C0070039, Incoming
Task #5100

Canyon Fuel Company, LLC
A Subsidiary of Bowie Resource Holdings, LLC

Dugout Canyon Mine
P.O. Box 1029
Wellington, Utah 84542
(435) 637-6360
Fax (435) 636-2897

April 25, 2016

RECEIVED
APR 29 2016
DIV. OF OIL, GAS & MINING

Coal Regulatory Program
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Subject: Conditional Approval of Midterm Completion Response, Dugout Canyon Mine, C/007/0039, Task ID #5100

Dear Mr. Haddock:

Two clean copies are provided for incorporation to the above referenced amendment.

We anticipate to receive a stamped incorporated copy of the approved plan for insertion into Dugout's Mining and Reclamation Plan.

Should you have any questions please contact Bill King at (435) 636-2898 or David Spillman at (435) 636-2872.

Sincerely,

Bill King

Bill King
Mining Engineer

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☒ New Permit ☐ Renewal ☐ Exploration ☐ Bond Release ☐ Transfer ☐

Permittee: Canyon Fuel Company, LLC
Mine: Dugout Canyon Mine **Permit Number:** C/007/039
Title: Conditional Approval of Midterm Response, Dugout Canyon Mine, C/007/0039, Task ID #5100
Description, Include reason for application and timing required to implement:
Conditional Approval of Midterm Completion Response, Dugout Canyon Mine

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

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

Please attach one (1) review copy of the application.

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

David Spillman
Print Name

David Spillman Engineering Manager 4/26/16
Sign Name, Position, Date

Subscribed and sworn to before me this 26th day of April, 2016

Mon S. Claus
Notary Public

My commission Expires: 11-7-, 2019 }
Attest: State of Utah } } ss:
County of Carbon

NOTARY PUBLIC
MONICA S. CLAUSING
Commission No. 686189
Commission Expires
NOVEMBER 07, 2019
STATE OF UTAH

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APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Canyon Fuel Company, LLC
Mine: Dugout Canyon Mine **Permit Number:** C/007/039
Title: Conditional Approval of Midterm Completion Response, C/007/0039, Task ID #5100

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☐ Add	☒ Replace	☐ Remove	Dugout M&RP, Chapter 1, page 1-3
☐ Add	☒ Replace	☐ Remove	Dugout M&RP, Chapter 2, pg 2-34, 2-36
☐ Add	☐ Replace	☒ Remove	Dugout M&RP, Chapter 2, Plate 2-3A
☒ Add	☐ Replace	☐ Remove	Dugout M&RP, Chapter 2, Appendix 2-9, Figure 2
☒ Add	☐ Replace	☐ Remove	Dugout M&RP, Chapter 3, Appendix 3-3, List of Threatened & Endangered Species
☒ Add	☐ Replace	☐ Remove	Dugout M&RP, Chapter 3, Appendix 3-3, UDWR Letter Concerning Wildlife Habitat
☐ Add	☒ Replace	☐ Remove	Dugout M&RP, Chapter 3, pg 3-15, 3-16, 3-17, 3-18
☐ Add	☒ Replace	☐ Remove	Dugout M&RP, Chapter 5, Appendix 5-6, Reclamation Bond
☐ Add	☒ Replace	☐ Remove	Dugout M&RP, Chapter 7, pg 7-14, 7-44
☐ Add	☒ Replace	☐ Remove	Dugout M&RP, Plate 7-1
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Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.	Received by Oil, Gas & Mining RECEIVED APR 29 2015 DIV. OF OIL, GAS & MINING

Dugout M&RP, Chapter 1, Page 1-3

Dugout Canyon Mine Permit Number C/007/039

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Radio Permits	Federal Communications Commission	Approved
Certificate of Insurance and Authorization to do Business in State	State Industrial Development Commission	Approved
Road Agreement	Carbon County	Approved
Air Quality Approval Order	State of Utah Utah Air Conservation Committee Department of Health Division of Environmental Health	Approved
Stream Channel Alteration Permit	State Engineer	Approved

The Canyon Coal Company, LLC mining permits and operations are:

SUFCO Mine	C/041/002
Skyline Mine	C/007/005
Soldier Canyon Mine	C/007/018
Banning Loadout	C/007/034
Dugout Canyon Mine	C/007/039

The issuing authority for the Canyon Fuel Company permits is the UDOGM.

Operations held by Canyon Fuel Company, LLC are presented on Figure 1-1 in the General Chapter 1. Facility names, mailing addresses and permit numbers for these operations are provided in either Table 1-1 and/or Table 1-2. For additional information refer to the General Chapter 1 binder for Canyon Fuel Company, LLC prepared for the Dugout Canyon Mine, Soldier Canyon Mine and Banning Loadout operations.

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Dugout M&RP, Chapter 2, Pages 2-34 & 2-36

Dugout Canyon Mine Permit Number C/007/039

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South Pile - Pace Fan	1,218
TOTAL	3,159

* Refer to Appendix 2-8 and Appendix 2-9 for volume calculations and location of soil.

232.200 Poor Topsoil

Topsoil that is of an insufficient quantity, or of poor quality (for sustaining vegetation) will be removed as a separate layer and segregated. Such operations will be done with approval of the Division, and in compliance with R614-301-233.100 (Section 233.100).

232.300 Thin Topsoil

Topsoil to be removed that is less than 6 inches thick will be removed with the immediately underlying unconsolidated materials. This material mixture will be treated as topsoil.

232.400 Minor Disturbances Not Requiring Topsoil Removal

Small Structures. Topsoil will not be removed prior to construction that would result in only minor disturbances. Such construction activity includes work on small structures such as power poles, signs, fence lines, and other small structures.

Vegetation. The operator will not remove topsoil for minor disturbances where such activity will not destroy vegetation or cause erosion.

232.500 Subsoil Segregation

The B and C soil horizons removed during construction of the site will be stockpiled as described in Section 231.400.

232.600 Timing

Soil removal will take place after all vegetation that could interfere with soil salvage has been removed. Surface disturbance activities will take place after the topsoil has been removed.

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Much of the topsoil appears to have been mixed with mining wastes (including the topsoil/growth medium in Pace Canyon). During the construction phase of the Dugout Canyon Mine facilities in Dugout Canyon, this material will be excavated and, where suitable, stockpiled for use as a topsoil substitute/growth media after treatment. The substitute topsoil/growth media will be placed after recontouring of the site has occurred during reclamation activities. The exact quantity of the substitute topsoil/growth media available for use is not known at this time but has been estimated to be at least 27,411 CY. Approximately 1,568 CY of soil will be removed during culvert construction. The majority of this soil will be returned to the channel area during final reclamation and will not be used in other areas unless excess material is available (Appendix 2-6). Soil will be placed in accordance with the methods described in Chapter 5 of this M&RP.

Fill that had been imported as part of the pad and culvert construction activities may be used as backfill against highwall and cutslopes and backfill during portal closure or in depressions to aid in the achievement of AOC. If the imported material is to be used as subsoil, it will be characterized in accordance with the Division's guidelines for topsoil and overburden. This characterization will occur at the time of reclamation.

The topsoil/growth medium salvaged at the Pace Canyon fan portal site was sampled on June 1st, 2005 in accordance with the Division's guidelines for topsoil and overburden. The sample analysis can be found in Appendix 2-4.

233.300 Physical and Chemical Analyses

Physical and chemical analyses of the soil material will be conducted while generating substitute topsoil. Samples of the soils will be obtained after physical segregation has occurred. The rate of sampling will be one sample per every 500 CY (approximate) of material generated. Additional samples maybe obtained if the quality of the soils generated is questionable. This material will be analyzed for the following parameters. Reference Section 233.200 for Pace Canyon information.

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Dugout M&RP, Chapter 2, Appendix 2-9, Figure 2

Dugout Canyon Mine Permit Number C/007/039

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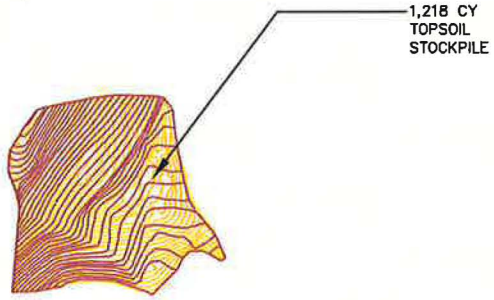
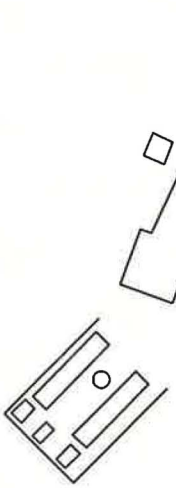
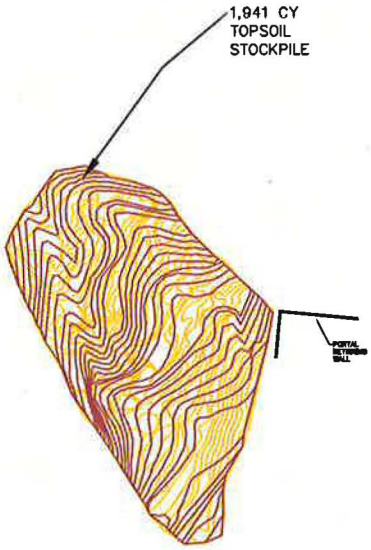
Pace Canyon Fan Topsoil Piles- As Built- 10/08/2010

Volume Report 10/8/2010 13:22
Comparing Grid: Y:/STV/Pace Canyon/Pace Canyon Topsoil Piles/N Pile Base.grd
and Grid: Y:/STV/Pace Canyon/Pace Canyon Topsoil Piles/N Pile Final.grd
Grid corner locations: 79677.93,88850.57 to 80302.05,89482.77
Grid resolution X: 100, Y: 100 Grid cell size X: 6.24, Y: 6.32
Area in Cut : 625.6 S.F., 0.01 Acres
Area in Fill: 5,876.2 S.F., 0.13 Acres
Total inclusion area: 6,501.8 S.F., 0.15 Acres
Cut to Fill ratio: 0.04
Average Cut Depth: 2.07 Average Fill Depth: 5.60
Max Cut Depth: 5.20 Max Fill Depth: 11.92
Cut (C.Y.) / Area (acres): 321.09
Fill (C.Y.) / Area (acres): 8161.67
Cut volume: 1,294.0 C.F., 47.93 C.Y.
Fill volume: 32,891.6 C.F., 1,218.21 C.Y.







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MAY 03 2016

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Volume Report 10/8/2010 13:22
Comparing Grid: Y:/STV/Pace Canyon/Pace Canyon Topsoil Piles/S Pile Base.grd
and Grid: Y:/STV/Pace Canyon/Pace Canyon Topsoil Piles/S Pile Final.grd
Grid corner locations: 79677.93,88850.57 to 80302.05,89482.77
Grid resolution X: 100, Y: 100 Grid cell size X: 6.24, Y: 6.32
Area in Cut : 1,219.4 S.F., 0.03 Acres
Area in Fill: 10,799.9 S.F., 0.25 Acres
Total inclusion area: 12,019.3 S.F., 0.28 Acres
Cut to Fill ratio: 0.05
Average Cut Depth: 2.22 Average Fill Depth: 4.85
Max Cut Depth: 6.25 Max Fill Depth: 12.00
Cut (C.Y.) / Area (acres): 362.69
Fill (C.Y.) / Area (acres): 7033.75
Cut volume: 2,702.0 C.F., 100.07 C.Y.
Fill volume: 52,401.1 C.F., 1,940.78 C.Y.

LICENSED PROFESSIONAL ENGINEER
No. 151610
DAVID G. SPILLMAN
4/25/16
STATE OF UTAH

REVISIONS OR UP-DATES			DATE: 10/08/2010	
NO.	DATE	BY	DESIGNED BY:	
1	11/23/2015	BK	DRAWN BY:	SV
			CHECKED BY:	
			SCALE:	nts
FILENAME: Pace Canyon Fan Topsoil Piles				

Canyon Fuel Company, LLC
Dugout Canyon Mine

PACE CANYON FAN
TOPSOIL STOCKPILE ASBUILT

P.O BOX 1029
WELLINGTON, UTAH 84542

DRAWING OR MAP NUMBER
APPENDIX 2-9 FIG.2

Dugout M&RP, Chapter 3, Appendix 3-3,

List of Threatened & Endangered Species

Dugout Canyon Mine Permit Number C/007/039

Canyon Fuel Company

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Utah Ecological Services Field Office
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UT 84119
PHONE: (801)975-3330 FAX: (801)975-3331
URL: www.fws.gov; www.fws.gov/utahfieldoffice/

Consultation Code: 06E23000-2015-SLI-0291 January 25, 2016
Event Code: 06E23000-2016-E-00236
Project Name: Dugout Canyon Mine

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

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Div. of Oil, Gas & Mining

United States Department of Interior
Fish and Wildlife Service

Project name: Dugout Canyon Mine

Official Species List

Provided by:

Utah Ecological Services Field Office
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UT 84119
(801) 975-3330
http://www.fws.gov
http://www.fws.gov/utahfieldoffice/

Consultation Code: 06E23000-2015-SLI-0291
Event Code: 06E23000-2016-E-00236

Project Type: MINING

Project Name: Dugout Canyon Mine
Project Description: Dugout Canyon Mine C/007/0039

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

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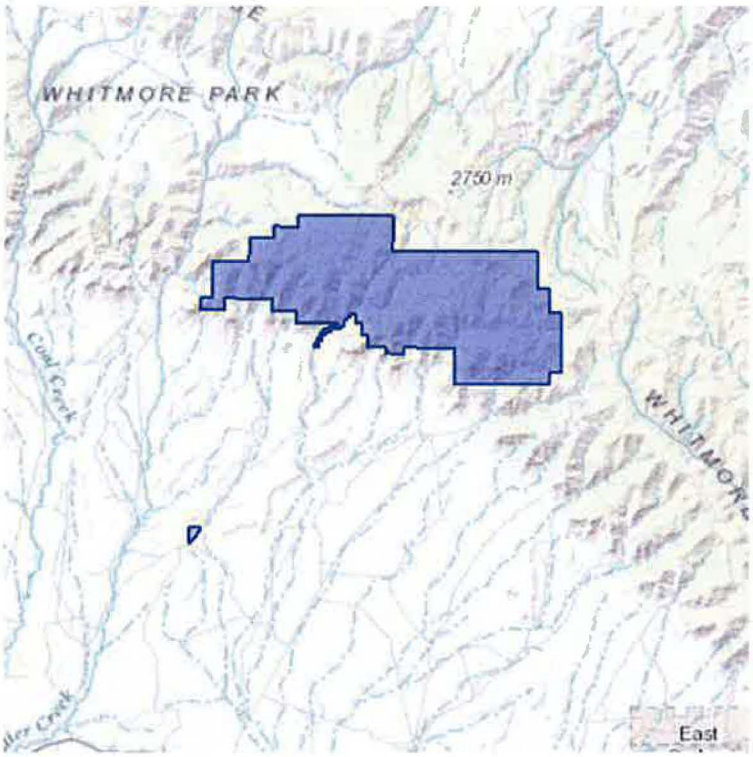
United States Department of Interior
Fish and Wildlife Service

Project name: Dugout Canyon Mine

Project Location Map:



Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Carbon, UT

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United States Department of Interior
Fish and Wildlife Service

Project name: Dugout Canyon Mine

Endangered Species Act Species List

There are a total of 6 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Mexican Spotted owl *(Strix occidentalis lucida)* Population: Entire	Threatened	Final designated	
Yellow-Billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS	Threatened	Proposed	
Fishes			
Bonytail chub *(Gila elegans)* Population: Entire	Endangered	Final designated	
Colorado pikeminnow *(Ptychocheilus lucius)* Population: Entire, except EXPN	Endangered	Final designated	
Humpback chub *(Gila cypha)* Population: Entire	Endangered	Final designated	
Razorback sucker *(Xyrauchen texanus)* Population: Entire	Endangered	Final designated	

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United States Department of Interior
Fish and Wildlife Service

Project name: Dugout Canyon Mine

Critical habitats that lie within your project area

There are no critical habitats within your project area.

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Dugout M&RP, Chapter 3, Appendix 3-3,

UDWR Letter Wildlife Habitat

Dugout Canyon Mine Permit Number C/007/039

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State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Office of the Governor
PUBLIC LANDS POLICY COORDINATING OFFICE

KATHLEEN CLARKE
Director

December 14, 2015

Sent via electronic mail: johnbaza@utah.gov

John Baza
Director
Division of Oil, Gas and Mining
Department of Natural Resources
1594 West North Temple, Suite 1210
Salt Lake City, UT 84116

Subject: Dugout Canyon Mine/Mid-term Review

Dear Mr. Baza:

The Public Lands Policy Coordinating Office provides DOGM and Bowie Resources the attached wildlife-based information as requested from the Utah Division of Wildlife Resources (UDWR). The data accesses the existing wildlife conditions to support permitting determinations for the Mid-term Review of the Dugout Canyon Mine.

Thank you for the opportunity to characterize the values of the sage-grouse and other wildlife habitat considerations. Please direct any questions regarding this correspondence to the Public Lands Policy Coordinating Office at the address below, or call to discuss any questions or concerns.

Sincerely,

Kathleen Clarke
Director

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Technical Information
Dugout Canyon Mine / Mid-Term Review

The Dugout Canyon Mine is an underground coal mine permitted in Carbon County, Utah approximately 12 miles northeast of Price. The mine area includes greater sage-grouse habitat, and sage-grouse have been observed in the area in recent years. This area contains habitat on the far eastern edge of the established Emma Park/Whitmore Park sage-grouse population. Good habitat exists for sage-grouse in the Pine Canyon area. Dugout, Pace, and Rock canyons have much more highly fragmented sagebrush habitats and likely offer less value for sage-grouse. The northwestern corner of the permit area is located approximately 4 miles from the nearest lek (Iriart Pond lek).

Approximately half of the mine permit area falls within the Carbon Sage Grouse Management Area (SGMA). Winter habitat is mapped within Township 13 South, Range 12 East (SLB&M), sections 10, 11, 13, 14, 15, and 16, as well as Township 13 South, Range 13 East, Section 18. Opportunity habitat is mapped within Township 13 South, Range 12 East, sections 13, 14, 15, 16, 17, 21, 22, 23, and 24, and Township 12 South, Range 13 East, sections 11, 19, and 20.

Habitat for greater sage-grouse (which includes winter, nesting and brood-rearing habitat) is defined in the *Conservation Plan for Greater Sage-grouse in Utah* (Plan)[1] as "the aggregation of seasonal habitats used by sage-grouse at some point during the yearly life-cycle of the birds. Habitat includes the geographical extent of leks, nesting, brood-rearing, late-brood rearing, transitional and winter areas." Opportunity areas are defined in the Plan as "those portions of a SGMA that currently do not contribute to the life cycle of sage-grouse but are areas where restoration or rehabilitation efforts can provide additional habitat when linked to existing sage-grouse populations."

In Section 5.5 of the Plan, extractive mineral development is addressed with discussion of surface-disturbing activities essential for human safety, such as creation of permitted surface vents. A management protocol for development within an SGMA is outlined in Section 6.0 of the Plan, which generally stresses that surface disturbance should be avoided to the greatest degree possible. Avoidance of activities in winter habitat (Section 6.5.1.3) is recommended if possible. If avoidance is not possible, minimization of impacts can be following by locating development in the least important habitats or by taking advantage of topographic screening. If minimization is insufficient, then compensatory mitigation becomes appropriate to offset unavoidable impacts. Activities should be avoided from November 15 - March 15 to minimize disturbance of wintering sage-grouse. Opportunity areas (Section 6.5.3) may be utilized to meet restoration or rehabilitation goals, or as sites for mitigation of disturbances within habitat. Alternatively, project disturbances can be directed into opportunity areas rather than within sage-grouse habitat. Avoidance of impacts is always the preferred form of mitigation.

DOGM also expressed interest in habitat determinations for the yellow-billed cuckoo. UDWR staff do not think adequate habitat for the species exists in the area, nor do we have

[1] Can be accessed at: http://wildlife.utah.gov/uplandgame/sage-grouse/pdf/greater_sage_grouse_plan.pdf

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recent records of the species in this area. However, the United States Fish and Wildlife Service (USFWS) should be consulted for specific requirements relating to this species.

Within the permit area are also small expanses of ponderosa pine and aspen habitats, both of which are important to wildlife. Other wildlife species that should be considered are mule deer (crucial summer and winter habitats), elk (crucial yearlong and crucial summer habitats), and dusky grouse. Nests have been documented in the area for golden eagle. UDWR recommends monitoring for negative habitat impacts associated with mining subsidence, specifically loss of surface waters, and the impacts from mine subsidence on wildlife.

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Dugout M&RP, Chapter 3, Page 3-15, 3-16, 3-17, 3-18

Dugout Canyon Mine Permit Number C/007/039

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Birds - There are approximately 185 bird species that could either be potential yearlong residents or frequent the site during portions of the year. Of these, loggerhead shrike (BLM Sensitive species) and raptors are discussed below.

A survey of the fan portal area indicated no nesting loggerhead shrikes, *Lanius ludovicianus*, near the proposed roads. This species is dependent upon the broad, open sagebrush and grass plain, as well as the presence of widely spaced pinyons and junipers. A summary of the inventory conducted for this species and a negative determination of its presence is included in Appendix 3-4 (BLM EA, UT-070-2003-55).

Raptor surveys, completed in May of 2004 by the UDWR, revealed a number of raptor nest sites on the open lower benches and cliff faces in and surrounding Pace Canyon. Two inactive golden eagles *(Aquila chrysaetos*) nests on the outer edge of one mile radius from the fan site were inventoried in 2004 (Section 24, R12E T13S) and two potential raven nests were located in previous years in Section 23, R12E T13S.

The 2004 spring inventory identified no active and or tended Golden Eagle nests within a 1/4 mile of the proposed site. An inventory in 2002, 2003 and 2004 for Mexican Spotted owl and Goshawk did not reveal the presence of these species within the fan project area.

Mammals - Ninety-two (92) species of mammals have the potential to inhabit the region. Of these, the following species; mule deer, *Odocoileus hemionus*, elk, *Cervus elaphus* and pronghorn antelope, *Antilocapra americana*, have been identified to live within or adjacent to the affected area.

As shown on Plate 3-2, the area of the fan site is designated summer range for mule deer and year-long range for elk.

Pronghorn antelope occupy the salt desert shrub habitat of the lower elevation ranges along the Clark Valley Road. This habitat is classified as high priority year-long range for pronghorn.

Threatened and Endangered Plant and Wildlife Species. Passage of the Endangered Species Act of 1973 (Public Law 23-20S) provided the legal basis for establishment of lists of endangered and threatened plant and wildlife species (Appendix 3-3). A list of threatened and endangered species that may occur in Dugout's proposed project location and or may be affected by proposed projects can be found in Appendix 3-3.

In December 2015 the State of Utah Department of Natural Resources specialists was consulted to evaluate and characterize the value of wildlife habitat considerations with respect to the greater sage grouse and the yellow-billed cuckoo (See appendix 3-3 for the written report).

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Although three species (black-footed ferret, bald eagle, and peregrine falcon) on the list could potentially inhabit the area, an inventory of endangered wildlife species performed in 1979 by the UDWR recorded no threatened and endangered species within the proposed permit area. No confirmed sightings of black-footed ferrets have occurred within Carbon County during 1995, 1996, and the first quarter of 1997, however bald eagles have been seen flying in the vicinity of the mine (Bill Bates, UDWR).

A literature review and field studies for both the Soldier Canyon and the Sage Point - Dugout Canyon permit documents were performed to assess the possible presence of any threatened, endangered, or sensitive plant and wildlife species in the respective permit and adjacent areas.

These study areas included the proposed Dugout Canyon disturbed area. The literature review indicated that no species listed (or proposed as candidates) by the U.S. Fish and Wildlife Service (FWS) as threatened or endangered were likely to inhabit the area. In addition, the field investigations which occurred in 1979, 1980, 1983, and 1984 did not identify or locate any threatened or endangered species. No threatened or endangered plant species including Canyon sweetvetch were found within the disturbed area by Robert Thompson during his 1995 survey (see Robert Thompson letter, Appendix 3-1). Mr. Thompson is qualified and has performed threatened and endangered surveys for the U.S. Forest Service.

As reported in the 1997 bat survey "we noted no suitable habitat, did not record via detectors or capture, or note by indicators presence of *Corynorhinus townsendii*. It is our opinion the bat does not occur in the immediate vicinity of the proposed disturbance area. We also did not note suitable abitat for or encounter *Euderma maculatum* by mist net, via detectors or during audible bat transects".

Western Yellow Billed Cuckoo The UDWR do not have any recent records of the Western Yellow Billed Cuckoo species in the area. The Western Yellow Billed Cuckoo uses riparian areas consisting of dense multi-layer vegetation. Breeding and nesting cuckoos will forage in riparian patches that have an overstory canopy only and are within 300 meters of the edge of suitable breeding and nesting habitat. The Dugout Mine permit and adjacent area do not contain sufficient riparian habitats to support this species and therefore, there will be no affect to the Cuckoo from mining activity.

Windy Gap Process as it Applies to Existing Coal Mines in the Upper Colorado River Basin
Per meetings with Division of Water Quality personnel during application for a UPDES permit in 2004, "there is no data supporting the premise that surface waters associated with the area of the mine operations reached the Price River or Colorado River prior to or since mining disturbance".

Mining Consumption:
Culinary Water is purchased by Lee Water Management from Price River Water Improvement District (PRWID) and hauled and sold by Lee Water Management to Dugout Canyon Mine.
Estimated **Purchased** Gallons/yr: (Used in Longwall) 3,239,700
Ventilation Consumption/Evaporation (source Phil Patton, Ventilation Engineer):

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52,790 gallons x 365 days = 19,268,350 gallons/yr

Coal Producing Consumption/Coal Moisture Loss:

	Gallons water/yr	19,638,091
Projected Tonnage Annually 2008 - 2012		4,500,000 tons
Water added to coal produced -	4.03% inherent moisture - source Dugout Geologist	
	5.80% run-of-mine moisture - year to date average	
	1.77% moisture added to coal by cutting operation	

Mine Discharge: Average 0.65 mgpd of which 3,000,000 gallons per year are purchased culinary water from Lee Water Management.

Sediment Pond Evaporation:

Mine Site Pond	0.107 acres (surface area)
	18.1 in/yr precipitation (high estimate based on HCI Technical Memo, August 22, 2002)
	0.16 ac/ft = 7030 gallons/yr
Refuse Pile Pond	0.41 acres (surface area)
	9 in/yr precipitation
	0.31 ac/ft = 5612 gallons/yr (five month period, high estimate)

Dust Suppression - 3,500 gallons per truck load, 3 loads per day, for 30 days = 315,000 gallons plus 3,000 per truck load, 1.25 loads per day, for 45 days = 168,750. Total: 483,750 gallons per year.

The Following are **Not Applicable**: Spring and Seeps Effects From Subsidence, Alluvial Aquifer Abstractions into Mines, Alluvial Well Pumpage, Deep Aquifer Pumpage, Postmining Inflow to Workings and Direct Diversions.

In 2008 as defined by United States Fish and Wildlife Service's (USFWS) protocol a fee for the consumption of water as calculated above by Dugout Canyon Mine, was paid to USFWS.

Pace Canyon

"In accordance with the United States Fish and Wildlife Service's (USFWS) protocols, and inventory for the presence of threatened, endangered, and sensitive fauna and floral species was conducted on August 13, 14, and September 29, 2003. Loggerhead, shrike, burrowing owl, Northern Goshaw, Despain foot cactus, Wright fishhook cactus and Creutzfeldt crypthantha and neo-tropical migratory birds were the sensitive species of concern within the area. A thorough search of all seven well sites and associated access roads did not reveal the presence of these species (BLM, Environmental Assessment, UT-070-2003-55)." A map of the area inventoried is provided in Appendix 3-4 within the referenced environmental assessment , it should be noted that the area covered by the aforementioned environmental assessment is the same area proposed for the construction of the Pace Canyon fan facilities. In addition a sensitive plant species survey was conducted by Mt. Nebo in August 2003. To initiate the study, appropriate agencies were consulted (e.g. Utah Natural Heritage Program) and other sources were reviewed for potential plant species that are know to be rare, endemic, threatened, endangered or otherwise sensitive in the area of study. The only plant identified was Canyon

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sweetvetch. No rare, endemic, threatened, endangered or otherwise sensitive species were found in the area proposed for disturbance.

Federal Coal Lease U-07064-027821 and State Lease ML-50582-OBA

On January 19, 2007 Division of Wildlife Resources (DWR) personnel were contacted concerning the addition of approximately 600 acres to the permit area of the Dugout Canyon Mine. Dugout personnel met with Mr. Wright at the DWR office in Price, Utah. Mr. Wright had requested that the mine provide their most recent aerial photography for his review of the areas for the existence of threatened and endangered wildlife species. Mr. Wright also reviewed other information, maps and aerial photographs owned by the DWR. Mr. Wright recommended a goshawk survey be done if surface disturbance is planned for a mature stand of firs in W1/2NW1/4NW1/4 of Section 21and at a mature stand of firs in N1/2NE1/4of Section 17.

Using the Utah Conservation Data Center repository web site (http://dwrcdc.nr.utah.gov/ucdc/) the leased areas were research to identify known locations of threatened and endangered plant and wildlife species, no locations were found within the leased areas.

Greater sage-grouse habitat The northern portion of the permit area fills within the Carbon Sage-Grouse Management Area and includes habitat for greater sage-grouse. Good habitat exists for sage grouse in the Pine Canyon Area. Dugout, Pace and Rock Canyons have much more highly fragmented sagebrush habitats and likely offer less value for sage-grouse. Canyon Fuel commits to protect and enhance these important habitats should mining operations impact habitat conditions. If surface disturbance is proposed within the Carbon Sage-Grouse Management Area Canyon Fuel Company will perform a sage-grouse survey to determine use of the site by sage-grouse. Surface disturbance will be avoided or minimized if sage-grouse are located within the proposed disturbed areas.

Lease Modification U-07064-027821 Tony Wright and Leroy Mead of the Division of Wildlife Resources (DWR) were contacted on January 19, 2007 to determine the potential for threatened or endangered wildlife species to be present within the proposed lease modification area (NW1/4NW1/4 Section 21, Township 13S, Range13 East). Tony Wright reviewed an aerial photograph of the area on January 19th and Leroy Mead had visited the area in November 2006. Mr. Wright said there was potential for goshawks (species of concern for the DWR) to be in the general area describing their habitat as mature ponderosa pines or stands of mature firs. The 40 acre modification has a stand of mature firs which was identified by Mr. Wright as potential habitat for goshawks. Mr. Wright recommended a goshawk survey be done if surface disturbance is planned for the mature stand of firs in W1/2NW1/4NW1/4 of Section 21. Mr Wright also identified a potential mature stand of firs in N1/2NE1/4of Section 17.

No threatened or endangered wildlife species were identified as being in the area (Leases U-07064-027821and ML-50582-OBA) by either Mr. Wright or Mr. Mead. Mr. Wright consulted several sources before determining the lack of threatened and endangered species in the area. Mr. Wright inquired if there were any large ponds of water that would be impacted by disturbance within the lease modification area, the permittee is unaware of any large ponds within the propose lease modification area.

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Dugout M&RP, Chapter 5, Appendix 5-6, Reclamation Bond

Dugout Canyon Mine Permit Number C/007/039

Canyon Fuel Company

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Direct Costs		
Subtotal Demolition and Removal	$690,650	
Subtotal Backfilling and Grading	$1,049,995	
Subtotal Revegetation	$440,478	
Direct Costs	$2,181,122	
Indirect Costs		
Mob/Demob	$218,112	10.0%
Contingency	$109,056	5.0%
Engineering Redesign	$54,528	2.5%
Main Office Expense	$148,316	6.8%
Project Management Fee	$54,528	2.5%
Subtotal Indirect Costs	$584,541	26.8%
Total Reclamation Cost 2015 Dollars	**$2,765,663**	
Escalation factor for 2015		0.012
Number of years to next review		5
Escalation	$169,970.00	
Escalated Reclamation Cost to 2020	**$2,935,633.15**	
Reclamation Cost (rounded to nearest $1,000)	$2,936,000.00	
Bond Amount in 2009 Dollars	$3,550,000.00	
Difference Between Cost Estimate and Bond	$614,000.00	
Percent Difference	17.30%	

$$Escalated\$ = \left(\$ \times \left[1 + Rate\right]^{Years}\right)$$

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Demo Line Item Subtotals

Ref.	Description	Cost 2015 Dollars
1	Mine Belt BC-1 No 1	$ 11,120
2	Transfer Building No 2	$ 22,460
3	Feed Belt BC 2 No 3	$ 7,524
4	Stack Tubes 2 No4	$ 4,686
5	Head House 1 No 5	$ 4,098
6	Transfer Belt BC 2 No 6	$ 5,019
7	Head House 2 No 7	$ 1,376
8	Reclaim Tunnel No 8	$ 38,640
9	Reclaim Belt BC 4 No 9	$ 7,033
10	Escape Tunnel 60 inch No 10	$ 1,119
11	Crusher Building No 11	$ 18,507
12	Truck Loadout Belt BC 5 No 12	$ 6,306
13	Truck Loadout and Scale No 13	$ 16,232
14	Bathhouse No 14	$ 76,623
15	Substation No 15	$ 2,281
16	Power Lines and Poles No 16	$ 2,828
17	Retaining Wall No 17	$ 891
18	Gabion Wall No 18	$ 21,314
19	Pump House No 19	$ 3,474
20	Paved Road No 20	$ 150,348
21	Stream Culvert 72 inch No 21	$ 28,588
22	Water Tanks No 22	$ 2,466
23	Rock Dust Bin No 23	$ 1,396
24	Fuel Tank and Fuel Station No 24	$ 1,830
25	Holding Tank No 25	$ 3,198
26	Ventilation Fan No 26	$ 1,714
27	Magnet No 27	$ 3,953
28	Water System No 28	$ 27,407
29	Sewage System No 29	$ 9,185
30	Storage Containers Non30 (8)	$ 11,257
31	Gilson Well No 31	$ 2,901
32	Switch House No 32	$ 6,364
33	Portals No 33	$ 28,326
34	Storage & Bolts Bin No 34	$ 2,955
35	Storage Building No 35	$ 2,183
36	Sampling System No 36	$ 1,270
37	Stoker Storage Bin No 37	$ 1,039
38	Substation No 2 No 38	$ 2,524
39	Gabion Baskets No 39	$ 1,488
40	Pace Fan Culvert No 40	$ 1,691
41	Pace Fan & Generators No 41	$ 52,618
42	Pace Fan Portal No 42	$ 5,766
43	Refuse Pile No 43	$ 30,704
44	Refuse Site No 44	$ 14,463
45	Degas Well G2 No 45	$ 10,759
46	Degas Well G3 No 46	$ 5,588
47	Degas Well G4 No 47	$ 5,850
48	Degas Well G-5 No 48	$ 7,972
49	Degas Well G 6 No 49	$ 3,242
50	Degas Well G-7 No 50	$ 6,109
51	Degas Well G-9 No 51	$ 7,912
52	Degas Well G-10 No 52	$ 8,143
53	Degas Well G-11 No 53	$ 4,077
54	Degas Well G-12 No 54	$ 5,783
55	Degas Well G-13 No 55	$ 9,262
56	Degas Well G-14 No 56	$ 7,463
57	Degas Well G-15 No 57	$ 5,464
58	Degas Well G-16 No 58	$ 7,385
59	Degas Well G-17 No 59	$ 7,200
60	Degas Well G-18 No 60	$ 15,158
61	Degas Well G-19 No 61	$ 9,142
62	Degas Well G-22 & Access Road No 62	$ 15,993
63	Degas Well G-25 No 63	$ 9,067
64	Degas Well G-26 No 64	$ 8,441
66	Degas Well G-30 No 66	$ 8,917
67	Degas Well G-31 No 67	$ 18,881
68	AMV Road No 68	$ 47,689
	Total	$ 834,974

Phase I & II Bond Release of Degas Wells Breakout

Description	Phase I Bond Release 60%	Phase II Bond Release 40%	Total
Degas Well G2 No 45	$ 6,455	$ 4,304	$ 10,759
Degas Well G3 No 46	$ 3,353	$ 2,235	$ 5,588
Degas Well G4 No 47	$ 3,510	$ 2,340	$ 5,850
Degas Well G-5 No 48	$ 4,783	$ 3,189	$ 7,972
Degas Well G 6 No 49	$ 1,945	$ 1,297	$ 3,242
Degas Well G-7 No 50	$ 3,665	$ 2,444	$ 6,109
Degas Well G-9 No 51	$ 4,747		$ 4,747
Degas Well G-10 No 52	$ 4,886	$ 3,257	$ 8,143
Degas Well G-11 No 53			
Degas Well G-12 No 54	$ 3,470	$ 2,313	$ 5,783
Degas Well G-13 No 55	$ 5,557	$ 3,705	$ 9,262
Degas Well G-14 No 56	$ 4,478	$ 2,985	$ 7,463
Degas Well G-15 No 57			
Degas Well G-16 No 58	$ 4,431		$ 4,431
Degas Well G-17 No 59			
Degas Well G-18 No 60	$ 9,095	$ 6,063	$ 15,158
Degas Well G-19 No 61	$ 5,485		$ 5,485
Degas Well G-22 & Access Road No 62	$ 9,596		$ 9,596
Degas Well G-25 No 63	$ 5,440		$ 5,440
Degas Well G-26 No 64	$ 5,065		$ 5,065
Degas Well G-30 No 66	$ 5,350		$ 5,350
Degas Well G-31 No 67	$ 11,329	$ 7,552	$ 18,881
AMV Road No 68	$ 10,086		$ 10,086
Total	$ 102,640	$ 41,684	$ 144,324

TOTAL with Phase I & II Bond Release Applied

Total with Phase I & II Bond Release	$	690,650

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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
1	**Mine Belt BC-1 No 1**																			
	Structure's Demolition Cost	Steel Bld, Large	02 41 16 13 0020	0.28	/CF						62800					CF		62800	CF	
	No interior Wall Deduct		02 41 16 13 0750	50%													0.5	31400		$ 8,792
	Structure's Vol. Demolished																	1163	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											52				TON				
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										3.3					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									1.1		DAY		2	DAY	$ 1,382
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	Trhv	40.05	HR									8.8		HR		8.8	HR	$ 352
	Disposal Cost Steel																			
	Subtotal																			$ 10,526
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	CY						20					CY		20	CY	$ 275
	Concrete's Vol. Demolished																1.3	26	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													26	CY	$ 25
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						26					CY		26	CY	$ 59
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													26	CY	$ 235
	Subtotal																			$ 594
	Total																			**$ 11,120**

NOTES
Assumes 6" thick concrete unreinforced slab
Assumes no interior walls

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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
2	**Transfer Building No 2**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						104618					CF		104618	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	52309		$ 14,647
	Rubble's Weight (exclude steel)																	1937.37037	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											50				TON				
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										3.1					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									1		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	Trhv	40.05	HR									8		HR		8	HR	$ 320
	Disposal Cost Steel																			
	No interior Wall Deduct																			$ -
	Subtotal																			$ 15,658
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						229					CY		229	CY	$ 3,149
	Concrete's Vol. Demolished																1.3	298	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													298	CY	$ 286
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23.20 3014	2.26	/CY						298					CY		298	CY	$ 673
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													298	CY	$ 2,694
	Subtotal																			$ 6,802
	Total																			**$ 22,460**

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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
3	**Feed Belt BC 2 No 3**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						47438					CF		47438	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	23719		$ 6,641
	Rubble's Weight (exclude steel)																	878.5	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											30				TON				
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										1.9					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.6		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	Trhv	40.05	HR									4.8		HR		4.8	HR	$ 192
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$7,524
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			$7,524

NOTES

Assumes no interior walls

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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
4	**Stack Tubes 2 No4**																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	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 Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			$ -
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						158					CY		158	CY	$ 2,173
	Concrete's Vol. Demolished																1.3	205	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													205	CY	$ 197
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						205					CY		205	CY	$ 463
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													205	CY	$ 1,853
	Subtotal																			**$ 4,686**
	Total																			**$ 4,686**

NOTES

Assumes 6" thick concrete unreinforced slab

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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
5	**Head House 1 No 5**																			
	Structure's Demolition Cost	Steel Bld, Large	02 41 16 13 0020	0.28	/CF						23878					CF		23878	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	11939		$ 3,343
	Rubble's Weight (exclude steel)																	442.2	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											10				TON				
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.6					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.2		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	Trhv	40.05	HR									1.6		HR		1.6	HR	$ 64
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 4,098
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			**$ 4,098**

NOTES

Assumes no interior walls

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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
6	**Transfer Belt BC 2 No 6**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						30000					CF		30000	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	15000		$ 4,200
	Rubble's Weight (exclude steel)																	555.6	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											20				TON		20	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										1.3					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.4		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									3.2		HR		3.2	HR	$ 128
	Disposal Cost Steel																			
	Subtotal																			$ 5,019
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			$ 5,019

NOTES

Assumes no interior walls

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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
7	**Head House 2 No 7**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						4436					CF		4436	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	2218		$ 621
	Rubble's Weight (exclude steel)																	82.1	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											10				TON				
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.6					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.2		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	trhv	40.05	HR									1.6		HR		1.6	HR	$ 64
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 1,376
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			$ 1,376

NOTES

Assumes no interior walls

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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
8	**Reclaim Tunnel No 8**																			
	Structure's Demolition Cost	Steel Bld, Large	02 41 16 13 0020	0.28	/CF						18774					CF		18774	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	9387		$ 2,628
	Rubble's Weight (exclude steel)																	347.7	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											32				TON				
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										2					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.7		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									5.6		HR		5.6	HR	$ 224
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 3,543
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	CY						1182					CY		1182	CY	$ 16,253
	Concrete's Vol. Demolished																1.3	1537	CY	$ -
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													1537	CY	$ 1,476
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						1537					CY		1537	CY	$ 3,474
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													1537	CY	$ 13,894
	Subtotal																			$ 35,097
	Total																			$ 38,640

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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
9	**Reclaim Belt BC 4 No 9**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.26	/CF						35180					CF		35180	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	17590		$ 4,925
	Rubble's Weight (exclude steel)																	651.5	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											40				TON				
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										2.5					CY				
	Transportation Cost Steel Tru	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.8		DAY		1	DAY	$ 691
	Transportation Cost Steel Tru	Truck Driver, Heavy	TRHV	40.05	HR									6.4		HR		6.4	HR	$ 256
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 5,872
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	CY						39					CY		39	CY	$ 536
	Concrete's Vol. Demolished																1.3	51	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													51	CY	$ 49
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi, rnd, trip	31 23 23.20 3014	2.26	/CY						51					CY		51	CY	$ 115
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													51	CY	$ 461
	Subtotal																			$ 1,161
	Total																			$ 7,033

NOTES
Assumes 6" thick concrete unreinforced slab
Assumes no interior walls
Truck rental totaled for entire sheet

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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	**Escape Tunnel 60 inch No 10**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						2827					CF		2827	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	1413.5		$ 396
	Rubble's Weight (exclude steel)																	52.4	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											4				TON				
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.3					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.1		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									0.8		HR		0.8	HR	$ 32
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 1,119
	Total																			$ 1,119

NOTES

Assumes no interior walls

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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	**Crusher Building No 11**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						93305					CF		93305	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	46652.5		$ 13,063
	Rubble's Weight (exclude steel)																	1727.9	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											100				TON		100	TON	
	Truck's Capacity	12 CY (16 Ton) Dump Truck									12	16		3		CY Trips				
	Haulage										6.3					CY				
	Transportation Cost Steel Tru	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									2.1		DAY		3	DAY	$ 2,073
	Transportation Cost Steel Tru	Truck Driver, Heavy	TRHV	40.05	HR									16.8		HR		16.8	HR	$ 673
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 15,809
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						91					CY		91	CY	$ 1,251
	Concrete's Vol. Demolished																1.3	118	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													118	CY	$ 113
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi, rnd, trip	31 23 23.20 3014	2.26	/CY						118					CY		118	CY	$ 267
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													118	CY	$ 1,067
	Subtotal																			$ 2,698
	Total																			**$ 18,507**

NOTES
Assumes 6" thick concrete unreinforced slab
Assumes no interior walls

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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	**Truck Loadout Belt BC 5 No 12**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						30899					CF		30899	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	15449.5		$ 4,326
	Rubble's Weight (exclude steel)																	572.2	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											20				TON		20	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										1.3					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.4		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									3.2		HR		3.2	HR	$ 128
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 5,145
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						39					CY		39	CY	$ 536
	Concrete's Vol. Demolished																1.3	51	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													51	CY	$ 49
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						51					CY		51	CY	$ 115
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													51	CY	$ 461
	Subtotal																			$ 1,161
	Total																			$ 6,306

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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	**Truck Loadout and Scale No 13**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						74976					CF		74976	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	37488		$ 10,497
	Rubble's Weight (exclude steel)																	1388.4	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											50				TON		50	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										3.1					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									1		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									8		HR		8	HR	$ 320
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 11,508
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						159					CY		159	CY	$ 2,186
	Concrete's Vol. Demolished																1.3	207	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													207	CY	$ 199
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						207					CY		207	CY	$ 468
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													207	CY	$ 1,871
	Subtotal																			$ 4,724
	Total																			**$ 16,232**

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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	**Bathhouse No 14**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						416365					CF		416365	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	208182.5		$ 58,291
	Rubble's Weight (exclude steel)																	7710.5	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											107								
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										6.7					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									2.2		DAY		3	DAY	$ 2,073
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									17.6		HR		17.6	HR	$ 705
	Disposal Cost Steel																			
	Subtotal																			$ 61,069
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						524					CY		524	CY	$ 7,205
	Concrete's Vol. Demolished																1.3	681	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													681	CY	$ 654
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						681					CY		681	CY	$ 1,539
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													681	CY	$ 6,156
	Subtotal																			$ 15,554
	Total																			**$ 76,623**

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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	**Substation No 15**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						4000					CF		4000	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	2000		$ 560
	Rubble's Weight (exclude steel)																	74.1	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											50				TON		50	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										3.1					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton Payload	01 54 33 20 5300	691	/day									1		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									8		HR		8	HR	$ 320
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 1,571
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						24					CY		24	CY	$ 330
	Concrete's Vol. Demolished																1.3	31	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													31	CY	$ 30
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trip	31 23 23.20 3014	2.26	/CY						31					CY		31	CY	$ 70
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													31	CY	$ 280
	Subtotal																			$ 710
	Total																			$ 2,281

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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
16	**Power Lines and Poles No 16**																			
	Structure's Demolition Cost	Dugout Power line	26 05 05 10 1900	19.6	/CLF	1937										CLF		19.37	CLF	$ 380
	Structure's Vol. Demolished																			
	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 Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			**$ 380**
	Power Poles																			
	Equipment 's Disposal Cost	Dugout Power Poles	02 41 13.80 0100	204	/EA										12	EA		12	EA	$ 2,448
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			**$ 2,448**
	Total																			**$ 2,828**

NOTES

CLF=100 linear ft

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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	**Retaining Wall No 17**																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	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 Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			$ -
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						30					CY		30	CY	$ 413
	Concrete's Vol. Demolished																1.3	39	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													39	CY	$ 37
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						39					CY		39	CY	$ 88
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													39	CY	$ 353
	Subtotal																			$ 891
	Total																			$ 891

NOTES

Assumes 6" thick concrete unreinforced slab

4/23/15 Dugout states concrete retaining wall

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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	**Gabion Wall No 18**																			
	Structures Volume	Gabion Removal	02 41 13 90 1300	17.83	ea						880							880	ea	$ 15,690
	Demolition Time 60 CY/ DAY																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive	Truck Driver, Heavy	Trhv	40.05	HR									117		HR		117	HR	$ 4,686
	Disposal Cost Non Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Hilfiker Mesh	Select Demo disposal loading and haul	02 41 19.19 5000	0.87	/CY													513	CY	$ 446
	Load Mesh into Dumpster	Front End Loader 3 CY	31 23 16 42 1601	0.96	/CY													513	CY	$ 492
	Disposal Cost Steel																			
	Subtotal																			$ 21,314
	Total																			$ 21,314

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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	**Pump House No 19**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						2219					CF		2219	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	1109.5		$ 311
	Rubble's Weight (exclude steel)																	41.1	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											5				TON		5	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.3					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.1		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									0.8		HR		0.8	HR	$ 32
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 1,034
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						82					CY		82	CY	$ 1,128
	Concrete's Vol. Demolished																1.3	107	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													107	CY	$ 103
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						107					CY		107	CY	$ 242
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													107	CY	$ 967
	Subtotal																			$ 2,440
	Total																			$ 3,474

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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	**Paved Road No 20**																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	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 Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			$ -
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Asphalt Demolition																			
	Demolition Cost	Pavement Removal 4-6"	02 41 13 17 5050	7.12	/SY					19500						SY		19500	SY	$ 138,840
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY						1273					CY		1273	CY	$ 11,508
	Subtotal																			$150,348
	Total																			$150,348

NOTES

4/23/15 Dugout is burying the concrete in place, no haul cost associated with demo

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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	**Stream Culvert 72 inch No 21**																			
	Excavate Culvert	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY	2350	12	12								CF		12533	CY	$ 12,032
	Backfill Culvert	Backfill structural 300 HP	31 23 23 14 5020	0.84	/CY	2350	12	12								CF		12533	CY	$ 10,528
	Structure's Vol. Demolished																	464.2	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											94				TON		94	TON	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									5.9		DAY		6	DAY	$ 4,146
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									47		HR		47	HR	$ 1,882
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			**$ 28,588**
	Total																			**$ 28,588**

NOTES

Assumes no interior walls

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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	**Water Tanks No 22**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						241					CF		241	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	120.5		$ 34
	Rubble's Weight (exclude steel)																	4.5	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											39				TON		39	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										2.4					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.8		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									6.4		HR		6.4	HR	$ 256
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 981
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						50					CY		50	CY	$ 688
	Concrete's Vol. Demolished																1.3	65	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													65	CY	$ 62
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						65					CY		65	CY	$ 147
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													65	CY	$ 588
	Subtotal																			$ 1,485
	Total																			**$ 2,466**

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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	**Rock Dust Bin No 23**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						2265					CF		2265	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	1132.5		$ 317
	Rubble's Weight (exclude steel)																	41.9	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											5				TON		5	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.3					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.1		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									0.8		HR		0.8	HR	$ 32
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 1,040
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						12					CY		12	CY	$ 165
	Concrete's Vol. Demolished																1.3	15.6	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													15.6	CY	$ 15
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trip	31 23 23.20 3014	2.26	/CY						15.6					CY		15.6	CY	$ 35
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													15.6	CY	$ 141
	Subtotal																			$ 356
	Total																			**$ 1,396**

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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	**Fuel Tank and Fuel Station No 24**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						3945					CF		3945	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	1972.5		$ 552
	Rubble's Weight (exclude steel)																	73.1	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											7				TON		7	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.4					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.1		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									0.8		HR		0.8	HR	$ 32
	Disposal Cost Steel																			
	Subtotal																			$ 1,275
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						18.66					CY		18.66	CY	$ 257
	Concrete's Vol. Demolished																1.3	24.3	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													24.3	CY	$ 23
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						24.3					CY		24.3	CY	$ 55
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													24.3	CY	$ 220
	Subtotal																			$ 555
	Total																			$ 1,830

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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
25	**Holding Tank No 25**																			
	Structure's Demolition Cost	Septic Tanks & Related Components	02 41 13 44 0600	2015	EA													1		$ 2,015
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel	On site disposal	02 41 16 17 4200	9.04	CY						50					CY		50	CY	$ 452
	Steel's Weight											2				TON		2	TON	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.1	51.76	HR		1	day	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	Trhv	40.05	HR									1		HR		1	HR	$ 40
	Disposal Cost Steel																			
	Subtotal																			$ 3,198
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			$ 3,198

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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	**Ventilation Fan No 26**																			
	Structure's Demolition Cost	Steel Bld, Large	02 41 16 13 0020	0.28	/CF						6850					CF		6850	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	3425		$ 959
	Rubble's Weight (exclude steel)																	126.9	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											10				TON		10	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.6					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.2		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	Trhv	40.05	HR									1.6		HR		1.6	HR	$ 64
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$1,714
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			$1,714

NOTES

Assumes no interior walls

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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	**Magnet No 27**																			
	Structure's Demolition Cost	Steel Building Small	02 41 16 13 0500	0.3	CF						35					CF		35		
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	17.5		$ 5
																		0.6	CY	
	Rubble's Weight (exclude steel)	Truck Mounted Crane 55 ton	01 54 33 60 2600	76.8	HR										2	HR		2	HR	$ 154
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel	Dump Charges	02 41 19.20 0100	74	CY													35	CY	2590
	Steel's Weight											2				TON		2	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.1					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.03		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	Trhv	40.05	HR									0.2		HR		0.2	HR	$ 8
	Disposal Cost Steel																			
	Subtotal																			$ 3,448
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						17					CY		17	CY	$ 234
	Concrete's Vol. Demolished																1.3	22.1	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													22.1	CY	$ 21
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trip	31 23 23.20 3014	2.26	/CY						22.1					CY		22.1	CY	$ 50
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													22.1	CY	$ 200
	Subtotal																			$ 505
	Total																			$ 3,953

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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	**Water System No 28**																			
	Excavate Pipe	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY	8450	2	4								FT		2504	CY	$ 2,404
	Pipe Removal	Pipe removal	02 41 13.38 1700	2.71	/LF	8450										FT		8450		$ 22,900
	Backfill Trench	Backfill structural 300 HP	31 23 23 14 5020	0.84	/CY	8450	2	4								FT		2504	CY	$ 2,103
	Structure's Vol. Demolished																			
	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 Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			$27,407
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			$27,407

NOTES

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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	**Sewage System No 29**																			
	Excavate Pipe	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY	2832	2	4								FT		839	CY	$ 805
	Pipe Removal	Pipe removal	02 41 13.38 1700	2.71	/FT	2832										FT		2832		$ 7,675
	Backfill Trench	Backfill structural 300 HP	31 23 23 14 5020	0.84	/CY	2832	2	4								FT		839	CY	$ 705
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	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 Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			**$ 9,185**
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			**$ -**
	Total																			**$ 9,185**

NOTES

See Dugout Canyon Mine Leach Field Amendment pg 5-13 states sewer pipeline and leach field piping and concrete boxes will be left in place as part of the final reclamation.

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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																				
	Storage Containers Non30 (8)																			
	Load, Transport, and Return Trip	Truck Mounted Crane 55 ton	01 54 33 60 2600	76.8	HR									16		HR		16		$ 1,229
	Structure's Demolition Cost	Mixed Materials Bld, Large	02 41 16 13 0100	0.3	/CF	40	10	10							8	EA		32000	CF	$ 9,600
	Structure's Vol. Demolished																0.35	415	CY	
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel	Building Construction Materials	02 41 19.19 0400	4	/CY							107						107	CY	$ 428
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			$ 11,257
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			$ 11,257

NOTES

All Storage Containers will be salvaged

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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	**Gilson Well No 31**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						800					CF		800	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	400		$ 112
	Rubble's Weight (exclude steel)																	14.8	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											0.5				TON		0.5	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										1					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.3		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									2.4		HR		2.4	HR	$ 96
	Disposal Cost Steel																			
	Subtotal																			$ 899
	Plug Well Casing	Concrete Ready Mix 8000 PSI	03 31 13.35 0412	123	CY						3					CY		3	CY	$ 369
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ 369
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						55					CY		55	CY	$ 756
	Concrete's Vol. Demolished																1.3	71.5	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													71.5	CY	$ 69
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						71.5					CY		71.5	CY	$ 162
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													71.5	CY	$ 646
	Subtotal																			$ 1,633
	Total																			$ 2,901

NOTES

Assumes 6" thick concrete unreinforced slab

Assumes no interior walls

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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	**Switch House No 32**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						14400					CF		14400	CF	$ 4,032
	Structure's Vol. Demolished																	533.3	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											1				TON		1	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.1					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.03		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									0.2		HR		0.2	HR	$ 8
	Disposal Cost Steel																			
	Subtotal																			$ 4,733
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						55					CY		55	CY	$ 756
	Concrete's Vol. Demolished																1.3	71.5	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													71.5	CY	$ 69
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						71.5					CY		71.5	CY	$ 162
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													71.5	CY	$ 646
	Subtotal																			$ 1,633
	Total																			$ 6,364

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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	**Portals No 33**																			
	Structure's Demolition Cost	Foundations <15"	Nielson '14	13.75	CY						34				5	EA		170	CY	$ 2,338
	Loading Cost																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Concrete Unit Masonry	Concrete Block, Back Up	04 22 10.14 1250	10.96	/SF						400				5	EA		2000	CY	$ 21,920
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY						90				5	EA		450	CY	$ 4,068
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			$ 28,326
	Total																			**$ 28,326**

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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	**Storage & Bolts Bin No 34**																			
	Structure's Demolition Cost	LG Steel Bldg/include 20 mi haul	02 41 16 13 0020	0.28	/CF						3272					/CF		3272	/CF	$ 916
	Structure's Vol. Demolished																			
	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	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.44		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	Trhv	40.05	HR									4		HR		4	HR	$ 160
	Disposal Cost Steel																			
	Subtotal																			**$ 1,767**
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			**$ -**
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						39.99					CY		39.99	CY	$ 550
	Concrete's Vol. Demolished																1.3	52	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													52	CY	$ 50
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						52					CY		52	CY	$ 118
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													52	CY	$ 470
	Subtotal																			**$ 1,188**
	Total																			**$ 2,955**

NOTES

Assumes 6" thick slab concrete

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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	**Storage Building No 35**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF						2284					CF		2284	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	1142		$ 320
	Rubble's Weight (exclude steel)																	42.3	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight											6				TON		6	TON	
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.4					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.1		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									0.8		HR		0.8	HR	$ 32
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 1,043
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						38.4					CY		38.4	CY	$ 528
	Concrete's Vol. Demolished																1.3	49.9	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													49.9	CY	$ 48
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						49.9					CY		49.9	CY	$ 113
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													49.9	CY	$ 451
	Subtotal																			$ 1,140
	Total																			**$ 2,183**

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Assumes 6" thick slab concrete

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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	**Sampling System No 36**																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	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	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.14		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									1.1		HR		1.1	HR	$ 44
	Disposal Cost Steel																			
	Subtotal																			$ 735
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						18					CY		18	CY	$ 248
	Concrete's Vol. Demolished																1.3	23.4	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													23.4	CY	$ 22
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi, rnd. trip	31 23 23.20 3014	2.26	/CY						23.4					CY		23.4	CY	$ 53
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													23.4	CY	$ 212
	Subtotal																			$ 535
	Total																			$ 1,270

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Assumes 6" thick slab concrete

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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	**Stoker Storage Bin No 37**																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	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 Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			$ -
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						35					CY		35	CY	$ 481
	Concrete's Vol. Demolished																1.3	45.5	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													45.5	CY	$ 44
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						45.5					CY		45.5	CY	$ 103
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													45.5	CY	$ 411
	Subtotal																			$ 1,039
	Total																			**$ 1,039**

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Assumes 6" thick slab concrete

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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	**Substation No 2 No 38**																			
	Structure's Demolition Cost	Mixed Materials Bld. Large	02 41 16 13 0100	0.3	/CF						4000					CF		4000	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	2000		$ 600
	Rubble's Weight (exclude steel)																	74.1	CY	
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel	6000 gal. to 8000 gal. tank	02115 200 0310	232	Ea.										1	EA		1	EA	232
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 832
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						57					CY		57	CY	$ 784
	Concrete's Vol. Demolished																1.3	74.1	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													74.1	CY	$ 71
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. md. trip	31 23 23.20 3014	2.26	/CY						74.1					CY		74.1	CY	$ 167
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													74.1	CY	$ 670
	Subtotal																			$ 1,692
	Total																			**$ 2,524**

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Assumes 6" thick slab concrete

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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	**Gabion Baskets No 39**																			
	Excavate	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY						88					CY		88		$ 84
	Support	CLAB	Clab	37.6	HR									8		hr		8	hr	$ 301
	Disposal	On site disposal	02 41 16 17 4200	9.04	/CY						122					CY		122	CY	$ 1,103
	See Earthwork																			
	Subtotal																			$ 1,488
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			**$ 1,488**

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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	**Pace Fan Culvert No 40**																			
	Excavate Culvert	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY	585	3	8										520	CY	$ 499
	Backfill Culvert	Backfill structural 300 HP	31 23 23 14 5020	0.84	/CY	585	3	8										520	CY	$ 437
	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											8.5				ton				
	Truck's Capacity										12	16		3		CY Trips				
	Haulage										0.5					CY				
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.2		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									1.6		HR		1.6	HR	$ 64
	Disposal Cost Steel																			
	Subtotal																			$ 1,691
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			**$ 1,691**

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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	**Pace Fan & Generators No 41**																			
	Structure's Demolition Cost	Steel Bld. Large	02 41 16 13 0020	0.28	/CF	25	25	12								CF		7500	CF	
	Structure's Vol. Demolished	No interior Wall Deduct	02 41 16 13 0750	50%													0.5	3750		$ 1,050
	Rubble's Weight (exclude steel)																	138.9	CY	
	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	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									1		DAY		1	DAY	$ 691
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									8		HR		8	HR	$ 320
	Disposal Cost Steel																			
	No interior Wall Deduct																			
	Subtotal																			$ 2,061
	Equipment 's Disposal Cost																			
	Ducting	Mechanical equipment heavy	23 05 05.10 3600	780	/ton							35				ton		35	ton	$ 27,300
	Fan	Mechanical equipment heavy	23 05 05.10 3600	780	/ton							10				ton		10	ton	$ 7,800
	Hilfiker Mesh	Mechanical equipment heavy	23 05 05.10 3600	780	/ton							0.7				ton		0.7	ton	$ 546
	Portal plate liner	Mechanical equipment heavy	23 05 05.10 3600	780	/ton							1.2				ton		1.2	ton	$ 936
	Total steel weight											46.9								
	Transportation Cost Steel Truck	Truck dump 16 ton payload	01 54 33 20 5300	691	/day									0.6		DAY		0.6	DAY	$ 415
	Transportation Cost Steel Truck Drive	Truck Driver, Heavy	TRHV	40.05	HR									5		HR		5	HR	$ 200
	Subtotal																			$ 37,197
	Portal plate liner																			
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						70					CY		70	CY	$ 963
	Concrete's Vol. Demolished																1.3	91	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													91	CY	$ 87
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						91					CY		91	CY	$ 206
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													91	CY	$ 823
	Subtotal																			$ 2,079
	Generator Pad																			
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						128					CY		128	CY	$ 1,760
	Concrete's Vol. Demolished																1.3	166.4	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													166.4	CY	$ 160
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						166.4					CY		166.4	CY	$ 376
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													166.4	CY	$ 1,504
	Subtotal																			$ 3,800
	Fan Building																			
	Concrete Demolition																			
	Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						252					CY		252	CY	$ 3,465
	Concrete's Vol. Demolished																1.3	327.6	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY													327.6	CY	$ 314
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. trip	31 23 23.20 3014	2.26	/CY						327.6					CY		327.6	CY	$ 740
	Disposal Costs	On site disposal	02 41 16 17 4200	9.04	/CY													327.6	CY	$ 2,962
	Subtotal																			$ 7,481
	Total																			$ 52,618

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Assume 6" thick slab none reinforced concrete

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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	**Pace Fan Portal No 42**																			
	Structure's Demolition Cost	Foundations <15"	Nielson '14	13.75	/CY						90				1	EA		1	EA	$ 1,238
	Loading Cost	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY						150				1	EA		1	EA	$ 144
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Concrete Unit Masonry	Concrete Block, Back Up	04 22 10.14 1250	10.96	/SF						400				1	EA		400		$ 4,384
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Costs																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			**$ 5,766**
	Total																			**$ 5,766**

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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	**Refuse Pile No 43**																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	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 Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			$ -
	Erosion Control																			
	Riprap	Machine placed rip-rap slope protection	31 37 13 10 0100	52.9	CY						561					CY		561	CY	$ 29,677
	Polypropylene Mesh	Polypropylene mesh	31 25 14.16 0100	0.61	SY					1683						SY		1683	SY	$ 1,027
	Subtotal																			**$ 30,704**
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			**$ 30,704**

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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	**Refuse Site No 44**																			
	See Earthwork also																			
		Fencing Barbed wire 3 strand	02 41 13 60 1600	1.4	/LF	3250										FT		3250	FT	$ 4,550
	Remove Fence	Chain link remove 8'-10'	02 41 13 60 1700	3.05	/LF	3250										FT		3250	FT	$ 9,913
	Subtotal																			$ 14,463
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			**$ 14,463**

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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	**Degas Well G2 No 45**																			
	Grade and Backfill	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY						378					CY		378	CY	$ 363
	Fill in Mud Pit	Backfill Trench minimal Haul 2 1/4 CY	31 23 16 13 3080	1.8	/CY						1246					CY		1246	CY	$ 2,243
	Subtotal																			$ 2,606
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						20					CY		20	CY	$ 2,460
	Subtotal																			$ 2,460
	Spread Topsoil	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY						3104					CY		3104	CY	$ 2,980
	Subtotal																			$ 2,980
	Fence																			
	Remove Barbed Wire	Fencing Barbed wire 3 strand	02 41 13 60 1600	1.4	/LF	1200										FT		1200	FT	$ 1,680
	Subtotal																			$ 1,680
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	per HR									16		hr		16	hr	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		hr		16	hr	$ 223
	Subtotal																			$ 1,033
	Total																			$ 10,759

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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	**Degas Well G3 No 46**																			
	Grade and Backfill	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY						412					CY		412	CY	$ 396
	Fill in Mud Pit	Backfill Trench minimal Haul 2 1/4 CY	31 23 16 13 3080	1.8	/CY						110					CY		110	CY	$ 198
	Subtotal																			$ 594
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	$ 2,583
	Subtotal																			$ 2,583
	Spread Topsoil	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY						1182					CY		1182	CY	$ 1,135
	Subtotal																			$ 1,135
	Fence																			
	Remove Barbed Wire	Fencing Barbed wire 3 strand	02 41 13 60 1600	1.4	/LF	542										FT		542	FT	$ 759
	Subtotal																			$ 759
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	per HR									8		hr		8	hr	$ 405
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									8		hr		8	hr	$ 112
	Subtotal																			$ 517
	Total																			**$ 5,588**

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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
47	**Degas Well G4 No 47**																			
	Grade and Backfill	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY						218					CY		218	CY	$ 209
	Fill in Mud Pit	Backfill Trench Mini Haul 2 1/4 CY	31 23 16 13 3080	1.8	/CY						110					CY		110	CY	$ 198
	Subtotal																			$ 407
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	$ 2,583
	Subtotal																			$ 2,583
	Spread Topsoil	Front end loader 3 CY	31 23 16 42 1601	0.96	/CY						1100					CY		1100	CY	$ 1,056
	Subtotal																			$ 1,056
	Fence																			
	Remove Barbed Wire	Fencing, barbed wire, 3 strand - 2011	02 41 13 60 1600	1.4	/LF	551										FT		551	FT	$ 771
	Subtotal																			$ 771
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	per HR									16		hr		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		hr		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			$ 5,850

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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
48	**Degas Well G-5 No 48**																			
	Grading and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						818					CY		818	CY	$ 785
	Fill Mud Pit	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16 13 3080	1.8	/CY						110					CY		110	CY	$ 198
	Plug well Casing	Concrete ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	/CY						1909					CY		1909	CY	$ 1,833
	Remove Barbed Wire	Fencing Barbed wire 3 strand	02 41 13 60 1600	1.4	/LF	1100										LF		1100	LF	$ 1,540
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	per HR										16	HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR										16	HR		16	HR	$ 223
	Subtotal																			$ 7,972
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ -
	Total																			$ 7,972

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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
49	**Degas Well G 6 No 49**																			
	Grading and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96							682					CY		682	CY	$ 655
																CY				
	Fill Mud Pit	Backfill Trench Minimal Haul 2 1/4	31 23 16 42 1601	0.96	/CY						110					CY		110	CY	$ 106
	Plug Well Casing																			
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	/CY						792					CY		792	CY	$ 760
	Remove Barbed Wire	Fencing Barbed wire 3 strand	02 41 13 60 1600	1.4	/LF	860										LF		860	LF	$ 1,204
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	per HR									8		HR		8	HR	$ 405
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									8		HR		8	HR	$ 112
	Subtotal																			**$ 3,242**
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			**$ -**
	Total																			**$ 3,242**

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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
50	**Degas Well G-7 No 50**																			
	Grading and Backfill	Frond End Loader 3 CY	31 23 16 42 1601	0.96	/CY						908					CY		908	CY	$ 872
	Fill Mud Pit	Backfill trench minimal haul 21/4 CY	31 23 16 42 1601	0.96	/CY						430					CY		430	CY	$ 413
	Plug Well Casing																			
	Spread Topsoil	Front End Loader	31 23 16 42 1601	0.96	/CY						2345					CY		2345	CY	$ 2,251
	Remove Barbed Wire	Fencing Barbed wire 3 strand	02 41 13 60 1600	1.4	/LF	1100										LF		1100	LF	$ 1,540
	Subtotal																			$ 5,076
	Foreman	Foreman Average, Outside	Foreman	50.65	hr									16		hr		16	hr	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		hr		16	hr	$ 223
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			$ 1,033
	Total																			**$ 6,109**

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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
51	**Degas Well G-9 No 51**																			
	Grading and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						575					CY		575	CY	$ 552
	Fill Mud Pit	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Plug Well Casing	Concrete Ready Mix	03 31 13.35 0412	123	CY						21					CY		21	CY	$ 2,583
	Subtotal																			$ 3,548
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96							1574					CY		1574	CY	$ 1,511
	Subtotal																			$ 1,511
	Remove Fence	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	per LF	1300										LF		1300	LF	$ 1,820
	Subtotal																			$ 1,820
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			$ 7,912

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52	**Degas Well G-10 No 52**																			
	Grading and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						922					CY				$ -
	Fill Mud Pit	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16 42 1601	0.96	CY						622					CY		622	CY	$ 597
	Subtotal																			$ 597
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	CY						21					CY		21	CY	$ 2,583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						2344					CY		2344	CY	$ 2,250
	Subtotal																			$ 2,250
	Remove Fence	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	LF	1200										LF		1200	LF	$ 1,680
	Subtotal																			$ 1,680
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			**$ 8,143**

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53	**Degas Well G-11 No 53**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						882					CY		882	CY	$ 847
	Fill in Mud Pit	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 1,260
	Plug Well Casing																			
	Subtotal																			$ -
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						254					CY		254	CY	$ 244
	Subtotal																			$ 244
	Remove Fence	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	CY	1100										FT		1100	FT	$ 1,540
	Subtotal																			$ 1,540
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.92	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			$ 4,077

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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
54	**Degas Well G-12 No 54**																			
	Grading and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						429					CY		429	CY	$ 412
	Fill Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 825
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	CY						15					CY		15	CY	$ 1,845
	Subtotal																			$ 1,845
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						563					CY		563	CY	$ 540
	Subtotal																			$ 540
	Remove Fence	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	CY	1100										FT		1100	LF	$ 1,540
	Subtotal																			$ 1,540
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			**$ 5,783**

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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
55	**Degas Well G-13 No 55**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1393					CY		1393	CY	$ 1,337
	Fill in Mud Pit	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 1,750
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	CY						21					CY		21	CY	$ 2,583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						2162					CY		2162	CY	$ 2,076
	Subtotal																			$ 2,076
	Remove Fence	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	LF	1300										LF		1300	LF	$ 1,820
	Subtotal																			$ 1,820
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			$ 9,262

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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
56	**Degas Well G-14 No 56**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						429					CY		429	CY	$ 412
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 825
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	CY						21					CY		21	CY	$ 2,583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1544				1544	CY		1544	CY	$ 1,482
	Subtotal																			$ 1,482
	Remove Fence	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	LF	1100										LF		1100	LF	$ 1,540
	Subtotal																			$ 1,540
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			$ 7,463

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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
57	**Degas Well G-15 No 57**																			
	Grade and Backfill	Front end Loader 3 CY	31 23 16 42 1601	0.96	CY						1106					CY		1106	CY	$ 1,062
	Fill in Mud Pit	Front end Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 1,475
	Plug Well Casing																			
	Subtotal																			$ -
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1475					CY		1475	CY	$ 1,416
	Subtotal																			$ 1,416
	Fence																			
	Remove Barbed Wire	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	LF	1100										FT		1100	FT	$ 1,540
	Subtotal																			$ 1,540
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			$ 5,464

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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
58	**Degas Well G-16 No 58**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						800					CY		800	CY	$ 768
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 1,181
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	2583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1092					CY		1092	CY	$ 1,048
	Subtotal																			$ 1,048
	Fence																			
	Remove Barbed Wire	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	LF	1100										LF		1100	LF	$ 1,540
	Subtotal																			$ 1,540
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			$ 7,385

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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
59	**Degas Well G-17 No 59**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						756					CY		756	CY	$ 726
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 1,139
	Plug well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	2583
	Subtotal																			$ 2,583
	Spread topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						797					CY		797	CY	$ 765
	Subtotal																			$ 765
	Fence																			
	Remove Barbed Wire	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	LF	1200										LF		1200	LF	$ 1,680
	Subtotal																			$ 1,680
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			$ 7,200

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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
60	**Degas Well G-18 No 60**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						6962					CY		6962	CY	$ 6,684
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 7,097
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	2583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						2195					CY		2195	CY	$ 2,107
	Subtotal																			$ 2,107
	Remove Barbed Wire Fence																			
		Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	LF	1300												1300	LF	$ 1,820
	Subtotal																			$ 1,820
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									24		HR		24	HR	$ 1,216
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									24		HR		24	HR	$ 335
	Subtotal																			$ 1,551
	Total																			**$ 15,158**

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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
61	**Degas Well G-19 No 61**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1393					CY		1393	CY	$ 1,337
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 1,750
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	2583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						2037					CY		2037	CY	$ 1,956
	Subtotal																			$ 1,956
	Fence																			
	Remove Barbed Wire	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	LF	1300										LF		1300	LF	$ 1,820
	Subtotal																			$ 1,820
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									16		HR		16	HR	$ 810
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									16		HR		16	HR	$ 223
	Subtotal																			$ 1,033
	Total																			$ 9,142

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Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Shed Factor	Quantity	Unit	Cost
62	**Degas Well G-22 & Access Road No 62**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						7386					CY		7386	CY	$ 7,091
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 7,504
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	2583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						2103							2103	CY	$ 2,019
	Subtotal																			$ 2,019
	Fence																			
	Remove Barbed Wire	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	LF	1300										LF		1300	LF	$ 1,820
	Subtotal																			$ 1,820
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									32		HR		32	HR	$ 1,621
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									32		HR		32	HR	$ 446
	Subtotal																			$ 2,067
	Total																			$ 15,993

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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
63	**Degas Well G-25 No 63**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1406					CY		1406	CY	$ 1,350
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 1,763
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	2583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1406					CY		1406	CY	$ 1,350
	Subtotal																			$ 1,350
	Fence																			
	Remove Barb Wire Fence	Fencing Barbed Wire 3 Strand	02 41 13.60 1600	1.4	CY	1300										FT		1300	LF	$ 1,820
	Subtotal																			$ 1,820
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									24		HR		24	HR	$ 1,216
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									24		HR		24	HR	$ 335
	Subtotal																			$ 1,551
	Total																			$ 9,067

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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
64	**Degas Well G-26 No 64**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1080					CY		1080	CY	$ 1,037
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 1,450
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	2583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1080					CY		1080	CY	$ 1,037
	Subtotal																			$ 1,037
	Fence																			
	Remove Barbed Wire	Fencing Barbed Wire 3 Strand	02 41 13 60 1600	1.4	CY	1300										LF		1300	LF	$ 1,820
	Subtotal																			$ 1,820
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									24		HR		24	HR	$ 1,216
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									24		HR		24	HR	$ 335
	Subtotal																			$ 1,551
	Total																			$ 8,441

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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
66	**Degas Well G-30 No 66**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1479					CY		1479	CY	$ 1,420
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 1,833
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	2583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						1235					CY		1235	CY	$ 1,186
	Subtotal																			$ 1,186
	Fence																			
	Remove Barbed Wire	Fencing Barbed Wire 3 Strand	31 23 16 42 1601	0.96	LF	1300										LF		1300	LF	$ 1,248
	Subtotal																			$ 1,248
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									32		HR		32	HR	$ 1,621
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									32		HR		32	HR	$ 446
	Subtotal																			$ 2,067
	Total																			$ 8,917

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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
67	**Degas Well G-31 No 67**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						8470					CY		8470	CY	$ 8,131
	Fill in Mud Pit	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						430					CY		430	CY	$ 413
	Subtotal																			$ 8,544
	Plug Well Casing	Concrete Ready Mix 8000 psi	03 31 13.35 0412	123	/CY						21					CY		21	CY	2583
	Subtotal																			$ 2,583
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						4624					CY		4624	CY	$ 4,439
	Subtotal																			$ 4,439
	Fence																			
	Remove Fencing	Barbed Wire 3 Strand	31 23 16 42 1601	0.96	LF	1300										LF		1300	LF	$ 1,248
	Subtotal																			$ 1,248
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR									32		HR		32	HR	$ 1,621
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	/HR									32		HR		32	HR	$ 446
	Subtotal																			$ 2,067
	Total																			**$ 18,881**

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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
68	**AMV Road No 68**																			
	Grade and Backfill	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						15207					CY		15207	CY	$ 14,599
	Subtotal																			$ 14,599
	Spread Topsoil	Front End Loader 3 CY	31 23 16 42 1601	0.96	CY						24374					CY		24374	CY	$ 23,399
	Subtotal																			$ 23,399
	Support																			
	Foreman	Foreman Average, Outside	Foreman	50.65	HR						150					HR		150	HR	$ 7,598
	4X4 Pickup	Equipment Rental	01 54 33 40 7200	13.95	HR						150					HR		150	HR	$ 2,093
	Subtotal																			$ 9,691
	Subtotal																			$ -
	Total																			$ 47,689

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Earth Line Item Subtotals

Ref.	Description	COST 2015 Dollars
1	Facilities Area 01	$ 420,784
2	Facilities Area 02	$ 177,914
3	Stream Channel 03	$ 48,919
5	Refuse Pile 05	$ 389,748
6	Backfill Shaft	$ 12,630
	Total	$1,049,995

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Ref.	Description	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	COST 2015 Dollars
	Dugout Mine															
1	**Facilities Area 01**															
	Cut and Fill at Mine Site															
	Equipment															
	Rough Grading															
	D9R Semi-U EROPS (9-37) (2H2015)	24400	125.2	0.1	55.4	345.62	1	345.62	$/HR	118169	CY	184	CY/HR	642.2	HR	$ 221,957
	Finished Grading															
	D9R Semi-U EROPS (9-37) (2H2015)	24400	125.2	0.1	55.4	345.62	1	345.62	$/HR	19926	CY	680	CY/HR	29.3	HR	$ 10,127
	825H ((6-12) (2H2015))	17710	97.6	0.1	55.4	273.45	1	273.45	$/HR	58490	CY	876	CY/HR	66.8	HR	$ 18,266
	CAT 345D L(10-20)(2nd2015)	16105	104.75	0.1	55.4	271.28	1	271.28	$/HR	10000	CY	308	CY/HR	32.5	HR	$ 8,817
	966H EROPS (9-26) (2nd2015)	8250	57.8	0.1	55.4	170.54	1	170.54	$/HR	8342	CY	204	CY/HR	40.9	HR	$ 6,975
	Support Personnel and Labor															
	CLAB				42.65	42.65	1	42.65	$/HR					642.2	HR	$ 27,390
	5,000 gal H2O truck Diesel (20-15) (2nd2015)	5280	45.8	0.1	43.3	126.68	1	126.68	$/HR					642.2	HR	$ 81,354
	Pickup Truck Crew 4x4 1 ton (20-16) (2nd2015)	325	17.6	0.1	43.3	64.69	1	11.57	$/HR					642.2	HR	$ 7,430
	Foreman Average, Outside					59.9	1	59.9	$/HR					642.2	HR	$ 38,468
	Subtotal															$ 420,784

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Ref.		Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	COST 2015 Dollars
	Dugout Mine															
2	**Facilities Area 02**															
	Topsoil Distribution															
	Move topsoil															
	D9R Semi-U EROPS (9-37) (2H2015)	24400	125.2	0.1	55.4	345.62	1	345.62	$/HR	21460	CY	184	CY/HR	116.6	HR	$ 40,299
	Pocking Handled in Vegetation Section															
	966H EROPS (9-26) (2nd2015)	8250	57.8	0.1	55.4	170.54	1	170.54	$/HR	21460	CY	204	CY/HR	105.2	HR	$ 17,941
	6X4 70.000lbs 12-18 CY (20-11) (2nd2015)	4430	57.4	0.1	43.3	134.13	6	804.78	$/HR	21460	CY	204	CY/HR	105.2	HR	$ 84,663
	Support Personnel and Labor															
	CLAB					49	1	49	$/HR					116.6	HR	$ 5,713
	5,000 gal H2O truck Diesel (20-15) (2nd2015)	5280	45.8	0.1	43.3	126.68	1	126.68	$/HR					116.6	HR	$ 14,771
	Pickup Truck Crew 4x4 1 ton (20-16) (2nd2015)	325	17.6	0.1	43.3	64.69	1	64.69	$/HR					116.6	HR	$ 7,543
	Foreman Average, Outside					59.9	1	59.9	$/HR					116.6	HR	$ 6,984
	Subtotal															**$ 177,914**

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Ref.		Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	COST 2015 Dollars
	Dugout Mine															
3	**Stream Channel 03**															
	Remove Culvert and Restore Channel															
	CAT 345D L(10-20)(2nd2015)	16105	104.75	0.1	55.4	271.28	1	271.28	$/HR	14400	CY	310	CY/HR	46.5	HR	$ 12,615
	CLAB					42.65	0.5	21.33	$/HR					46.5	HR	$ 992
	966H EROPS (9-26) (2nd2015)	8250	57.8	0.1	55.4	170.54	1	170.54	$/HR	1500	CY	204	CY/HR	7.4	HR	$ 1,262
	CLAB					42.65	0.5	21.33	$/HR					7.4	HR	$ 158
	6X4 70,000lbs 12-18 CY (20-11) (2nd2015)	4430	57.4	0.1	43.3	134.13	1	134.13	$/HR	7000	CY	50	CY/HR	140	HR	$ 18,778
	CLAB					49	0.5	24.5	$/HR					140	HR	$ 3,430
	Support															
							1									$ -
	5,000 gal H2O truck Diesel (20-15) (2nd2015)	5280	45.8	0.1	43.3	126.68	1	126.68	$/HR					46.5	HR	$ 5,891
	Pickup Truck Crew 4x4 1 ton (20-16) (2nd2015)	325	17.6	0.1	43.3	64.69	1	64.69	$/HR					46.5	HR	$ 3,008
	Foreman Average, Outside					59.9	1	59.9	$/HR					46.5	HR	$ 2,785
	Subtotal															**$ 48,919**

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Ref.		Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	COST 2015 Dollars
	Dugout Mine															
5	**Refuse Pile 05**															
	Cut and Fill Refuse Site															
	D9R Semi-U EROPS (9-37) (2H2015)	24400	125.2	0.1	55.4	345.62	1	345.62	$/HR	27556	CY	102	CY/HR	270.2	HR	$ 93,387
	5,000 gal H2O truck Diesel (20-15) (2nd2015)	5280	45.8	0.1	43.3	126.68	1	126.68	$/HR					270.2	HR	$ 34,229
							1									
	Foreman & 4X4 Pickup (20-16) (2nd2015)	325	17.6	0.1	50.65	72.04	1	72.04	$/HR					270.2	HR	$ 19,465
	Doze On-site Subsoil/Topsoil															
	D8R Series II (9-37) (2nd2015)	16865	89.55	0.1	55.4	213.03	1	213.03	$/HR	23060	CY	480	CY/HR	48	HR	$ 10,225
	Borrow Area Soils															
	Trucking Soil															
	CAT 345D L(10-20)(2nd2015)	16105	104.75	0.1	55.4	271.28	1	271.28	$/HR	57195		150	CY/HR	381.3	HR	$ 103,439
	6X4 70,000lbs 12-18 CY (20-11) (2nd2015)	4430	57.4	0.1	43.3	100.96	1.5	151.44	$/HR	57195		150	CY/HR	381.3	HR	$ 57,744
	Doze Trucked Subsoil															
	D8R Series II (9-37) (2nd2015)	16865	89.55	0.1	55.4	213.03	1	213.03	$/HR	57195		171	CY/HR	334.5	HR	$ 71,259
	Subtotal															**$ 389,748**

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Ref.		Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	CGST 2015 Dollars
	Pace Canyon Fan Portal															
6	**Backfill Shaft**															
	CAT 345D L(10-20)(2nd2015)	16105	104.75	0.1	55.4	271.28	1	271.28	$/HR	641	CY	216	CY/HR	3	HR	$ 814
	6X4 70,000lbs 12-18 CY (20-11) (2nd2015)	4430	57.4	0.1	43.3	100.96	3	302.88						3	HR	$ 909
	Backfill Portal															
	D8R Series II (9-37) (2nd2015)	16865	89.55	0.1	55.4	213.03	1	213.03	$/HR	331	CY	171	CY/HR	1.9	HR	$ 405
	Subsoil Placement															
	D8R Series II (9-37) (2nd2015)	16865	89.55	0.1	55.4	213.03	1	213.03	$/HR	4045	CY	90	CY/HR	44.9	HR	$ 9,565
	Doze On -site Topsoil															
	D8R Series II (9-37) (2nd2015)	16865	89.55	0.1	55.4	213.03	1	213.03	$/HR	2128	CY	480	CY/HR	4.4	HR	$ 937
	Subtotal															**$ 12,630**

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Vegetation Line Item Subtotals

Ref.	Description	Cost 2015 Dollars
V-1	Dugout Mine Vegetation	$ 169,874
V-2	Dugout Mine Refuse Pile	$ 115,534
V-3	Pace Canyon Fan Portal	$ 8,173
V-4	Degas Well G2	$ 2,478
V-5	Degas Well G3	$ 2,783
V-6	Degas Well G4	$ 2,128
V-7	Degas Well G5	$ 2,282
V-8	Degas Well G6	$ 3,233
V-9	Degas Well G7	$ 2,661
V-10	Degas Well G9	$ 1,711
V-11	Degas Well G10	$ 1,598
V-12	Degas Well G11	$ 1,731
V-13	Degas Well G12	$ 1,749
V-14	Degas Well G13	$ 2,395
V-15	Degas Well G14	$ 2,166
V-16	Degas Well G15	$ 4,230
V-17	Degas Well G16	$ 3,507
V-18	Degas Well G17	$ 2,738
V-19	Degas Well G-18	$ 3,801
V-20	Degas Well G-19	$ 2,850
V-21	Degas Well G-22 and Access Road	$ 9,769
V-22	Degas Well G-25	$ 5,949
V-23	Degas Well G-26	$ 3,270
V-24	Degas Well G-30	$ 5,095
V-25	Degas Well G-31	$ 3,886
V-26	AMV Road	$ 74,885
	Total	**$ 440,478**

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Tons	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-1	**Dugout Mine Vegetation**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					14.56						AC		23490	CY	$ 9,866
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					14.56						AC		23490	CY	$ 22,550
	Subtotal																			$ 32,416
	Fence																			
	Silt Fence	Wire Reinforced Silt Fence 3'x 100', 4' T Po	Maxwell Quote	0.55	ft	6800										FT		6800	FT	$ 3,740
	Subtotal																			$ 3,740
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					13.9						AC		605	MSF	$ 19,209
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					13.9						AC		13.9	AC	$ 7,318
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					13.9						AC		1	ton/AC	$ 8,799
	Tackifier	Tackifier	Tackifier	52.5	/AC					13.9						AC		13.9	AC	$ 730
	Transplant Area No 1																			
	Area																			
	Transplant Materials	Dugout Transplant Mix No 1	Dugout Transp 1	984.5	/AC					13.9						AC		13.9	AC	$ 13,685
	Transplant Labor	Bare root seedlings, 11" to 16" med. soil	32 93 43 10 0130	0.81	Ea										550	#/AC		7645	EA	$ 6,192
	Seed Mix No 2																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					2.45						AC		107	MSF	$ 3,397
	Hydro seed Material	Dugout Seed Mix No 2	Dugout Seed 2	414	/AC					2.45						AC		2.45	AC	$ 1,014
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					2.45						AC		1	ton/AC	$ 1,551
	Tackifier	Tackifier	Tackifier	52.5	/AC					2.45						AC		2.45	AC	$ 129
	Transplant Area No 2																			
	Area																			
	Transplant Materials	Dugout Transplant Mix #2	Dugout Transp 2	13,083	/AC					2.45						AC		2.45	AC	$ 32,052
	Transplant Labor	Bare root seedlings, 11" to 16" med. soil	32 93 43 10 0130	0.81	Ea										6500	#/AC		15925	EA	$ 12,899
	Subtotal																			$ 106,975
	Direct Vegetation																			$ 143,131
	Reseeding																			
	Assume 25% reveg rate																			$ 26,744
	Total																			**$ 169,874**

NOTE:

Hydro
see maxwell supply quote

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-2	**Dugout Mine Refuse Pile**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	/CY					16.34						AC		26362	CY	$ 11,072
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					16.34						AC		26362	CY	$ 25,308
	Subtotal																			$ 36,380
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					16.34						AC		712	MSF	$ 22,606
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					16.34						AC		16.34	AC	$ 8,603
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					16.34						AC		15.6	ton/AC	$ 9,875
	Tackifier	Tackifier	Tackifier	52.5	/AC					16.34						AC		16.34	AC	$ 858
	Transplant Area No 1																			
	Area																			
	Transplant Materials	Dugout Transplant Mix No 1	Dugout Transp 1	984.5	/AC					16.34						AC		16.34	AC	$ 16,087
	Transplant Labor	Bare root seedlings, 11" to 16" med. soil	32 93 43 10 0130	0.81	Ea										400	#/AC		6536	EA	$ 5,294
	Subtotal																			$ 63,323
	Reseeding																			
	Assume 25% reveg rate																			$ 15,831
	Total																			**$ 115,534**

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-3	**Pace Canyon Fan Portal**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					1.5						AC		2420	CY	$ 1,016
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					1.5						AC		2420	CY	$ 2,323
	Subtotal																			$ 3,339
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					1.5						AC		65	MSF	$ 2,064
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					1.5						AC		1.5	AC	$ 790
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					1.5						AC		1.5	ton/AC	$ 950
	Tackifier	Tackifier	Tackifier	52.5	/AC					1.5						AC		1.5	AC	$ 79
	Subtotal																			$ 3,883
	Direct Vegetation																			$ 7,222
	Reseeding																			
	Assume 25% reveg rate																			$ 951
	Total																			$ 8,173

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-4	**Degas Well G2**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.45						AC		726	CY	$ 305
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.45						AC		726	CY	$ 697
	Subtotal																			$ 1,002
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.45						AC		20	MSF	$ 635
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.45						AC		0.45	AC	$ 237
	Hay Mulch	Hay 1" material only	31 25 14.16 1200	633	TON					0.45						AC		0.45	ton/AC	$ 285
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.45						AC		0.45	AC	$ 24
	Subtotal																			$ 1,181
	Direct Vegetation																			$ 2,183
	Reseeding																			
	Assume 25% reveg rate																			$ 295
	Total																			$ 2,478

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-5	**Degas Well G3**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.51						AC		823	CY	$ 346
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.51						AC		823	CY	$ 790
	Subtotal																			$ 1,136
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.51						AC		22	MSF	$ 699
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.51						AC		0.51	AC	$ 269
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.51						AC		0.51	ton/AC	$ 323
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.51						AC		0.51	AC	$ 27
	Subtotal																			$ 1,318
	Direct Vegetation																			$ 2,454
	Reseeding																			
	Assume 25% reveg rate																			$ 329
	Total																			**$ 2,783**

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-6	**Degas Well G4**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.39						AC		629	CY	$ 264
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.39						AC		629	CY	$ 604
	Subtotal																			$ 868
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.39						AC		17	MSF	$ 540
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.39						AC		0.39	AC	$ 205
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.39						AC		0.39	ton/AC	$ 247
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.39						AC		0.39	AC	$ 20
	Subtotal																			$ 1,012
	Direct Vegetation																			$ 1,880
	Reseeding																			
	Assume 25% reveg rate																			$ 248
	Total																			**$ 2,128**

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-7	**Degas Well G5**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.42						AC		678	CY	$ 285
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.42						AC		678	CY	$ 651
	Subtotal																			$ 936
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.42						AC		18	MSF	$ 572
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.42						AC		0.42	AC	$ 221
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.42						AC		0.42	ton/AC	$ 266
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.42						AC		0.42	AC	$ 22
	Subtotal																			$ 1,081
	Direct Vegetation																			$ 2,017
	Reseeding																			
	Assume 25% reveg rate																			$ 265
	Total																			$ 2,282

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-8	**Degas Well G6**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.59						AC		952	CY	$ 400
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.59						AC		952	CY	$ 914
	Subtotal																			$ 1,314
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.59						AC		26	MSF	$ 826
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.59						AC		0.59	AC	$ 311
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.59						AC		0.59	ton/AC	$ 373
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.59						AC		0.59	AC	31
	Subtotal																			$ 1,541
	Direct Vegetation																			$ 2,855
	Reseeding																			
	Assume 25% reveg rate																			$ 378
	Total																			**$ 3,233**

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-9	**Degas Well G7**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.49						AC		791	CY	$ 332
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.49						AC		791	CY	$ 759
	Subtotal																			$ 1,091
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.49						AC		21	MSF	$ 667
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.49						AC		0.49	AC	$ 258
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.49						AC		1	ton/AC	$ 310
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.49						AC		0.49	AC	$ 26
	Subtotal																			$ 1,261
	Direct Vegetation																			$ 2,352
	Reseeding																			
	Assume 25% reveg rate																			$ 309
	Total																			**$ 2,661**

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-10	**Degas Well G9**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.31						AC		500	CY	$ 210
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.31						AC		500	CY	$ 480
	Subtotal																			$ 690
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.31						AC		14	MSF	$ 445
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.31						AC		0.31	AC	$ 163
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.31						AC		0.31	ton/AC	$ 196
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.31						AC		0.31	AC	$ 16
	Subtotal																			$ 820
	Direct Vegetation																			$ 1,510
	Reseeding																			
	Assume 25% reveg rate																			$ 201
	Total																			$ 1,711

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-11	**Degas Well G10**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.29						AC		468	CY	$ 197
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.29						AC		468	CY	$ 449
	Subtotal																			$ 646
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.29						AC		13	MSF	$ 413
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.29						AC		0.29	AC	$ 153
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.29						AC		0.29	ton/AC	$ 184
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.29						AC		0.29	AC	$ 15
	Subtotal																			$ 765
	Direct Vegetation																			$ 1,411
	Reseeding																			
	Assume 25% reveg rate																			$ 187
	Total																			$ 1,598

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-12	**Degas Well G11**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.32						AC		516	CY	$ 217
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.32						AC		516	CY	$ 495
	Subtotal																			$ 712
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.32						AC		14	MSF	$ 445
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.32						AC		0.32	AC	$ 168
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.32						AC		0.32	ton/AC	$ 203
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.32						AC		0.32	AC	$ 17
	Subtotal																			$ 816
	Direct Vegetation																			$ 1,528
	Reseeding																			
	Assume 25% reveg rate																			$ 204
	Total																			$ 1,731

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-13	**Degas Well G12**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.32						AC		516	CY	$ 217
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.32						AC		516	CY	$ 495
	Subtotal																			$ 712
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.32						AC		14	MSF	$ 445
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.32						AC		0.32	AC	$ 168
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.32						AC		0.32	ton/AC	$ 203
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.32						AC		0.32	AC	$ 17
	Subtotal																			$ 833
	Direct Vegetation																			$ 1,545
	Reseeding																			
	Assume 25% reveg rate																			$ 204
	Total																			$ 1,749

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-14	**Degas Well G13**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.44						AC		710	CY	$ 298
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.44						AC		710	CY	$ 682
	Subtotal																			$ 980
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.44						AC		19	MSF	$ 603
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.44						AC		0.44	AC	$ 232
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.44						AC		0.44	ton/AC	$ 279
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.44						AC		0.44	AC	$ 23
	Subtotal																			$ 1,137
	Direct Vegetation																			$ 2,117
	Reseeding																			
	Assume 25% reveg rate																			$ 278
	Total																			**$ 2,395**

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-15	**Degas Well G14**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.4						AC		645	CY	$ 271
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.4						AC		645	CY	$ 619
	Subtotal																			$ 890
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.4						AC		17	MSF	$ 540
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.4						AC		0.4	AC	$ 211
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.4						AC		0.4	ton/AC	$ 253
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.4						AC		0.4	AC	$ 21
	Subtotal																			$ 1,025
	Direct Vegetation																			$ 1,915
	Reseeding																			
	Assume 25% reveg rate																			$ 251
	Total																			$ 2,166

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-16	**Degas Well G15**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.77						AC		1242	CY	$ 522
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.77						AC		1242	CY	$ 1,192
	Subtotal																			$ 1,714
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.77						AC		34	MSF	$ 1,080
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.77						AC		0.77	AC	$ 405
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.77						AC		0.77	ton/AC	$ 487
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.77						AC		0.77	AC	$ 40
	Subtotal																			$ 2,012
	Direct Vegetation																			$ 3,726
	Reseeding																			
	Assume 25% reveg rate																			$ 503
	Total																			$ 4,230

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Material	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-17	**Degas Well G16**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.64						AC		1033	CY	$ 434
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.64						AC		1033	CY	$ 992
	Subtotal																			$ 1,426
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.64						AC		28	MSF	$ 889
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.64						AC		0.64	AC	$ 337
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.64						AC		0.64	ton/AC	$ 405
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.64						AC		0.64	AC	$ 34
	Subtotal																			$ 1,665
	Direct Vegetation																			$ 3,091
	Reseeding																			
	Assume 25% reveg rate																			$ 416
	Total																			**$ 3,507**

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Ref.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-18	**Degas Well G17**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.5						AC		807	CY	$ 339
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	/CY					0.5						AC		807	CY	$ 775
	Subtotal																			$ 1,114
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	/MSF					0.5						AC		22	MSF	$ 699
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	/AC					0.5						AC		0.5	AC	$ 263
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.5						AC		0.5	ton/AC	$ 317
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.5						AC		0.5	AC	$ 26
	Subtotal																			$ 1,305
	Direct Vegetation																			$ 2,419
	Reseeding																			
	Assume 25% reveg rate																			$ 320
	Total																			$ 2,738

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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REF.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-19	**Degas Well G-18**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.7						AC		1129	CY	$ 474
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	CY					0.7						AC		1129	CY	$ 1,084
	Subtotal																			$ 1,558
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	MSF					0.7						AC		30	MSF	$ 953
	Hydro seed Material	Dugout Seed Mix No. 1	Dugout Seed 1	526.5	AC					0.7						AC		0.7	AC	$ 369
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	Ton					0.7						AC		0.7	Ton/AC	$ 443
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.7						AC		0.7	AC	$ 37
	Subtotal																			$ 1,802
	Direct Vegetation																			$ 3,360
	Reseeding																			
	Assume 25% reveg rate																			$ 441
	Total																			$ 3,801

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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REF.	Description	Materials	Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
V-20	**Degas Well G-19**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.52						AC		839	CY	$ 352
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	CY					0.52						AC		839	CY	$ 805
	Subtotal																			$ 1,157
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	MSF					0.52						AC		23	MSF	$ 730
	Hydro seed Material	Dugout Seed Mix No. 1	Dugout Seed 1	526.5	AC					0.52						AC		0.52	AC	$ 274
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	Ton					0.52						AC		0.52	Ton/AC	$ 329
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.52						AC		0.52	AC	$ 27
	Subtotal																			$ 1,360
	Direct Vegetation																			$ 2,517
	Reseeding																			
	Assume 25% reveg rate																			$ 333
	Total																			**$ 2,850**

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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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
V-21	**Degas Well G-22 and Access Road**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					1.79						AC		2888	CY	$ 1,213
	Pocking	Excavation Bulk Bank 3CY	31 23 16 42 1601	0.96	CY					1.79						AC		2888	CY	$ 2,772
	Subtotal																			$ 3,985
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	MSF					1.79						AC		78	MSF	$ 2,477
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	AC					1.79						AC		1.79	AC	$ 942
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					1.79						AC		1.79	TON/AC	$ 1,133
	Tackifier	Tackifier	Tackifier	52.5	/AC					1.79						AC		1.79	AC	$ 94
	Subtotal																			$ 4,646
	Direct Vegetation																			$ 8,631
	Reseeding																			
	Assume 25% Reveg Rate																			$ 1,138
	Subtotal																			
	Total																			**$ 9,769**

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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
V-22	**Degas Well G-25**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					1.8						AC		2904	CY	$ 1,220
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	CY					1.8						AC		2904	CY	$ 2,788
	Subtotal																			$ 4,008
	Seed Mix No 1																			
	Hydro seed Equipment & Labor	Hydro Seeding, Mulch & Fertilize	32 92 19.14 5800	31.75	MSF					0.6						AC		26	MSF	$ 826
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.6						AC		0.6	TON/AC	$ 380
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	AC					0.6						AC		0.6	AC	$ 316
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.6						AC		0.6	AC	$ 32
	Subtotal																			$ 1,553
	Direct Vegetation																			$ 5,561
	Reseeding																			
	Assume 25% Reveg Rate																			$ 388
	Total																			$ 5,949

NOTE:

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Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Num	Unit	Swell Factor	Quantit	Unit	Cost
V-23	**Degas Well G-26**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.6						AC		968	CY	$ 407
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	CY					0.6						AC		968	CY	$ 929
	Subtotal																			$ 1,336
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	MSF					0.6						MSF		26	MSF	$ 826
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.6						TON/AC		0.6	AC	$ 380
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	AC					0.6						AC		0.6	AC	$ 316
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.6						AC		0.6	AC	$ 32
	Subtotal																			$ 1,553
	Direct Vegetation																			$ 2,889
	Reseeding																			
	Assume 25 % Reveg Rate																			$ 380
	Subtotal																			
	Total																			$ 3,270

NOTE:

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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
V-24	**Degas Well G-30**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.93						AC		1500	CY	$ 630
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	CY					0.93						AC		1500	CY	$ 1,440
	Subtotal																			$ 2,070
	Seed Mix No1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertili	32 92 19.14 5800	31.75	MSF					0.93						AC		41	MSF	$ 1,302
	Hay Mulch	Hay 1"	31 25 14.16 1200	633	TON					0.93						AC		0.93	Ton/AC	$ 589
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	AC					0.93						AC		0.93	AC	$ 490
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.93						AC		0.93	AC	$ 49
	Subtotal																			$ 2,430
	Direct Vegetation																			$ 4,500
	Reseeding																			
	Assume 25 % Reveg Rate																			$ 595
	Total																			$ 5,095

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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
V-25	**Degas Well G-31**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					0.71						AC		1145	CY	$ 481
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	CY					0.71					1.75	AC		1145	CY	$ 1,099
	Subtotal																			$ 1,580
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	MSF					0.71					1.75	AC		31	MSF	$ 984
	Hay Mulch	Hay 1 "	31 25 14.16 1200	633	TON					0.71					1.75	AC		0.71	TON/AC	$ 449
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	AC					0.71					1.75	AC		0.71	AC	$ 374
	Tackifier	Tackifier	Tackifier	52.5	/AC					0.71						AC		0.71	AC	$ 37
	Subtotal																			$ 1,844
	Direct Vegetation																			$ 3,424
	Reseeding																			
	Assume 25 % Reveg Rate																			$ 461
	Subtotal																			
	Total																			**$ 3,886**

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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
V-26	**AMV Road**																			
	Soil Preparation	Ripping	31 23 16.32 2820	0.42	BCY					13.72						AC		22135	CY	$ 9,297
	Pocking	Excavation Bulk Bank 3 CY	31 23 16 42 1601	0.96	CY					13.72						AC		22135	CY	$ 21,250
	Subtotal																			$ 30,547
	Seed Mix No 1																			
	Hydro seed Equipment and Labor	Hydro Seeding, Mulch & Fertilizer	32 92 19.14 5800	31.75	MSF					13.72						AC		598	MSF	$ 18,987
	Hydro seed Material	Dugout Seed Mix No 1	Dugout Seed 1	526.5	AC					13.72						AC		13.72	AC	$ 7,224
	Hay Mulch	Hay 1 "	31 25 14.16 1200	633	TON					13.72						AC		13.72	Ton/AC	$ 8,685
	Tackifier	Tackifier	Tackifier	52.5	/AC					13.72						AC		13.72	AC	$ 720
	Subtotal																			$ 35,615
	Direct Vegetation																			$ 66,161.44
	Subtotal																			
	Reseeding																			
	Assume 25 % Reveg Rate																			$ 8,724
	Total																			$ 74,885

NOTE:

Area reflects disturbed acreage as surveyed by Cody Ware of Ware Surveying

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Dugout M&RP, Chapter 7, Page 7-14 & 7-44

Dugout Canyon Mine Permit Number C/007/039

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The data presented in Appendix 7-2 indicate that the dissolved iron concentration of groundwater issuing from the North Horn Formation is generally less than 0.07 mg/l. Total iron concentrations of this water is slightly higher. Total manganese concentrations in North Horn groundwater are generally less than 0.02 mg/l. These data do not exhibit seasonal trends.

Price River Formation. The Price River Formation consists of interbedded mudstone and siltstone with some fine-grained sandstone and carbonaceous mudstone. Within the permit area, no springs have been found issuing from the Price River Formation, suggesting that it is not a significant aquifer. The absence of springs is of great significance, since this formation is situated between the overlying Flagstaff groundwater system and the underlying coal zone (in the Blackhawk Formation). The absence of springs is most likely the result of two factors: 1) clay horizons in overlying formations inhibit vertical recharge from groundwaters in the Flagstaff and North Horn Formations, and 2) the exposed recharge area of the Price River Formation is limited primarily to areas of steep cliff faces.

Wahler Associates (1982) indicate that monitoring well GW-11-2 (Plate 7-1) is completed within the Price River Formation. Data collected from this well (Appendix 7-4) indicate that water levels varied by approximately 8 feet during the period of December 1979 through November 1982, but showed no consistent trend. A measurement collected in September 1995 indicated that the water level was 1.2 feet lower than the last time it was measured nearly 13 years earlier. Hence, although a slight decline in water levels has occurred during the period of record, this decline is not considered significant. Since 1997, when this well became part of the mine's monitoring program, the water level dropped approximately 8 feet until 2005 when it rose about 12 feet. Mining activities do not appear to be the cause of the rise and fall of the water level within the well nor do cycles between wet and dry periods. The cause for these changes are unknown at this time.

Following the depth reading in monitoring well GW-11-2 on 6/15/06 of 1116' 2", the reading remained at approximately 1116 feet until 10/23/07. When the well was accessed in the Spring of 2008 the measuring probe did not register water and has not registered water since. The assumption is that the GW-11-2 monitoring well caved and/or the casing sheered during the winter months preventing access to measure the water level. Because mining activities do not impact the rise and fall of the water level in the well, monitoring well GW-11-2 was permanently removed from the monitoring program after the 4th Quarter of 2015.

Castlegate Sandstone. The Castlegate Sandstone consists of a fine- to medium-grained sandstone that is cemented with clay and calcium carbonate. The outcrops of this sandstone form prominent cliffs in the area.

Data presented in Table 7-2 and Appendix 7-2 indicate that only two springs (SC-80 and SC-81) have been found issuing from the Castlegate Sandstone within the permit and adjacent areas. The flow of these springs was 1 gpm or less in September 1995, with no measurable flow being observed in October 1995. Based on specific conductance measurements collected from these springs, the TDS concentration of water issuing from the Castlegate Sandstone varies from about 360 to 430 mg/l. The water is slightly alkaline, with a pH of 7.7 to 8.0. Subsequent field studies

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and straw-bale dikes will be periodically inspected, and accumulated sediment will be removed as needed to maintain functionality. Once the sedimentation trap, ditches, and culverts are installed, the interim silt fences and straw-bale dikes will be removed.

Once the runoff- and sediment-control facilities outlined in Section 732 have been installed, these structures will prevent additional contributions of suspended solids to streamflow outside the permit area. A description of sediment control following reclamation is presented in Sections 540 and 760 of this M&RP.

731.200 Water Monitoring

Groundwater Monitoring. Groundwater monitoring to be conducted in the permit and adjacent areas will consist of data collection from monitoring wells, springs, and mine-water discharges. Locations of wells and springs to be monitored are noted on Plate 7-1. The groundwater monitoring plans presented herein were developed based on information presented in the PHC determination, the baseline hydrologic data, the geologic data presented in Chapter 6 of this M&RP, and operational changes at the mine.

Monitoring wells included in the groundwater monitoring program are GW-10-2, GW-11-2, and GW-24-1. The remaining monitoring wells in the general vicinity are either too remote from the permit area to be indicative of impacts occurring from the Dugout Canyon operations (i.e., GW-5-1, GW-6-1, GW-32-1, and G-58.5) or are completed across multiple aquifers (i.e., GW-19-1), making data interpretation difficult. The monitoring of well GW-11-2 was discontinued after sampling in the 4th quarter of 2015.

The monitoring wells are all completed in the Price River Formation or the underlying Castlegate Sandstone. Because the Castlegate Sandstone immediately overlies the Blackhawk Formation, data collected from these wells allow hydrologic impacts of mining to be evaluated in groundwater systems which overlie the mine workings but underlie the Flagstaff and North Horn groundwater systems.

Water-level measurements will be collected on a quarterly basis when the wells are accessible. Given the ages of the wells and the probable deterioration of the casing materials, no attempts will be made to collect water-quality data from the monitoring wells.

The springs to be included in the operational and post-mining groundwater monitoring program are:

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Dugout M&RP, Plate 7-1

Dugout Canyon Mine Permit Number C/007/039

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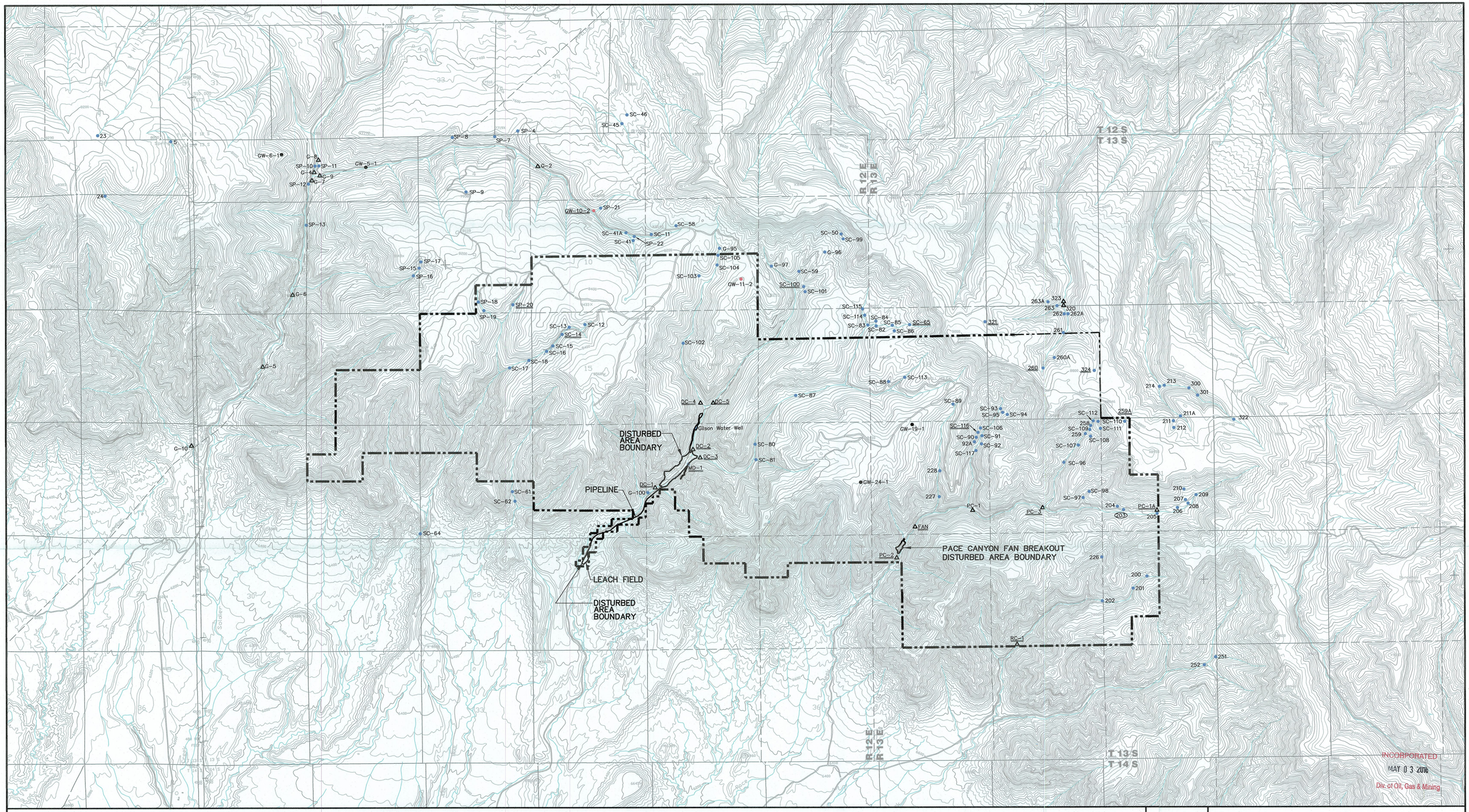

LEGEND

- PERMIT AREA BOUNDARY
- MINE DISCHARGE
- SPRING
- MONITORING WELL
- STREAM STATION
- WATER WELL
- EXISTING DRAINAGE

SC-65 — UNDERLINED STATION NUMBERS INDICATE LOCATIONS FOR OPERATIONAL BASELINE AND POST-MINING MONITORING.

270 — CIRCLED STATION NUMBERS INDICATE LOCATIONS FOR BASELINE AND OPERATIONAL MONITORING FOR THE SITLA LEASE AREA.

NOTE:

1. REFER TO REFUSE PILE AMENDMENT AND METHANE DEGASSIFICATION AMENDMENT FOR INFORMATION PERTAINING TO THIER AREAS.

REGISTERED PROFESSIONAL ENGINEER
No. 151610
DAVID G. SPILLMAN
4/25/16
STATE OF UTAH

0' 2000'

REVISION	
DATE	BY
01/26/07	JKS
03/05/07	JLP
09/18/07	SC
10/10/07	JLP
02/21/08	VSM/SWF
04/09/08	VSM/SWF
07/01/08	VSM/SWF
09/11/08	VSM/SWF
03/06/12	JKS
04/25/12	JKS
02/11/16	BK

Canyon Fuel Company, LLC
Soldier Canyon & Dugout Canyon Mines

HYDROLOGIC MONITORING STATIONS

Dugout Canyon Mine

DRAWN BY: SWF	DATE: 01/03/05	SCALE: 1" = 2000'
APPROVED BY: LDJ	FILE NAME: PLATE 7-1.DWG	DRAWING OR MAP NUMBER PLATE 7-1