02 |        |        |         |      |        | ac   |              | 1613     | MSF  | 49197          |
|      | Seeding Material                         | Lila Canyon Seed Mix (see below)       | Great Basin Seed       | 155.80    | ac   | 37.02 |        |        |         |      |        | ac   |              | 37.00    | AC   | 5764           |
|      | Seeding Equipment and Labor              | Hydroseeder (equipment and labor only) | 32 92 19.14 4600       | 22.00     | MSF  | 37.02 |        |        |         |      |        | ac   |              | 1613     | MSF  | 35486          |
|      | Fertilizer equipment, materials, & labor | Fertilizer, hydro spread, 1.5 lb/MSF   | 32 01 90.13 0180       | 5.00      | MSF  | 37.02 |        |        |         |      |        | ac   |              | 1613     | MSF  | 8065           |
|      | <b>Subtotal</b>                          |  |                        |           |      |       |        |        |         |      |        |      |              |          |      | <b>121,294</b> |
|      | <i>Mine Site</i>                         |  |                        |           |      |       |        |        |         |      |        |      |              |          |      |                |
|      | Re-revegetate 25% of area                |  |                        |           |      |       |        |        |         |      |        |      |              |          |      | 30324          |
|      | <b>Subtotal</b>                          |  |                        |           |      |       |        |        |         |      |        |      |              |          |      | <b>30,324</b>  |
|      | <b>Total</b>                             |  |                        |           |      |       |        |        |         |      |        |      |              |          |      | <b>151,618</b> |

Seed mix cost based on the application rates provided in Table 3.4/3.5 of the MRP  
Seed prices downloaded October 2017 from greatbasinseeds.com

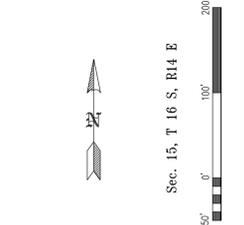
| Common Name          | Seeding Rate (lb PLS/ac) | Unit Cost (\$/lb) | Mix Cost (\$/ac)                                    |
|----------------------|--------------------------|-------------------|---|
| <b>Grasses</b>       |                          |                   |   |
| Needle and Thread    | 2.00                     | 39.5              | 79.00   |
| Indian Ricegrass     | 2.00                     | 6.95              | 13.90   |
| Basin Wild Rye       | 1.00                     | 16.95             | 16.95   |
| Galleta              | 1.00                     | 24.00             | 24.00   |
| Bluebunch Wheatgrass | 1.00                     | 8.95              | 8.95  |
| Slender Wheatgrass   | 2.00                     | 2.95              | 5.90  |
| Blue Gramma          | 1.00                     | 16.00             | 16.00   |
| <b>Forbs</b>         |                          |                   |   |
| Blue Flax            | 1.00                     | 8.75              | 8.75  |
| Palmer penstemon     | 0.25                     | 10.00             | 2.50  |
| Globemallow          | 0.50                     | 59.00             | 29.50   |
| Indian Paintbrush    | 0.10                     | 150.00            | 15.00   |
| Fringed Sage         | 0.10                     | 18.00             | 1.80  |
| <b>Shrubs</b>        |                          |                   |   |
| Wyoming Big Sage     | 0.25                     | 9.50              | 2.38  |
| Green Rabbitbrush    | 0.10                     | 18.00             | 1.80  |
| Fourwing Saltbush    | 0.84                     | 13.00             | 10.92   |
| Winterfat            | 1.00                     | 18.00             | 18.00   |
| Shadscale            | 1.00                     | 9.00              | 9.00  |
| Cliffrose            | 1.00                     | 38.00             | 38.00   |
| Black Sage           | 0.25                     | 15.95             | 3.99  |
|                      |                          |                   | Subtotal = 141.63                                   |
|                      |                          |                   | 10% increase to account for PLS requirement = 14.16 |
|                      |                          |                   | Seed mix unit cost = 155.80                         |



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

REVISION DATE:

| DATE        | BY  | DATE       | BY  |
|-------------|-----|------------|-----|
| JAN 2008    | RAJ | JUNE 2011  | PJU |
| APR 2009    | PJU | JAN 2012   | PJU |
| DEC 2009    | PJU | MAR 2014   | PJU |
| AUGUST 2010 | PJU | JULY 2014  | PJU |
| SEPT 2010   | PJU | DEC 2015   | PJU |
| APRIL 2011  | PJU | JUNE 2016  | PJU |
| MAY 2011    | PJU | NOV 2016   | PJU |
|             |     | JUNE 2017  | PJU |
|             |     | APRIL 2018 | PJU |



LEGEND:

- UNDISTURBED WITHIN THE DISTURBED AREA (Green hatched)
- DISTURBED AREA BOUNDARY (Magenta dashed line)
- NATURAL DRAINAGE (Blue dashed line)
- 6" HIGH CHAIN LINK FENCE (Black dashed line)
- INCIDENTAL ROCK DISTRIBUTION (Black dashed line)
- STREAM BUFFER ZONE SIGNS (Red dashed line)
- BLM R.O.W. BOUNDARY LINE (Green dashed line)
- TEMPORARY ROADWAYS:
  - STRUCTURAL FILL (Black solid line)
  - LEASE BOUNDARY LINES (Black solid line)
  - EXISTING INDEX CONTOURS (5' INTERVALS) (Grey dashed line)
  - NEW INDEX CONTOURS (5' INTERVALS) (Grey dashed line)
  - EXISTING INTERMEDIATE CONTOURS (1' INTERVALS) (Grey dashed line)
  - REMOVED INDEX CONTOURS (5' INTERVALS) (Grey dashed line)

NOTES:  
1. REFER TO PLATE 5-744B FOR CROSS-SECTIONS.

KEYED MINE FACILITIES

- |   |   |
|---|---|
| ① TEMPORARY BATH HOUSE                  | ⑳ NOT USED                                |
| ② TEMPORARY OFFICE TRAILER              | ㉑ CONCRETE EQUIPMENT PAD                  |
| ③ TEMPORARY OFFICE / SHOP BUILDING      | ㉒ ELECTRICAL GROUNDING FIELD              |
| ④ TEMPORARY STORAGE SHED (WOODEN)       | ㉓ SEDIMENT POND SPILLWAY STRUCTURE        |
| ⑤ TEMPORARY STORAGE BUILDING (METAL)    | ㉔ EXISTING ROM COAL CONVEYOR (60")        |
| ⑥ TEMPORARY CONCRETE WALKWAY            | ㉕ STEEL PORTAL CANOPY STRUCTURE           |
| ⑦ TEMPORARY OFFICE BUILDING             | ㉖ CONCRETE CONVEYOR BAY                   |
| ⑧ POTABLE WATER TANK                    | ㉗ NOT USED                                |
| ⑨ TEMPORARY STORAGE TENT W/ CONC. FLOOR | ㉘ MINE MCC BUILDING / ELECTRICAL TOWER    |
| ⑩ POWER POLE                            | ㉙ BACKUP VENTILATION FANS                 |
| ⑪ ELECTRICAL TRANSFORMER                | ㉚ MAIN MINE VENTILATION FAN / ELEC. TOWER |
| ⑫ OVERHEAD POWER TRANSMISSION LINES     | ㉛ NON-POTABLE WATER TANKS                 |
| ⑬ BURIED POWER TRANSMISSION LINES       | ㉜ POWDER AND CAP MAGAZINES                |
| ⑭ ROCK DUST SILO                        | ㉝ CHAIN-LINK FENCING                      |
| ⑮ TEMPORARY FUEL STORAGE TANKS          | ㉞ CONCRETE ELECTRICAL JUNCTION BOX        |
| ⑯ TEMPORARY UNDERGROUND RECLAIM ROOM    | ㉟ TEMPORARY CONCRETE SEPTIC TANK          |
| ㉀ TEMPORARY CONCRETE RETAINING WALL     | ㊱ TEMPORARY LOADOUT LIGHT BOARD           |
| ㉁ TEMPORARY LOADOUT CONVEYOR (48")      | ㊲ TEMPORARY CONVEYOR COUNTERWEIGHT        |
| ㉂ TEMPORARY LOADOUT MCC BUILDING        | ㊳ JERSEY BARRIER GUARD RAIL               |
| ㉃ TEMPORARY LOADOUT STRUCTURE           | ㊴ CONCRETE TRASH CHUTE                    |
| ㉄ TEMPORARY CRUSHER CONVEYOR (48")      | ㊵ GANTRY LIFT ASSEMBLY                    |
| ㉅ TEMPORARY CRUSHER / SCREEN BUILDING   |   |
| ㉆ TEMPORARY CRUSHED COAL CONVEYOR (48") |   |
| ㉇ TEMPORARY CRUSHER MCC BUILDING        |   |
| ㉈ NOT USED                              |   |