

**WEST RIDGE
RESOURCES, INC.**

C/007/041 Incoming
#5464

794 N. "C" Canyon Road, P. O. Box 910,

East Carbon, Utah 84520

Phone: (435) 8884000

Fax: (435) 8884002

November 7, 2017

Dana Dean
Associate Director, Mining
Utah Division of Oil, Gas & Mining 1594
West North Temple, Ste. 1210 Salt Lake
City, Utah 84116

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Re: West Ridge Mine, C/007/0041
Revision of MRP to Remove Gob Vent Hole Project ("GVH Project") Application
for Alternative Postmining Land Use. TASK ID #5464

Dear Dana:

On behalf of West Ridge Resources, Inc. ("WRR"), enclosed are the clean copies of the changes made to the West Ridge Mine Mining and Reclamation Plan ("MRP") regarding the Postmining Land Use Task ID #5464.

Please feel free to contact me should you have any questions.

Sincerely,

Karin Madsen
Environmental Engineering Tech.
West Ridge Resources, Inc.

Application for Permit Processing

Detailed Schedule of Changes to the MRP

WR 17-003 Postmine Land Use GVH Removal Task ID #5464

Permit Number: ACT/007/041

Mine: West Ridge

Permittee: West Ridge Resources, Inc.

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit application. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
			Bonding Calculations and totals
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Chapter 1 Pages: 7, 17, 18, 21
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Chapter 2 Pages: i, ii
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix 2-10
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Chapter 3 Pages: iii, 1, 2, 3, 4
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix 3-13
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Chapter 4 Pages: i, ii, 1, 2, 3
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix 4-7
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix 4-8
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Chapter 5 Pages: v, vi, 2, 3, 4, 5, 31, 32
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix 5-14
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix 5-14a
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<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix 7-11
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix 7-12
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plates: 1-0 and 1-1 2-1 Regional Soil 3-1 General Veg 3-4B Deer 3-4C Elk 3-4D Antelope 4-1 Land Use 4-2 Archeology 5-2 Surface Ownership 5-3 Subsurface ownership 5-4A Timing 5-7A Subsidence 6-1 Geology 6-2 Structure 6-3 Isopach 7-3 Water Rights 7-5 Seep Spring 7-6 Monitoring History 7-7 Monitoring Operation 7-8 Watershed

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

Chapter 1

R645-301-100 PERMIT APPLICATION REQUIREMENTS: GENERAL CONTENTS

SCOPE

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

R645-301-112 IDENTIFICATION OF INTERESTS

112.100 WEST RIDGE Resources, Inc. is a corporation organized and existing under the laws of Utah and qualified to do business in Utah.

112.200 The applicant, WEST RIDGE Resources, Inc. will also be the operator.

WEST RIDGE Resources, Inc.
P.O. Box 910
East Carbon, Utah 84520
(435) 888-4000
David Hibbs - President

Employer Identification Number: 87-0585129

112.220 The resident agent of the applicant, WEST RIDGE Resources, Inc., is:

Karin Madsen
WEST RIDGE Resources, Inc.
P.O. Box 910
East Carbon, Utah 84520

(435) 888-4000

112.230 WEST RIDGE Resources, Inc. will pay the abandoned mine land reclamation fee.

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Appendix 1-12 for details)

3) BLM Right-of-Way 87110 This right-of way authorizes the installation of three (3 ea.) catchment structures in the C Canyon drainage below the mine. These catchments are designed to provide containment of unanticipated coal-fines accumulations from the mine discharge water. These catchment structures comprises a total of 0.69 acres (Refer to Appendix 5-15 for details).

The total permit area is 8,080.58 acres. Refer to Map 1-1 for the permit area location. Refer to Table 1-4 for the legal description of the permit area by composite leasehold, and Table 1-5 for the legal description of the permit area in total area. Table 1-6 describes the surface ownership of the permit area.

The permit area consists of the following areas:

- 1) all of federal coal leases SL-068754-U-01215 (3,130.87 acres)
- 2) most of federal coal lease UTU 78562 (2,403.07 acres),
- 3) all of state coal leases ML-47711 (801.24 acres)
- 4) all of state coal lease ML-49287 (881.10 acres)
- 5) much of state coal lease ML-51744 (212.5 acres)
- 6) much of the Penta Creek fee coal lease (650.49 acres)
- 7) SITLA surface lease 1163, for topsoil borrow area (9.6 acres).
- 8) BLM right-of-way UTU-77120, for pumping station (0.23 acres)
- 9) BLM right-of-way UTU-87110, for catchment structures A, C and E (0.69 acres)
- 10) Carbon County authorization, road security gate (0.79 acres). See Appendix 1-13

Disturbed area within the permit area consists of the following:

1)	Minesite surface facilities	29.82 acres
2)	Pumping station	0.23 acres
3)	Catchment structures A	0.12 acres
4)	Catchment structures C	0.23 acres
5)	Catchment structures E	0.23 acres
6)	B Canyon Portal re-opening	<u>0.25 acres</u>
	TOTAL	30.88 acres

See Table 1-7 for complete legal description of disturbed areas.

114.200 Not applicable, the fee lease mineral estate is not severed from the surface estate.

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**TABLE 1-7
DISTURBED AREA WITHIN PERMIT AREA**

1) Minesite surface facilities: portions of the following, totaling 29.82 acres (all BLM)

T14S, R13E	Section 10:	SESESE NESESE
T14S, R13E	Section 11:	SWNESW NWSESW NESWSW NWSWSW SWSWSW SESWSW
T14S, R13E	Section 15:	NENENE NWNENE SWNENE SENENE NWSENE

2) Pumphouse: portion thereof of the following, containing 0.23 acres (all BLM)

T14S, R13E	Section 21:	NESENE
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3 Catchment Structure A: portion thereof of the following, containing 0.12 acres (all BLM)

T 14 S, R 13 E Section 15: SESW

4 Catchment Structure C: portion thereof of the following, containing 0.23 acres (all BLM)

T 14 S, R 13 E Section 28: NWNW

5 Catchment Structure E: portion thereof of the following, containing 0.23 acres (all BLM)

T 14 S, R 12 E Section 25: SESE

6 B Canyon Portal Re-Opening: portion thereof of the following, containing 0.25 acres (all BLM)*

T 14 S, R 13 E Section 14 SWNE

TOTAL DISTURBED AREA = 31.24 acres

* Note: All disturbance associated with the B Canyon Portal Re-Opening will be within the area of previous (pre-SMCRA) disturbance.

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Mining and exploration activities had been conducted in the currently proposed disturbed area prior to August 3, 1977. A road existed into C Canyon in 1952 when drill hole B-6 was drilled in the right fork. A road was also constructed up the left fork of C Canyon to a drill hole site during the same year. In addition to the drill holes, the coal outcrop in the left fork of C Canyon was exposed for sampling purposes. A small pad was built at the outcrop location and it was left in place as were the roads.

In 1986, another drill hole, 86-2, was drilled west of the first drill hole in the right fork. A minor amount of road work was done in conjunction with this second drill hole. Kaiser Coal Company obtained permission from the BLM to grade the existing road and make it passable for the drill rig. The drill hole site was reclaimed but the road, a public road, was left in place.

Through use of aerial photography and site evaluations, it is possible to document previous mining related disturbances in C Canyon. Refer to Map 5-1 for delineation of the disturbance prior to August 3, 1977.

The total of all the previously disturbed areas within the minesite disturbed area is estimated to be as follows:

roads in right and left forks	=	1.27 acres
road culvert	=	.05 acres
water monitoring well	=	.05 acres
material storage pad	=	.05 acres
		<hr/>
		1.62 acres

WEST RIDGE Resources, Inc. is proposing to utilize the entire previously disturbed area in their current proposal and to reclaim it upon cessation of mining operations.

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Chapter 2

~WEST RIDGE MINE - PERMIT APPLICATION PACKAGE~

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R645-301-221	Prime Farmland Investigation	3
R645-301-222	Soil Survey	3
R645-301-223	Soil Characterization	6
R645-301-224	Substitute Topsoil	6
R645-301-230	Operation Plan	7
R645-301-232	Topsoil And Subsoil Removal	13
R645-301-233	Topsoil Substitutes and Supplements	14
R645-301-234	Topsoil Storage	15
R645-301-240	Reclamation Plan	15
R645-301-242	Soil Redistribution	18
R645-301-243	Soil Nutrients and Amendments	18
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APPENDIX 2-2	Soil Resource Assessment West Ridge Mine Area, Carbon County, Utah
APPENDIX 2-3	Prime Farmland Determination
APPENDIX 2-4	Soil Resource Assessment Topsoil Borrow Area, Carbon County, Utah
APPENDIX 2-5	Soil Resource Assessment Gravel Borrow Area, Carbon County, Utah
APPENDIX 2-6	Experimental Practice In-Place Topsoil Protection
APPENDIX 2-7	Letter Regarding Alluvial Valley Floor (Mayo and Associates)
APPENDIX 2-8	Annual Soil Monitoring (2001) (Mount Nebo Scientific)
APPENDIX 2-9	Topsoil Analysis (Colorado Analytical Laboratories, 2003)

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Chapter 3

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APPENDIX 3-2	West Ridge Project Raptor Survey
APPENDIX 3-3	Wildlife Inventory
APPENDIX 3-4	Correspondence - Threatened and Endangered Species
APPENDIX 3-5	Plant Communities of the West Ridge Project Proposed Topsoil Borrow Area
APPENDIX 3-6	Comments from DWR
APPENDIX 3-7	Letter from DWR regarding eagle nests
APPENDIX 3-8	Nonvascular Plant Cover of the Douglas Fir/Rocky Mtn. Juniper Community at the West Ridge Project 1998
APPENDIX 3-9	Letter from DWR regarding Mexican spotted owl
APPENDIX 3-10	Letter from DWR regarding 2001 Raptor Survey
APPENDIX 3-11	Letter from DWR regarding Yellow-Billed Cuckoo
APPENDIX 3-12	A Survey of the Riparian Plant Communities near Grassy Trail Creek for the West Ridge Mine (Mt. Nebo Scientific)

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CHAPTER 3
R645-301-300 BIOLOGY

R645-301-320 ENVIRONMENTAL DESCRIPTION

The West Ridge Mine is located on the western escarpment of the Book Cliffs about 25 miles east of Price and 5 miles northwest of the town of East Carbon. The Book Cliffs consist of steep canyons and high mountains east of the mine site. Topographic elevations within the permit area range from 6,500 to over 8,800 feet. The highest point located above West Ridge is approximately 8,866 feet. Because of the rugged topography in the region, the present land uses are limited to wildlife habitat, rangeland and recreation. A large portion of the surface area is public land managed by the Bureau of Land Management (BLM).

The permit area lies within the cool, semiarid climatic zone characterized by warm, moist springs and summers and by cold, dry winters. The mean annual precipitation is about 12 inches in the vicinity of the mine site, with most of the annual precipitation occurring during the summer months. Temperatures range from summer highs in the 90's to below zero during the winter months. The average frost free period is 141 days per year.

Habitat types in the canyons range from mixed mountain conifer on north and east-facing slopes and pinyon-juniper woodland on south and west-facing slopes to rock outcrops which form multi-layered barren cliffs. Where barren rock outcrop is present, little or no vegetation exists. On the ridges above the canyons, mixed mountain brush and sage/grass plateau dominate with some extensive aspen woodland below West Ridge to the northeast of the permit area. Pinyon-juniper woodland occurs at the mouths of the canyons with interspersed patches of sagebrush shrubland, such as the area around the proposed borrow site. An area of Pinyon-Juniper adjacent to the mouth of B and C Canyons was chained in the late 1960's, however, the trees have now regrown at this site.

Vegetation types for the permit and surrounding area were mapped on color aerial photos at a scale of 1" = 2,000', with six primary vegetation types being identified. The information was then field checked for accuracy of mapping. The regional vegetation map is included as Map 3-1 General Vegetation Communities.

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321.100 Vegetation types for the region are shown on Map 3-1 (a generalized map depicting regional vegetation types) for the permit area and surrounding area. This information was derived from mapping done by Dr. Patrick Collins, Mt. Nebo Scientific. The vegetation map is presented as an overview of the regional vegetation and based on aerial photographs taken in June 1997. The general vegetation type listed for each different area constitutes the generally predominate vegetation for that area.

A vegetation survey of the proposed disturbed area in C Canyon and the proposed borrow area west of C Canyon was performed during June 1997 by Dr. Patrick Collins of Mt. Nebo Scientific. The survey entitled "Plant Communities of the West Ridge Project Mine Area" is appended as Appendix 3-1. A survey and general description of the riparian habitat near Grassy Trail Creek within the permit area will be conducted by Mt. Nebo Scientific, Inc. during the growing season of 2002. This report will be added to the MRP as Appendix 3-12, "A Survey of the Riparian Plant Communities Near Grassy Trail Creek for the West Ridge Mine". The riparian areas along Grassy Trail Creek are shown on Map 3-1 as interpreted from aerial photographs. This map will be revised as needed following ground-truthing conducted during the riparian survey to be completed in 2002 as described above.

C Canyon is a narrow, rugged box canyon dissected by ephemeral drainages. The main canyon drainage forks about one half mile up the canyon with the main branch continuing northeastward and the left fork cutting off to the north. The drainage bottom is dry, rocky and strewn with branches, leaves and other vegetative debris. The canyon appears to be very dry with no sign of runoff down the main or side channels. Due to the dryness of this drainage, no riparian vegetation exists along the drainage channels in C Canyon. Vegetation for forage in the canyons is also limited due to the steep, rocky slopes of the canyons.

Vegetation within the proposed mine site disturbed area is depicted on Map 3-2, Mine Site Vegetation Map. Also included on this map are the reference areas for the mine yard disturbed area. The reference area for the Douglas Fir/Maple vegetation type is shown on Map 3-1. Specific information on vegetation species and productivity at these sites is included in Appendix 3-1.

The proposed substitute topsoil borrow area was also mapped during the June 1997 field work. Refer to Map 3-3, Vegetation of the Topsoil Borrow Area. This information is provided in Appendix 3-1.

321.200 Productivity and range conditions estimates for the mine site disturbed area and the proposed borrow area were performed by the Natural Resource Conservation Service. Those estimates are presented in Appendix 3-1. **INCORPORATED**

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322.100 Appendix 3-3 presents a listing of species that potentially occur in the West Ridge area. This information was compiled by the Utah Division of Wildlife Resources for the Kaiser Coal permit application. The report is included for reference. The Division, in consultation with state and federal agencies, will be contacted in regard to designing the protection and enhancement plan required by R645-301-333.

322.200 Wildlife Of The Proposed Permit Area

The diversity of wildlife species in and around the permit area is large. Vertebrate species total almost 360 species (Dalton and others 1977), of which the most common are mule deer, cougar (mountain lion), bobcat, black bear, coyote, red fox, gray fox, kit fox, raptors, chukar partridge, blue and ruffed grouse, mourning doves, and rabbits.

Mule deer are the most prevalent big game species found in the vicinity of the permit area. They are found in low abundance during the summer on the ridges above B and C canyons but seldom sighted in the canyons.

Pronghorn antelope occur west of the cliffs in the flat areas. Elk are found to the north and east of the permit area. Coyotes are the most prevalent mammalian carnivore and golden eagles the most abundant avian carnivore. Eagle nests are found throughout the canyons and western face of the Book Cliffs. No peregrine falcons or black-footed ferrets occur in or near the proposed permit area.

The permit area is located in the Anthro/Range Creek herd unit #11 where wildlife is managed by the UDWR. Herd Unit #11 occupies the central and eastern portion of Carbon County, part of the northeast corner of Emery County, the southeast corner of Duchesne County and a small area in the southwest portion of Uinta County (Utah Division of Wildlife Resources, 1997). The unit is bounded by the Green River on the east and highways 191 and 6 on the northwest and southwest. The permit area lies in the south-central area of the unit. The only commonly occurring big game species in the permit area is mule deer. The higher elevations (habitats of mixed mountain conifer, pinyon-juniper woodland, mixed mountain brush, and sage/grass) are considered to be summer range. The lower elevations (habitats of mixed mountain conifer, pinyon-juniper woodland and sagebrush shrubland) are considered winter range. A transition zone area is used as winter snow depth begins increasing. The mine site facility area would be located in the transition zone between summer and winter deer range. Deer summer range exists on West Ridge, Patmos Ridge and higher elevations to the north and east. Winter range exists at lower elevations in Whitmore Canyon and the flatter Pinyon-Juniper areas to the west of C Canyon. Winter range is generally utilized between November 1 and May 15 of each year, depending on the weather conditions.

Vegetative types relating to wildlife habitat can be referenced on the ~~Regional Vegetation~~ **INCORPORATED**

Map (Map 3-1).

Cougar inhabit the proposed permit area and are closely associated with the seasonal distribution of deer, which serve as their primary food source. Black bears range in the permit area, developing well-defined home areas that are linearly oriented up slope and down slope (Jonkel and Cowan, 1971).

Cottontail rabbits, black-tailed and white-tailed jack rabbits, several squirrel, chipmunk and mice species occur throughout the area. The permit area is year-round habitat for cottontail rabbits and snowshoe hare. The habitat for the snowshoe hare is provided by the spruce-fir vegetation type. Most of these species are prey to badgers, skunks, bobcats, coyotes, foxes, and raptors that exist in the area.

Chukar partridge were introduced in 1951 and live along the base of the Book Cliffs around the mouth of B and C Canyons. Blue and ruffed grouse may be found in the vicinity of the proposed mine site along with mourning doves, which are common spring-summer nesting residents. Probably the most important habitat component for nesting doves is available water followed by nest trees. Doves prefer tree nest sites over nesting in shrubs.

A small number of elk reside in the vicinity of the permit area, with a moderate number wintering in the general area of C Canyon. Although this area has a high potential carrying capacity for wintering elk, the area has a low elk population which presently meets the population objective.

It is likely that the permit area is also used by a limited number of black bear, cougar, fox and bobcat. There are no fish in the permit area.

322.210 Threatened and Endangered Species

The U.S. Fish and Wildlife Service was contacted by Mr. Dave Steed of Environmental Industrial Services, for information regarding federally listed threatened or endangered species in the project area. The U.S. Fish and Wildlife Service responded with a letter which lists federally threatened, endangered and candidate species found in Carbon County. Refer to Appendix 3-4 for the letters of correspondence. None of the species on their list are known to reside within the project area.

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Chapter 4

~WEST RIDGE MINE - PERMIT APPLICATION PACKAGE~

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R645-301-400 LAND USE AND AIR QUALITY**

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APPENDIX 4-1	An Intensive Cultural Resources Survey and Inventory of the Proposed West Ridge Prospect Mine Site and Borrow Area (Confidential Report)
APPENDIX 4-2	Correspondence Concerning Archeological Clearances
APPENDIX 4-3	Summary of Archeological Studies Performed On Federal And State Land For The Proposed West Ridge Project Area (Confidential Report)
APPENDIX 4-4	Postmining Land Use Comments
APPENDIX 4-5	Air Quality Approval Order
APPENDIX 4-6	C Canyon Road Gate Amendment

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CHAPTER 4
R645-301-400 LAND USE AND AIR QUALITY

R645-301-410 LAND USE

Pre-mining land use of the C Canyon/West Ridge region in and around the permit area includes grazing, wildlife habitat, coal mining and recreational activities such as hunting. No agricultural activities have been or are currently being conducted in or around the proposed permit area.

Post-mining land use will be the same as those which existed prior to construction of the mine. Land use will include grazing, wildlife habitat, and recreational activities such as hunting.

R645-301-411 ENVIRONMENTAL DESCRIPTION

411.110 Land use of the C Canyon/West Ridge region in and around the permit area consist primarily of grazing, wildlife habitat, coal mining and recreational activities such as hunting. No agricultural activities (other than grazing) are currently being conducted in or around the proposed permit area. This is primarily because of lack of an available water source and the steep, rugged terrain. Refer to Map 4-1, Existing Land Use, for the grazing allotment boundaries and existing land uses.

There is no evidence that the land use in this area has changed within the last five years prior to the submittal of this permit application.

Grazing allotments in the West Ridge region have remained the same for the last ten years or more. The permit area is located primarily within the Bear Canyon Allotment and, to a smaller extent, in the Grassy Trail and Mud Springs Allotments. The Mud Springs Allotment lies along the western sloping pediment surfaces of the Book Cliffs. The vegetation consists of native Pinyon-Juniper close to the cliff face and Grassland on the lower pediment surfaces. About 338 cattle use the allotment from October 20 - December 20 and April 10 - June 10, for a total of 2,314 AUM's. Water for the cattle is hauled to the northeast portions of the allotment. The Grassy Trail allotment lies to the south and east of the Bear Canyon allotment. The allotment is active from November 1 to March 31, with a total of 50 AUM's. The Bear Canyon allotment lies to the north and east of the Mud Springs Allotment. The allotment is used to graze 42 cattle from June 10 to October 31. This allotment contains 100 AUM's.

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411.120 The land surface of the permit area consists of rugged, southwest-facing cliffs which are deeply dissected by steep ephemeral drainages. The elevation ranges from 6,800 near the minesite to 8,800 feet on top of the ridge two miles to the northeast. Large boulders and sandstone slabs from cliff weathering lie along the sides of the canyon bottoms. Given the rugged terrain and lack of available water in the region, this area has limited historical usage other than for wildlife habitat, grazing and coal mining.

The SCS performed a range capacity survey of the mine site area in 1985 and found the range condition to be fair with an estimated vegetation yield of about 300 pounds per acre of forage per year.

Due to the topography, limited available water resources, limited access and remote location, the capability of the land to support a variety of uses is limited. The narrow, steep topography of this area as well as lack of available water limits its use for agricultural or residential purposes. The greatest variety of compatible uses for this land is a combination of recreation, wildlife habitat, grazing and coal mining.

411.130 Carbon County's zoning classification for the mine area is Mining and Grazing. Carbon County has also issued a Conditional Use Permit to WEST RIDGE Resources, Inc. for a Major Underground And Surface Mine Development for the West Ridge mine in C Canyon. Grazing is the most pervasive existing use of the land in the West Ridge area. Previous mining activity also has taken place in B and C Canyons. The road along the bottom of C Canyon was first constructed in the mid-1950's for a drill site in the right hand fork. The road was improved again in 1985 to facilitate drilling equipment for a drill hole site also in the right hand fork. A road also leads up the left hand fork to the coal outcrop where the coal seam was exposed and coal was mined for testing purposes.

The BLM and SITLA are the land managers for most of the area. Within the permit area, most of the permit acreage is managed by the BLM and SITLA.. There is a small area of privately owned land (surface only) in the permit area on the east side. Also, the surface and subsurface of the proposed topsoil borrow area is owned by the School and Institutional Trust Lands Administration. Refer to Map 5-2.

411.140 Archeological investigations have been performed in the vicinity of the permit area in the past. Refer to Map 4-2, Archeology Map, for the locations of previous survey work. Appendix 4-3 includes information from previous survey work as well as a compilation of previously known archeological sites within and adjacent to the permit area. Detailed archeological ground surveys have been conducted at the mine site and topsoil borrow area by Senco-Phenix personnel. The surveys found no evidence of cultural resources within either of these proposed disturbed areas. Refer to the Senco-Phenix report which is included as Appendix 4-1. No sites eligible for the National Register of Historic Places were found within the proposed disturbed areas. Clearance letters from SHPO to the BLM and State School Trust can be found in Appendix 4-2.

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- 411.141.1 The locations of cultural and historical resources listed in the National Register of Historic Places and known archeological sites within and adjacent to the permit area are presented in Appendix 4-3. The file search was prepared by Senco-Phenix.
- 411.141.2 No cemeteries are located in or within 100 feet of the proposed permit area.
- 411.141.3 No land within the proposed permit area is within the boundaries of any units of the National System of Trails or the Wild and Scenic Rivers System.
- 411.142 As discussed under 411.140, no cultural resources of significance were located. SHPO has issued a determination of No Historic Properties for the proposed minesite and the topsoil borrow area.

No publicly owned parks or places listed on the National Register of Historic Places would be adversely affected by the proposed coal mine.

411.200 Previous Mining Activity

Previous mining and exploration activities have occurred with the proposed permit area within the last 20 years. In the mid-1950's, the road along the bottom of C Canyon was constructed to a drill site located in the right fork. The road was improved again in 1985 to facilitate drilling equipment for a water monitoring drill hole site in the right fork. Another road also leads up the left fork to the coal outcrop where the coal seam was exposed and bulk coal samples were collected for testing purposes. Coal was probably removed from the outcrop with hand tools or a front-end loader. The excavation indicates only a small amount of coal was previously removed. Coal was removed from the Lower Sunnyside Seam. Only a small amount of coal (less than one ton) was removed for testing purposes. The exact date of the coal outcrop excavation is unknown, but done sometime in the late 1960's or early 1970's. The land use prior to the outcrop excavation was the same as currently exists in the area, which is: wildlife habitat, grazing, and coal exploration and mining.

Mining has also occurred underground within this lease from the Sunnyside No. 2 mine. During 1959 and 1960 Kaiser Coal mined a two entry exploration section northwestward into the center of the coal lease (SL-068754), for a total distance of 11,000 feet along the strike of the Lower Sunnyside coal seam. A section was developed off from this main entry in which mining proceeded in an up-dip direction to the west for approximately 2,000' feet before breaking out in B Canyon. This breakout was utilized as an intake air portal until 1991 when the portal was sealed and backfilled. This mining was conducted utilizing continuous mining equipment, no longwall mining was done in this lease. Only development work was performed, no pillars were pulled. The land use in B Canyon prior to portal development was wildlife habitat, grazing and coal exploration and mining.

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Chapter 5

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R645-301-500 CHAPTER 5
(Continued)

APPENDIX NUMBER	DESCRIPTION
APPENDIX 5-13	Grassy Trail Dam Monitoring/Inspection Plan, Panel #7
APPENDIX 5-13A	Grassy Trail Dam Monitoring/Inspection Plan, Panel Block #18-21
APPENDIX 5-14	*Removed*
APPENDIX 5-14A	*Removed*
APPENDIX 5-15	Catchment Structure, C Canyon Drainage
APPENDIX 5-16	Grassy Trail Dam and Reservoir Mining-Induced Seismicity Summary Report, 2008
APPENDIX 5-17	Grassy Trail Dam and Reservoir Mining-Induced Seismicity Summary Update Report (RB&G Engineering, 2010)
APPENDIX 5-18	Subsidence Monitoring Survey Points, Right Fork of Whitmore Canyon
APPENDIX 5-19	B Canyon Re-Opening Project

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R645-301-500 CHAPTER 5**

MAP NUMBER	DESCRIPTION	SCALE
MAP 5-1	Previous Disturbance	1"=100'
MAP 5-2	Surface Ownership	1"=1000'
MAP 5-3	Sub-surface Ownership	1"=1000'
MAP 5-4A	Mining Projections	1"=1000'
MAP 5-4B	Mining Projections - Extended Reserves	1"=1000'
MAP 5-5	Surface Facility Map	1"=1000'
MAP 5-6	Mine Site Cross-Section & Profile Index Map	1"=1000'
MAP 5-6A	Mine-Site Cross-Sections	1"=50'
MAP 5-6B	Mine Site Cross-Sections	1"=50'
MAP 5-6C	Mine Site Cross-Sections	1"=1000'
MAP 5-7	Subsidence Map	1"=1000'
MAP 5-8	Undisturbed Drainage Culvert Profile	1"=100'
MAP 5-9	Mine Site Reclamation	1"=100'
MAP 5-10	Construction/Reclamation Area-Types	1"=100'
MAP 5-11	Construction Sequence	No scale
MAP 5-12	Reclamation Sequence	No Scale
MAP 5-13	Pre-construction Drainage Photos Index Map	1" = 100'
MAP 5-13(A-H)	Pre-construction Drainage Photos	No Scale
MAP 5-14	Pump House Site Map	1" = 10'
MAP 5-14A	Pump House Reclamation Map	1" = 10'
MAP 5-14B	Pump House Cross-Sections	1" = 10'
MAP 5-15	Roads Map	1" = 100'

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Historical Note 3: In the spring of 2012, the company made application to re-open a sealed-up portal located in B Canyon. This portal was constructed in the early 1960's as part of an underground mine extension of the old Kaiser Mine. The portal was later reclaimed by the Utah Division of Oil, Gas and Mining's Abandoned Mine Lands (AML) Program in the summer of 1998. West Ridge Resources now needs to re-open this portal to gain access to the underground workings in order to perform safety-related work in preparation for future longwall mining in this area. A complete description of the portal re-opening project is provided in Appendix 5-19.

Historical Note 4: In 2010, The Bear Canyon GVH Plan was approved by the Division to degas sections of the underground workings. In April, 2011 the company applied for an amendment of the MRP to add two additional GVH holes (GVH 4 and GVH 5) to the Bear Canyon GVH installation. In 2017, the Bear Canyon GVH Project was no longer needed, and a Post-Mine Land Use agreement with Global Carbon Strategies was begun. At this time, all GVH related information and appendices were removed from the MRP.

R645-301-511 GENERAL REQUIREMENTS

Chapter 5 contains information regarding the proposed coal mining operation and reclamation plans, a discussion of its potential impact to the environment and methods to achieve compliance with design criteria.

Reclamation plans and estimates are presented for postmining restoration of the area.

R645-301-512 CERTIFICATION

512.100 Cross Sections And Maps

Maps, cross sections, figures and tables which require certification will be certified by a qualified, registered, professional engineer or land surveyor.

Cross sections, maps and drawings will be certified prior to determination of completeness for the permit application.

512.200 Plans And Engineering Designs

A qualified registered professional engineer will certify plans and designs for impoundments and primary roads. No excess spoil or durable rock fill designs are proposed.

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R645-301-513 COMPLIANCE WITH MSHA REGULATIONS AND APPROVALS

- 513.100 MSHA regulations 30 CFR 77.216-1 & 30 CFR 77.216-2 do not apply as no coal processing dams or embankments are being proposed.
- 513.200 MSHA regulation 30 CFR 77.216 (a) does not apply because of the restricted size of the sediment ponds and low hazard potential.
- 513.300 No coal processing waste is proposed to be disposed of in underground workings. Refer to R645-301-528.321.
- 513.400 No refuse piles are being proposed.
- 513.500 Upon completion of final mining activities, any shafts, drifts, exploratory holes or entryways from the surface will be capped, sealed, backfilled or otherwise properly managed consistent with MSHA, 30 CFR 75.1771. All exploration holes will be filled with concrete.
- Mine portals will be sealed by constructing a concrete block stopping at least 25 feet in from the surface opening and backfilling the 25 feet of the entry from the surface opening to the stopping with incombustible earth materials. The area in front of the portal will be backfilled and graded to approximate original contour using materials stored in the mine pad fill. Topsoil will be applied on the regraded fill. The surface will then be seeded and mulched.
- 513.600 No discharge into an underground mine is proposed, therefore MSHA approval is not required.
- 513.700 No surface mining is proposed in the permit area. No surface mining is proposed for areas within 500 feet of an active underground mine.
- 513.800 Not applicable.

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R645-301-514 INSPECTIONS

All engineering inspections, other than those inspections to be done by a qualified person designated by the operator, will be performed by a registered, professional engineer or other qualified specialist under the direction of the professional engineer.

514.100 No excess spoil is anticipated at the proposed underground mine site. A soil scientist will be on-site during final reclamation to oversee topsoil redistribution.

514.200 No refuse piles are being proposed.

514.300 Impoundments

Properly sized sediment control facilities will be constructed below the mine yard. Inspection of the sediment ponds will be made on a regular basis by a professional engineer or specialist during construction, upon completion of construction and once per year until the structures are removed or the performance bond has been released.

A registered, professional engineer will provide a certified report to DOGM after each inspection stating if the impoundment has been constructed and maintained as designed. The report will discuss, if detected, any sign of instability, structural weakness (or other hazardous condition), depth and elevation of any impounded water, existing storage capacity, and existing or required monitoring procedures and instrumentation. A copy of the report will be kept on file at or near the mine site.

In addition to the above certified annual inspection and report, the sediment pond will be inspected on a quarterly basis by a qualified person designated by the operator. Any appearance of structural weakness or other hazards will be recorded. See R645-301-515-200 for the reporting procedures if a hazard is found. A copy of the report will be kept on file at or near the mine site.

Weekly inspection requirements of MSHA, 30 CFR 77.216 do not apply due to the size of the sediment control structures and low hazard potential. See R645-301-533-600.

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515.100 Should a landslide occur which may have a potential adverse effect on public property, health, safety or the environment, WEST RIDGE Resources, Inc. will notify the Division by telephone and comply with required remedial measures.

515.200 Impoundment Hazards

If any examination or inspection discloses that a potential hazard exists for the sediment pond or other facilities which impound water that warrant initiation of emergency procedures, the person making the examination will promptly inform the Division of the finding and of the emergency procedures formulated for public protection and remedial action. Emergency procedures would include immediately notifying those individuals on site responsible for performing the necessary remedial action.

515.300 Procedures For Temporary Cessation Of Operations

Before temporary cessation of coal mining and reclamation operations for a period of 30 days or more, or as soon as it is known that a temporary cessation will extend beyond 30 days, WEST RIDGE Resources, Inc. will submit to the Division a notice of intent to cease or abandon operations. The notice will include: a statement of the exact number of surface acres and the horizontal and vertical extent of subsurface strata which have been in the permit area prior to cessation or abandonment; the extent and kind of reclamation of surface area which will have been accomplished; and identification of the backfilling, regrading, revegetation, environmental monitoring, underground opening closures and water treatment activities that will continue during the temporary cessation.

Support and maintenance of all surface access to underground operations and surface facilities will continue. Temporary cessation will not relieve any obligation to comply with any provision of the approved permit.

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a) Administration Office

The main office will be a framed building measuring approximately 40' wide x 60' long. It will handle the administrative functions such as accounting, engineering, payroll, marketing and management. The main office will be located on a dedicated pad at the lower (southernmost) extent of the mineyard. Parking will be made available in the area adjacent to the main office.

b) Sediment Pond

The sediment pond will consist of a two individual cells located at the lower (southern) end of the mineyard. The cells will be designed to accommodate the entire runoff from the disturbed area plus additional runoff from several adjacent undisturbed areas as well. Runoff and sediment will enter both cell A and B. If runoff exceeds the capacity of the upper cell, it will then flow to the lower cell by way of an open channel spillway. The total combined capacity of the cells will be sufficient to handle a 10 year, 24 hour precipitation event. A principal spillway consisting of a 36" cmp culvert riser and oil skimmer will permit runoff in excess of the 10 year-24 hour event to flow into the bypass culvert. A second 36" cmp culvert riser and oil skimmer in cell B will route emergency overflow (in excess of the 25 year, 6 hour) back into the natural canyon drainage through the bypass culvert beneath the pond embankment.

c) Bypass Culvert

A continuous culvert system will be installed within the main drainage channel to carry the natural undisturbed drainage underneath the mineyard, thereby bypassing the disturbed areas of the minesite. This bypass culvert system will effectively segregate drainage coming off the undisturbed areas adjacent to the mine yard from the drainage coming off the disturbed area of the mine operations. The bypass culvert will handle the mine canyon drainage from both the left and right fork of C Canyon. It will also collect drainage from several smaller side drainages in the area of the minesite. The culvert will be sized to adequately handle a 100 year, 6 hour flow event. Risers will be installed at regular intervals to provide hydraulic venting and access for inspection and maintenance.

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d) Mine Portals

Mine portals will be located in the right fork on the southeast side of the canyon where the coal seam outcrops. Four portal openings will be constructed to provide surface access to the underground mine workings. Two portals will provide intake ventilation to the mine, one of which will serve as the primary accessway for employees and materials in and out of the mine. One portal will contain the main conveyor belt used to bring coal out of the mine. The fourth portal will accommodate the main mine fan. These portals will be spaced as close together as possible to minimize the length of highwall required for access to the underground workings.

e) Mine Fan

The mine fan will be located at the return air portal. It will be a 12' diameter, direct drive, 1,000 hp, axial vane exhausting type fan. The fan housing will include airlock travel doors for machinery and personnel. The exhaust ductwork will be quipped with acoustical sound-proofing material to keep noise levels at a minimum.

f) Bathhouse/Lamphouse

The bathhouse building will be a pre-fabricated metal structure measuring approximately 40 feet wide by 120 feet long. It will be located in the central part of the mineyard in convenient proximity to the mine portals. An employee parking lot will be located nearby. The bathhouse will be sized to accommodate the anticipated workforce of about 130 employees. Located at one end of the bathhouse building will be the lamp house and the offices for the mine supervisory personnel.

g) Shop/Warehouse

The shop/warehouse building will be a pre-fabricated metal structure measuring approximately 60 feet wide by 160 feet long. It will be located in the northern part of the mineyard conveniently adjacent to the mine portals. A storage area for materials and supplies will be located nearby, as will be the fuel storage, rock dust storage and garbage repository (dumpster) facilities. A 40' x 60' enclosed storage shed will be constructed adjacent to the shop on the south end.

h) Coal Stockpiling Facilities

Coal will be brought out of the mine and delivered to the surface via a 2,000 ton per hour, 60" wide mine conveyor belt. The mine conveyor will exit out of a portal located about 40' high on the east side of the right fork of C Canyon. Even though the mine portals are located in the right fork, the run of mine coal will be stockpiled in a storage area located in the left fork. Coal will be transported from the right fork portals to the left fork stockpile by an 800 foot

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Chapter 6

**TABLE OF CONTENTS- APPENDICES
R645-301-600 CHAPTER 6**

APPENDIX NUMBER	DESCRIPTION
APPENDIX 6-1	Overburden & Coal Chemical Analyses
APPENDIX 6-2	Drill Hole Logs
APPENDIX 6-3	C Canyon Geologic Field Investigation Summary

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**TABLE OF CONTENTS- MAP LIST
R645-301-600 CHAPTER 6**

MAP NUMBER	DESCRIPTION	SCALE
MAP 6-1	Regional Geology Map	1"=1000'
MAP 6-1A	Geologic Cross-Section A-A'	1"=1000'
MAP 6-2	Coal Seam Structure Map	1"=1000'
MAP 6-3	Lower Sunnyside Coal Seam Isopach Map	1"=1000'

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**CHAPTER 6
R645-301-600 GEOLOGY**

R645-301-610 INTRODUCTION

R645-301-611 GENERAL REQUIREMENTS

Descriptions of the geology within and adjacent to the permit area are provided in R645-301-621 and R645-301-627. A description of the proposed operation plan for the casing and sealing of exploration holes and boreholes is provided in R645-301-630.

R645-301-612 CROSS SECTIONS, MAPS, AND PLANS

Certified cross sections, maps, and plans have been provided per R645-301-622 and R645-301-512.100.

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Chapter 7

**TABLE OF CONTENTS- APPENDICES
R645-301-700 CHAPTER 7**

APPENDIX NUMBER	DESCRIPTION
APPENDIX 7-1	Investigation of Surface-Water and Groundwater Systems in the West Ridge Area, Carbon County, Utah
APPENDIX 7-1A	Investing of Surface-Water and Groundwater Systems in the Whitmore LBA Area, Carbon County, Utah
APPENDIX 7-2	Baseline Ground Water Monitoring & Analyses
APPENDIX 7-3	Baseline Surface Water Monitoring & Analyses
APPENDIX 7-4	West Ridge Mine Sedimentation and Drainage Control Plan
APPENDIX 7-5	Water Rights Summary
APPENDIX 7-6	1985 & 1986 Seep and Spring Inventory Data
APPENDIX 7-6A	1999 & 2010 Seep and Spring Survey Data
APPENDIX 7-6B	2011 Seep and Spring Survey Data
APPENDIX 7-7	West Ridge Mine Estimated Water Usage
APPENDIX 7-8	Creamer and Noble Engineers C Canyon Road Station 406+70 - Culvert Design
APPENDIX 7-9	Letter from Division of Water Rights
APPENDIX 7-10	UPDES General Permit for Coal Mining
APPENDIX 7-11	*Deleted*
APPENDIX 7-12	*Deleted
APPENDIX 7-13	WR-2 Subsidence Information
APPENDIX 7-14	Grassy Trail Reservoir - Historical Flow Data Right Fork and Left Fork of Whitmore Canyon

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R645-301-711 General Requirements

This chapter includes a description of hydrology and hydrogeology of the West Ridge permit area. Specifically, this permit application includes:

- 711.100 Existing hydrologic resources according to R645-301-720.
- 711.200 Proposed operations and potential impacts to the hydrologic balance according to R645-301-730.
- 711.300 The methods and calculations utilized to achieve compliance with the hydrologic design criteria and plans according to R645-301-740.
- 711.400 Applicable hydrologic performance standards according to R645-301-750.
- 711.500 Reclamation activities according to R645-301-760.

R645-301-712 Certification

All cross sections, maps, and plans have been prepared per R645-301-512.

R645-301-713 Inspection

Impoundments will be inspected as described under R645-301-514.300.

R645-301-720 Environmental Description

R645-301-721 General Requirements

The existing, pre-mining hydrologic resources within the permit and adjacent areas that may be affected by coal mining and reclamation operations are described by Mayo and Associates (1997; 7-1 "Groundwater Investigation of Proposed Mine Permit Area", 2001; 7-1A "Investigation of Surface-Water and Groundwater Systems in the Whitmore LBA Area") and Petersen Hydrologic (2012; Appendix 7-17) and summarized below.

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Groundwater Resources

A spring and seep survey of the West Ridge area was conducted in 1985-86 by Kaiser Coal Corporation (1986) as shown in Appendix 7-6. Additional seep and spring survey data from the northeastern part of the project area was collected later in 1999 and 2010, as shown in Appendix 7-6A. Locations of the springs and seeps in this area are shown on Map 7-6 "Hydrologic Monitoring Map (Historical Monitoring Locations)". No water supply wells exist in the permit and adjacent areas.

Within the permit and adjacent areas, groundwater naturally discharges from alluvium and colluvium, and the Colton, North Horn, and Price River Formations. Over 90% of springs in the permit and adjacent areas issue either from alluvium/colluvium or the Colton and North Horn Formations, which form the caprock of nearly the entire permit area. Springs that issue from the Price River Formation are uncommon. Groundwater does not naturally discharge from the Castlegate and Blackhawk Formations within the permit and adjacent areas. However, groundwater occurs in some permeable horizons of the Blackhawk Formation. Most notably, groundwater is present in well DH86-2, which is open to the entire thickness of the Sunnyside Sandstone member of the Blackhawk Formation.

Springs that discharge from alluvium and colluvium and the Colton and North Horn Formations on the east slope of West Ridge in Whitmore Canyon contribute base flow to Grassy Trail Creek. Discharge from springs on the west side of West Ridge is small and is consumed by evapotranspiration and infiltration before reaching perennial streams.

Information on groundwater systems encountered in the underground West Ridge Mine workings, including seasonal water quality and quantity, likely source areas, and radiocarbon and tritium age dating of groundwaters is presented in Appendix 7-17.

Surface Water Resources

The mine permit area drains into Grassy Trail Creek via two principal drainages. The region east of West Ridge and west of Patmos Ridge drains into Grassy Trail Creek through Whitmore Canyon. Numerous small ephemeral creeks drain the western face of West Ridge and flow westward toward lower Grassy Trail Creek. Grassy Trail Creek ultimately discharges into the Price River near Woodside, Utah, approximately 20 miles to the south.

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R645-301-722 Cross Sections and Maps

- 722.100 As described by Mayo and Associates (1997; Appendix 7-1, 2001; Appendix 7-1A), groundwater systems in the permit and adjacent area have limited areal and vertical extent due to the heterogeneous lithology of the rock units containing and overlying the coal-bearing strata. No aquifers exist in the permit and adjacent areas. Therefore, no map has been prepared to show the location and extent of subsurface water.

- 722.200 The location of surface water bodies can be found on Map 7-3 "Water Rights", which shows Grassy Trail Reservoir and its location with respect to the permit area.

- 722.300 Baseline monitoring stations are shown on Map 7-6 "Hydrologic Monitoring Map (Historical Monitoring Locations)". This map shows the stations that were utilized to collect historical baseline information in earlier monitoring programs conducted between 1985 and 1996. Maps and cross-sections relating to groundwater systems encountered in the West Ridge Mine underground workings are provided in Appendix 7-17.

- 722.400 The location of water wells is also shown on Map 7-6. DH 86-2 was monitored during 1986, 1987, 1997 and 1998.

- 722.500 Map 5-1 shows contours of the proposed disturbed mineyard area.

R645-301-723 Sampling and Analysis

Water quality sampling and analyses have been and will be conducted according to the "Standard Methods for the Examination of Water and Wastewater" or EPA methods listed in 40 CFR Parts 136 and 434. Laboratory reporting sheets indicate the specific method used for each parameter.

R645-301-724 Baseline Information

Baseline groundwater, surface water, geologic, and climatologic data are described by Mayo and Associates (1997; 7-1, 2001; 7-1A) and by Petersen Hydrologic (2012; 7-17).

724.100 Groundwater Information

The location of wells and springs are shown on Map 7-5, Seep/Spring Survey Map, and 7-6, Hydrologic Monitoring Map (Historical Monitoring Locations). Locations of underground monitoring points used for baseline data collection are shown in Appendix 7-17. Groundwater rights in and around the permit and adjacent areas are shown on Map 7-3 and tabulated in 7-5 "Water Rights Summary".

Kaiser Coal Company (a previous owner of the WEST RIDGE lease area) had identified and proposed monitoring for several other springs in the region. Review of their 1986 permit application to DOGM was interrupted by the sale of the coal leases to BP America in 1987. BP America retained JBR Consultants to proceed with baseline water monitoring. JBR Consultants renumbered previously monitored points into a different numbering system. In places of this WEST RIDGE Permit Application Package (such as Appendix 7-1, Table A-1) a cross-reference is made between the previous (Kaiser) spring numbers and the present (JBR) labels. Mining plans for both Kaiser Coal and BP America included a larger mining area. When WEST RIDGE acquired the property they did not acquire a portion of the coal lease area referred to as the north area. Therefore, in the WEST RIDGE PAP, those monitoring points that were north of Bear Canyon were eliminated from the baseline monitoring plan due to their distance from the current proposed mine workings and the low potential to be impacted by mining operations.

SP-1, SP-2 and SP-3 were spring monitoring points used by Kaiser Coal during the mid-1980's. These three points were located in Rock Canyon, several miles to the north of the WEST RIDGE permit area. They were eliminated from the monitoring program because they are quite a distance from the permit area and would not be affected by the WEST RIDGE mining operations.

Also, SP-4 and SP-5 (referred to in the Kaiser plan as S-40 and S-39) were eliminated from the monitoring plan because they occur about a mile north of Bear Canyon and are separated from the proposed mining area by several large drainages. The likelihood of impact to these sites is negligible since WEST RIDGE did not acquire coal leases in this area. SP-4 and SP-5 were monitored in 1988 and 1989 and found to be dry. These sites have been added to Map 7-6 for reference to historical monitoring locations.

SP-7 (Kaiser point S-22) is located about ½ mile north of the permit area. It was not included in the baseline monitoring program because access is poor and, during previous monitoring in the spring of 1986, flows were low (1-3 gpm). When this site was re-checked in 1988, 1989 and the fall of 1997 no flow could be found in the vicinity of the old spring. SP-10 (Kaiser S-1) is in the lower right-hand corner of the permit area was also eliminated from the baseline monitoring plan because of difficulty of access and low previous flow measurements. This site was also revisited in 1988, 1989 and 1997 and no flow or dampness could be located. No water rights exist on SP-4, SP-5, SP-7 or SP-10. SP-7 and SP-10 are included on Map 7-6 for reference to historical points.

Seasonal quality and quantity of groundwater and usage is described in the 1985-86 spring and seep survey (Appendix 7-6) and WEST RIDGE Resources, Inc.'s baseline monitoring during 1997 (Appendix 7-2 "Baseline Ground Water Monitoring & Analyses"). Additional information on seasonal quality and quantity of groundwater

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Bonding Totals and Calculations

West Ridge Mine Reclamation Bond Estimate

Bonding Calculations

Direct Costs

Subtotal Demolition and Removal	\$703,638.02
Subtotal Backfilling and Grading	\$489,479.68
Subtotal Revegetation	\$194,806.00

Direct Costs in 2017 Dollars	\$1,387,923.70
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Indirect Costs

Mob/Demob	\$138,792.00	10.0%
Contingency Engineering	\$69,396.00	5.0%
Redesign Main Office	\$34,698.00	2.5%
Expense Project	\$94,379.00	6.8%
Management Fee	\$34,698.00	2.5%

Subtotal Indirect Costs 2017 Dollars	\$371,963.00	0.268
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Total Cost	\$1,759,886.70
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Escalation factor	0.007
Number of years	4
Escalation	\$49,797.00

Total Reclamation Cost 2021 Dollars	\$1,809,683.70
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Bond Amount (rounded to nearest \$1,000) 2021 dollars **\$1,810,000.00**

Bond Posted \$2,184,000.00

Difference Between Posted Bond and Cost Estimate **\$374,000.00**
 Percent Difference **20.66%**

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Note: Gob Vent Hole Sheet #39 was deleted. All corresponding calculations changed.

West Ridge Mine Reclamation Bond Estimate

Demolition Cost Summary

Ref.	Task	Description	Cost 2017
		Shop Warehouse 01	\$152,450
		Bathhouse 02	\$35,330
		Administration Office 03	\$28,127
		Powder Magazines 04	\$550
		Overhead Conveyor 05	\$10,470
		Conveyor Bents 06	\$2,802
		Drive Unit 07	\$3,149
		Discharge Structure 08	\$6,094
		Bent Angle Bracing 09	\$1,368
		Reclaim Conveyor Stringers 10	\$25,362
		Crusher Building 11	\$19,061
		Reclaim Tunnel Headwall 12	\$3,383
		Loadout Conveyor 13	\$1,741
		Loadout Conveyor Bent 14	\$442
		Mine Fan 15	\$23,787
		Ductwork Airlock 16	\$13,813
		Motor Room 17	\$1,821
		MCC 18	\$1,606
		Portals 19	\$39,074
		Rock Dust Tanks 20	\$6,218
		Oil Grease Storage 21	\$1,876
		Dumpster Bay 22	\$5,429
		Monitoring Well 23	\$3,215
		Hilfiker Wall 24	\$13,905
		Guard Rail 25	\$14,787
		Bypass Culvert 26	\$133,749
		Culverts 27	\$4,603
		Water Tanks 28	\$6,397
		Reclaim Vaults 29	\$11,874
		Reclaim Tunnel Semisphere 30	\$14,783
		Escape Tunnel Vent 31	\$1,322
		Truck Loadout 32	\$6,035
		Substation Electrical 33	\$50,190
		Powerline 69 KV 34	\$367
		Powerline Yard Distribution 35	\$428
		Pavement Truck Loadout 36	\$13,993
		Pumphouse 37	\$7,445
		Riprap 38	\$12,037
		Storage Shed	\$24,555
		Total	\$703,638

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UNIT COSTS

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

18" CMP removal	Culvert Demolition Cost	02 41 13.40 0160	3.90 LF
18" culvert backfill	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16 13 3080	2.50 LCY
18" culvert excavation	Excavation Bulk Bank 2 CY (322BL)	31 23 16 42 0260	1.81 BCY
24" CMP removal	Culvert Demolition Cost	02 41 13.40 0170	14.70 LF
24" culvert backfill	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16 13 3080	2.50 LCY
24" culvert excavation	Excavation Bulk Bank 2 CY (322BL)	31 23 16 42 0260	1.81 BCY
36" CMP removal	Culvert Demolition Cost	02 41 13.40 0180	17.65 LF
36" culvert backfill	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16 13 3080	2.50 LCY
36" culvert excavation	Excavation Bulk Bank 2 CY (322BL)	31 23 16 42 0260	1.81 BCY
48" CMP removal	Culvert Demolition Cost	02 41 13.40 0190	22.00 LF
48" culvert backfill	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16 13 3080	2.50 LCY
48" culvert excavation	Excavation Bulk Bank 2 CY (322BL)	31 23 16 42 0260	1.81 BCY
Concrete demolition, reinforcing <1% of xsec area	General Concrete Demolition Cost	03 05 05 10 0050	111.00 CY
Concrete demolition, footings & foundation, 1'-6" reinf	Footings and foundation, 1'-6" thick, 3' wide, reinf	02 41 16 17 1080	19.64 LF
Concrete wall demolition, 8" thick, not reinforced	Guard rail demolition	02 41 16 17 2080	0.89 SF
Concrete wall demolition, 12" thick, reinforced	Concrete wall demolition	02 41 16 17 2100	1.55 SF
Concrete floor demolition, 4" thick, wire mesh reinf	Concrete floor demolition	02 41 16 17 0280	0.89 SF
Concrete floor demolition, 6" thick, wire mesh reinf	Concrete floor demolition	02 41 16 17 0420	1.11 SF
Concrete floor demolition, 8" thick, average reinforcing	Concrete floor demolition	02 41 16 17 2420	1.12 SF
Concrete floor demolition, 12" thick, average reinforcing	Concrete floor demolition	02 41 16 17 2500	1.57 SF
Electrical Demolition, #2 wire, from conduit	Electrical Demolition Cost	26 05 05 10 1910	30.50 CLF
Steel tank removal, above ground, 30,000 gallon	Water storage tank demolition	13 05 05 75 0540	3275.00 EA
Chain link fence removal 6-10 high	Fence removal	02 41 13 60 1700	4.44 LF
Laborer, general purpose	Common Laborer	01 31 13 20 0160	60.00 HRR
Dozer, track-mounted, 80 HP	Dozer, 80 HP, with operator and spotter	Crew B-10L	1403.46 Day
Dozer, track-mounted, 300 HP	Dozer, 300 HP, with operator and spotter	Crew B-10M	2978.00 Day
Dozer, track-mounted, 410 HP	Dozer, 410 HP, with operator and spotter	Crew B-10X	3492.80 Day
5,000 Gal Water Truck with crew	Water Truck	Crew B-9A	2041.01 Day
Front End Loader, 10 CY capacity	Front End Loader, with operator and spotter	Crew B-14K	4434.40 Day
Hydraulic excavator, 2 CY, with crew	Trackhoe with operator and spotter	Crew B-12C	2389.30 Day
Hydraulic excavator, 2 CY (322BL)	Trackhoe, 2 CY capacity	31 23 16 42 0260	1.81 CY
Hydraulic crane, 25 ton, with operator	Hydraulic crane	Crew A-3I	1669.28 Day
Demolition debris, haul and off-site disposal	Demolition debris, off-site haul and disposal	Scamp	6.00 Ton
Disposal on site	Disposal on site	02 41 16 17 4200	11.40 CY
12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	On-site Haul Cost	31 23 23 20 1014	3.74 CY
Front End Loader 3 CY	Front End Loader 3 CY	31 23 16 42 1300	2.21 CY
Power mulcher, large, hay 1" deep	Mulch equipment, materials, and labor	32 91 13 16 0350	55.50 MSF
Hydroseeder (equipment and labor)	Hydroseeder	32 92 19 14 4600	22.00 MSF
Portal seal site preparation crew	Portal seal site preparation crew	Crew B-1	1464.50 Day
Block wall, reinforced, 4" thick	Portal seal form	04 22 10 34 1500	8.50 SF
JennChem - Labor	Mine seal installation	JennChem	265.00 HRR
Seal Portals, materials	Portal sealing	JennChem	4320.00 EA
Machine placed rip-rap slope protection	Place Riprap	31 37 13 10 0100	65.00 LCY
Mechanical equipment demolition, heavy	Mechanical equipment demolition	23 05 05 10 3600	1225.00 Ton
Building demolition, mixed materials	Building Demolition, mixed	02 41 16 13 0100	0.40 CF
Off Highway Rear Dump Truck, 65 Ton	Off highway truck with driver	Crew B-34H	2820.00 Day
Pick-up Truck 4x4, 3/4 Ton, with driver	Pickup truck and driver	Crew A-3A	771.20 Day
1.5-ton truck and driver	Light-haul crew	Crew A-2B	771.94 Day
Concrete pressure grouting, 1:2 cement/sand mix	Plug monitor well	31 43 13 13 0310	24.00 CF
Building demolition, steel	Building Demolition, steel	02 41 16 13 0020	0.38 CF
Demolition, interlocking segmental retaining wall	Hilficker retaining wall demolition	02 41 13 90 0900	2.21 SF
Silt Fence, install maintain and remove	Silt fence	31 25 14 16 1000	1.96 LF
West Ridge Douglas Fir/Juniper seed mix	Douglas Fir/Juniper reclamation seed mix	Great Basin Seed	640.00 AC
West Ridge Douglas Fir/Maple seed mix	Douglas Fir/Maple reclamation seed mix	Great Basin Seed	611.00 AC
West Ridge Pinon/Juniper seed mix	Pinon/Juniper reclamation seed mix	Great Basin Seed	541.00 AC
West Ridge Sagebrush/Grass seed mix	Sagebrush/Grass reclamation seed mix	Great Basin Seed	717.00 AC
Serviceberry, containerized	Serviceberry	Lawyer Nursery	4.69 EA
Douglas Fir, containerized	Douglas Fir	Lawyer Nursery	4.34 EA
Mountain Mahogany, containerized	Mountain Mahogany	Lawyer Nursery	4.84 EA

Unit cost increased 10% for reinforcing (see 02 41 16 17 1200)

Unit cost increased 30% for reinforcing (see 02 41 16 17 2200 & 2220)

Unit cost increased 10% for reinforcing (see 02 41 16 17 2600)

Unit cost increased 10% for reinforcing (see 02 41 16 17 2600)

Based on weekly burdened rate

See Scamp estimate

Based on labor and equipment costs only (see seed costs below)

Based on 4 technicians and 1 supervisor (see JennChem estimate)

See JennChem estimate

See prices in the attachment, as downloaded July 2017 from the Great Basin Seed web site

Based on the attached seedling cost, plus \$1.00 each shipping (UPS) and labor (\$2.64 each, Means 32 93 43.10 0712)

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Shop Warehouse 01																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	160	60	30								FT		288000	CF	\$115,200.00
		Structure's Vol. Demolished																0.33	3520	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton											ton/CY		3520	ton	\$21,120.00
		Disposal Cost Non Steel																			
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$136,320.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16.17 2420	1.12	SF	160	60	0.67								SF		9600	SF	\$10,752.00
		Concrete's Vol. Demolished																1.3	310	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													310	CY	\$685.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													310	CY	\$1,159.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													310	CY	\$3,534.00
		Subtotal																			\$16,130.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$152,450.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Bathhouse 02																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	40	120	12								FT		57600	CF	\$23,040.00
		Structure's Vol. Demolished																0.33	19008	CF	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		704	ton	\$4,224.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$27,264.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 8" thick average reinforcing	02 41 16.17 2420	1.12	SF	40	120	0.67								SF		4800	SF	\$5,376.00
		Concrete's Vol. Demolished																1.3	155	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													155	CY	\$343.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi., rd Trip	31 23 23.20 1014	3.74	CY													155	CY	\$580.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													155	CY	\$1,767.00
		Subtotal																			\$8,066.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$35,330.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Administration Office 03																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	40	70	18								FT		50400	CF	\$20,160.00
		Structure's Vol. Demolished																0.33	16632	CF	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton											ton/CY		616	ton	\$3,696.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$23,856.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 6" thick wire mesh reinf	02 41 16.17 0420	1.11	SF	40	70	0.5								SF		2800	SF	\$3,108.00
		Concrete's Vol. Demolished																1.3	67	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													67	CY	\$148.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													67	CY	\$251.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													67	CY	\$764.00
		Subtotal																			\$4,271.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$28,127.00

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Ref.	Task	Description	Materials	Measr. Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Powder Magazines 04																				
		Structure's Demolition Cost	Building demolition, mbed materials	02 41 16 13 0100	0.40	CF	8	8	8								FT		512	CF	\$205.00	
		Structure's Vol. Demolished																0.33	6	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		6	ton	\$36.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$241.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition	Concrete floor demolition, 6" thick wire mesh reinf	02 41 16.17 0420	1.11	SF	10	10	0.5								2	SF		200	SF	\$222.00
		Demolition Cost																				
		Concrete's Vol. Demolished																1.3	5.0	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY														5.0	CY	\$11.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														5.0	CY	\$19.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														5.0	CY	\$57.00
		Subtotal																			\$309.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$550.00

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Ref.	Task	Description	Materials	Machine Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Overhead Conveyor 05																			
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	550	7	6								FT		23100	CF	\$8,778.00
		Structure's Vol. Demolished																0.33	7623	CF	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		282	ton	\$1,692.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$10,470.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$10,470.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Conveyor Bents 06																				
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	50	15	1.5								4	FT		4500	CF	\$1,710.00
		Structure's Vol. Demolished																	0.33	1485	CF	
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY			55	ton	\$330.00
		Truck's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$2,040.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcin	02 41 16.17 2500	1.57	SF	4	20	1								4	SF		320	SF	\$502.00
		Concrete's Vol. Demolished																	1.3	15	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY														15	CY	\$33.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														15	CY	\$56.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														15	CY	\$171.00
		Subtotal																				\$762.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$2,802.00

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Ref.	Task	Description	Materials	Mech's Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Drive Unit 07																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	20	30	6								FT		3600	CF	\$1,440.00
		Structure's Vol. Demolished																0.33	1188	CF	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		44	ton	\$264.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$1,704.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition	Concrete floor demolition, 12" thick, average reinforcing	02 41 16,17 2500	1.57	SF	20	30	1								SF		600	SF	\$942.00
		Demolition Cost																1.3	29	CY	
		Concrete's Vol. Demolished																	29	CY	\$64.00
		Loading Cost	Front End Loader 3 CY	31 23 16,42 1300	2.21	CY													29	CY	\$108.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23,20 1014	3.74	CY													29	CY	\$331.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													29	CY	
		Subtotal																			\$1,445.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$3,149.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Discharge Structure 08																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	230	7	8								FT		12880	CF	\$5,152.00
		Structure's Vol. Demolished																0.33	4250	CF	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		157	ton	\$942.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$6,094.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$6,094.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Bent Angle Bracing 09																			
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	70	20	2								FT		2800	CF	\$1,064.00
		Structure's Vol. Demolished																0.33	34	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton											ton/CY		34	ton	\$204.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$1,268.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16 17 2420	1.12	SF	2	30	0.67								SF		60	SF	\$67
		Concrete's Vol. Demolished																1.3	1.9	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY														1.9	\$4.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														1.9	\$7.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														1.9	\$22.00
		Subtotal																			\$100.20
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$1,368.20

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Reclaim Conveyor Stringers 10																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	320	5	3								FT		4800	CF	\$1,920.00	
		Structure's Vol. Demolished																0.33	59	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All Steel's Weight	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		59	ton	\$354.00	
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$2,274.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcement	02 41 16.17 2500	1.57	SF	60	160	1								SF		9600	SF	\$15,072.00	
		Concrete's Vol. Demolished																1.3	462	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													462	CY	\$1,021.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													462	CY	\$1,728.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													462	CY	\$5,267.00	
		Subtotal																				\$23,088.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$25,362.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Crusher Building 11																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	24	50	30								FT		36000	CF	\$14,400.00
		Structure's Vol. Demolished																0.33	440	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		440	ton	\$2,640.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$17,040.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16.17 2420	1.12	SF	24	50	0.67								SF		1200	SF	\$1,344.00
		Concrete's Vol. Demolished																1.3	39	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													39	CY	\$86.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													39	CY	\$146.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													39	CY	\$445.00
		Subtotal																			\$2,021.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$19,061.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Reclaim Tunnel Headwall 12																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	20	15	15								FT		4500	CF	\$1,800.00
		Structure's Vol. Demolished																0.33	55	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		55	ton	\$330.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$2,130.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Floor																			
		Concrete Demolition	Concrete floor demolition, 12" thick, average reinforcement	02 41 16.17 2500	1.57	SF	20	15	1								SF		300	SF	\$471.00
		Demolition Cost																			
		Concrete's Vol. Demolished																1.3	14	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY														14	CY
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														14	CY
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														14	CY
		Subtotal																			\$714.00
		Wall's Demo. Cost																			
		Concrete Demolition	Concrete wall demolition, 12" thick, reinforced	02 41 16.17 2100	1.55	SF	15	15	1								SF		225	SF	\$349.00
		Demolition Cost																			
		Concrete's Vol. Demolished																1.3	11	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY														11	CY
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														11	CY
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														11	CY
		Subtotal																			\$539.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$3,383.00

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Ref.	Task	Description	Materials	Items Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Loadout Conveyor 13																			
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	160	4	6								FT		3840	CF	\$1,459.00
		Structure's Vol. Demolished																0.33	47	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		47	ton	\$282.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$1,741.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$1,741.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Loadout Conveyor Bent 14																			
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	20	8	1.5								FT	0.33	240	CF	\$91.00
		Structure's Vol. Demolished																	9	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		9	ton	\$54.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$145.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition	Concrete demolition, footings & foundation, 1'-6", reinf	02 41 16 17 1080	19.64	LF	12	4	1.5								LF	1.3	12	LF	\$236.00
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY															\$8.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY															\$13.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY															\$40.00
		Subtotal																			\$297.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$442.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Mine Fan 15																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	50	12	12								FT		7200	CF	\$2,880.00
		Structure's Vol. Demolished																0.1	27	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		27	ton	\$162.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$3,042.00
		Mine Fan Demolition	Mechanical equipment demolition, heavy	23 05 05 10 3600	1225.00	Ton								15			ton		15	ton	\$18,375.00
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs	Hydraulic crane, 25 ton, with operator	Crew A-31	1669.28	Day									0.5		Day		0.5	Day	\$834.64
		Transport and Disposal Costs	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								15			ton		15	ton	\$90.00
		Disposal Costs																			
		Subtotal																			\$19,299.64
		Concrete Demolition	Concrete floor demolition, 12" thick, average reinforcing	02 41 16.17 2500	1.57	SF	50	12	1								SF		600	SF	\$942.00
		Demolition Cost																			
		Concrete's Vol. Demolished																1.3	29	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													29	CY	\$64.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													29	CY	\$108.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													29	CY	\$331.00
		Subtotal																			\$1,445.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$23,786.64

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Ductwork Airlock 16																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	70	20	12								FT		16800	CF	\$6,720.00	
		Structure's Vol. Demolished																0.33	622	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		622	ton	\$3,732.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$10,452.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcin	02 41 16.17 2500	1.57	SF	70	20	1								SF		1400	SF	\$2,198.00	
		Concrete's Vol. Demolished																1.3	67	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													67	CY	\$148.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													67	CY	\$251.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													67	CY	\$764.00	
		Subtotal																			\$3,361.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$13,813.00	

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Motor Room 17																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	16	16	10								FT		2560	CF	\$1,024.00
		Structure's Vol. Demolished																0.33	31	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	8.00	Ton									1		ton/CY		31	ton	\$186.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$1,210.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcin	02 41 16.17 2500	1.57	SF	16	16	1								SF		256	SF	\$401.92
		Concrete's Vol. Demolished																1.3	12	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													12	CY	\$27.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													12	CY	\$45.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													12	CY	\$137.00
		Subtotal																			\$610.92
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$1,820.92

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		MCC 18																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	12	20	9								FT		2160	CF	\$864.00
		Structure's Vol. Demolished																0.33	26	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		26	ton	\$156.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$1,020.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcement	02 41 16.17 2500	1.57	SF	12	20	1								SF		240	SF	\$377.00
		Concrete's Vol. Demolished																1.3	12	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													12	CY	\$27.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													12	CY	\$45.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													12	CY	\$137.00
		Subtotal																			\$586.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$1,606.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Portals 19																				
		Portal seal site preparation crew	Portal seal site preparation crew	Crew B-1	1464.50	Day										1	4	Day		4	Day	\$5,858.00
		Block retaining walls (2 each seal)	Block wall, reinforced, 4" thick	04 22 10.34 1500	8.50	SF		20	8.6							344	4	SF		1376	SF	\$11,696.00
		Seal Installation Labor	JennChem - Labor	JennChem	265.00	HR										4	4	HR		16	CY	\$4,240.00
		Seal Materials	Seal Portals, materials	JennChem	4320.00	EA.										1	4	EA		4		\$17,280.00
		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																				\$39,074.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$39,074.00

Note: operator needs to list RS Means number and units.

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Rock Dust Tanks 20																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF			40	12						2	FT		9048	CF	\$3,619.00
		Structure's Vol. Demolished																0.33	111	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		111	ton	\$666.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$4,285.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcin	02 41 16 17 2500	1.57	SF	20	40	1							1	EA		800	SF	\$1,256.00
		Concrete's Vol. Demolished																1.3	39	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													39	CY	\$86.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													39	CY	\$146.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													39	CY	\$445.00
		Subtotal																			\$1,933.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$6,218.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Oil Grease Storage 21																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	10	30	10								FT		3000	CF	\$1,200.00	
		Structure's Vol. Demolished																0.33	37	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		37	ton	\$222.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$1,422.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 6" thick, wire mesh reinf	02 41 16.17 0420	1.11	SF	10	30	0.5								SF		300	SF	\$333.00	
		Concrete's Vol. Demolished																1.3	7	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													7	CY	\$15.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													7	CY	\$26.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													7	CY	\$80.00	
		Subtotal																				\$454.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$1,876.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Dumpster Bay 22																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	30	40	6								FT		7200	CF	\$2,880.00	
		Structure's Vol. Demolished																0.33	88	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		88	ton	\$528.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$3,408.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16.17 2420	1.12	SF	30	40	0.67								SF		1200	SF	\$1,344.00	
		Concrete's Vol. Demolished																1.3	39	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													39	CY	\$86.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													39	CY	\$146.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													39	CY	\$445.00	
		Subtotal																			\$2,021.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$5,429.00	

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Monitoring Well 23																				
		Structure's Demolition Cost	Concrete presure grouting, 1:2 cement/sand mix	31 43 13.13 0310	24.00	CF				380	0.67					1	EA		134	CF	\$3,215.00	
		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																				\$3,215.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$3,215.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Hilfiker Wall 24																				
		Structure's Demolition Cost	Demolition, interlocking segmental retaining wall	02 41 13.90 0900	2.21	SF	150	12	30								FT		4500	SF	\$9,945.00	
		Structure's Vol. Demolished																0.33	660	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		660	ton	\$3,960.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$13,905.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$13,905.00	

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Ref.	Task	Description	Material	Plans Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Guard Rail 25																				
		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	Concrete wall demolition, 8" thick, not reinforced	02 41 16 17 2080	0.89	SF	3400	3	0.67													
		Concrete's Vol. Demolished																				
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY																
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY																
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY																
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$14,787.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Bypass Culvert 26																				
		48" CMP removal	48" CMP removal	02 41 13.40 0190	22.00	LF	4314										ft		4314	LF	\$94,908.00	
		48" culvert backfill	48" culvert backfill	31 23 16 13 3080	2.50	LCY	4314	4	2	4							ft		3286	LCY	\$8,215.00	
		48" culvert excavation	48" culvert excavation	31 23 16 42 0260	1.81	BCY	4314	4	2								ft		1278	BCY	\$2,314.00	
		36" CMP removal	36" CMP removal	02 41 13.40 0180	17.65	LF	962										ft		962	LF	\$16,979.00	
		36" culvert backfill	36" culvert backfill	31 23 16 13 3080	2.50	LCY	962	3	2	3							ft		466	LCY	\$1,164.00	
		36" culvert excavation	36" culvert excavation	31 23 16 42 0260	1.81	BCY	962	3	2								ft		214	BCY	\$387.00	
		24" CMP removal	24" CMP removal	02 41 13.40 0170	14.70	LF	594										ft		594	LF	\$8,732.00	
		24" culvert backfill	24" culvert backfill	31 23 16 13 3080	2.50	LCY	594	2	2	2							ft		157	LCY	\$393.00	
		24" culvert excavation	24" culvert excavation	31 23 16 42 0260	1.81	BCY	594	2	2								ft		88	BCY	\$159.00	
		Subtotal																				\$133,251.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Culvert Demolition																				
		48" CMP off-site disposal	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton							lb/ft			31	lb		67	Ton	\$402.00	
		36" CMP off-site disposal	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton							lb/ft			24	lb		12	Ton	\$72.00	
		24" CMP off-site disposal	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton							lb/ft			15	lb		4	Ton	\$24.00	
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				\$498.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$133,749.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Water Tanks 28																			
		Structure's Demolition Cost	Steel tank removal, above ground, 30,000 gallon	13 05 05.75 0540	3275.00	EA			30	12						1	EA		1	EA	\$3,275.00
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton							6				tons		6	tons	\$36.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$3,311.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcing	02 41 16.17 2500	1.57	SF		16	40	1						2	SF		1280	SF	\$2,010.00
		Concrete's Vol. Demolished																1.3	62	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													62	CY	\$137.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													62	CY	\$232.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													62	CY	\$707.00
		Subtotal																			\$3,086.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$6,397.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Reclaim Vaults 29																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	15	20	13								FT		3900	CF	\$1,560.00	
		Structure's Vol. Demolished																0.33	1287	CF		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		48	ton	\$288.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$1,848.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete demolition, reinforcing <1% of xsec area	03 05 05.10 0050	111.00	CY	15	30	1.5								3 FT		75	CY	\$8,325.00	
		Concrete's Vol. Demolished																1.3	98	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													98	CY	\$217.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													98	CY	\$367.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													98	CY	\$1,117.00	
		Subtotal																			\$10,026.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$11,874.00	

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Ref.	Task	Description	Materials	Wears Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Reclaim Tunnel Semisphere 30																				
		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	Concrete demolition, reinforcing <1% of xsec area	03 05 05.10 0050	111.00	CY	210	0.5		13												
		Concrete's Vol. Demolished																				
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY												1.3		79	CY	\$8,769.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														103	CY	\$385.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														103	CY	\$1,174.00
		Subtotal																				\$10,556.00
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16.17 2420	1.12	SF	210	12	0.67													
		Concrete's Vol. Demolished																				
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY																
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY																
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY																
		Subtotal																				\$4,227.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$14,783.00

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Ref.	Task	Description	Materials	Plans Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Escape Tunnel Vent 31																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF				250	3.5						FT		2405	CF	\$962.00
		Structure's Vol. Demolished																0.33	794	CF	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton													60	CY	\$360.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$1,322.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$1,322.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Truck Loadout 32																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	20	20	30								FT		12000	CF	\$4,800.00	
		Structure's Vol. Demolished																0.33	147	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton														147	CY	\$882.00
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$5,682.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcement	02 41 16 17 2500	1.57	SF	20	20	1								FT		15	CY	\$23.26	
		Concrete's Vol. Demolished																1.3	19	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY														19	CY	\$42.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														19	CY	\$71.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														19	CY	\$217.00
		Subtotal																				\$353.26
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$6,035.26

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Ref.	Task	Description	Materials	Plans Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Substation Electrical 33																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	50	100	20								FT		100000	CF	\$40,000.00	
		Structure's Vol. Demolished																0.33	1222	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton													1222	CY	\$7,332.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$47,332.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcement	02 41 16 17 2500	1.57	SF	40	80	1								FT		119	CY	\$186.00	
		Concrete's Vol. Demolished																1.3	154	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													154	CY	\$340.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													154	CY	\$576.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													154	CY	\$1,756.00	
		Subtotal																			\$2,858.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$50,190.00	

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Powerline 69KV 34																			
		Structure's Demolition Cost	Electrical Demolition, #2 wire, from conduit	26 05 05.10 1910	30.50	CLF	1200										LF		12	CLF	\$366.00
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton	1200							201			lb/MF		0.12	ton	\$1.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$367.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$367.00

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Ref.	Task	Description	Materials	Plans Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Powerline Yard Distribution 35																				
		Structure's Demolition Cost	Electrical Demolition, #2 wire, from conduit	26 05 05.10 1910	30.50	CLF	1400										LF		14	CLF	\$427.00	
		Structure's Vol. Demolished																				
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton	1400							201			lb/MF		0.14	ton	\$1.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																		0	ton	
		Subtotal																				\$428.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$428.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Pavement Truck Loadout 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																				
		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	Concrete floor demolition, 4" thick, wire mesh reinf	02 41 16 17 0280	0.89	SF	100	120	0.33								SF		12000	SF	\$10,680.00	
		Concrete's Vol. Demolished																	1.3	191	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY														191	CY	\$422.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY														191	CY	\$714.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														191	CY	\$2,177.00
		Subtotal																				\$13,993.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$13,993.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost			
		Pumphouse 37																						
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	20	20	8								FT		3200	CF	\$1,280.00			
		Structure's Vol. Demolished																0.33	39	CY				
		Rubble's Weight (exclude steel)																						
		Truck's Capacity																						
		Haulage																						
		Transportation Cost Non Steel Truck																						
		Transportation Cost Non Steel Drive																						
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton														39	CY	\$234.00		
		Steel's Weight																						
		Truck's Capacity																						
		Haulage																						
		Transportation Cost Steel Truck																						
		Transportation Cost Steel Truck Drive																						
		Disposal Cost Steel																						
		Subtotal																				\$1,514.00		
		Equipment's Disposal Cost	Chain link fence removal 8'-10' high	02 41 13 60 1700	4.44	LF	250										FT		250	FT	\$1,110.00			
		Dismantling Cost																						
		Equipment's Vol. Demolished																						
		Loading Costs																						
		Transport Costs																						
		Disposal Costs																						
		Subtotal																				\$1,110.00		
		Concrete Demolition																						
		Demolition Cost																						
		Concrete's Vol. Demolished																						
		Loading Cost																						
		Transportation Cost																						
		Disposal Costs																						
		Subtotal																						
		Asphalt																						
		Asphalt Demolition	Concrete demolition, reinforcing <1% of xsec area	03 05 05.10 0050	111.00	CY						31.48								31	CY	\$3,494.00		
		Demolition Cost																						
		Concrete's Vol. Demolished																		1.3	41	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY															41	CY	\$90.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY															41	CY	\$153.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY															41	CY	\$467.00	
		Subtotal																				\$4,204.00		
		Concrete Demolition																						
		Demolition Cost	Concrete floor demolition, 6" thick, wire mesh reinf	02 41 16.17 0420	1.11	SF	20	20	0.5												400	SF	444	
		Concrete's Vol. Demolished																			1.3	10	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY																10	CY	22
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY																10	CY	37
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY																10	CY	\$114.00
		Subtotal																					\$617.00	
		Total																					\$7,445.00	

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
2233	Riprap 38																				
		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																			
		Riprap									10						sq ft				
		Place Riprap	Machine placed rip-rap slope protection	31 37 13 10 0100	65.00	LCY	500										ft		185	CY	\$12,037.00
		Subtotal																			\$12,037.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$12,037.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Storage Sheed																				
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	40	60	20			48000					CF		48000	CF	\$18,240.00	
		Structure's Vol. Demolished										1778					CY	0.33	587	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton						1778						0.33	587	CY	\$3,520	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$21,760.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 4" thick, wire mesh reinf	02 41 16.17 0280	0.89	SF	40	60	0.33			792					SF		2400	SF	\$2,136.00	
		Concrete's Vol. Demolished																	1.3	38	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY														38	CY	\$84
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														38	CY	\$142
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														38	CY	\$433
		Subtotal																			\$2,795	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$24,555.00	

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West Ridge Mine Reclamation Bond Estimate

Cost Summary

Earthwork Costs	<i>Cost</i>
Remove Cap Layer	\$ 10,232
Remove Excess Pad Fill	\$ 253,904
Remove Remaining Backfill	\$ 56,558
Backfill Highwall	\$ 2,389
Place Topsoil	\$ 38,575
Expose Topsoil	\$ 44,684
Establish Rubbleland Surface	\$ 33,450
Pump House Regrading	\$ 1,746
Support	\$ 40,820
TOTAL	\$ 482,360

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Remove Excess Pad Fill

Ref.	Task	Description	Quantity	Units	Production Rate	Units	Production Time	Units	Materials/Equipment/Labor	Cost Reference RSMeans Ref #	Unit Cost	Units	Quantity	Cost
		Left Fork												
		6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	13614	CY	380	CY/HR	35.8	HR	Off Highway Rear Dump Truck, 65 Ton	Crew B-34H	2820.00	Day	4	\$11,280.00
		988G EROPS (9-34) (2nd2006) 2005							Front End Loader, 10 CY capacity	Crew B-14K	4434.40	Day	4	\$17,737.60
		Right Fork												
		6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	3916	CY	380	CY/HR	10.3	HR	Off Highway Rear Dump Truck, 65 Ton	Crew B-34H	2820.00	Day	1.5	\$4,230.00
		988G EROPS (9-34) (2nd2006) 2005							Front End Loader, 10 CY capacity	Crew B-14K	4434.40	Day	1.5	\$6,651.60
		Main Canyon												
		6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	88829	CY	380	CY/HR	233.8	HR	Off Highway Rear Dump Truck, 65 Ton	Crew B-34H	2820.00	Day	29.5	\$83,190.00
		988G EROPS (9-34) (2nd2006) 2005							Front End Loader, 10 CY capacity	Crew B-14K	4434.40	Day	29.5	\$130,814.80
		Subtotal												\$253,904.00

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Remove Remaining Backfill

Ref.	Task	Description	Quantity	Units	Production Rate	Units	Production Time	Units	Materials/Equipment/Labor	Cost Reference RSMMeans Ref #	Unit Cost	Units	Quantity	Cost
		Left Fork 21+50 to 23+00												
		988G EROPS	2857	CY	440	CY/HR	6.5	HR	Front End Loader, 10 CY capacity	Crew B-14K	4434.40	Day	1	\$4,434.40
		Redistribution												
		988G EROPS	16604	CY	391.5	CY/HR	42.4	HR	Front End Loader, 10 CY capacity	Crew B-14K	4434.40	Day	5.5	\$24,389.20
		Off Highway Rear Dump 65 ton	2857	CY					Off Highway Rear Dump Truck, 65 Ton	Crew B-34H	2820.00	Day	5.5	\$15,510.00
		Right Fork Upper Canyon @35+00												
		D9R Semi-U EROPS 400HP	16604	CY	663	CY/HR	25	HR	Dozer, track-mounted, 410 HP	Crew B-10X	3492.80	Day	3.5	\$12,224.80
		Subtotal												\$56,558.40

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Backfill Highwall

Ref.	Task	Description	Quantity	Units	Production Rate	Units	Production Time	Units	Materials/Equipment/Labor	Cost Reference RSMMeans Ref #	Unit Cost	Units	Quantity	Cost
		CAT 324E 2CY bucket 30 sec cycle	1481	CY	240	CY/HR	6.2	HR	Hydraulic excavator, 2 CY, with crew	Crew B-12C	2389.30	Day	1	\$2,389.30
		Subtotal												\$2,389.30

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Support

Ref.	Task	Description	Quantity	Units	Production Rate	Units	Production Time	Units	Materials/Equipment/Labor	Cost Reference RSMeans Ref #	Unit Cost	Units	Quantity	Cost
		6,000 gal H2O truck Diesel (20-17) (2nd2006)					605.5	HR	5,000 Gal Water Truck with crew	Crew B-9A	2041.01	Day	20	\$40,820.20
		Subtotal												\$40,820.20

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Ref.	Description	Materials	Items Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Scale Factor	Quantity	Unit	Cost
Mine Site Revegetation Estimate																				
<i>Pinon Juniper Community</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						13					AC		566	MSF	31413
	Seeding Material	West Ridge Pinon/Juniper seed mix	Great Basin Seed	541.00	AC						13					AC		13	AC	7033
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						13					AC		566	MSF	12452
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						5200					CY		5200	CY	9412
<i>Douglas Fir Maple Community</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						10					AC		436	MSF	24198
	Seeding Material	West Ridge Douglas Fir/Maple seed mix	Great Basin Seed	611.00	AC						10					AC		10	AC	6110
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						10					AC		436	MSF	9592
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						4000					CY		4000	CY	7240
	Transplants	Serviceberry, containerized	Lawyer Nursery	4.69	EA						10					930	AC	930	EA	4362
	Transplants	Mountain Mahogany, containerized	Lawyer Nursery	4.84	EA						10					930	AC	930	EA	4501
<i>Douglas Fir Rocky Mountain Juniper</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						5					AC		218	MSF	12099
	Seeding Material	West Ridge Douglas Fir/Juniper seed mix	Great Basin Seed	840.00	AC						5					AC		5	AC	3200
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						5					AC		218	MSF	4796
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						2000					CY		2000	CY	3620
	Transplants	Douglas Fir, containerized	Lawyer Nursery	4.34	EA						5					1500	AC	1500	EA	6510
<i>Sagebrush Grass Community</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						1					AC		44	MSF	2442
	Seeding Material	West Ridge Sagebrush/Grass seed mix	Great Basin Seed	717.00	AC						1					AC		1	AC	717
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						1					AC		44	MSF	968
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						400					CY		400	CY	724
<i>Pumphouse</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						0.9					AC		39	MSF	2165
	Seeding Material	West Ridge Pinon/Juniper seed mix	Great Basin Seed	541.00	AC						0.9					AC		0.9	AC	487
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						0.9					AC		39	MSF	858
	Place Silt Fence	Silt fence, install maintain and remove	31 25 14.16 1000	1.96	LF		150									FT		150	FT	294
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						360					CY		360	CY	652
	Subtotal																			155,845
	Mine Site																			
	Reseeding 25%																			38961
	Subtotal																			38,961
	Total																			194,806

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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
	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																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Total																			

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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
	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																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Total																			

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West Ridge Mine Reclamation Bond Estimate

Demolition Cost Summary

Ref.	Task	Description	Cost 2017
		Shop Warehouse 01	\$152,450
		Bathhouse 02	\$35,330
		Administration Office 03	\$28,127
		Powder Magazines 04	\$550
		Overhead Conveyor 05	\$10,470
		Conveyor Bents 06	\$2,802
		Drive Unit 07	\$3,149
		Discharge Structure 08	\$6,094
		Bent Angle Bracing 09	\$1,368
		Reclaim Conveyor Stringers 10	\$25,362
		Crusher Building 11	\$19,061
		Reclaim Tunnel Headwall 12	\$3,383
		Loadout Conveyor 13	\$1,741
		Loadout Conveyor Bent 14	\$442
		Mine Fan 15	\$23,787
		Ductwork Airlock 16	\$13,813
		Motor Room 17	\$1,821
		MCC 18	\$1,606
		Portals 19	\$39,074
		Rock Dust Tanks 20	\$6,218
		Oil Grease Storage 21	\$1,876
		Dumpster Bay 22	\$5,429
		Monitoring Well 23	\$3,215
		Hilfiker Wall 24	\$13,905
		Guard Rail 25	\$14,787
		Bypass Culvert 26	\$133,749
		Culverts 27	\$4,603
		Water Tanks 28	\$6,397
		Reclaim Vaults 29	\$11,874
		Reclaim Tunnel Semisphere 30	\$14,783
		Escape Tunnel Vent 31	\$1,322
		Truck Loadout 32	\$6,035
		Substation Electrical 33	\$50,190
		Powerline 69 KV 34	\$367
		Powerline Yard Distribution 35	\$428
		Pavement Truck Loadout 36	\$13,993
		Pumphouse 37	\$7,445
		Riprap 38	\$12,037
		Storage Shed	\$24,555
		Total	\$703,638

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UNIT COSTS

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

18" CMP removal	Culvert Demolition Cost	02 41 13.40 0160	3.90	LF
18" culvert backfill	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16.13 3080	2.50	LCY
18" culvert excavation	Excavation Bulk Bank 2 CY (322BL)	31 23 16.42 0260	1.81	BCY
24" CMP removal	Culvert Demolition Cost	02 41 13.40 0170	14.70	LF
24" culvert backfill	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16.13 3080	2.50	LCY
24" culvert excavation	Excavation Bulk Bank 2 CY (322BL)	31 23 16.42 0260	1.81	BCY
36" CMP removal	Culvert Demolition Cost	02 41 13.40 0180	17.65	LF
36" culvert backfill	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16.13 3080	2.50	LCY
36" culvert excavation	Excavation Bulk Bank 2 CY (322BL)	31 23 16.42 0260	1.81	BCY
48" CMP removal	Culvert Demolition Cost	02 41 13.40 0190	22.00	LF
48" culvert backfill	Backfill Trench Minimal Haul 2 1/4 CY	31 23 16.13 3080	2.50	LCY
48" culvert excavation	Excavation Bulk Bank 2 CY (322BL)	31 23 16.42 0260	1.81	BCY
Concrete demolition, reinforcing <1% of xsec area	General Concrete Demolition Cost	03 05 05.10 0050	111.00	CY
Concrete demolition, footings & foundation, 1'-6", reinf	Footings and foundation, 1'-6" thick, 3' wide, reinf	02 41 16.17 1080	19.64	LF
Concrete wall demolition, 8" thick, not reinforced	Guard rail demolition	02 41 16.17 2080	0.89	SF
Concrete wall demolition, 12" thick, reinforced	Concrete wall demolition	02 41 16.17 2100	1.55	SF
Concrete floor demolition, 4" thick, wire mesh reinf	Concrete floor demolition	02 41 16.17 0280	0.89	SF
Concrete floor demolition, 6" thick, wire mesh reinf	Concrete floor demolition	02 41 16.17 0420	1.11	SF
Concrete floor demolition, 8" thick, average reinforcing	Concrete floor demolition	02 41 16.17 2420	1.12	SF
Concrete floor demolition, 12" thick, average reinforcing	Concrete floor demolition	02 41 16.17 2500	1.57	SF
Electrical Demolition, #2 wire, from conduit	Electrical Demolition Cost	26 05 05.10 1910	30.50	CLF
Steel tank removal, above ground, 30,000 gallon	Water storage tank demolition	13 05 05.75 0540	3275.00	EA
Chain link fence removal 8'-10' high	Fence removal	02 41 13.60 1700	4.44	LF
Laborer, general purpose	Common Laborer	01 31 13.20 0160	60.00	HR
Dozer, track-mounted, 80 HP	Dozer, 80 HP, with operator and spotter		1403.46	Day
Dozer, track-mounted, 300 HP	Dozer, 300 HP, with operator and spotter		2978.00	Day
Dozer, track-mounted, 410 HP	Dozer, 410 HP, with operator and spotter		3492.80	Day
5,000 Gal Water Truck with crew	Water Truck		2041.01	Day
Front End Loader, 10 CY capacity	Front End Loader, with operator and spotter		4434.40	Day
Hydraulic excavator, 2 CY, with crew	Trackhoe with operator and spotter		2389.30	Day
Hydraulic excavator, 2 CY (322BL)	Trackhoe, 2 CY capacity	31 23 16.42 0260	1.81	CY
Hydraulic crane, 25 ton, with operator	Hydraulic crane		1669.28	Day
Demolition debris, haul and off-site disposal	Demolition debris, off-site haul and disposal		6.00	Ton
Disposal on site	Disposal on site	02 41 16.17 4200	11.40	CY
12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	On-site Haul Cost	31 23 23.20 1014	3.74	CY
Front End Loader 3 CY	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY
Power mulcher, large, hay 1" deep	Mulch equipment, materials, and labor	32 91 13.18 0350	55.50	MSF
Hydroseeder (equipment and labor)	Hydroseeder	32 92 19.14 4600	22.00	MSF
Portal seal site preparation crew	Portal seal site preparation crew		1464.50	Day
Block wall reinforced 4" thick	Portal seal form	04 22 10.34 1500	8.50	SF
JennChem - Labor	Mine seal installation	JennChem	265.00	HR
Seal Portals, materials	Portal sealing	JennChem	4320.00	EA
Machine placed rip-rap slope protection	Place Riprap	31 37 13.10 0100	65.00	LCY
Mechanical equipment demolition, heavy	Mechanical equipment demolition	23 05 05.10 3600	1225.00	Ton
Building demolition, mixed materials	Building Demolition, mixed	02 41 16.13 0100	0.40	CF
Off Highway Rear Dump Truck, 65 Ton	Off Highway truck with driver		2820.00	Day
Pick-up Truck 4x4, 3/4 Ton, with driver	Pickup truck and driver		771.20	Day
1.5-ton truck and driver	Light-haul crew		771.94	Day
Concrete pressure grouting, 1.2 cement/sand mix	Plug monitor well	31 43 13.13 0310	24.00	CF
Building demolition, steel	Building Demolition, steel	02 41 16.13 0020	0.38	CF
Demolition, interlocking segmental retaining wall	Halficker retaining wall demolition	02 41 13.90 0900	2.21	SF
Sill Fence, install maintain and remove	Sill fence	31 25 14.16 1000	1.96	LF
West Ridge Douglas Fir/Juniper seed mix	Douglas Fir/Juniper reclamation seed mix	Great Basin Seed	640.00	AC
West Ridge Douglas Fir/Maple seed mix	Douglas Fir/Maple reclamation seed mix	Great Basin Seed	611.00	AC
West Ridge Pinon/Juniper seed mix	Pinon/Juniper reclamation seed mix	Great Basin Seed	541.00	AC
West Ridge Sagebrush/Grass seed mix	Sagebrush/Grass reclamation seed mix	Great Basin Seed	717.00	AC
Serviceberry, containerized	Lawyer Nursery		4.69	EA
Douglas Fir, containerized	Douglas Fir	Lawyer Nursery	4.34	EA
Mountain Mahogany, containerized	Mountain Mahogany	Lawyer Nursery	4.84	EA

Unit cost increased 10% for reinforcing (see 02 41 16.17 1200)

Unit cost increased 30% for reinforcing (see 02 41 16.17 2200 & 2220)

Unit cost increased 10% for reinforcing (see 02 41 16.17 2600)

Unit cost increased 10% for reinforcing (see 02 41 16.17 2600)

Based on weekly burdened rate

See Scamp estimate

Based on labor and equipment costs only (see seed costs below)

Based on 4 technicians and 1 supervisor (see JennChem estimate)

See JennChem estimate

See prices in the attachment, as downloaded July 2017 from the Great Basin Seed web site

Based on the attached seedling cost, plus \$1.00 each shipping (UPS) and labor (\$2.64 each, Means 32 93 43.10 0712)

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Shop Warehouse 01																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	160	60	30								FT		288000	CF	\$115,200.00	
		Structure's Vol. Demolished																0.33	3520	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton											ton/CY		3520	ton	\$21,120.00	
		Disposal Cost Non Steel																				
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$136,320.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16 17 2420	1.12	SF	160	60	0.67								SF		9600	SF	\$10,752.00	
		Concrete's Vol. Demolished																1.3	310	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													310	CY	\$685.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													310	CY	\$1,159.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													310	CY	\$3,534.00	
		Subtotal																				\$16,130.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$152,450.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost		
		Bathhouse 02																					
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	40	120	12								FT		57600	CF	\$23,040.00		
		Structure's Vol. Demolished																0.33	19008	CF			
		Rubble's Weight (exclude steel)																					
		Truck's Capacity																					
		Haulage																					
		Transportation Cost Non Steel Truck																					
		Transportation Cost Non Steel Drive																					
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		704	ton	\$4,224.00		
		Steel's Weight																					
		Truck's Capacity																					
		Haulage																					
		Transportation Cost Steel Truck																					
		Transportation Cost Steel Truck Drive																					
		Disposal Cost Steel																					
		Subtotal																				\$27,264.00	
		Equipment's Disposal Cost																					
		Dismantling Cost																					
		Equipment's Vol. Demolished																					
		Loading Costs																					
		Transport Costs																					
		Disposal Costs																					
		Subtotal																					
		Concrete Demolition	Concrete floor demolition, 8" thick average reinforcing	02 41 16.17 2420	1.12	SF	40	120	0.67								SF		4800	SF	\$5,376.00		
		Demolition Cost																					
		Concrete's Vol. Demolished																1.3	155	CY			
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY															\$343.00		
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY															\$580.00		
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY															155	CY	\$1,767.00
		Subtotal																				\$8,066.00	
		Concrete Demolition																					
		Demolition Cost																					
		Concrete's Vol. Demolished																					
		Loading Cost																					
		Transportation Cost																					
		Disposal Costs																					
		Subtotal																					
		Concrete Demolition																					
		Demolition Cost																					
		Concrete's Vol. Demolished																					
		Loading Cost																					
		Transportation Cost																					
		Disposal Costs																					
		Subtotal																					
		Total																				\$35,330.00	

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Administration Office 03																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	40	70	18								FT		50400	CF	\$20,160.00
		Structure's Vol. Demolished																0.33	16632	CF	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		616	ton	\$3,696.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$23,856.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 6" thick wire mesh reinf	02 41 16,17 0420	1.11	SF	40	70	0.5								SF		2800	SF	\$3,108.00
		Concrete's Vol. Demolished																1.3	67	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													67	CY	\$148.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi, rd Trip	31 23 23.20 1014	3.74	CY													67	CY	\$251.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													67	CY	\$764.00
		Subtotal																			\$4,271.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$28,127.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Powder Magazines 04																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	8	8	8								FT		512	CF	\$205.00
		Structure's Vol. Demolished																0.33	6	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		6	ton	\$36.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$241.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition	Concrete floor demolition, 6" thick wire mesh reinf	02 41 16 17 0420	1.11	SF	10	10	0.5							2	SF		200	SF	\$222.00
		Demolition Cost																			
		Concrete's Vol. Demolished																1.3	5.0	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													5.0	CY	\$11.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													5.0	CY	\$19.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													5.0	CY	\$57.00
		Subtotal																			\$309.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$550.00

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Ref.	Task	Description	Materials	Items Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Overhead Conveyor 05																				
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	550	7	6								FT		23100	CF	\$8,778.00	
		Structure's Vol. Demolished																0.33	7623	CF		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		282	ton	\$1,692.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$10,470.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$10,470.00

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Ref.	Task	Description	Materials	Primars Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Conveyor Bents 06																				
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	50	15	1.5								4 FT		4500	CF	\$1,710.00	
		Structure's Vol. Demolished																0.33	1485	CF		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		55	ton	\$330.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$2,040.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition	Concrete floor demolition, 12" thick, average reinforcing	02 41 16 17 2500	1.57	SF	4	20	1								4 SF		320	SF	\$502.00	
		Demolition Cost																1.3	15	CY		
		Concrete's Vol. Demolished																				
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY														15	CY	\$33.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														15	CY	\$56.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														15	CY	\$171.00
		Subtotal																			\$762.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$2,802.00	

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Ref.	Task	Description	Materials	Wegans Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Drive Unit 07																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	20	30	6								FT		3600	CF	\$1,440.00
		Structure's Vol. Demolished																0.33	1188	CF	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		44	ton	\$264.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$1,704.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition	Concrete floor demolition, 12" thick, average reinforcing	02 41 16 17 2500	1.57	SF	20	30	1								SF		600	SF	\$942.00
		Demolition Cost																			
		Concrete's Vol. Demolished																1.3	29	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													29	CY	\$64.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													29	CY	\$108.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													29	CY	\$331.00
		Subtotal																			\$1,445.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$3,149.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Discharge Structure 08																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	230	7	8								FT		12880	CF	\$5,152.00	
		Structure's Vol. Demolished																0.33	4250	CF		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		157	ton	\$942.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$6,094.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$6,094.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Bent Angle Bracing 09																				
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	70	20	2								FT		2800	CF	\$1,064.00	
		Structure's Vol. Demolished																	0.33	34	CY	
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		34	ton	\$204.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$1,268.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16.17 2420	1.12	SF	2	30	0.67								SF		60	SF	\$67	
		Concrete's Vol. Demolished																	1.3	1.9	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY														1.9	CY	\$4.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY														1.9	CY	\$7.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY														1.9	CY	\$22.00
		Subtotal																				\$100.20
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$1,368.20

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Reclaim Conveyor Stringers 10																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	320	5	3								FT		4800	CF	\$1,920.00
		Structure's Vol. Demolished																0.33	59	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		59	ton	\$354.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$2,274.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcin	02 41 16 17 2500	1.57	SF	60	160	1								SF		9600	SF	\$15,072.00
		Concrete's Vol. Demolished																1.3	462	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													462	CY	\$1,021.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													462	CY	\$1,728.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													462	CY	\$5,267.00
		Subtotal																			\$23,088.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$25,362.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Crusher Building 11																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	24	50	30								FT		36000	CF	\$14,400.00
		Structure's Vol. Demolished																0.33	440	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		440	ton	\$2,640.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$17,040.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16 17 2420	1.12	SF	24	50	0.67								SF		1200	SF	\$1,344.00
		Concrete's Vol. Demolished																1.3	39	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													39	CY	\$86.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													39	CY	\$146.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													39	CY	\$445.00
		Subtotal																			\$2,021.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$19,061.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Reclaim Tunnel Headwall 12																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	20	15	15								FT		4500	CF	\$1,800.00	
		Structure's Vol. Demolished																0.33	55	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		55	ton	\$330.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$2,130.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Floor																				
		Concrete Demolition	Concrete floor demolition, 12" thick, average reinforcement	02 41 16 17 2500	1.57	SF	20	15	1								SF		300	SF	\$471.00	
		Demolition Cost																				
		Concrete's Vol. Demolished																1.3	14	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													14	CY	\$31.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													14	CY	\$52.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													14	CY	\$160.00	
		Subtotal																			\$714.00	
		Wall's Demo. Cost																				
		Concrete Demolition	Concrete wall demolition, 12" thick, reinforced	02 41 16 17 2100	1.55	SF	15	15	1								SF		225	SF	\$349.00	
		Demolition Cost																				
		Concrete's Vol. Demolished																1.3	11	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													11	CY	\$24.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													11	CY	\$41.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													11	CY	\$125.00	
		Subtotal																			\$539.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$3,383.00	

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Ref.	Task	Description	Materials	Units Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Loadout Conveyor 13																			
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	160	4	6								FT		3840	CF	\$1,459.00
		Structure's Vol. Demolished																0.33	47	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								1			ton/CY		47	ton	\$282.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$1,741.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$1,741.00

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Ref.	Task	Description	Materials	Meant Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Loadout Conveyor Bent 14																				
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	20	8	1.5								FT		240	CF	\$91.00	
		Structure's Vol. Demolished																0.33	9	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		9	ton	\$54.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$145.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete demolition, footings & foundation, 1'-6", reinf	02 41 16 17 1080	19.64	LF	12	4	1.5								LF		12	LF	\$236.00	
		Concrete's Vol. Demolished																1.3	3.5	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													3.5	CY	\$8.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													3.5	CY	\$13.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													3.5	CY	\$40.00	
		Subtotal																				\$297.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$442.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Mine Fan 15																				
		Structure's Demolition Cost	Building demolition, mbed materials	02 41 16 13 0100	0.40	CF	50	12	12								FT		7200	CF	\$2,880.00	
		Structure's Vol. Demolished																0.1	27	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton											1		27	ton	\$162.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$3,042.00	
		Mine Fan Demolition	Mechanical equipment demolition, heavy	23 05 05 10 3600	1225.00	Ton								15						15	ton	\$18,375.00
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs	Hydraulic crane, 25 ton, with operator	Crew A-3I	1669.28	Day														0.5	Day	\$834.64
		Transport and Disposal Costs	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton								15						15	ton	\$90.00
		Disposal Costs																				
		Subtotal																				\$19,299.64
		Concrete Demolition	Concrete floor demolition, 12" thick, average reinforcing	02 41 16.17 2500	1.57	SF	50	12	1													
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY																
		Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY																
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY																
		Subtotal																				\$1,445.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$23,786.64

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Ductwork Airlock 16																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	70	20	12								FT		16800	CF	\$6,720.00
		Structure's Vol. Demolished																0.33	622	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		622	ton	\$3,732.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$10,452.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcement	02 41 16.17 2500	1.57	SF	70	20	1								SF		1400	SF	\$2,188.00
		Concrete's Vol. Demolished																1.3	67	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													67	CY	\$148.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													67	CY	\$251.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													67	CY	\$764.00
		Subtotal																			\$3,361.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$13,813.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Motor Room 17																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	16	16	10								FT		2560	CF	\$1,024.00
		Structure's Vol. Demolished																0.33	31	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		31	ton	\$186.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$1,210.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforc	02 41 16 17 2500	1.57	SF	16	16	1								SF		256	SF	\$401.92
		Concrete's Vol. Demolished																1.3	12	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													12	CY	\$27.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													12	CY	\$45.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													12	CY	\$137.00
		Subtotal																			\$610.92
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$1,820.92

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		MCC 18																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	12	20	9								FT		2160	CF	\$864.00	
		Structure's Vol. Demolished																0.33	26	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		26	ton	\$156.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$1,020.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition	Concrete floor demolition, 12" thick, average reinforcin	02 41 16.17 2500	1.57	SF	12	20	1								SF		240	SF	\$377.00	
		Demolition Cost																				
		Concrete's Vol. Demolished																1.3	12	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													12	CY	\$27.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													12	CY	\$45.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													12	CY	\$137.00	
		Subtotal																			\$586.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$1,606.00	

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Portals 19																				
		Portal seal site preparation crew	Portal seal site preparation crew	Crew B-1	1464.50	Day									1	4	Day			4	Day	\$5,858.00
		Block retaining walls (2 each seal)	Block wall, reinforced, 4" thick	04 22 10.34 1500	8.50	SF		20	8.8						344	4	SF		1376	SF	\$11,696.00	
		Seal Installation Labor	JennChem - Labor	JennChem	265.00	HR									4	4	HR		16	CY	\$4,240.00	
		Seal Materials	Seal Portals, materials	JennChem	4320.00	EA.									1	4	EA		4		\$17,280.00	
		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																			\$39,074.00	
		Equipment 's Disposal Cost																				
		Dismantling Cost																				
		Equipment 's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$39,074.00	

Note: operator needs to list FS Means number and units.

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Rock Dust Tanks 20																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF			40	12							2 FT		9048	CF	\$3,619.00
		Structure's Vol. Demolished																0.33	111	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		111	ton	\$666.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$4,285.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcin	02 41 16 17 2500	1.57	SF	20	40	1								1 EA		800	SF	\$1,256.00
		Concrete's Vol. Demolished																1.3	39	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY															\$86.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY															\$146.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY															\$445.00
		Subtotal																			\$1,933.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$6,218.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Oil Grease Storage 21																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	10	30	10								FT		3000	CF	\$1,200.00	
		Structure's Vol. Demolished																0.33	37	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		37	ton	\$222.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$1,422.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 6" thick, wire mesh reinf	02 41 16 17 0420	1.11	SF	10	30	0.5								SF		300	SF	\$333.00	
		Concrete's Vol. Demolished																1.3	7	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													7	CY	\$15.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													7	CY	\$26.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													7	CY	\$80.00	
		Subtotal																			\$454.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$1,876.00	

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Dumpster Bay 22																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	30	40	6								FT		7200	CF	\$2,880.00
		Structure's Vol. Demolished																0.33	88	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		88	ton	\$528.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$3,408.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16 17 2420	1.12	SF	30	40	0.67								SF		1200	SF	\$1,344.00
		Concrete's Vol. Demolished																1.3	39	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													39	CY	\$86.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													39	CY	\$146.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													39	CY	\$445.00
		Subtotal																			\$2,021.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$5,429.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Monitoring Well 23																				
		Structure's Demolition Cost	Concrete pressure grouting, 1:2 cement/sand mix	31 43 13.13 0310	24.00	CF				380	0.67						1	EA		134	CF	\$3,215.00
		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																				\$3,215.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$3,215.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Hilfiker Wall 24																				
		Structure's Demolition Cost	Demolition, interlocking segmental retaining wall	02 41 13.90 0900	2.21	SF	150	12	30											4500	SF	\$9,945.00
		Structure's Vol. Demolished																	0.33	660	CY	
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		660	ton	\$3,960.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$13,905.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$13,905.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Guard Rail 25																			
		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	Concrete wall demolition, 8" thick, not reinforced	02 41 16.17 2080	0.89	SF	3400	3	0.67												
		Concrete's Vol. Demolished																			
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY															\$727.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY															\$1,231.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY															\$3,751.00
		Subtotal																			\$14,787.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$14,787.00

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Ref.	Task	Description	Materials	Plans Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost		
		Bypass Culvert 26																					
		48" CMP removal	48" CMP removal	02 41 13.40 0190	22.00	LF	4314										ft		4314	LF	\$94,908.00		
		48" culvert backfill	48" culvert backfill	31 23 16 13 3080	2.50	LCY	4314	4	2	4							ft		3288	LCY	\$8,215.00		
		48" culvert excavation	48" culvert excavation	31 23 16 42 0260	1.81	BCY	4314	4	2								ft		1278	BCY	\$2,314.00		
		36" CMP removal	36" CMP removal	02 41 13.40 0180	17.65	LF	962										ft		962	LF	\$16,979.00		
		36" culvert backfill	36" culvert backfill	31 23 16 13 3080	2.50	LCY	962	3	2	3							ft		466	LCY	\$1,164.00		
		36" culvert excavation	36" culvert excavation	31 23 16 42 0260	1.81	BCY	962	3	2								ft		214	BCY	\$387.00		
		24" CMP removal	24" CMP removal	02 41 13.40 0170	14.70	LF	594										ft		594	LF	\$8,732.00		
		24" culvert backfill	24" culvert backfill	31 23 16 13 3080	2.50	LCY	594	2	2	2							ft		157	LCY	\$393.00		
		24" culvert excavation	24" culvert excavation	31 23 16 42 0260	1.81	BCY	594	2	2								ft		88	BCY	\$159.00		
		Subtotal																			\$133,251.00		
		Equipment's Disposal Cost																					
		Dismantling Cost																					
		Equipment's Vol. Demolished																					
		Loading Costs																					
		Transport Costs																					
		Disposal Costs																					
		Subtotal																					
		Culvert Demolition																					
		48" CMP off-site disposal	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton							lb/ft						31	lb	67	Ton	\$402.00
		36" CMP off-site disposal	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton							lb/ft						24	lb	12	Ton	\$72.00
		24" CMP off-site disposal	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton							lb/ft						15	lb	4	Ton	\$24.00
		Transportation Cost																					
		Disposal Costs																					
		Subtotal																				\$498.00	
		Concrete Demolition																					
		Demolition Cost																					
		Concrete's Vol. Demolished																					
		Loading Cost																					
		Transportation Cost																					
		Disposal Costs																					
		Subtotal																					
		Concrete Demolition																					
		Demolition Cost																					
		Concrete's Vol. Demolished																					
		Loading Cost																					
		Transportation Cost																					
		Disposal Costs																					
		Subtotal																					
		Total																				\$133,749.00	

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Ref.	Task	Description	Materials	Plans Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Water Tanks 28																			
		Structure's Demolition Cost	Steel tank removal, above ground, 30,000 gallon	13 05 05.75 0540	3275.00	EA		30	12							1	EA		1	EA	\$3,275.00
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Dsposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton							6				tons		6	tons	\$36.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$3,311.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcing	02 41 16.17 2500	1.57	SF	16	40	1							2	SF		1280	SF	\$2,010.00
		Concrete's Vol. Demolished																1.3	62	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													62	CY	\$137.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													62	CY	\$232.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													62	CY	\$707.00
		Subtotal																			\$3,086.00
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$6,397.00

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Ref.	Task	Description	Materials	Wicams Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Reclaim Vaults 29																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	15	20	13								FT		3900	CF	\$1,560.00	
		Structure's Vol. Demolished																0.33	1287	CF		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton									1		ton/CY		48	ton	\$288.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$1,848.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete demolition, reinforcing <1% of xsec area	03 05 05.10 0050	111.00	CY	15	30	1.5								3	FT		75	CY	\$8,325.00
		Concrete's Vol. Demolished																1.3	98	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													98	CY	\$217.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													98	CY	\$367.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													98	CY	\$1,117.00	
		Subtotal																			\$10,026.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$11,874.00	

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time Number	Unit	Swell Factor	Quantity	Unit	Cost
		Reclaim Tunnel Semisphere 30																		
		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	Concrete demolition, reinforcing <1% of xsec area	03 05 05.10 0050	111.00	CY	210	0.5		13						FT		79	CY	\$8,769.00
		Concrete's Vol. Demolished															1.3	103	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY												103	CY	\$228.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY												103	CY	\$385.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY												103	CY	\$1,174.00
		Subtotal																		\$10,556.00
		Concrete Demolition																		
		Demolition Cost	Concrete floor demolition, 8" thick, average reinforcing	02 41 16.17 2420	1.12	SF	210	12	0.67							FT		2520	SF	\$2,822.00
		Concrete's Vol. Demolished															1.3	81	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY												81	CY	\$179.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY												81	CY	\$303.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY												81	CY	\$923.00
		Subtotal																		\$4,227.00
		Concrete Demolition																		
		Demolition Cost																		
		Concrete's Vol. Demolished																		
		Loading Cost																		
		Transportation Cost																		
		Disposal Costs																		
		Subtotal																		
		Total																		\$14,783.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Escape Tunnel Vent 31																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF			250	3.5							FT		2405	CF	\$962.00	
		Structure's Vol. Demolished																0.33	794	CF		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton														60	CY	\$360.00
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$1,322.00
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$1,322.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Truck Loadout 32																			
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	20	20	30								FT		12000	CF	\$4,800.00
		Structure's Vol. Demolished																0.33	147	CY	
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton													147	CY	\$882.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$5,682.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcin	02 41 16.17 2500	1.57	SF	20	20	1								FT		15	CY	\$23.26
		Concrete's Vol. Demolished																1.3	19	CY	
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													19	CY	\$42.00
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													18	CY	\$71.00
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													19	CY	\$217.00
		Subtotal																			\$353.26
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$6,035.26

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Ref.	Task	Description	Materials	Wagon Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Substation Electrical 33																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	50	100	20								FT		100000	CF	\$40,000.00	
		Structure's Vol. Demolished																0.33	1222	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton													1222	CY	\$7,332.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$47,332.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 12" thick, average reinforcement	02 41 16 17 2500	1.57	SF	40	80	1								FT		119	CY	\$186.00	
		Concrete's Vol. Demolished																1.3	154	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													154	CY	\$340.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													154	CY	\$576.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													154	CY	\$1,756.00	
		Subtotal																			\$2,858.00	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$50,190.00	

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Ref.	Task	Description	Materials	Team: Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
		Powerline 69KV 34																			
		Structure's Demolition Cost	Electrical Demolition, #2 wire, from conduit	26 05 05.10 1910	30.50	CLF	1200										LF		12	CLF	\$366.00
		Structure's Vol. Demolished																			
		Rubble's Weight (exclude steel)																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Non Steel Truck																			
		Transportation Cost Non Steel Drive																			
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	8.00	Ton	1200							201			lb/MF		0.12	ton	\$1.00
		Steel's Weight																			
		Truck's Capacity																			
		Haulage																			
		Transportation Cost Steel Truck																			
		Transportation Cost Steel Truck Drive																			
		Disposal Cost Steel																			
		Subtotal																			\$367.00
		Equipment's Disposal Cost																			
		Dismantling Cost																			
		Equipment's Vol. Demolished																			
		Loading Costs																			
		Transport Costs																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Concrete Demolition																			
		Demolition Cost																			
		Concrete's Vol. Demolished																			
		Loading Cost																			
		Transportation Cost																			
		Disposal Costs																			
		Subtotal																			
		Total																			\$367.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Powerline Yard Distribution 35																				
		Structure's Demolition Cost	Electrical Demolition, #2 wire, from conduit	26 05 05.10 1910	30.50	CLF	1400										LF		14	CLF	\$427.00	
		Structure's Vol. Demolished																				
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton	1400							201			lb/MF		0.14	ton	\$1.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																		0	ton	
		Subtotal																			\$428.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$428.00	

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Pavement Truck Loadout 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																				
		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	Concrete floor demolition, 4" thick, wire mesh reinf	02 41 16.17 0280	0.89	SF	100	120	0.33													
		Concrete's Vol. Demolished																				
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY																
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY																
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY																
		Subtotal																				\$13,993.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$13,993.00

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 NOV 22 2017
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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Pumphouse 37																				
		Structure's Demolition Cost	Building demolition, mixed materials	02 41 16 13 0100	0.40	CF	20	20	8								FT		3200	CF	\$1,280.00	
		Structure's Vol. Demolished																0.33	39	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton													39	CY	\$234.00	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																				\$1,514.00
		Equipment's Disposal Cost	Chain link fence removal 8'-10' high	02 41 13 60 1700	4.44	LF	250										FT		250	FT	\$1,110.00	
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				\$1,110.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Asphalt																				
		Asphalt Demolition																				
		Demolition Cost	Concrete demolition, reinforcing <1% of xsec area	03 05 05.10 0050	111.00	CY						31.48					CY		31	CY	\$3,494.00	
		Concrete's Vol. Demolished																1.3	41	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													41	CY	\$90.00	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													41	CY	\$153.00	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													41	CY	\$467.00	
		Subtotal																				\$4,204.00
		Concrete Demolition																				
		Demolition Cost	Concrete floor demolition, 6" thick, wire mesh reinf	02 41 16.17 0420	1.11	SF	20	20	0.5								SF		400	SF	444	
		Concrete's Vol. Demolished																1.3	10	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16.42 1300	2.21	CY													10	CY	22	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23.20 1014	3.74	CY													10	CY	37	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													10	CY	\$114.00	
		Subtotal																				\$617.00
		Total																				\$7,445.00

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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
2233	Riprap 38																					
		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																				
		Riprap									10									sq ft		
		Place Riprap	Machine placed rip-rap slope protection	31 37 13 10 0100	65.00	LCY	500													ft	185 CY	\$12,037.00
		Subtotal																				\$12,037.00
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																				\$12,037.00

DIV. OF OIL, GAS & MINING
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Ref.	Task	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost	
		Storage Sheed																				
		Structure's Demolition Cost	Building Demolition, steel	02 41 16 13 0020	0.38	CF	40	60	20			48000					CF		48000	CF	\$18,240.00	
		Structure's Vol. Demolished										1778					CY	0.33	587	CY		
		Rubble's Weight (exclude steel)																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Non Steel Truck																				
		Transportation Cost Non Steel Drive																				
		Transportation and Disposal Cost All	Demolition debris, haul and off-site disposal	Scamp	6.00	Ton						1778						0.33	587	CY	\$3,520	
		Steel's Weight																				
		Truck's Capacity																				
		Haulage																				
		Transportation Cost Steel Truck																				
		Transportation Cost Steel Truck Drive																				
		Disposal Cost Steel																				
		Subtotal																			\$21,760.00	
		Equipment's Disposal Cost																				
		Dismantling Cost																				
		Equipment's Vol. Demolished																				
		Loading Costs																				
		Transport Costs																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition	Concrete floor demolition, 4" thick, wire mesh reinf	02 41 16 17 0280	0.89	SF	40	60	0.33			792					SF		2400	SF	\$2,136.00	
		Demolition Cost																				
		Concrete's Vol. Demolished																1.3	38	CY		
		Loading Cost	Front End Loader 3 CY	31 23 16 42 1300	2.21	CY													38	CY	\$84	
		Transportation Cost	12 CY (16 Ton) Dump Truck, 1/2 mi. rd Trip	31 23 23 20 1014	3.74	CY													38	CY	\$142	
		Disposal Costs	Disposal on site	02 41 16 17 4200	11.40	CY													38	CY	\$433	
		Subtotal																			\$2,795	
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Concrete Demolition																				
		Demolition Cost																				
		Concrete's Vol. Demolished																				
		Loading Cost																				
		Transportation Cost																				
		Disposal Costs																				
		Subtotal																				
		Total																			\$24,555.00	

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West Ridge Mine Reclamation Bond Estimate

Cost Summary

Earthwork Costs	<i>Cost</i>
Remove Cap Layer	\$ 10,232
Remove Excess Pad Fill	\$ 253,904
Remove Remaining Backfill	\$ 56,558
Backfill Highwall	\$ 2,389
Place Topsoil	\$ 38,575
Expose Topsoil	\$ 44,684
Establish Rubbleland Surface	\$ 33,450
Pump House Regrading	\$ 1,746
Support	\$ 40,820
TOTAL	\$ 482,360

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Remove Excess Pad Fill

Ref.	Task	Description	Quantity	Units	Production Rate	Units	Production Time	Units	Materials/Equipment/Labor	Cost Reference RSMean Ref #	Unit Cost	Units	Quantity	Cost
		Left Fork												
		6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	13614	CY	380	CY/HR	35.8	HR	Off Highway Rear Dump Truck, 65 Ton	Crew B-34H	2820.00	Day	4	\$11,280.00
		988G EROPS (9-34) (2nd2006) 2005							Front End Loader, 10 CY capacity	Crew B-14K	4434.40	Day	4	\$17,737.60
		Right Fork												
		6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	3916	CY	380	CY/HR	10.3	HR	Off Highway Rear Dump Truck, 65 Ton	Crew B-34H	2820.00	Day	1.5	\$4,230.00
		988G EROPS (9-34) (2nd2006) 2005							Front End Loader, 10 CY capacity	Crew B-14K	4434.40	Day	1.5	\$6,651.60
		Main Canyon												
		6X4 70,000lbs 12-18 CY (20-11) (2nd2006)	88829	CY	380	CY/HR	233.8	HR	Off Highway Rear Dump Truck, 65 Ton	Crew B-34H	2820.00	Day	29.5	\$83,190.00
		988G EROPS (9-34) (2nd2006) 2005							Front End Loader, 10 CY capacity	Crew B-14K	4434.40	Day	29.5	\$130,814.80
		Subtotal												\$253,904.00

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Expose Topsoil

Ref.	Task	Description	Quantity	Units	Production Rate	Units	Production Time	Units	Materials/Equipment/Labor	Cost Reference RSMeans Ref #	Unit Cost	Units	Quantity	Cost
		Common Labors	3226	CY	40	CY/HR	80.7	HR	Laborer, general purpose	01 31 13.20 0160	60.00	HR	81	\$4,860.00
		D3K2LGP 80 HP							Dozer, track-mounted, 80 HP	Crew B-10L	1403.46	Day	10.5	\$14,736.33
		CAT 324E 2CY bucket 30 sec cycle							Hydraulic excavator, 2 CY, with crew	Crew B-12C	2389.30	Day	10.5	\$25,087.65
		Subtotal												\$44,683.98

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Establish Rubbleland Surface

Ref.	Task	Description	Quantity	Units	Production Rate	Units	Production Time	Units	Materials/Equipment/Labor	Cost Reference RSMMeans Ref #	Unit Cost	Units	Quantity	Cost
		CAT 324E 2CY bucket 30 sec cycle	4440	CY	40	CY/HR	111	HR	Hydraulic excavator, 2 CY, with c	Crew B-12C	2389.30	Day	14	\$33,450.20
		Subtotal												\$33,450.20

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Pump House Regrading

Ref.	Task	Description	Quantity	Units	Production Rate	Units	Production Time	Units	Materials/Equipment/Labor	Cost Reference RSMears Ref #	Unit Cost	Units	Quantity	Cost
		D9R Semi-U EROPS 400HP	1326	CY	663	CY/HR	2	HR	Dozer, track-mounted, 410 HP	Crew B-10X	3492.80	Day	0.5	\$1,746.40
		Subtotal												\$1,746.40

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Support

Ref.	Task	Description	Quantity	Units	Production Rate	Units	Production Time	Units	Materials/Equipment/Labor	Cost Reference RSMMeans Ref #	Unit Cost	Units	Quantity	Cost
		6,000 gal H2O truck Diesel (20-17) (2nd2006)					605.5	HR	5,000 Gal Water Truck with crew	Crew B-9A	2041.01	Day	20	\$40,820.20
		Subtotal												\$40,820.20

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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
Mine Site Revegetation Estimate																				
<i>Pinon Juniper Community</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						13					AC		566	MSF	31413
	Seeding Material	West Ridge Pinon/Juniper seed mix	Great Basin Seed	541.00	AC						13					AC		13	AC	7033
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						13					AC		566	MSF	12452
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						5200					CY		5200	CY	9412
<i>Douglas Fir Maple Community</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						10					AC		436	MSF	24198
	Seeding Material	West Ridge Douglas Fir/Maple seed mix	Great Basin Seed	611.00	AC						10					AC		10	AC	6110
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						10					AC		436	MSF	9592
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						4000					CY		4000	CY	7240
	Transplants	Serviceberry, containerized	Lawyer Nursery	4.69	EA						10				930	AC		930	EA	4362
	Transplants	Mountain Mahogany, containerized	Lawyer Nursery	4.84	EA						10				930	AC		930	EA	4501
<i>Douglas Fir Rocky Mountain Juniper</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						5					AC		218	MSF	12099
	Seeding Material	West Ridge Douglas Fir/Juniper seed mix	Great Basin Seed	640.00	AC						5					AC		5	AC	3200
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						5					AC		218	MSF	4796
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						2000					CY		2000	CY	3620
	Transplants	Douglas Fir, containerized	Lawyer Nursery	4.34	EA						5				1500	AC		1500	EA	6510
<i>Sagebrush Grass Community</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						1					AC		44	MSF	2442
	Seeding Material	West Ridge Sagebrush/Grass seed mix	Great Basin Seed	717.00	AC						1					AC		1	AC	717
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						1					AC		44	MSF	968
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						400					CY		400	CY	724
<i>Pumphouse</i>																				
	Mulch Material, Labor, and Equipment	Power mulcher, large, hay 1" deep	32 91 13.16 0350	55.50	MSF						0.9					AC		39	MSF	2185
	Seeding Material	West Ridge Pinon/Juniper seed mix	Great Basin Seed	541.00	AC						0.9					AC		0.9	AC	487
	Seeding Equipment and Labor	Hydroseeder (equipment and labor)	32 92 19.14 4600	22.00	MSF						0.9					AC		39	MSF	858
	Place Silt Fence	Silt fence, install maintain and remove	31 25 14.16 1000	1.96	LF		150									FT		150	FT	294
	Packing	Hydraulic excavator, 2 CY (322BL)	31 23 16.42 0260	1.81	CY						360					CY		360	CY	652
	Subtotal																			155,845
	Mine Site																			
	Reseeding 25%																			38961
	Subtotal																			38,961
	Total																			194,806

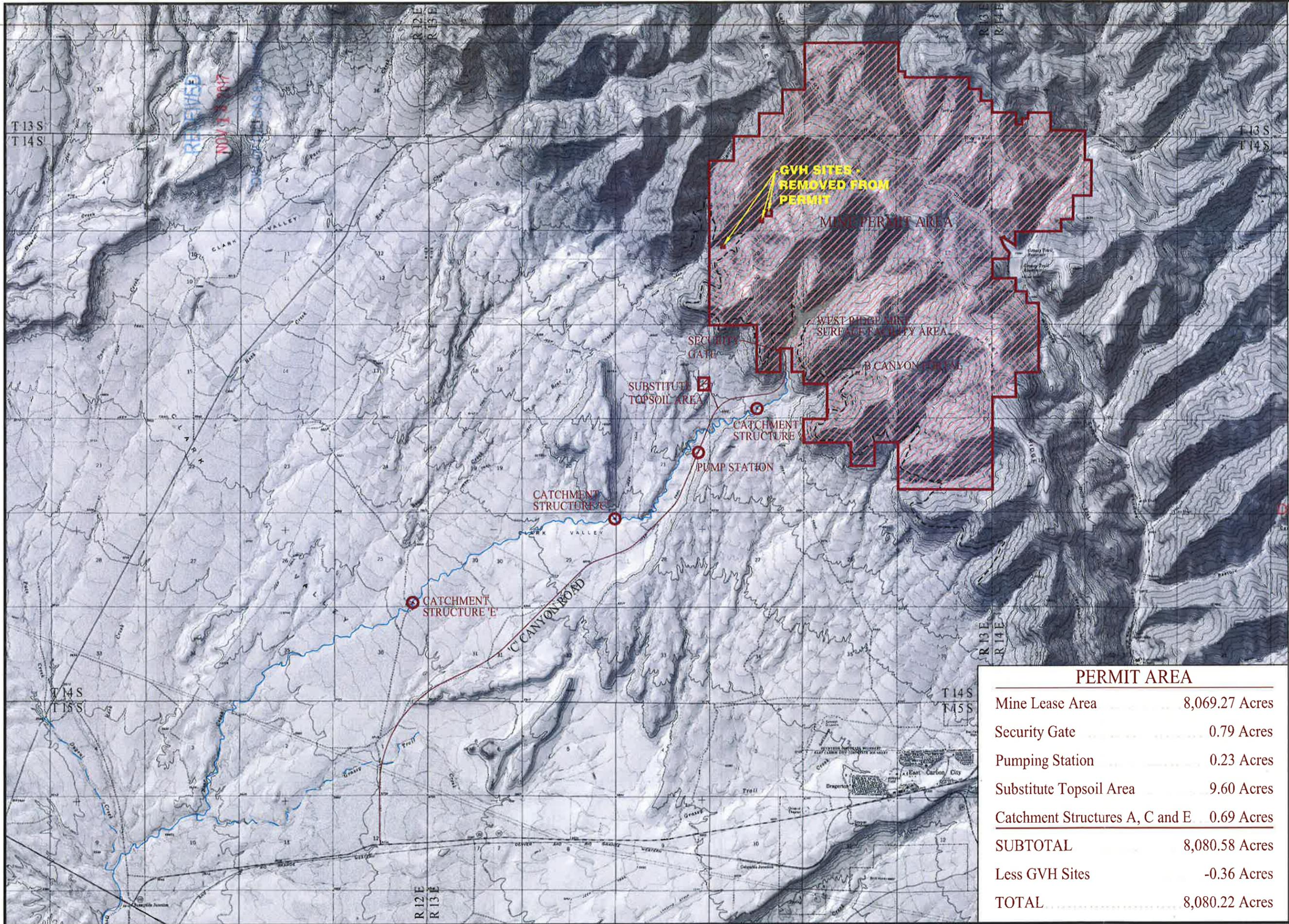
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 MINE REVEGETATION
 WEST RIDGE MINE

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
	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																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Total																			

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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
	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																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Total																			

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SCALE: 1"=5000'

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



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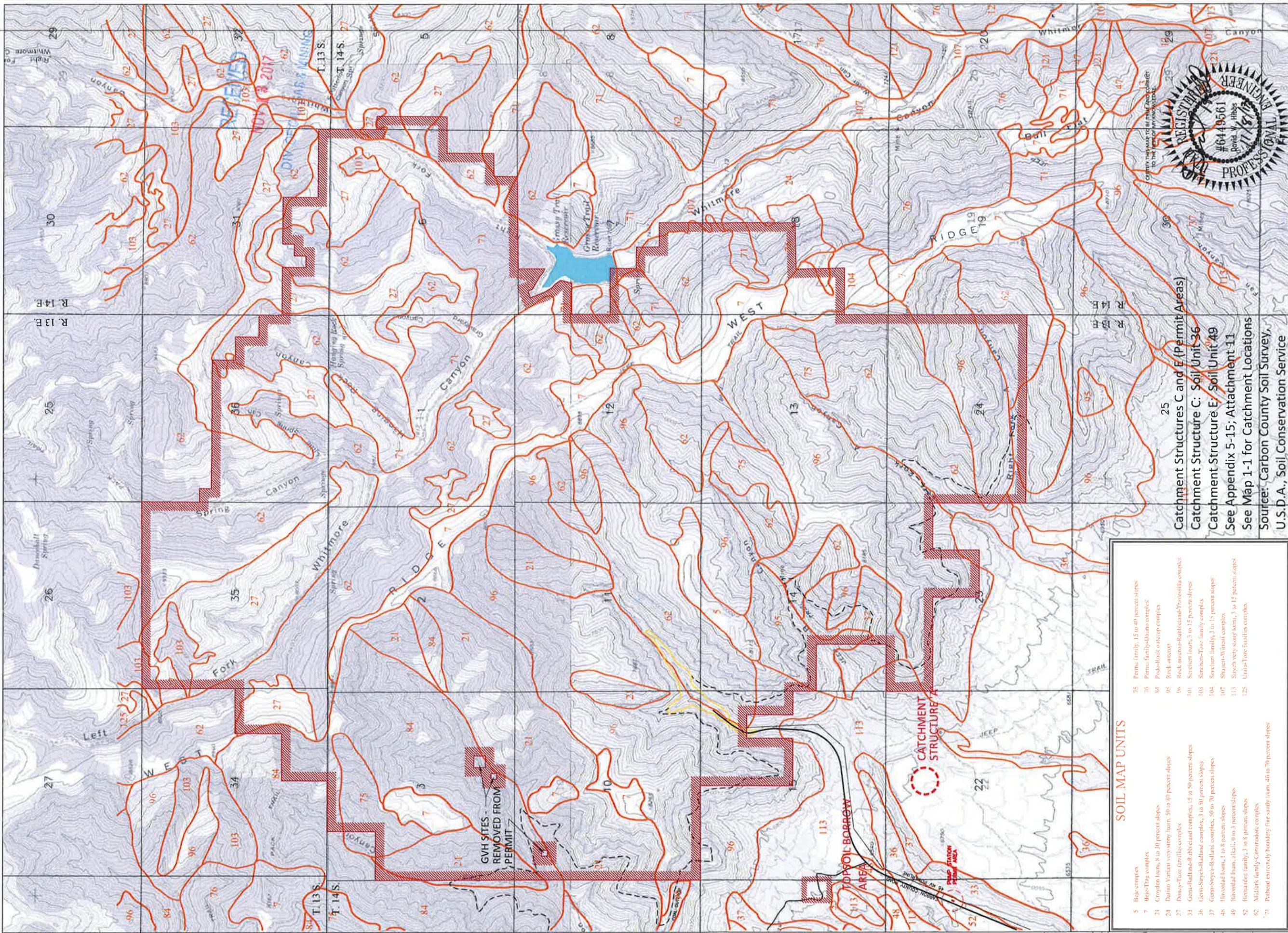
LEGEND:
 Lease Areas
 Surface Facility Area
 Outcrop



PERMIT AREA	
Mine Lease Area	8,069.27 Acres
Security Gate	0.79 Acres
Pumping Station	0.23 Acres
Substitute Topsoil Area	9.60 Acres
Catchment Structures A, C and E	0.69 Acres
SUBTOTAL	8,080.58 Acres
Less GVH Sites	-0.36 Acres
TOTAL	8,080.22 Acres

WEST RIDGE MINE
 Map 1-0, Permit Map
 Map 1-1, Location Map

DATE: 8-24-2017
 REV: 21
 ACAD REF: Maps 1-0 and 1-1 Rev. 21



SOIL MAP UNITS

5	Belle complex
7	Beje-Trig complex
21	Croydon loam, 8 to 30 percent slopes
24	Dalton Varian very stony loam, 50 to 80 percent slopes
27	Donsy-Foxe families complex
33	Grass-Bullard-Rubidland complex, 15 to 50 percent slopes
36	Grass-Strych-Bullard complex, 3 to 50 percent slopes
37	Grass-Strych-Bullard complex, 50 to 70 percent slopes
48	Haverdall loam, 4 to 8 percent slopes
49	Haverdall loam, alluvial, 0 to 5 percent slopes
52	Hemaudes family, 3 to 8 percent slopes
62	Midfork family-Commodore complex
71	Pebbled extremely boundary fine sandy loam, 40 to 70 percent slopes
75	Prima family, 15 to 40 percent slopes
76	Prima family-buino complex
84	Podsolok outcrop complex
95	Rock outcrop
96	Rock outcrop-Rubidland-Pravessilla complex
101	Scherbert loam, 3 to 15 percent slopes
103	Scherbert-Foxe family complex
104	Scherbert family, 3 to 15 percent slopes
107	Shajert-Valmont complex
113	Stony very stony loam, 3 to 15 percent slopes
125	Ullala-Foxe families complex

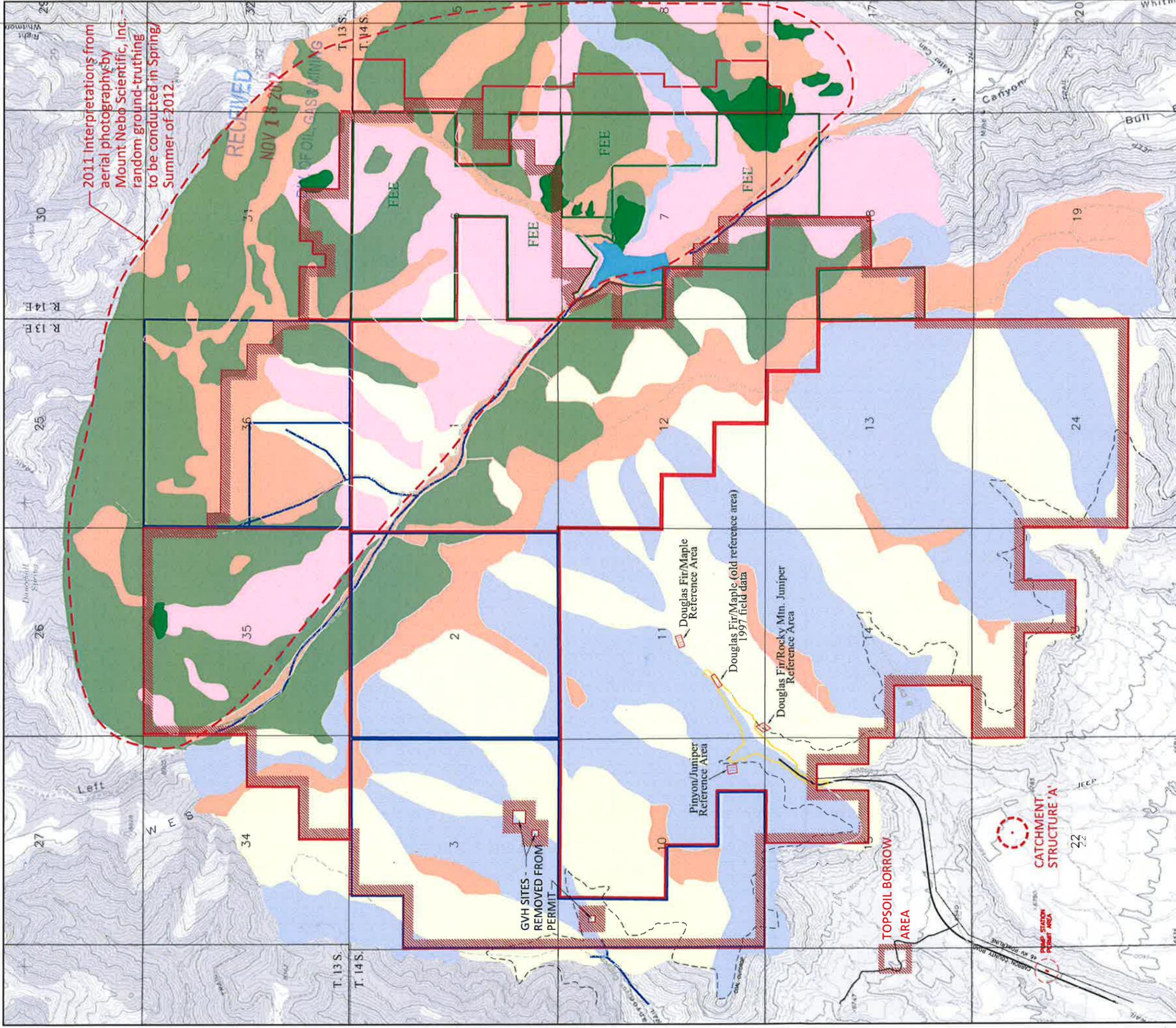
- LEGEND:**
- Permit Boundary
 - Federal Lease
 - State Lease
 - Penta Creek Fee
 - Surface Facility Area
 - Soil Mapping Boundary
 - Soil Map Number


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WEST RIDGE MINE
Map 2-1
Regional Soil Map



Catchment Structures C and E (Permit Areas)
 Catchment Structure C: Soil Unit 36
 Catchment Structure E: Soil Unit 49
 See Appendix 5-15; Attachment 11
 See Map 1-1 for Catchment Locations
 Source: Carbon County Soil Survey,
 U.S.D.A., Soil Conservation Service



2011 Interpretations from aerial photography by Mount Nebo Scientific, Inc. random ground-truthing to be conducted in Spring/Summer of 2012.

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VEGETATION COMMUNITIES

[Light Green Box]	Douglas Fir
[Light Blue Box]	Pinyon/Juniper
[Light Orange Box]	Sagebrush/Grass/Herbland
[Light Green Box]	Aspen
[Light Pink Box]	Mountain Brush/Sagebrush
[Dark Green Box]	Mixed Conifer
[Light Blue Box]	Open Water
[Blue Line]	Riparian

Note: Vegetation communities based on interpretations from aerial photography (8/20/97) with some ground-checking in 2003 by Mount Nebo Scientific, Inc.
Note: See Appendix 3-12 for description of Whitmore Canyon riparian areas.

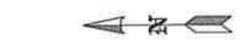
LEGEND:

[Red Hatched Box]	Permit Boundary
[Blue Line]	Federal Lease
[Green Line]	State Lease
[Orange Line]	Penta Creek Fee
[Yellow Line]	Surface Facility Area
[Black Line]	Outcrop

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[Red Hatched Box]	2017
[Blue Line]	2017
[Green Line]	2017
[Orange Line]	2017
[Yellow Line]	2017
[Dashed Line]	2017

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Catchment Structure C and E (Permit Areas)
Catchment Structure C: Pinyon/Juniper
Catchment Structure E: Sagebrush
See Appendix 5-15; Attachment 11

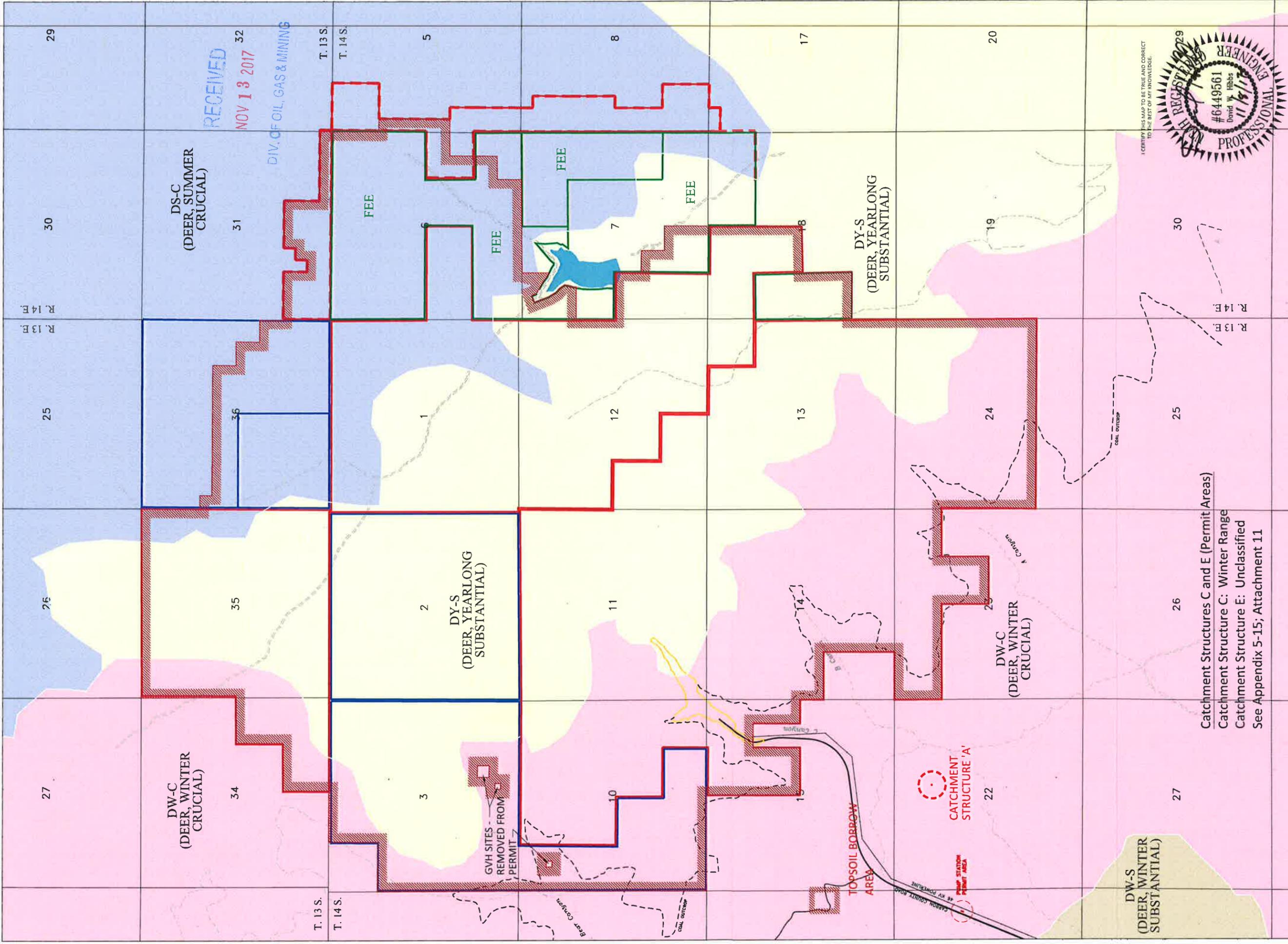


WEST RIDGE MINE

Map 3-1

General Vegetation Communities





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DY-S
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Source: Utah Division of Wildlife Resources

LEGEND:

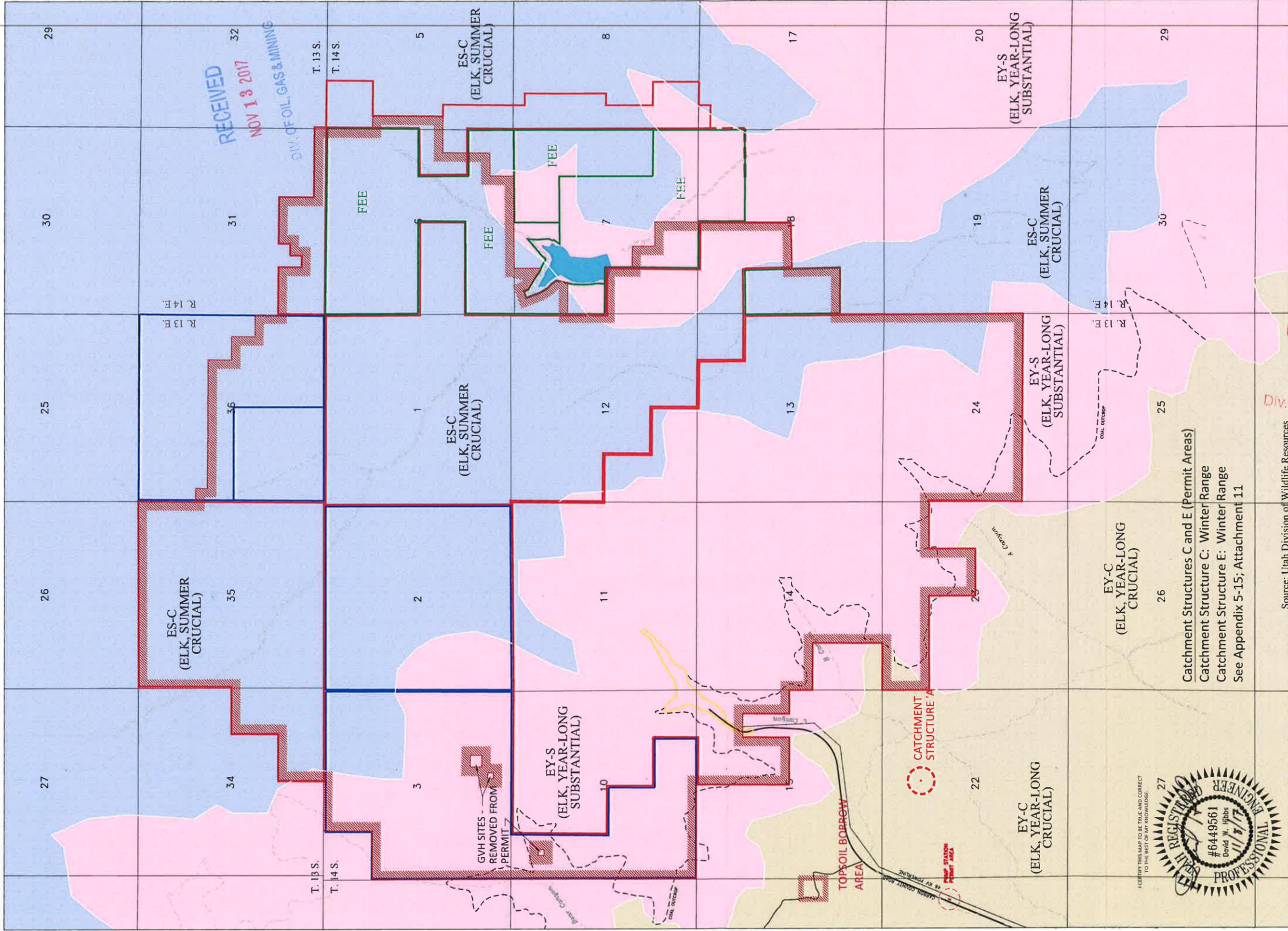
- Permit Boundary (Red hatched line)
- Federal Lease (Red line)
- State Lease (Blue line)
- Private Fee (Green line)
- Surface Facility Area (Yellow area)

DW-S (Deer, Winter Substantial)
DW-C (Deer, Winter Crucial)
DS-C (Deer, Summer Crucial)



WEST RIDGE MINE
Map 3-4B
Wildlife Map - Deer Range

Catchment Structures C and E (Permit Areas)
Catchment Structure C: Winter Range
Catchment Structure E: Unclassified
See Appendix 5-15; Attachment 11



WEST RIDGE MINE
Map 3-4C
Wildlife Map - Elk Range

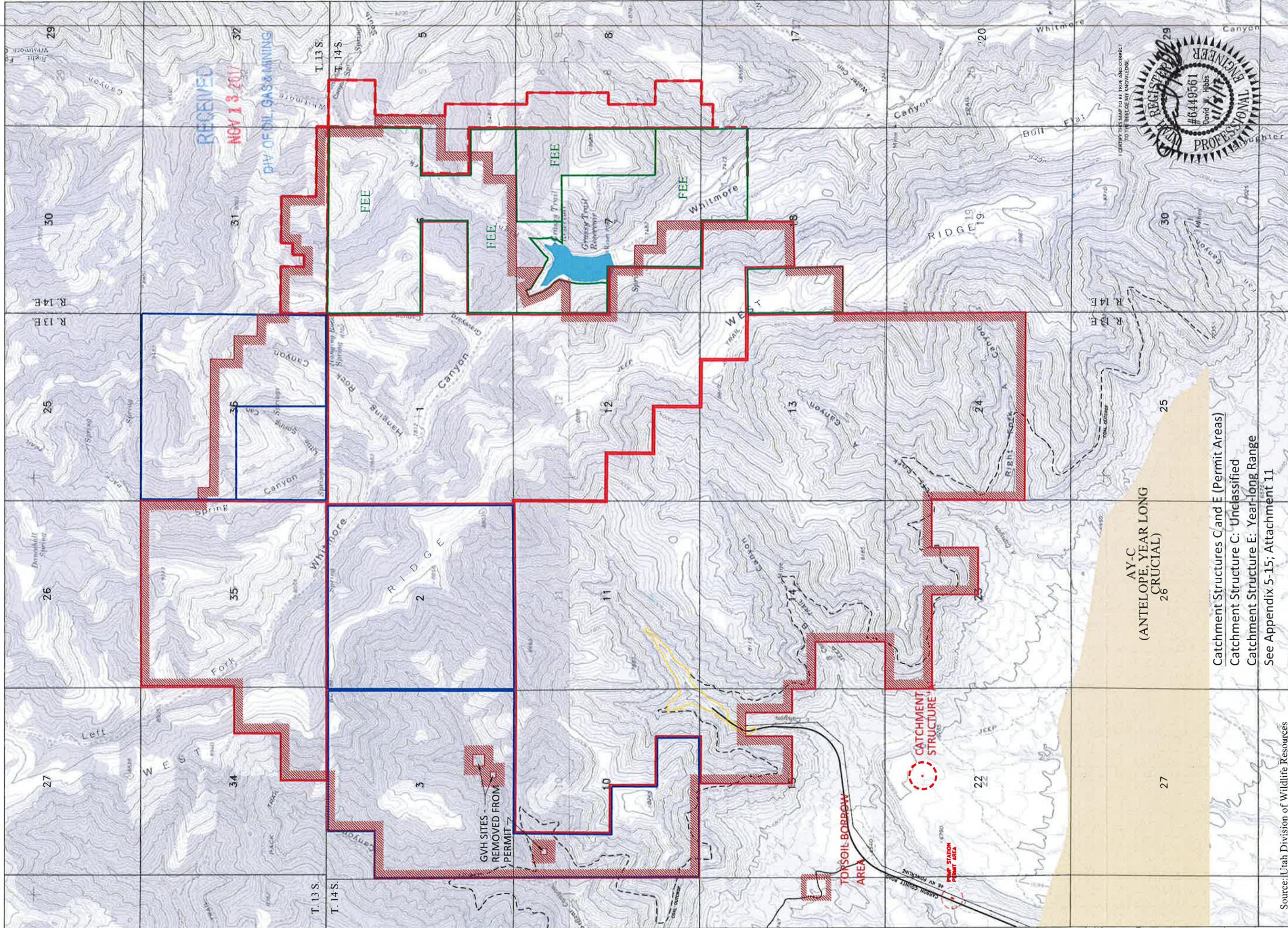
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Source: Utah Division of Wildlife Resources

	Permit Boundary
	Federal Lease
	State Lease
	Private Fee
	Surface Facility Area
	EY-C
	ES-C
	EY-S

Catchment Structures C and E (Permit Areas)
 Catchment Structure C: Winter Range
 Catchment Structure E: Winter Range
 See Appendix 5-15; Attachment 11





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Source: Utah Division of Wildlife Resources

Catchment Structures C and E (Permit Areas)
 Catchment Structure C: Unclassified
 Catchment Structure E: Year-long Range
 See Appendix 5-15; Attachment 11

- LEGEND:**
- Permit Boundary
 - Federal Lease
 - State Lease
 - Private Fee
 - Surface Facility Area
 - AY-H

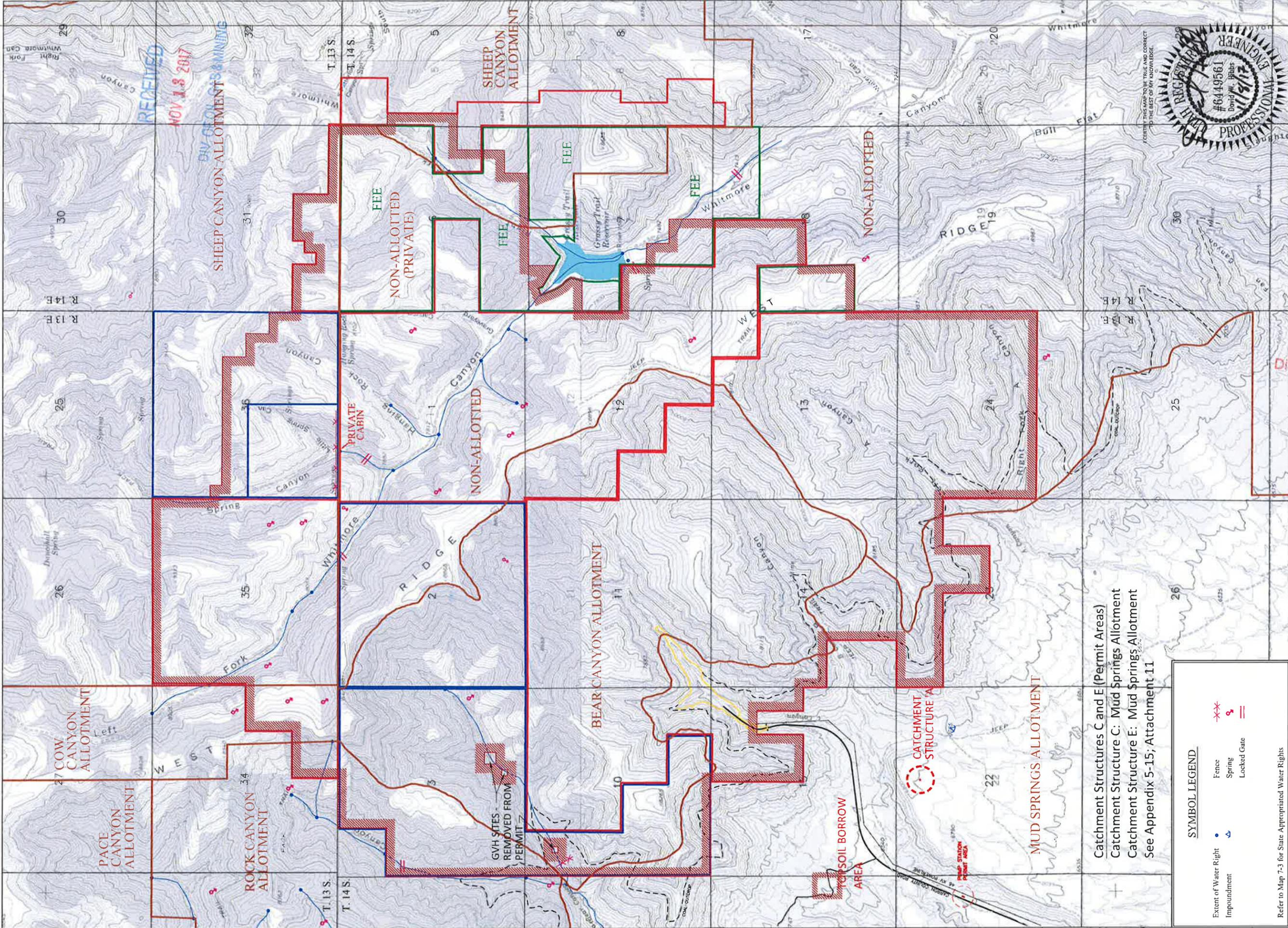
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WEST RIDGE MINE

Map 3-4D Wildlife Map - Antelope Range



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LEGEND:

- Permit Boundary
- Federal Lease
- State Lease
- Penta Creek Fee
- Surface Facility Area
- Grazing Allotment Boundary

SYMBOL LEGEND

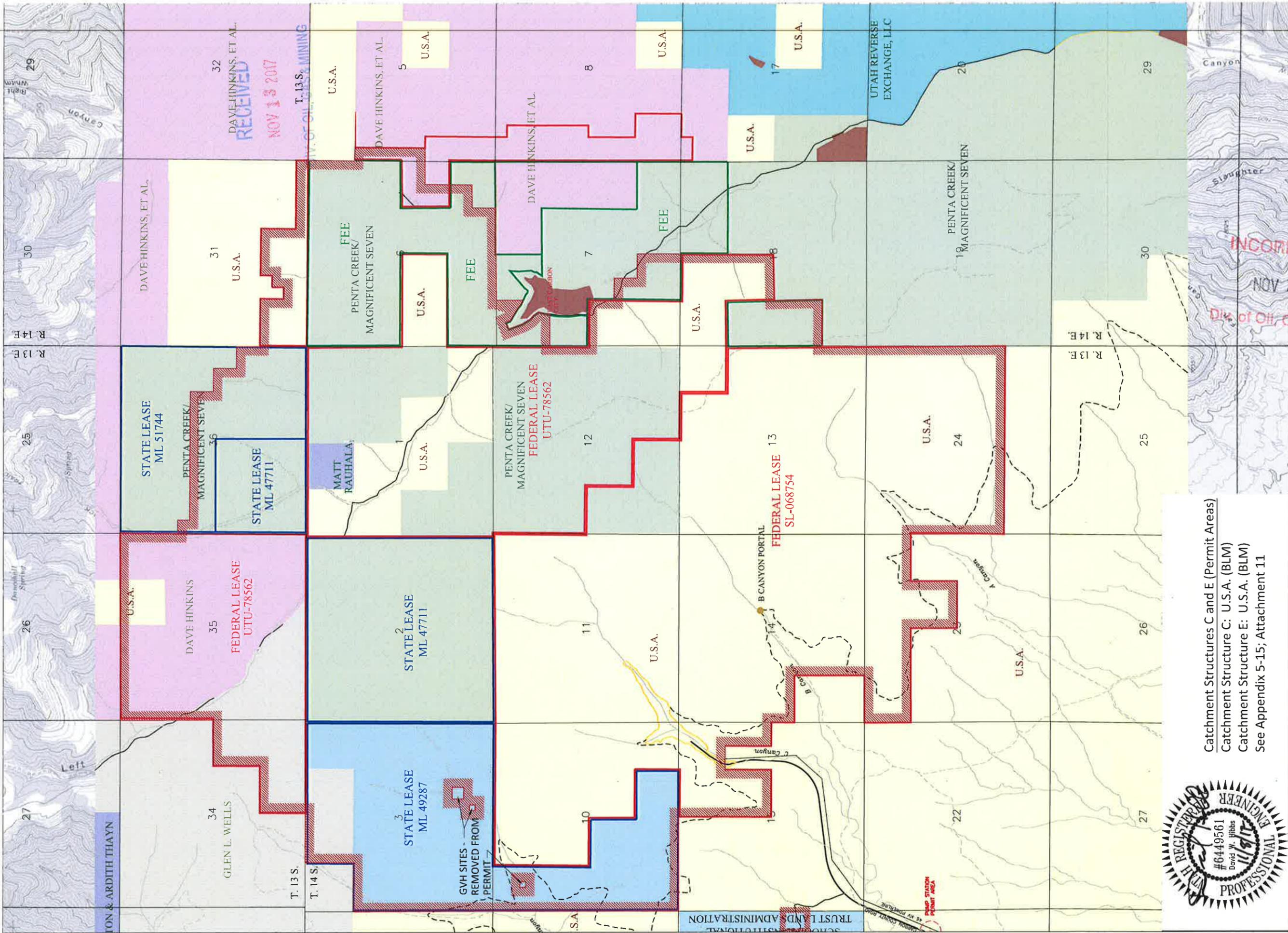
- Extent of Water Right
- Impoundment
- Fence
- Spring
- Locked Gate

WEST RIDGE MINE
Map 4-1
Existing Land Use

Refer to Map 7-3 for State Appropriated Water Rights

DATE: 8-24-2017 REV: 2R ACAD REF: MAIP4-1 LANDUSE REV2R

SCALE: 1"=2500'



Catchment Structures C and E (Permit Areas)
 Catchment Structure C: U.S.A. (BLM)
 Catchment Structure E: U.S.A. (BLM)
 See Appendix 5-15; Attachment 11

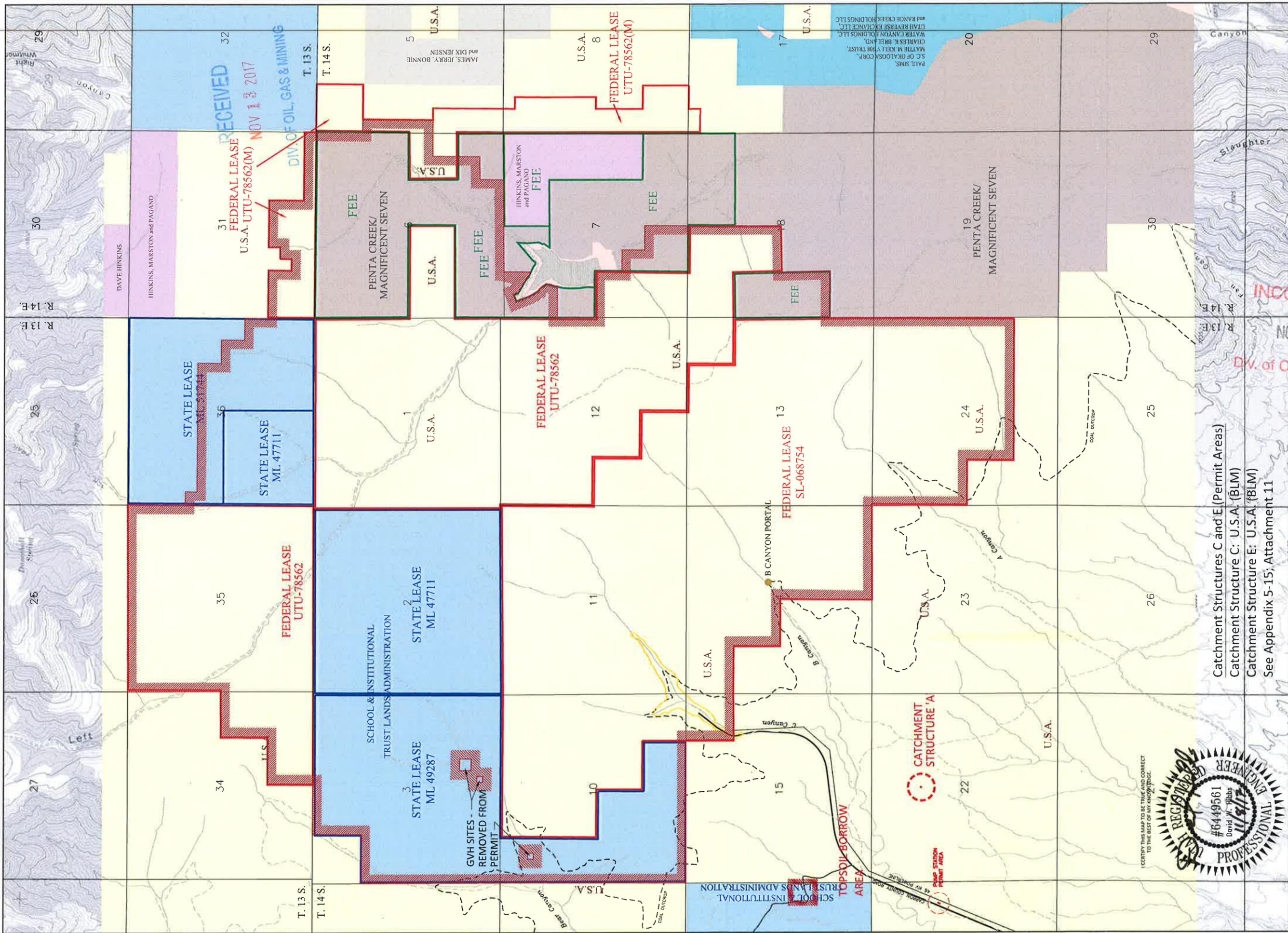


WEST RIDGE MINE
 Map 5-2
 Surface Ownership Map

- LEGEND:**
- Permit Boundary
 - Federal Lease
 - State Lease
 - Penta Creek Fee
 - Surface Facility Area
 - Outcrop
 - School Trust Land (SITLA)
 - Penta Creek/Magnificent Seven
 - U.S.A. (BLM)
 - Dave Hinkins, et al.
 - Glen L. Wells
 - Matt Rauhala
 - Milton & Ardith Thayne
 - East Carbon City
 - Utah Reverse Exchange



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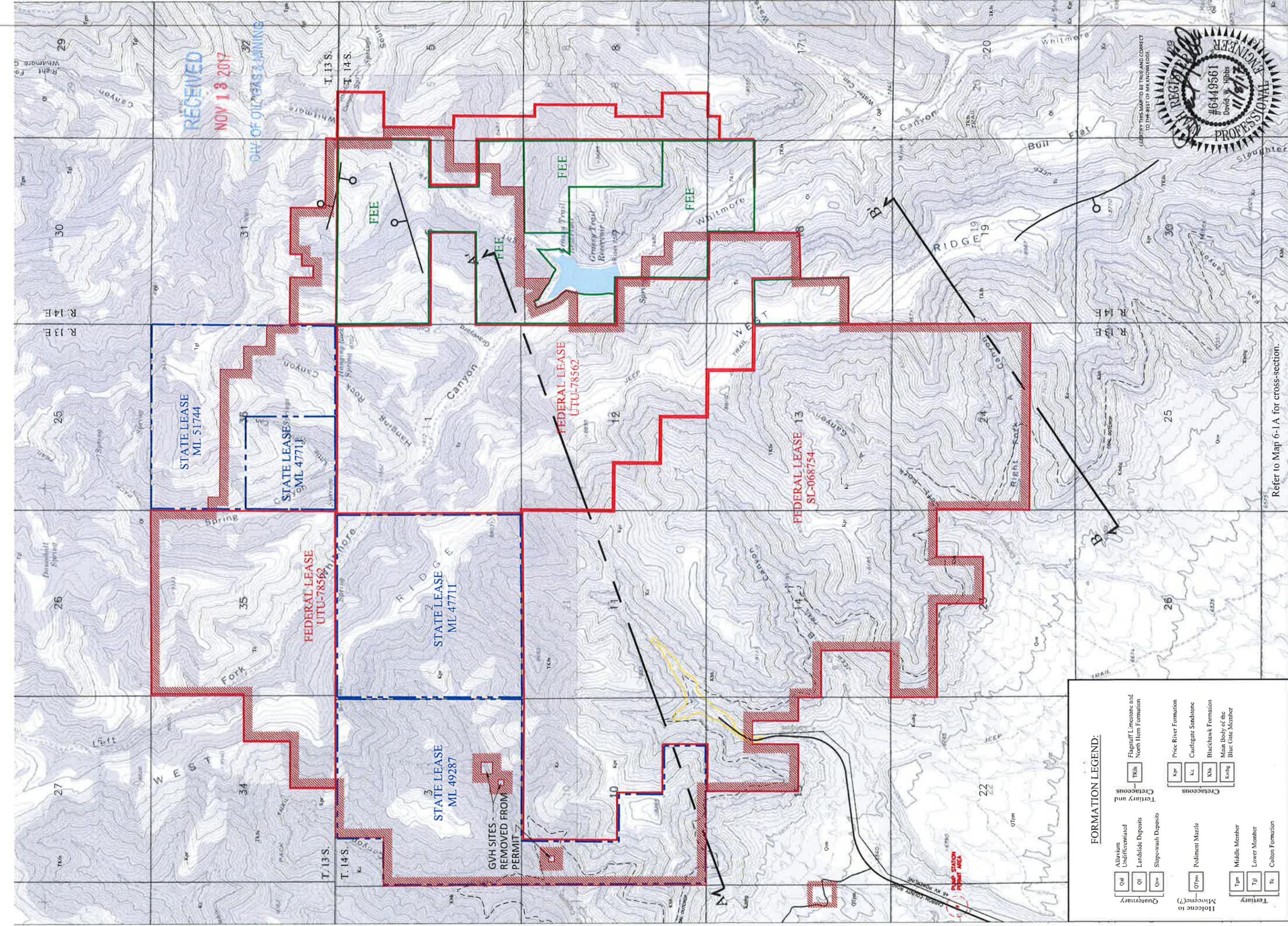


WEST RIDGE MINE
Map 5-3
Sub-surface Ownership Map

- LEGEND:**
- Permit Boundary
 - Federal Lease
 - State Lease
 - Penta Creek Fee
 - Surface Facility Area
 - Outcrop
 - School Trust Lands (SITEA)
 - Penta Creek/Magnificent Seven
 - U.S.A. (BLM)
 - Dave Hinkins, et al.
 - East Carbon City
 - James T. Jensen, et al.
 - Paul Sims, et al.

Catchment Structures C and E (Permit Areas)
 Catchment Structure C: U.S.A. (BLM)
 Catchment Structure E: U.S.A. (BLM)
 See Appendix 5-15; Attachment 11





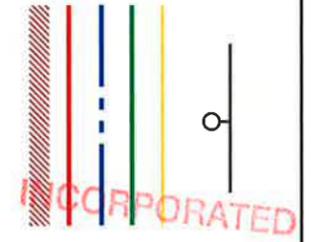
WEST RIDGE MINE

Map 6-1

Regional Geology Map

DATE: 8-24-2017 REV: 25 ACAD REF: MAP6-1 GEOLOGY REV25

LEGEND:
 Permit Boundary
 Federal Lease
 State Lease
 Penta Creek Fee
 Surface Facility Area
 Fault



Refer to Map 6-1A for cross-section.

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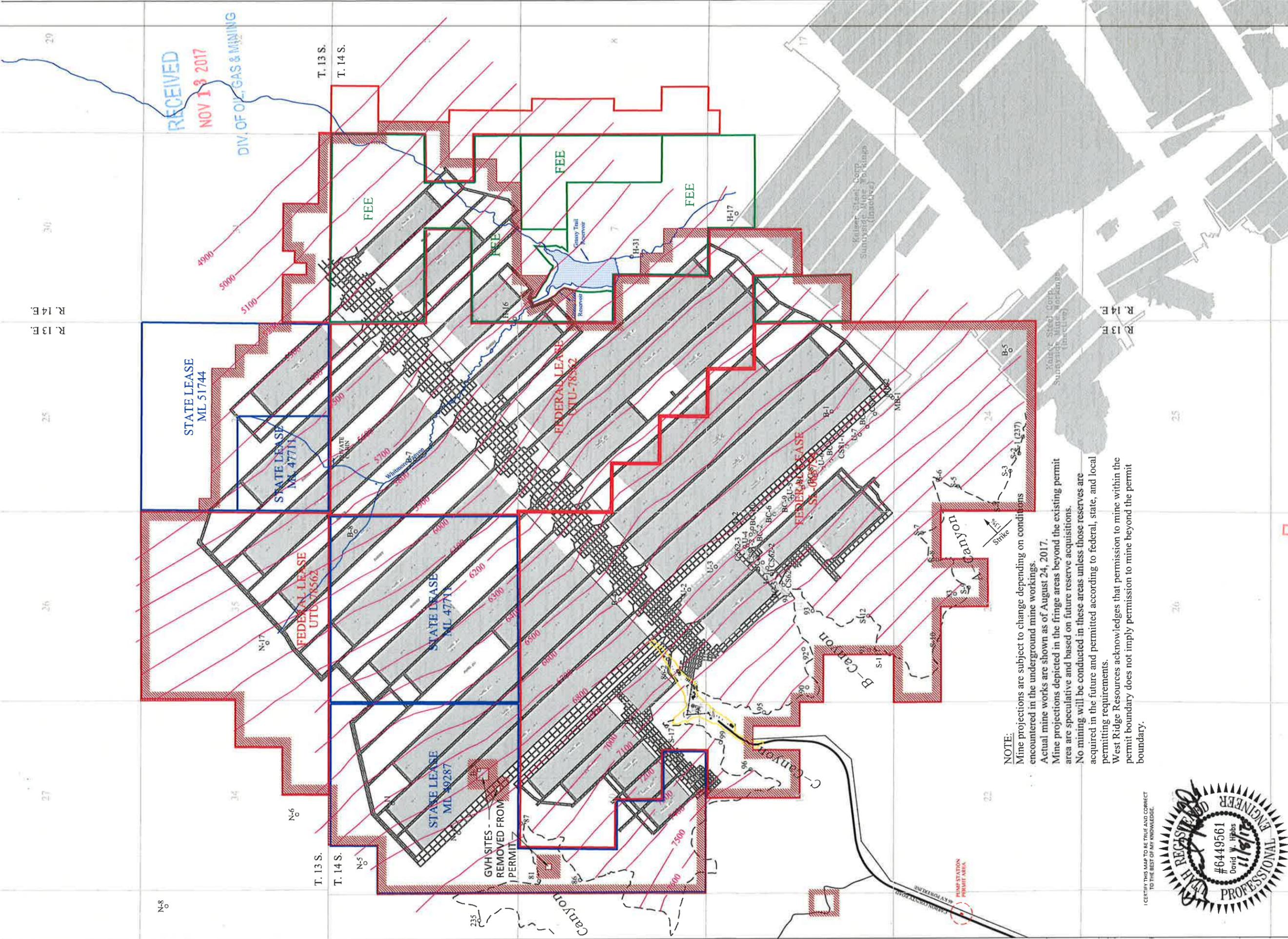


WEST RIDGE
RESOURCES, INC.



FORMATION LEGEND:

Quaternary	Qm	Alluvium	TKm	Flagstaff Limestone and North Horn Formation
Tertiary	O1	Undifferentiated	Kpr	Price River Formation
	O2	Landslide Deposits	Kc	Caslegate Sandstone
	O3	Slope-wash Deposits	Khh	Blackhawk Formation
	O4		Kunb	Main Body of the Blue Gate Member
	O5			
	O6			
	O7			
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	O99			
	O100			



NOTE:
 Mine projections are subject to change depending on conditions encountered in the underground mine workings.
 Actual mine works are shown as of August 24, 2017.
 Mine projections depicted in the fringe areas beyond the existing permit area are speculative and based on future reserve acquisitions.
 No mining will be conducted in these areas unless those reserves are acquired in the future and permitted according to federal, state, and local permitting requirements.
 West Ridge Resources acknowledges that permission to mine within the permit boundary does not imply permission to mine beyond the permit boundary.

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

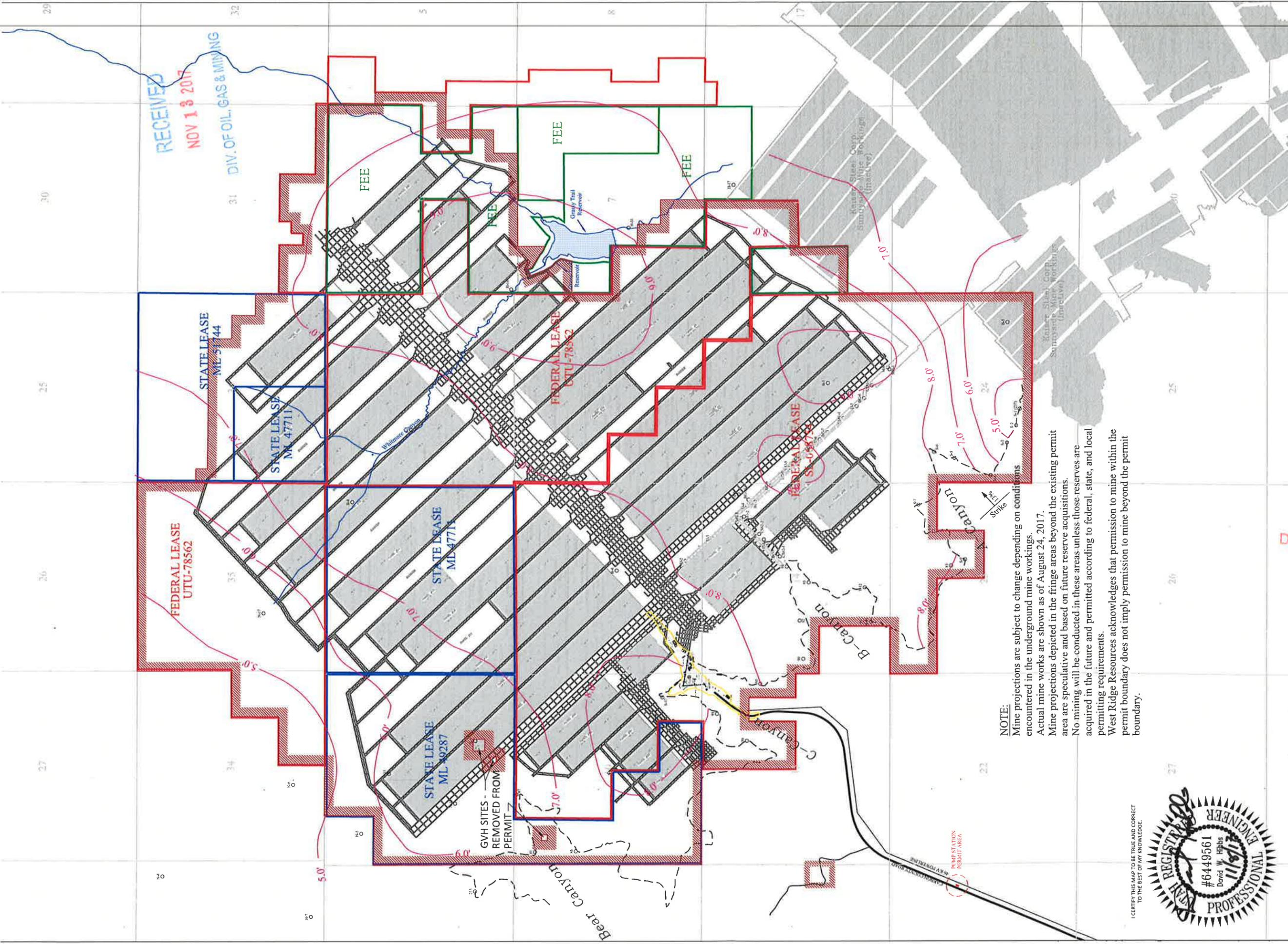


LEGEND:

- Permit Boundary
- Federal Lease
- State Lease
- Penta Creek Fee
- Surface Facility Area
- Outcrop
- Structure Contour
- (Base of Lower Sunnyside Seam)
- Drill Hole/Channel Samples



WEST RIDGE MINE
Map 6-2
Coal Seam Structure Map



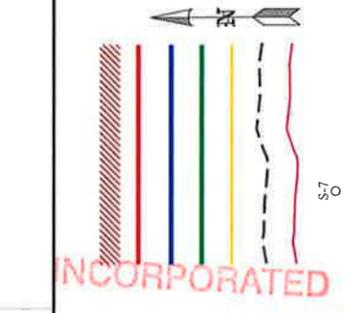
NOTE:
 Mine projections are subject to change depending on conditions encountered in the underground mine workings.
 Actual mine works are shown as of August 24, 2017.
 Mine projections depicted in the fringe areas beyond the existing permit area are speculative and based on future reserve acquisitions.
 No mining will be conducted in these areas unless those reserves are acquired in the future and permitted according to federal, state, and local permitting requirements.
 West Ridge Resources acknowledges that permission to mine within the permit boundary does not imply permission to mine beyond the permit boundary.

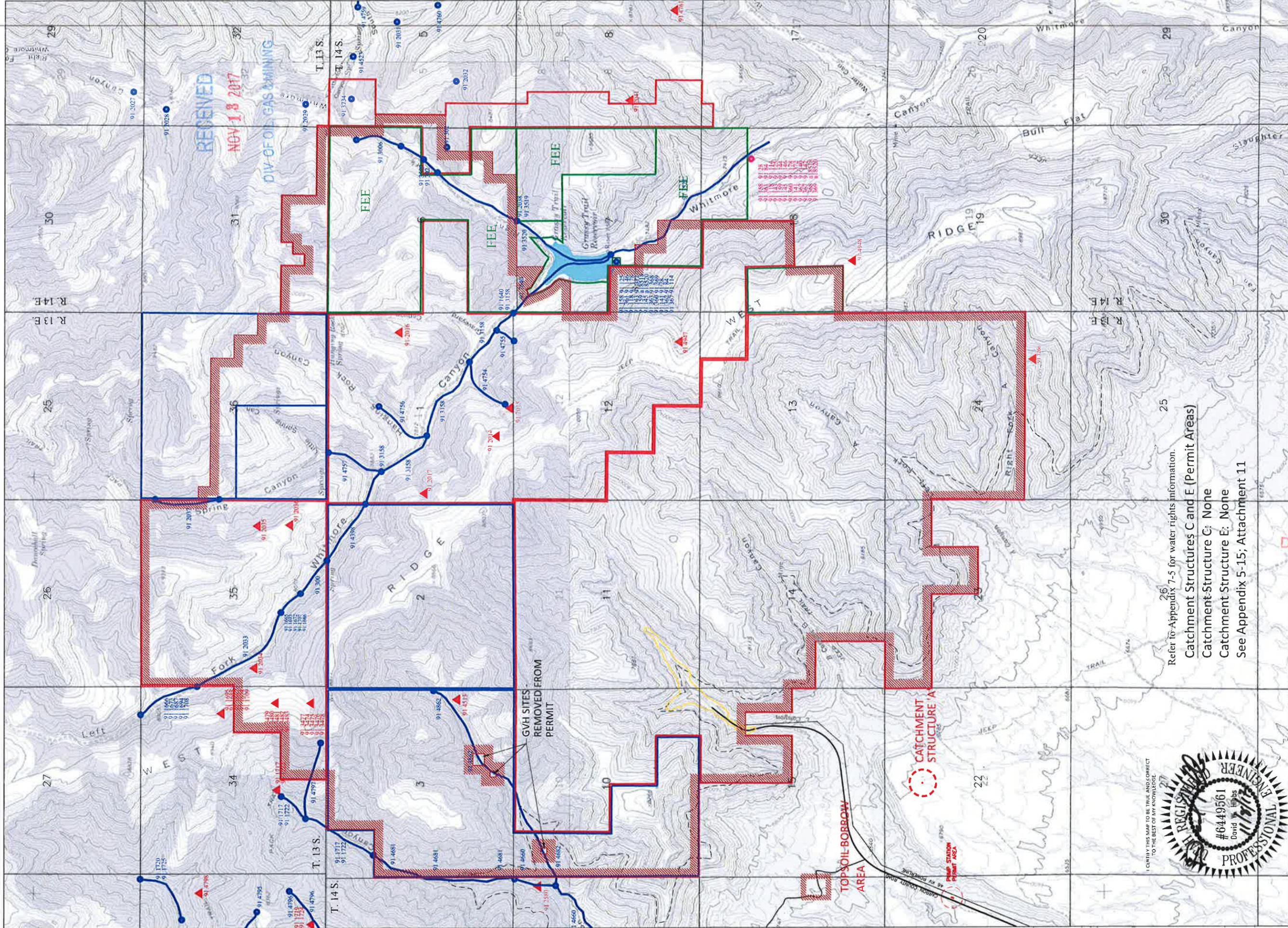
I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



WEST RIDGE MINE
 Map 6-3
 Lower Sunnyside Coal Seam
 Isopach Map

LEGEND:
 Permit Boundary
 Federal Lease
 State Lease
 Penta Creek Fee
 Surface Facility Area
 Outcrop
 Coal Isopachs
 Drill Hole/Channel Samples





WEST RIDGE MINE

Map 7-3

Water Rights

WEST RIDGE
RESOURCES, INC.

DATE: 8-24-2017 REV: 28 ACAD REF: MAP7-3 WATER RIGHTS REV28

SCALE: 1"=2500'

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Refer to Appendix 7-5 for water rights information.

Catchment Structure C: None
 Catchment Structure E: None
 See Appendix 5-15; Attachment 11

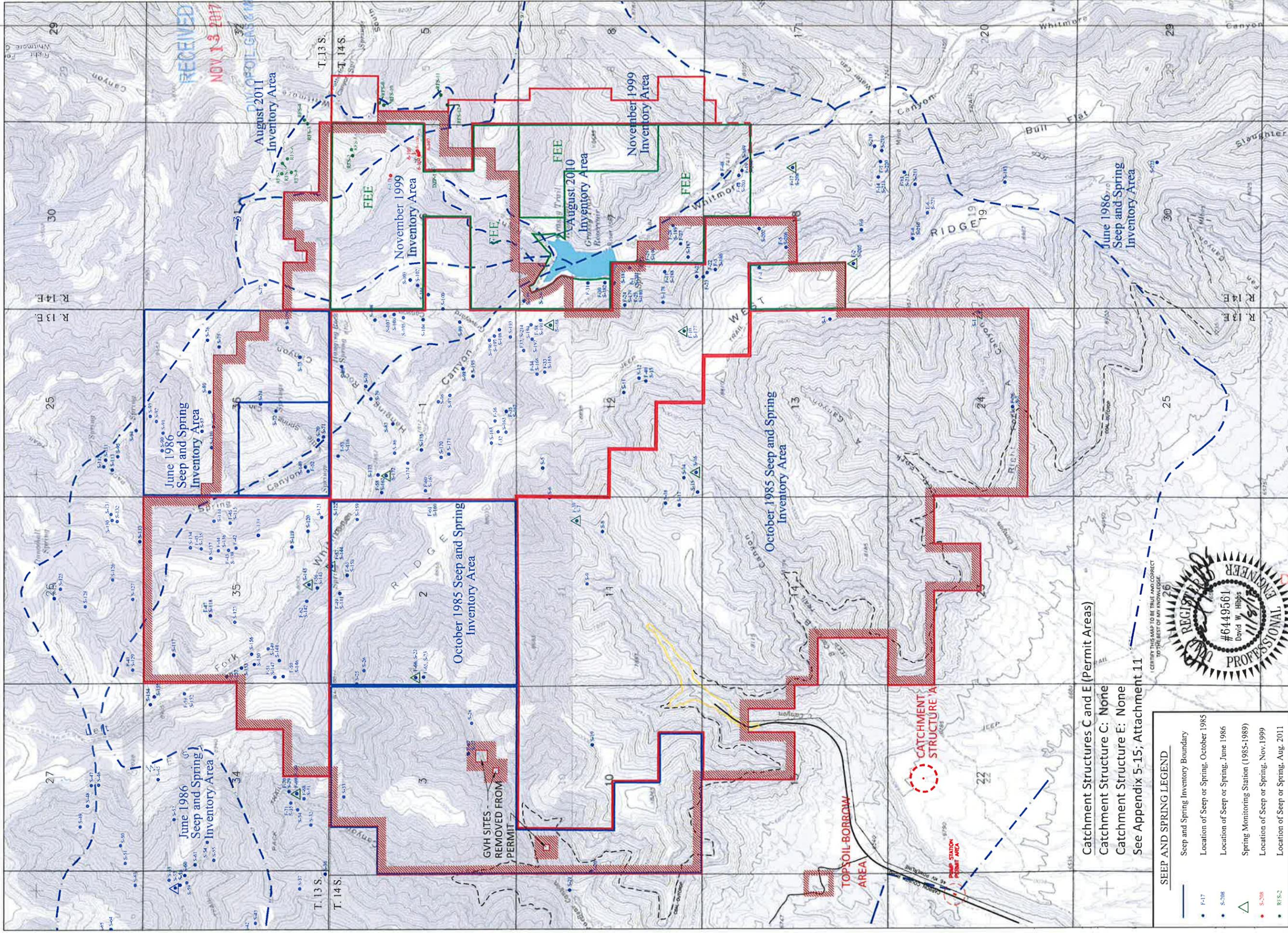
LEGEND:

- Permit Boundary
- Federal Lease
- State Lease
- Penta Creek Fee
- Surface Water Right
- Point to Point
- Spring
- Ground Water Right
- Municipal Water Right System Intake

PROFESSIONAL ENGINEER

#6449561
David W. Hibbs

REGISTERED



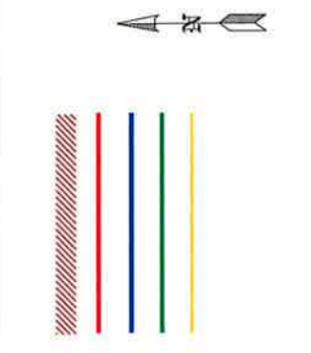
- SEEP AND SPRING LEGEND**
- Seep and Spring Inventory Boundary
 - F-17 Location of Seep or Spring, October 1985
 - S-208 Location of Seep or Spring, June 1986
 - Spring Monitoring Station (1985-1989)
 - S-208 Location of Seep or Spring, Nov. 1999
 - RES-2 Location of Seep or Spring, Aug. 2011

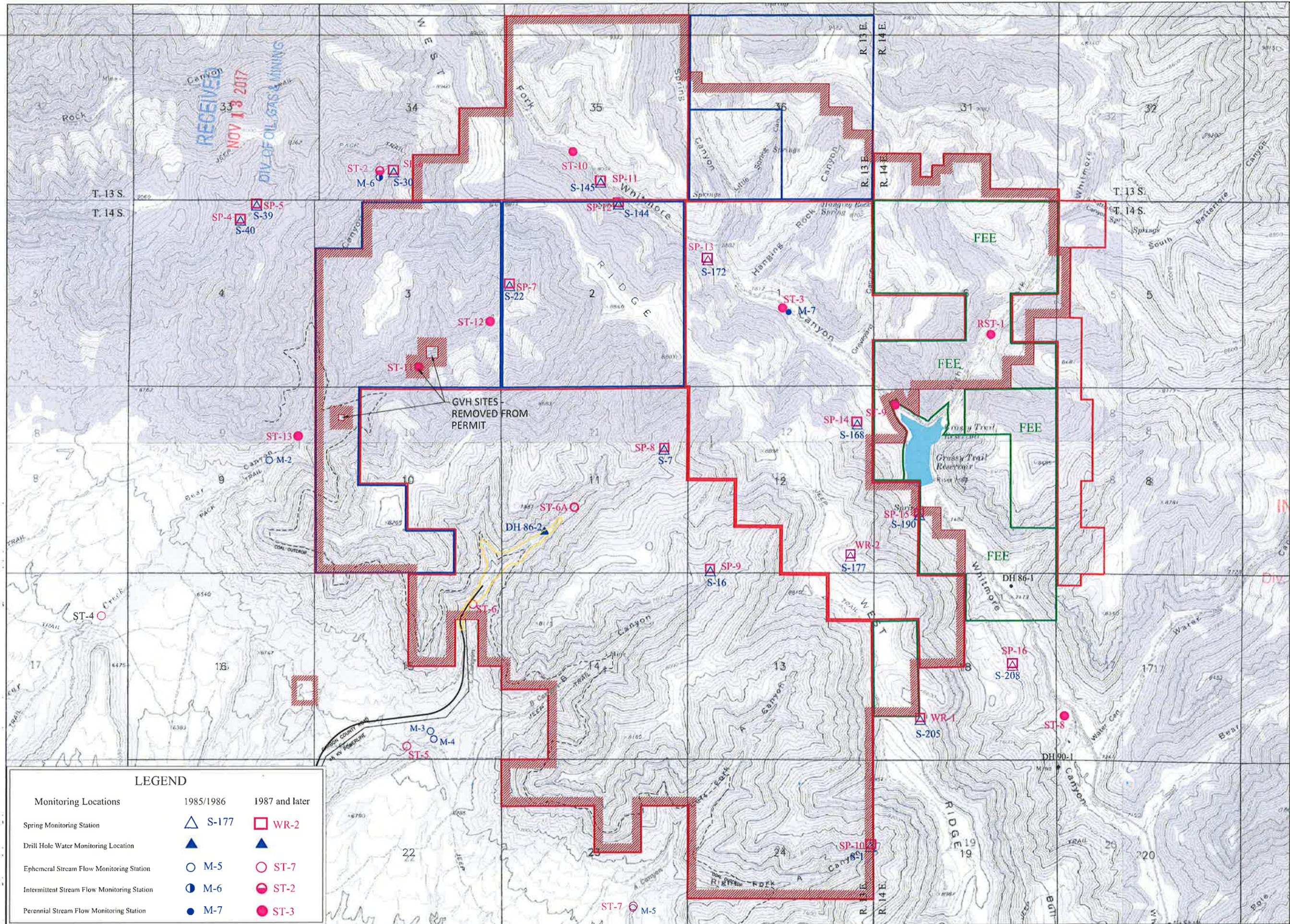
Catchment Structures C and E (Permit Areas)
 Catchment Structure C: None
 Catchment Structure E: None
 See Appendix 5-15; Attachment 11



WEST RIDGE MINE
Map 7-5
Seep/Spring Survey Map

LEGEND:
 Incorporated
 Permit Boundary
 Federal Lease
 State Lease
 Penta Creek Fee
 Surface Facility Area





LEGEND

Monitoring Locations	1985/1986	1987 and later
Spring Monitoring Station	△ S-177	□ WR-2
Drill Hole Water Monitoring Location	▲	▲
Ephemeral Stream Flow Monitoring Station	○ M-5	○ ST-7
Intermittent Stream Flow Monitoring Station	◐ M-6	◐ ST-2
Perennial Stream Flow Monitoring Station	● M-7	● ST-3

WEST RIDGE
RESOURCES, INC.



SCALE: 1"=2500'

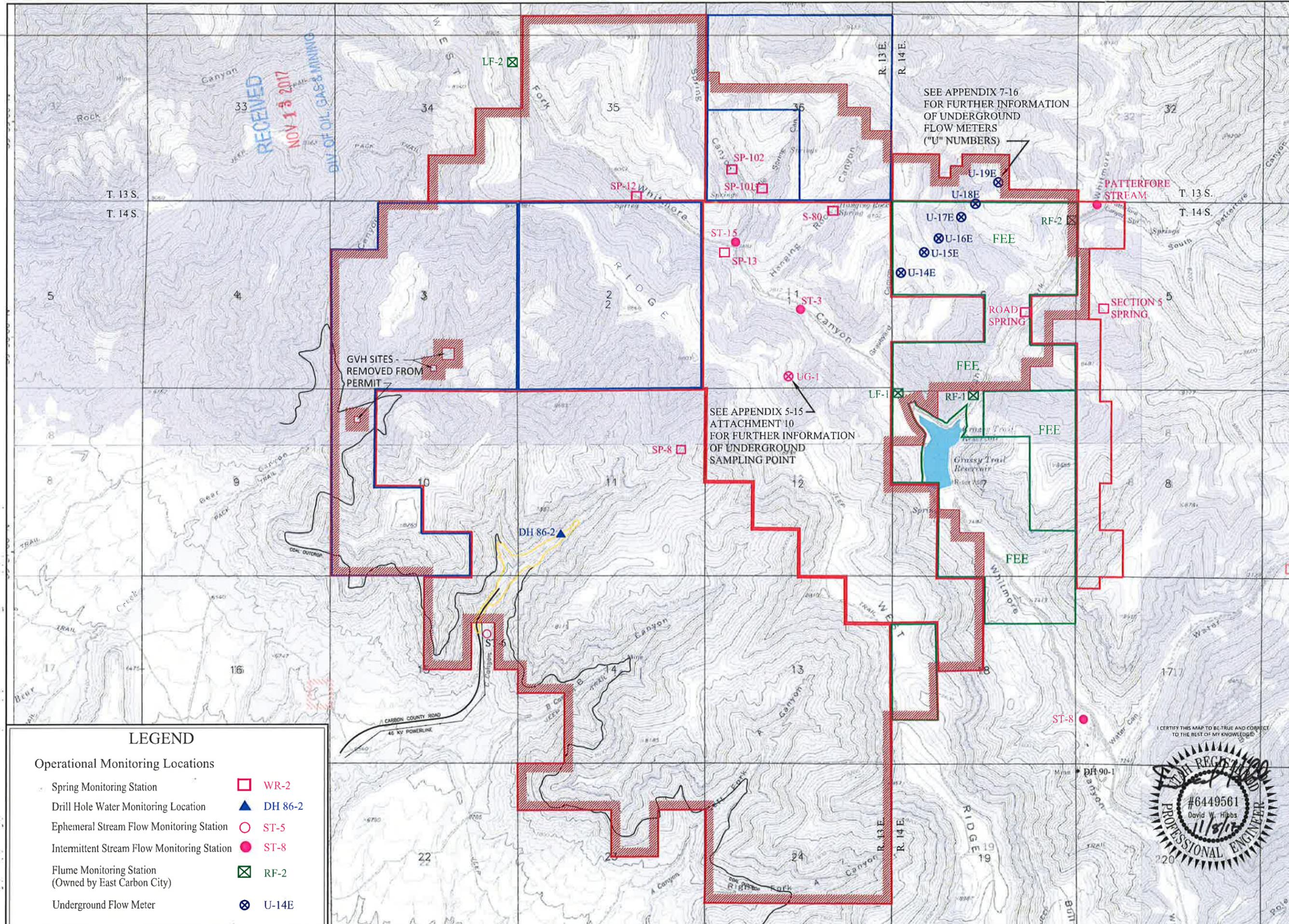


LEGEND:

- Permit Boundary
- Federal Lease
- State Lease
- Penta Creek Fee
- Surface Facility Area

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WEST RIDGE MINE
Map 7-6
Hydrologic Monitoring Map
(Historical Monitoring Locations)



LEGEND

Operational Monitoring Locations

Spring Monitoring Station	□	WR-2
Drill Hole Water Monitoring Location	▲	DH 86-2
Ephemeral Stream Flow Monitoring Station	○	ST-5
Intermittent Stream Flow Monitoring Station	●	ST-8
Flume Monitoring Station (Owned by East Carbon City)	⊠	RF-2
Underground Flow Meter	⊗	U-14E

WEST RIDGE
RESOURCES, INC.

SCALE: 1" = 2500'

LEGEND:

- Permit Boundary
- Federal Lease
- State Lease
- Penta Creek Fee
- Surface Facility Area

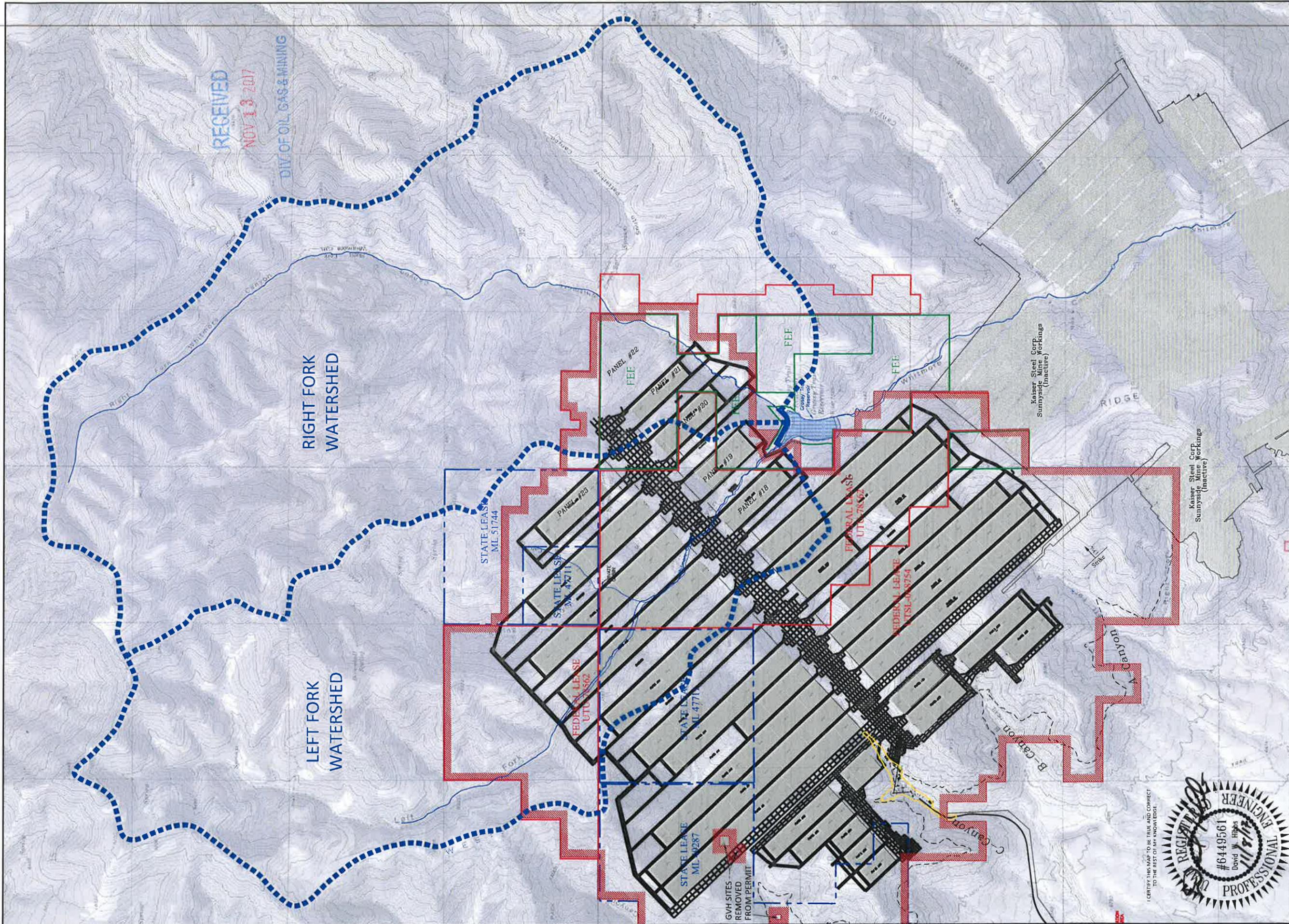
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WEST RIDGE MINE
Map 7-7
Operational Monitoring Locations

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

DATE: 8-24-2017 REV: 33 ACAD REF: MAP7-7 MONITOR-OP REV33



WEST RIDGE
RESOURCES, INC.

SCALE: 1"=3000'

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LEGEND:

- Permit Boundary
- Federal Lease
- State Lease
- Private Fee
- Surface Facility Area
- Outcrop
- Watershed Boundary

WEST RIDGE MINE
Map 7-8
Whitmore Canyon
Watershed Map

DATE: 8-31-2017 REV: 6 ACAD REF: MAP7-8 WATERSHED MAP REV 6

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