



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

#4972

Skyline Mine

Paul Jensen
Geologist
HC35, Box 380
Helper, Utah 84526
(435) 448-2693

August 26, 2015

Daron Haddock
Permit Supervisor
Utah Coal Regulatory Program
Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801

Re: Intent to Conduct Minor Coal Exploration, Canyon Fuel Fee Coal Upper Huntington Canyon, 2015

Dear Daron:

Attached are five copies of an Intent to Conduct Minor Coal Exploration for six exploration boreholes (designated 1-15, 2-15, 3-15, 4-15, 6-15, 7-15) in Upper Huntington Canyon, north and east of Electric Lake. Also included are the DOGM application forms C-1 and C-2. The type of exploration proposed is both conventional truck mounted and heli-portable wireline core drilling.

If possible we would like to initiate drilling as early as September 14, 2015. Sections of the application dealing with wildlife, raptors and cultural history sites are enclosed in separate folders for inclusion in Skyline's confidential files as needed. Also included in the document is the Temporary Water Change approval for use of Skyline Mine water for drilling, the surface landowner agreements, and the fee coal lease documents. I appreciate your consideration of this application.

If you have any questions, please contact me at (435-448-2693).

Sincerely,

Paul Jensen
Geologist
Canyon Fuel Company, Skyline Mine

RECEIVED

SEP 01 2015

DIV. OF OIL, GAS & MINING

Encl.
PHJ:phj

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change [] New Permit [] Renewal [] Exploration [x] Bond Release [] Transfer []

Committee: Canyon Fuel Company, LLC

Mine: SKYLINE

Permit Number: C/007/005

Title: NOTICE OF INTENT TO CONDUCT MINOR COAL EXPLORATION -- CUNNINGHAM, SITLA, LDS CHURCH, PACIFICORP FEE COAL, UPPER HUNTINGTON CANYON, 2015

Description, Include reason for application and timing required to implement:

TWO HELICOPTER-SUPPORTED and FOUR CONVENTIONAL-DRILL COAL EXPLORATION BOREHOLES TO BE DRILLED IN FALL, 2015

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

- 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ [] increase [] decrease.
2. Is the application submitted as a result of a Division Order? DO# _____
3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
4. Does the application include operations in hydrologic basins other than as currently approved?
5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
6. Does the application require or include public notice publication?
7. Does the application require or include ownership, control, right-of-entry, or compliance information?
8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
9. Is the application submitted as a result of a Violation? NOV # _____
10. Is the application submitted as a result of other laws or regulations or policies?

Explain: _____

- 11. Does the application affect the surface landowner or change the post mining land use?
12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
13. Does the application require or include collection and reporting of any baseline information?
14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
15. Does the application require or include soil removal, storage or placement?
16. Does the application require or include vegetation monitoring, removal or revegetation activities?
17. Does the application require or include construction, modification, or removal of surface facilities?
18. Does the application require or include water monitoring, sediment or drainage control measures?
19. Does the application require or include certified designs, maps or calculation?
20. Does the application require or include subsidence control or monitoring?
21. Have reclamation costs for bonding been provided?
22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

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

Corey Heaps
Print Name

Corey Heaps, GM, 8-28-15
Sign Name, Position, Date

Subscribed and sworn to before me this 28 day of August, 2015

Melissa S Willden
Notary Public

My commission Expires: March 19, 2019
Attest: State of Utah } } ss:
County of Carbon



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SEP 01 2015

DIV. OF OIL, GAS & MINING

**NOTICE OF INTENT TO CONDUCT
MINOR COAL EXPLORATION**

**CANYON FUEL FEE COAL LEASE
UPPER HUNTINGTON CANYON
2015**

Canyon Fuel Company
A Subsidiary of Bowie Resource Partners, LLC.

AUGUST 2015



Canyon Fuel Company LLC
Skyline Mines

INTRODUCTION

Canyon Fuel Company – Skyline Mine (a subsidiary of Bowie Resource Partners) is submitting this Notice of Intent to Conduct Minor Coal Exploration to the Utah Division of Oil, Gas, and Mining (UDOGM) in order to obtain approval to conduct coal exploration and reclamation activities in the Fall of 2015. The type of exploration proposed is both wireline and conventional core drilling. A total of 6 holes will be drilled on fee land with 3 of locations on land belonging to the Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter Day Saints, one location on land belonging to Cunningham et ux, one location on land belonging to Collard Family Trust, and one location on land belonging to Pacificorp. The surface owners also own the mineral rights where the exploration hole will be drilled except for the location on Collard property, those minerals are owned by SITLA. This exploration work is being conducted in conjunction with a Federal on-lease exploration plan approved by the Bureau of Land Management. This application is formatted to address the specific requirements of R645-201-200. Other related information is given in Appendix A through E. Five copies of this notice are submitted.

R645-201 Coal Exploration: Requirements for Exploration Approval

The proposed exploration plan qualifies as minor exploration as described in the State of Utah Coal Mining Rules R645 section R645-201-200.

R645-201-221

The name, address and telephone number of the applicant are:

Canyon Fuel Company
C/o Skyline Mine
HC 35 Box 380
Helper, Utah 84526
435-448-2693

The applicant is the same as the operator of the proposed exploration plan. Correspondence regarding this exploration plan should be addressed to:

Paul Jensen
Canyon Fuel Company
C/O Skyline Mine
HC 35 Box 380
Helper, Utah 84526
435-448-2693

R645-201-222

The name, address and telephone number of the representative of the applicant who will be present during and be responsible for conducting the exploration is:

Paul Jensen
Canyon Fuel Company
C/O Skyline Mine
HC 35 Box 380
Helper, Utah 84526
435-448-2693

At times a consulting geologist may act as representative of the applicant. The UDOGM and USFS will be notified of the consulting geologist's name and address if one is used.
R645-201-223

The exploration area is generally located in central Utah 2 miles north of Electric Lake (Map 1). The legal descriptions of the LDS Church mineral ownership is as follows:

LDS Church Fee

Section 21, Township 13 South, Range 6 East, S.L.P.M.

The Northwest quarter; and the North half of the Southwest quarter of Section 21, Township 13 South, Range 6 East, Salt Lake Base Meridian.

Acreage from county tax records: 240.00 acres

Tax Serial No: 21148

Section 21, Township 13 South, Range 6 East, S.L.P.M.

The South half of the Southwest quarter of Section 21, Township 13 South, Range 6 East, Salt Lake Base Meridian.

Acreage from county tax records: 80.00 acres

Tax Serial No: 21149

Collard Family Trust Fee

Section 29, Township 13 South, Range 6 East, S.L.P.M.

The Southeast quarter of the Northwest quarter; and the South half of Section 29, Township 13 South, Range 6 East, Salt Lake Base Meridian.

Acreage from county tax records: 360.00 acres

Tax Serial No:

Cunningham/Tracy Fee

Section 10, Township 14 South, Range 6 East, S.L.P.M.

The North half of the Northwest quarter; and the Southwest quarter of the Northwest quarter of Section 10, Township 14 South, Range 6 East, Salt Lake Base Meridian.

Acreage from county tax records: 122.05 acres

Tax Serial No: 2-4-4

PacifiCorp (Utah Power and Light Company) Fee

Section 3, Township 14 South, Range 6 East, S.L.P.M.

Lots 1 and 2; The South half of the Southeast quarter; and the East half of the East quarter; and the East half of the West half of the Southeast quarter; and the Northwest quarter of the Northwest quarter of the Southeast quarter of Section 3, Township 14 South, Range 6 East, Salt Lake Base Meridian.

Acreage from county tax records: 288.06 acres

Tax Serial No: U2-3-2

The private mineral ownership is located in Sanpete and Emery Counties, Utah. The document allowing minor coal exploration within the boundaries of the private mineral ownership is included in Appendix D. Map 2 shows the location of the proposed boreholes. The proposed drill sites are located on private surface land belonging to the LDS Church, Collard Family Trust, Cunningham et ux, and PacifiCorp. The surface access and use agreements are included in Appendix C.

The proposed exploration area is located in Upper Huntington Canyon (Map 2). The area lies within the Wasatch Plateau physiographic province. Upper Huntington Canyon drains southward into Electric Lake, 6 miles southwest of the town of Scofield. Topography in the area is mountainous with narrow east-west trending ridges and deep canyons. Elevation ranges from approximately 8000 ft. to 9200 ft.

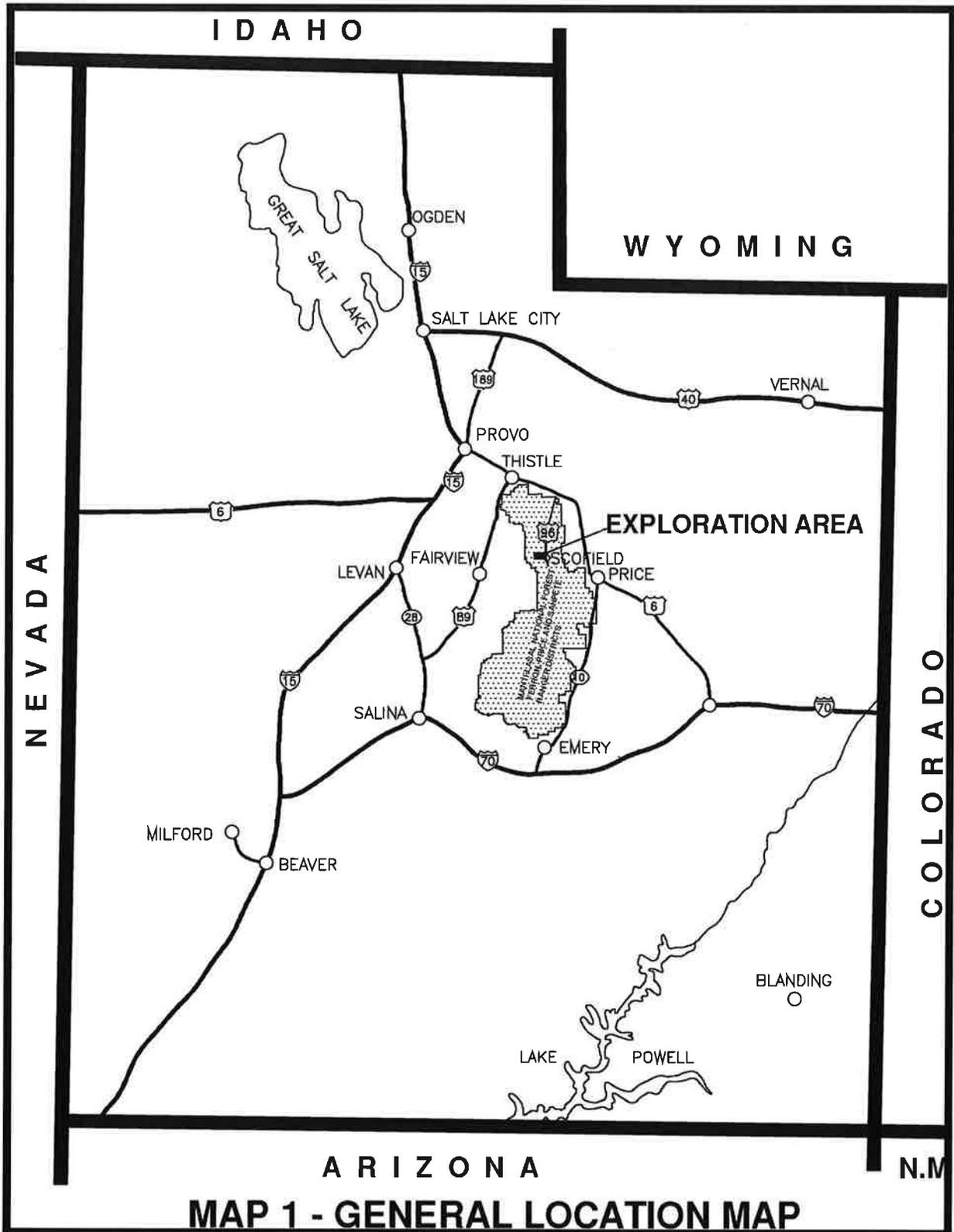
The exploration area is underlain by sedimentary rocks of late Cretaceous age. Two formations crop out in the area including the coal-bearing Blackhawk Formation and the overlying Price River Formation. At least three potentially mineable coal seams occur in the area including the Lower O'Connor A and B seams and the Flat Canyon seam.

Strata in the area dip uniformly from 2 to 8 degrees west-northwest. Several faults have been identified in the area. A number of igneous dike zones also exist in the exploration area.

Rock types are predominantly sandstones, siltstones, shale and coal.

Vegetation in the exploration area occurs in the Mountain Brush and White Fur/Spruce

plant communities. Upper Huntington Creek supports game fish. The exploration area is important habitat for raptors, elk, mule deer, cougar, bobcat, black bear, and small mammals.



R645-201-225

Threatened, endangered, or special interest species in the exploration area include the goshawk, sage grouse, bald eagle and peregrine falcon. Exploration and reclamation activities will not occur within one half mile of known breeding and nesting areas during breeding or nesting periods. Appendix A (confidential file) contains the 2005 BEBA and Wildlife Resources reports for the area. Additional biological surveys were completed in the area in 2006 and 2008, and copies are included in Appendix A. A recent site specific biological survey was conducted by Mace Crane of Alpine Ecological in the area of the proposed drill holes; this is also included in Appendix A. No Mexican Spotted owls are known to occur in the area.

EPG, LLC has completed a cultural resource evaluation on and near the proposed drill sites which is attached in Appendix B (Confidential File). Tetra Tech has completed site specific biological surveys of the sites (Appendix A Confidential File).

R645-201-224

Timetables for exploration related activities by drill type is given below. Table 1 is an approximate timetable for conventional drill holes located on LDS Church and Collard Family Trust properties. Table 2 is an approximate timetable for heli-portable drill locations on Cunningham and PacifiCorp properties. It is anticipated that exploration activities will start on approx. August 24, 2015. This schedule is estimated only and may have to be altered depending on such factors as contractor availability, drilling conditions, weather, water availability, etc.

TABLE 1:

EVENT	WK 1	WK 2	WK 3-6	WK 7	WK8
Prepare access roads and drillpad as needed					
Set pumps, water tanks and run water lines to sites as needed					
Move drill equipment to site and drilling					
Remove equipment					
Reclaim drillpads and temporary roads					

TABLE 2:

EVENT	WEEK1	WEEK 2
Set pump, water tank and run water line to site		
Move drill equipment to site and drilling		
Reclaim any disturbance, remove water tank, water line		

R645-201-225

The general method to be followed during drillhole exploration, reclamation, and abandonment varies somewhat depending on which drilling method is utilized. When conventional truck-mounted drilling is being utilized (hole 1-15, 2-15, 3-15, and 4-15), the procedure is: 1) prepare temporary access roads, 2) prepare drill sites as shown on Fig. 1, 3) set temporary water tanks, pumps, and water lines as needed, 4) drill and log holes, 5) install water monitor well (in 4-15), and 6) reclaim drill sites and temporary roads, remove all waterlines, tanks, and pumps. No blasting will be done for road building or repair.

When helicopter-assisted wireline core drilling is used (hole 6-15 and 7-15), the procedure is: 1) fly drilling equipment to drill sites, 2) prepare drill sites as shown on Fig. 2, 3) set temporary water tanks, pumps, and water lines, 4) drill and log holes, and 5) reclaim drill sites as needed and remove all waterlines, tanks, and pumps. No road building will occur and no blasting will be done for road building or repair. Access to the drillsite will be accomplished on foot, horseback, or via helicopter.

Conventional drilling will be accomplished utilizing rotary and continuous core drilling techniques. Drilling will involve one rotary/core rig capable of drilling 3000 ft.; with necessary support equipment such as supply trailers, portable water tanks, mud tanks, compressors, fuel tanks, etc. The drilling procedure will be to rotary or plug drill to core point and then continuously core through the coal zone. Drilling fluid will mainly be water with some foam, polymer, and/or mud as drilling medium.

Helicopter-supported wireline drilling will be accomplished utilizing continuous core drilling techniques. Drilling will involve a heliportable core rig capable of drilling 2000 ft.; with necessary support equipment such as rod trays, supply trailers, portable water tanks, fuel tanks, etc. The drilling procedure will be to continuously core drill to total depth or to plug drill to core point and then continuously core through the coal zone. Drilling fluid will mainly be water with some foam, polymer, and/or mud as drilling medium.

Water for drilling and dust suppression will be transported from the Skyline Minesite hydrant via 1,500 gal. water trucks and emptied into a 18,000 gal. water tank located on private property, along the Swens Canyon road and at the mouth of Cunningham's Canyon (Map 2). A Triplex pump or equivalent will be used for pumping water to the drill sites if necessary. The portable pumps will be underlain by pitliner or brattice. Water will be pumped via 1.5 and 2 inch HDPE waterlines. An approved Temporary Water Change from the Division of Water Rights is in place and included in Appendix E. Where not located adjacent to an existing road, waterline will be placed and removed via horseback, helicopter, or on foot.

The only coal to be removed during exploration activities will be cores. Cores will nominally be 2.5 inches (HQ) in diameter for conventional drill holes and 1.4 inches (BQ) in diameter for heli-portable drill holes. Given an approximate average projected thickness of 9 ft. for the Lower O'Connor A seam, approximately 36 lbs. of coal will be removed (9 lbs./hole) from the four conventional holes and 6 lbs. (3 lbs./hole) from the two heli-supported holes.

Temporary drillpad and road construction is planned for this project for the four conventional holes. Earth excavation will mostly be done for drillsites using a D-8 Cat (or equivalent) and road grader.

Conventional drillsites will be approximately 100 ft x 120 ft in size. A track mounted backhoe and/or a rubber-tired backhoe may be used at times for construction of mud pits which will measure approximately 20 ft x 40 ft x 8 ft deep. Excavation will include grubbing, removal and separate storage of the soil A horizon and, if needed, removal and separate storage of material below the soil A horizon to make a level drill site. Two to four mud pits will be excavated in the material below the soil A horizon if there is sufficient soil depth. No hazardous material or trash will be disposed of at the drill site. The only material disposed of at the drill site will be cuttings and any drilling foam and/or mud which will be placed in the mud pits. Figure 1 shows the typical layout of a truck-mounted drill rig site. Small leaks of petroleum products will be cleaned-up with absorbent pads and any contaminated subsoil will be removed and contaminated pads and rags will be hauled off the site and disposed of in an approved waste site. No blasting will be done when constructing the drill site. Drillsites have been selected such that no trees will be removed during construction of the drillsites.

Regulations cited in R645-202-232 relative to roads will be followed as they apply. Temporary access road construction width for the road to hole 2-15, 3-15, and 4-15 will be approximately 14 ft and the least amount of disturbance will be made while constructing the access route as possible. New road placement has been selected to follow existing logging roads as much as possible so as to reduce impact to undisturbed areas. No soil disturbed during access road construction will be disposed of. Material will be sidecast to each side of the road for later use during reclamation. Map 2 shows the temporary access route. Temporary access roads will be reclaimed upon completion of drilling. Temporary road alignment has been selected such that no trees will be removed. No temporary road construction will be necessary for sites 1-15. Site 1-15 is a conventional hole that will require drillpad construction only since it is located on or adjacent to an existing parking lot and storage area. Sites 6-15 and 7-15 are helicopter-

assisted sites.

Disturbance to wildlife will be minimized by utilizing the existing roads and trails and eliminating the need to build roads with heavy equipment. No wetlands or riparian are known along the proposed routes. No utility or support facilities are present in the area.

Reclamation will occur as soon as possible upon completion of drilling operations. Reclamation will include filling in any hand excavations and reseeding the disturbed surface with the approved seed mix. No damage to public or private property will occur.

The heli-portable drill location will be setup approximately as shown on Figure 2. Earth excavation for the heli-portable drill site will be minimal, using hand tools only. Some minor leveling for placement of wood crib blocking for leveling of drill may be required. Minor amounts of topsoil that may be removed will be stored and replaced upon completion of drilling. No mud pits will be excavated. Portable mudtanks will be utilized. Cuttings will be stored and hauled away to the Skyline Mine waste rock site by helicopter or truck upon completion of drilling.

Reclamation is an integral part of the exploration activities and will progress as contemporaneously as practical with the other exploration activities. Upon completion of the hole, all hand excavations will be filled in to original contour, topsoil replaced, all equipment will be removed, and all trash will be hauled away. An approved seed mix will then be applied to the drill area.

Reclamation of drillsites and temporary access roads will occur as soon as possible upon completion of drilling operations. The topsoil will be redistributed and replaced. The topsoil surface will be roughened, pitted, and/or deep gouged prior to seeding to help alleviate soil compaction, increase soil stability, and to increase water harvesting. It is possible the surface owner may not allow deep gouging and will require the site be recontoured and roughened to a lesser extent. If such is the case, the desires of the surface owner will be provided to DOGM in writing. Site 1-15 is on an existing disturbed area that is used as a parking lot/storage area; no replacement of topsoil is possible at this site. Reclamation will include reseeding the disturbed surface utilizing the approved seed mix. No damage to public or private property will occur.

There will be no diversion of overland flows.

It is not anticipated that acid- or toxic- forming materials will be encountered during exploration because none have been encountered previously. Samples of drill core will be analyzed for acid- and toxic-forming materials. These samples will be taken from the 10 ft. interval above and below each seam of mineable thickness if core recovery has occurred.

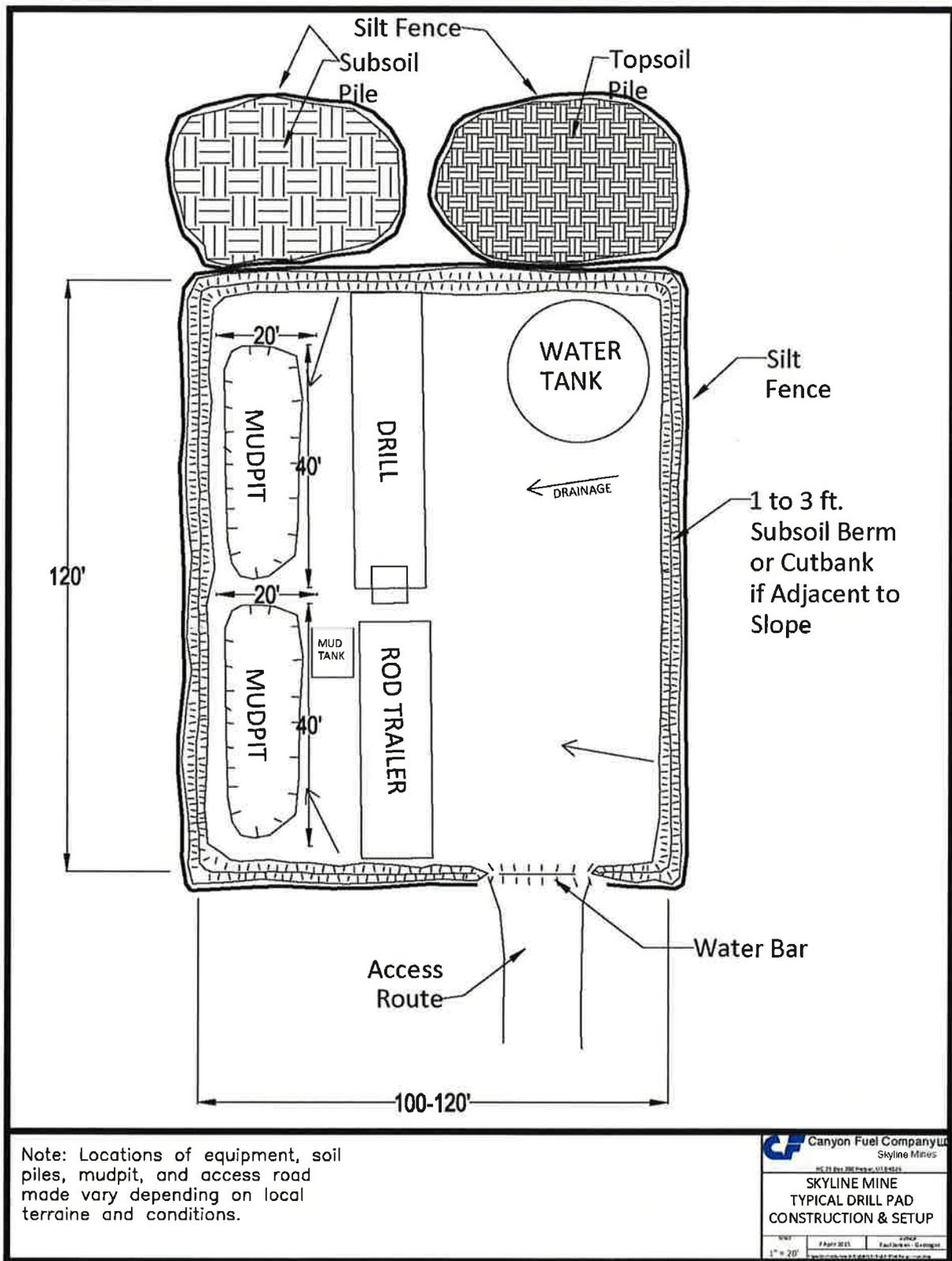


Figure 1. Typical conventional drillsite setup. Note: The berm will be constructed of excavated mudpit material or imported material.

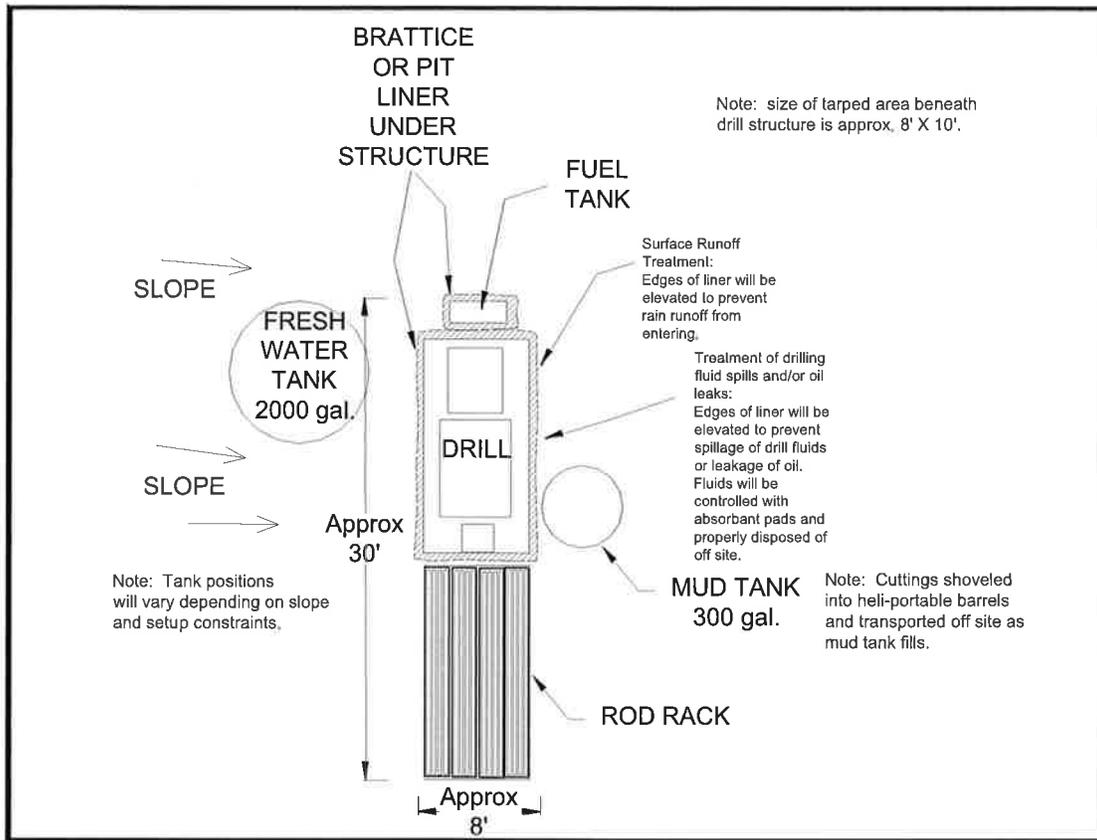


Figure 2. Typical heli-portable drillsite setup.

The method of revegetation is intended to encourage prompt revegetation and recovery of a diverse, effective, and permanent vegetative cover. The following seed mix was prescribed by the U.S. Forest Service for the reclamation of 2014 Upper Huntington Canyon area drill holes and will be also used in 2015 (the seed mix as approved by UDOGM will be utilized):

Seed Mix		<u>Pounds PLS/acre</u>
Western Wheatgrass	<i>Elymus smithii</i>	2
Basin Wild Ryegrass	<i>Elymus cinereus</i>	1
Intermediate Wheatgrass	<i>Elymus hispidus</i>	2
Yellow Sweet Clover	<i>Melilotus officinalis</i>	1
Blue Leaf Aster	<i>Aster glaucodes</i>	0.25
Silvery Lupine	<i>Lupinus argenteus</i>	1
True Mahogany	<i>Cercocarpus montanus</i>	1
Lewis Flax	<i>Linum lewisii</i>	0.5
Small Burnet	<i>Sanguisorbia minor</i>	1
	TOTAL	9.75

The pure live seed (PLS) rating will be 99% containing a maximum of 1% weeds, none of which are toxic and only seed meeting the State Seed Act will be used. Certification tags will be retained by the permittee. The vegetative cover resulting from this seed mix is considered capable of stabilizing the soil surface from erosion.

Map 2 shows the location of the proposed drill site, equipment/helicopter staging area, and water tank/pump.

Upon completion of drilling, the holes will be plugged and abandoned with a cement, bentonite, or cement/bentonite slurry to full depth. A brass tag will be placed at the top of the drill hole stating the operator's name, drill hole number, and legal description. The tag will be placed in cement at ground level. One of the proposed conventional drillholes (4-15) may be completed as a water monitor well. The completion method includes cleaning the hole of drill cuttings by circulating with air or water, inserting a 2 inch diameter steel casing with a 30 ft section of 0.010" slot screen section with an end cap, filling the hole annulus in the screened section with washed sand or pea gravel, packing off the screened section or sealing it off with bentonite, then filling the remainder of the hole annulus to the surface with a cement or cement/bentonite slurry and/or hole plug. A steel protective casing with locking cap will be placed 1 to 2 ft. above ground level. Figure 3 gives the design to be used in completing the piezometer.

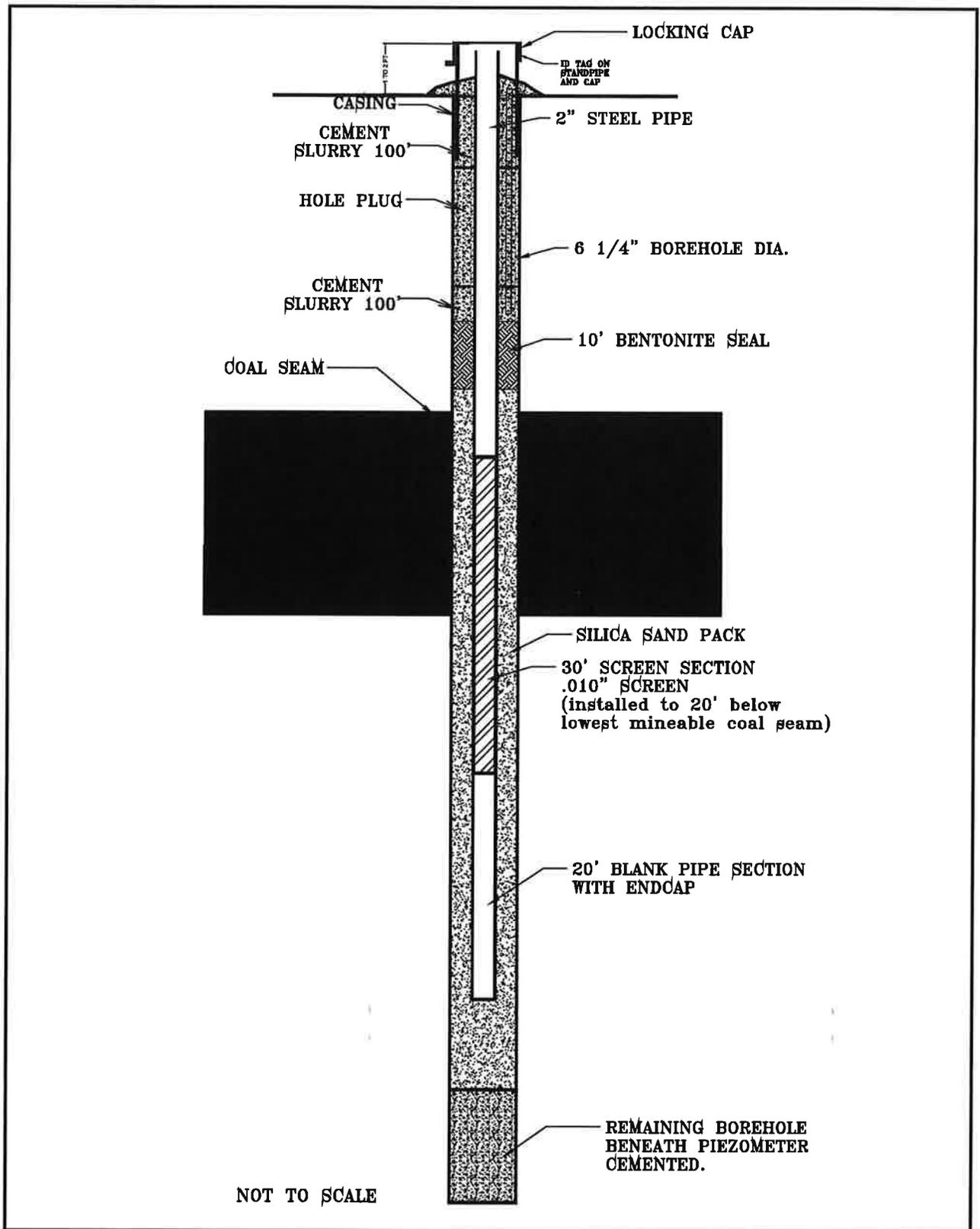


Figure 3. Water monitor well design.

Estimated depth and other drill hole information is given in Table 1. Disturbed area will include drillpads and temporary access roads. Total disturbed area acreage is estimated at 3.15 acres as shown on Table 1.

Drill Site	Location	Total Depth (ft)	Disturbed Area (acres)
1-15	SW, NW, 21, T13S, R6E	2100	0.003
2-15	NE, SW, 21, T13S, R6E	2010	0.275
3-15	SW, SW, 21, T13S, R6E	1965	0.275
4-15	NE, SE, 29, T13S, R6E	2100	0.275
6-15	SW, NW, 10, T14S, R6E	1100	0.003
7-15	SW, SE, 3, T14S, R6E	1100	0.003
Temp Road to 2-15	Distance & Width (ft)	2000 X 14	0.643
Temp Road to 3-15	Distance & Width (ft)	700 X 14	0.225
Temp Road to 4-15	Distance & Width (ft)	4500 X 14	1.45
		TOTAL	3.15 acres

There are no occupied dwellings or pipelines located in the exploration area. No trenches will be dug and no structures will be constructed nor will debris be disposed of in the exploration area. The permittee or his representative will have a copy of this Notice of Intention To Conduct Minor Coal Exploration while in the exploration area available for review by an authorized representative of the Division by request.

R645-203-200

Canyon Fuel Company requests that the Division not make any drilling information available for public inspection relative to coal seam thickness or quality. This information is considered crucial to Canyon Fuel Company's competitive rights.

R645-202.230

No adverse impacts to stream channels will occur during water pumping or drilling activities. An approved "Temporary Change of Water" is in place with the Division of Water Rights (Appendix E). It is projected that approx. 0.3 acre/ft. of water will be utilized during the project.

R645-202-231

A cultural resource survey has been conducted for the area on and near the drillhole site. A copy of the cultural resource survey is included in Appendix B (confidential). Threatened, endangered, and sensitive plant and animal survey information has been developed by the U.S.F.S. and Maxim Technologies during their work relative to Canyon Fuel/Canyon Fuel Company's 2005 Exploration License and Plan approvals (Appendix A, confidential). Tetra Tech conducted a site specific biological survey on the proposed drill site (Appendix A). No nests were observed during those surveys.

TES protection measures include the use of Heli-portable water pumping equipment which will minimize surface disturbance as well as use of drilling equipment that will not require road construction. Pumping of most or all project water through waterlines will minimize water truck traffic on permanent roads.

R645-202-232

Temporary drilling access road construction is planned for this project as previously described. Regulations cited in R645-202-232 relative to roads will be followed as they apply.

R645-202-235 (R645-301-624.210, R645-301-731.121, R645-301-731.215))

Geologic logs of drilling will be kept. Any appreciable water encountered during drilling will be logged, noting depth, geology, and estimated flow. Any such zones will be evaluated for potential water monitoring.

Figures 1 and 2 shows a drawing of the approximate drillsite setup.

If the drill hole begins to make excess water, such water will be pumped to a tank at the staging area. From there it will be hauled to an approved waste water disposal site. At no time will excess drill water generated in the drill hole be allowed to run on topsoil on the surface.

Fresh water pumped to the drillsite to be utilized for the drilling process will be allowed to run off the site over topsoil as long as it contains no drilling additives. This is necessary to allow cooling of the engine during rod tripping or when water tanks overflow at the drillsite. Measures will be taken to disperse the water flow over the topsoil such that no erosion occurs.

R645-301-525-200

No major utilities pass over, under, or through the exploration area. Use of roads and development of the exploration site will not disrupt or damage any utility service.

R645-301-527.230

Roads utilized as part of this minor coal exploration plan will be maintained in a safe condition, including proper control of fugitive dust to minimize effects to fish, wildlife, and related environmental values.

R645-301-731.100

An approved Temporary Change of Water for water to be used in the drilling process is in place (Appendix E).

R645-301-742.410 thru 742.420

Surface disturbance will be limited to drillsites and temporary access roads. No changes will occur to drainage patterns. As shown on Figure 1, the drill will be setup such that the underlying pit liner or brattice material will not allow water runoff to the surrounding soils. Water that collects in the brattice or pit liner will be pumped or drained to the mudtank. No perennial or intermittent stream drainages will be crossed. Excess water will be removed and placed in the drill water tank for use in the drilling process or hauled to an approved waste water disposal site. Contributions of suspended solids will not occur.

The potential for water pollution will be minimized by keeping pollutants away from the drill hole and in their containers. Materials used during drilling operations will be selected to be as non-polluting as possible. All spills of polluting materials will be

removed from the area and properly disposed of.

No mixing of surface and ground waters is possible because all drill sites will be above perennial and ephemeral stream drainages.

Drill fluids and/or cuttings will be contained within mudtanks. If necessary, excess fluids will be pumped out and excess drill cuttings and core will be hauled off and disposed of properly.

Canyon Fuel Company will retain all drill and geophysical logs.

APPENDIX A

**2015 SOILS SURVEY
2015 VEGETATION SURVEY**

**(CONFIDENTIAL FILES)
WILDLIFE SURVEYS**

**2002 FLAT CANYON EIS (available on request)
2012 SWR NEPA ANALYSIS
2014 WESTERN TOAD MEMO
2014 BIOLOGICAL SURVEYS
2015 BIOLOGICAL SURVEYS**

**Skyline Mine
Vegetative Analysis of
Seven Proposed Drill Sites
and Seven Reference Sites**

Report Prepared By

Alpine Ecological
HC 80 Box 570
Greenwich, UT 84732

By Allan R. Stevens Ph.D

For
Bowie Resource Partners, LLC.
Skyline Mine
HC 35 Box 380
Helper, Utah 84526

August 2015

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Introduction

The purpose of the 2015 drilling program is to further investigate the coal reserves in the Southwest Reserves Lease. Information gathered from the drilling program will assist Skyline Mine in developing mine plans to more efficiently utilize the resource.

Total estimated disturbance for the 2015 drilling program is 7 acres. Disturbance from drilling activity is expected to be less than 1 acre per site for a total of 7 acres. Disturbance from access road improvements is estimated to be 3 acres. Currently four of the seven drilling locations will not require any additional surface disturbance to improve the access road or drill sites. The three remaining sites will be drilled using heliportable drill rigs and will not require the construction of access roads. Reclamation of all disturb areas will occur during the late fall of 2015.

Skyline Mine is a coal mine with its surface facilities located about 4 miles southwest of the town of Scofield in Carbon County, Utah. The drill sites are located west to southwest of the surface facilities of the mine. Most of the drill sites are located upper Huntington Creek and Electric Lake in Sanpete and Emery Counties. The 7 drill sites are generally located in openings in conifer and quaking aspen forests. One of the sites is located in a mountain big sagebrush community. The elevations of the drill sites ranges from 8,600 to 8,900 feet above sea level.

Methods

Sampling Standards

Methodologies used for this analysis were performed in accordance with vegetation guidelines supplied by the State of Utah, Division of Oil, Gas and Mining (DOGGM). In July of 2015, quantitative and qualitative data were collected in the plant communities proposed for drilling activities as well as reference areas that were chosen for future revegetation success standards.

Sampling Methodology for Cover, Frequency and Composition

The areas that are proposed to be disturbed are centered on proposed drill sites. Therefore, the vegetation around each drill site needed to be analyzed. It was determined that the best method to determine vegetative cover frequency and composition on these areas would be nested frequency belt lines as described in the U.S. Forest Service

Rangeland Ecosystem Analysis and Monitoring Handbook (FSH 2209.21). Five 100 ft. beltlines were established in five different compass directions radiating from the proposed drill site and reference site point. With this methodology the vegetation composition around each proposed drill site and reference site would be determined. The five compass directions used were the following from magnetic North: Belt 1 at 23 degrees, Belt 2 at 121 degrees, Belt 3 at 173 degrees, Belt 4 at 269 degrees and Belt 5 at 296 degrees. Every 5 ft. along each transect line a $\frac{1}{2}$ m² nested frequency frame was placed on alternating sides of the transect line. Species composition and frequency were recorded using the frame. Ground cover was also determined using the frame. The percent cover of each species was then estimated within each frame. A total of 100 nested frequency data points were therefore taken at each proposed drill site and each reference site. Plant nomenclature follows the USDA-ARS Plant Database (plants.usda.gov).

Placement of Reference Sites

The reference sites were chosen to represent future revegetation success standards. A reference site was chosen in each area where there was a proposed drill site. The reference sites were chosen by walking far enough away from the proposed drill site so they would not be disturbed during the drilling activity. Locations for the reference sites were chosen by visually looking at the site and trying to choose a site that looked similar in vegetative composition to the proposed drill site.

Sampling Methodology for Forage Production

Clip and weigh methods described in Utilization Studies and Residual Measurements interagency technical reference were used to estimate forage production. Twenty random samples were taken around each proposed drill site location and reference area site. A 0.96 ft² plot was placed at each random site and vegetation was clipped and weighed. Percent dry mater was determined by using standard drying table estimates and dry forage production was estimated and converted to pounds per acre by taking the average grams collected x 100.

Sampling Methodology for Density

Density estimates for the woody plant species on the proposed drill site and reference areas were made using a distance method called the point-quarter technique. In this method, random points were placed on the sample sites and measured into four quarters. The distance to the nearest woody plant species were then recorded in each quarter. The

average point to individual distance was equal to the square root of the mean area per individual.

Photographs and Maps

A map was created with each proposed drill site and reference site (Appendix 29). In addition photographs were taken of each belt line from the center point (Appendix 15-28).

Threatened, Endangered, Candidate and Sensitive Species

The inventory of federally listed threatened, endangered and candidate plant species for Emery and Sanpete counties was consulted prior to field work. In addition the State of Utah, Department of Natural Resource's biodiversity database and the USDA Forest Service Intermountain Region's list of proposed, endangered, threatened and sensitive species for the Manti portion of the Manti-La Sal National Forest was consulted for possible impacts by the proposed project. If applicable, this information would be used to drive species of concern field surveys if any of the species or habitats were found on or near the proposed project.

Results

Drill Site 1

Drill Site 1 is located within a girl's camp (Appendix 29). The proposed drill site is surrounded by vegetation but some of the area around the proposed site is severely disturbed (i.e. roads and trails). Most of the vegetation in this area has been disturbed, probably by frequent foot traffic around the area. The site is located in the bottom of a valley. Most of the vegetation around this site is composed of grasses and forbs with some woody shrubs and trees.

The only overstory species was subalpine fir (*Abies lasiocarpa*). The most common understory species were Rydberg's penstemon (*Penstemon rydbergii*), Kentucky bluegrass (*Poa pratensis*), variegated scouringrush (*Equisetum variegatum*), slender wheatgrass, and orange sneezeweed. A list of all species encountered in the sample quadrats is listed in appendix 1.

Total living cover for this area was estimated at 64.46%, of which 56.46% was from understory cover and 8% was from overstory cover (Appendix 1). The composition of the understory cover was 36.5% grasses, 52.8% forbs and 10.7% shrubs.

The total woody species density was 51.9 individuals per acre (Appendix 1), with the dominant species being subalpine fir.

The estimates made for total available dry forage for this site 650 lbs/acre.

Drill Site 1 Reference Site

Drill site 1 reference site is located with a girl's camp (Appendix 29). Most of the vegetation in this area has been disturbed by frequent foot traffic which is indicated by pathways and trails in the area. The site is located in the bottom of the same valley as the proposed drill site. Most of the vegetation around this site is composed of grasses and forbs with some woody shrubs and trees.

The only overstory species was subalpine fir. The most common understory species were Carex (*Carex*), mountain bluebell (*Mertensia ciliata*), slender cinquefoil (*Potentilla gracilis*) Virginia strawberry (*Fragaria virginiana*) and slender wheatgrass (*Elymus trachycaulus*). A list of all species encountered in the sample quadrats is listed in Appendix 2.

Total living cover for this area was estimated at 60%, of which 57% was from understory cover and 3% was from overstory cover (Appendix 2). The composition of the understory cover was 50.7% grasses, 46.1% forbs and 3.2% shrubs.

The total woody species density was 46 individuals per acre (Appendix 2), with the dominant species being subalpine fir.

The estimates made for total available dry forage for this site 950 lbs/acre.

Drill Site 2

Drill site 2 is located within a girl's camp (Appendix 29). The site however is far enough away from the main area of the girl's camp that the vegetation does not appear to be disturbed significantly by foot traffic. The site is located on a terrace of a North-facing slope. The vegetative community around this site is dominated by grasses and forbs, with a mixed conifer/aspens forest scattered throughout.

The overstory species were subalpine fir and quaking aspen (*Populus tremuloides*). The most common understory species were Great Basin lupine (*Lupinus alpestris*), mountain

brome (*Bromus marginatus*), fewflower pea (*Lathyrus pauciflorus*), nodding brome (*Bromus anomalus*) and Fendler's meadow-rue (*Thalictrum fendleri*). A list of all species encountered in the sample quadrats is listed in Appendix 3.

Total living cover for this area was estimated at 58.7%, of which 41.3% was from understory cover and 17.4% was from overstory cover (Appendix 3). The composition of the understory cover was 49.1% grasses, 38.4% forbs and 12.5% shrubs.

The total woody species density was 69.6 individuals per acre (Appendix 3), with the dominant species being subalpine fir.

The estimates made for total available dry forage for this site 1100 lbs/acre.

Drill Site 2 Reference Site

Drill site 2 reference site is located within a girl's camp (Appendix 29). The site however is far enough away from the main area of the girl's camp that the vegetation does not appear to be disturbed significantly by foot traffic. The site is located on a terrace of a North-facing slope. The vegetative community around this site is dominated by grasses and forbs, with a mixed conifer/aspen forest scattered throughout.

The overstory species recorded were subalpine fir and quaking aspen. The most common understory species were Canada wildrye (*Elymus canadensis*), fewflower pea, carex, mountain bluebell and nodding brome. A list of all species encountered in the sample quadrats is listed in Appendix 4.

Total living cover for this area was estimated at 59.83%, of which 46.43% was from understory cover and 13.4% was from overstory cover (Appendix 4). The composition of the understory cover was 52.4% grasses, 38.3% forbs and 9.3% shrubs.

The total woody species density was 95.7 individuals per acre (Appendix 4), with the dominant species being subalpine fir.

The estimates made for total available dry forage for this site 1100 lbs/acre.

Drill Site 3

Drill site 3 is located within a girl's camp (Appendix 29). The site however is far enough away from the main area of the girl's camp that the vegetation does not appear to be

disturbed significantly by foot traffic. This site has evidence of being logged in the past. There are only a few young trees scattered sparsely throughout the area. In addition cut stumps are encountered and there is an old slash pile next to the proposed drill site. The site was located on an East-facing slope. The vegetative community around this site is dominated by grasses and forbs.

There were no overstory species recorded. The most common understory species were Canada wildrye, carex, mountain brome, common yarrow (*Achillea millefolium*), and fewflower pea. A list of all species encountered in the sample quadrats is listed in Appendix 5.

Total living cover for this area was estimated at 46.6%, of which 46.6% was from understory cover and 0% was from overstory cover (Appendix 5). The composition of the understory cover was 68.3% grasses, 30.7% forbs and 0.8% shrubs.

The total woody species density was 5.8 individuals per acre (Appendix 5), with the dominant species being Gooseberry currant (*Ribes montigenum*).

The estimates made for total available dry forage for this site 870 lbs/acre.

Drill Site 3 Reference Site

Drill site 3 reference site is located within a girl's camp (Appendix 29). The site however is far enough away from the main area of the girl's camp that the vegetation does not appear to be disturbed significantly by foot traffic. This site is located on an East-facing slope. The vegetative community around this site is dominated by grasses and forbs, with a sparsely scattered quaking aspen stand.

The overstory species were subalpine fir and quaking aspen. The most common understory species were mountain brome, fewflower pea, carex, Canada wildrye and mayflower stickseed (*Hackelia floribunda*). A list of all species encountered in the sample quadrats is listed in Appendix 6.

Total living cover for this area was estimated at 79%, of which 61% was from understory cover and 18% was from overstory cover (Appendix 6). The composition of the understory cover was 58% grasses, 41.8% forbs and 0.2% shrubs.

The total woody species density was 81.2 individuals per acre (Appendix 6), with the dominant species being quaking aspen.

The estimates made for total available dry forage for this site 1150 lbs/acre.

Drill Site 4

Drill site 4 is located on a slightly North facing slope. This site was logged at some point in the past as indicated by numerous stumps. The vegetative community is dominated by grasses and forbs with a few scattered conifers.

The only overstory species was subalpine fir. The most common understory species were Canada wildrye, mountain brome, carex, fewflower pea and slender wheatgrass. A list of all species encountered in the sample quadrats is listed in Appendix 7.

Total living cover for this area was estimated at 53.65%, of which 44.65% was from understory cover and 9% was from overstory cover (Appendix 7). The composition of the understory cover was 62.2% grasses, 27.5% forbs and 10.3% shrubs.

The total woody species density was 72.5 individuals per acre (Appendix 7), with the dominant species being red elderberry (*Sambucus racemosa*).

The estimates made for total available dry forage for this site 1080 lbs/acre.

Drill Site 4 Reference Site

Drill site 4 reference site is located on a slightly North facing slope (Appendix 29). This site was logged at some point in the past as indicated by numerous stumps. The vegetative community is dominated by grasses and forbs with a few scattered conifers.

The only overstory species was subalpine fir. The most common understory species were mountain brome, Canada wildrye, Fendler's meadow-rue, slender wheatgrass and fewflower pea. A list of all species encountered in the sample quadrats is listed in Appendix 8.

Total living cover for this area was estimated at 59%, of which 50% was from understory cover and 9% was from overstory cover (Appendix 8). The composition of the understory cover was 53.4% grasses, 33.2% forbs and 13.4% shrubs.

The total woody species density was 106.3 individuals per acre (Appendix 8), with the dominant species being red elderberry.

The estimates made for total available dry forage for this site 1060 lbs/acre.

Drill Site 5

Drill site 5 is located on a flat area in the bottom of a valley (Appendix 29). The vegetative community is a mountain big sagebrush/grass community. It is located near a well-traveled highway and dirt road.

There were no overstory species at this site. The most common understory species were Kentucky bluegrass, mountain big sagebrush (*Artemisia tridentata vaseyana*), carex, muttongrass (*Poa fendleriana*), and Letterman's needlegrass (*Achnatherum lettermanii*). A list of all species encountered in the sample quadrats is listed in Appendix 9.

Total living cover for this area was estimated at 54%, of which 54% was from understory cover and 0% was from overstory cover (Appendix 9). The composition of the understory cover was 25.8% grasses, 4.4% forbs and 69.8% shrubs.

The total woody species density was 494.4 individuals per acre (Appendix 9), with the dominant species being mountain big sagebrush.

The estimates made for total available dry forage for this site 770 lbs/acre.

Drill Site 5 Reference Site

Drill site 5 reference site is located on a flat area in the bottom of a valley (Appendix 29). The vegetative community is a mountain big sagebrush/grass community. It is located near a well-traveled highway and dirt road.

There were no overstory species at this site. The most common understory species were Kentucky bluegrass, carex, mountain big sagebrush, Rydberg's penstemon and Letterman's needlegrass. A list of all species encountered in the sample quadrats is listed in Appendix 10.

Total living cover for this area was estimated at 56%, of which 56% was from understory cover and 0% was from overstory cover (Appendix 10). The composition of the understory cover was 37.4% grasses, 9.4% forbs and 53.2% shrubs.

The total woody species density was 512.8 individuals per acre (Appendix 10), with the dominant species being mountain big sagebrush.

The estimates made for total available dry forage for this site 790 lbs/acre.

Drill Site 6

Drill site 6 is located on an East facing slope (Appendix 29). The vegetative community is dominated by grasses and forbs with a few scattered conifers and quaking aspen.

The overstory species were subalpine fir and quaking aspen. The most common understory species were fewflower pea, mountain brome, orange sneezeweed, Canada wildrye and common yarrow. A list of all species encountered in the sample quadrats is listed in Appendix 11.

Total living cover for this area was estimated at 67.4%, of which 52% was from understory cover and 15.4% was from overstory cover (Appendix 11). The composition of the understory cover was 59.3% grasses, 37.5% forbs and 3.2% shrubs.

The total woody species density was 43.5 individuals per acre (Appendix 11), with the dominant species being quaking aspen.

The estimates made for total available dry forage for this site 930 lbs/acre.

Drill Site 6 Reference Site

Drill site 6 reference site is located on an East facing slope (Appendix 29). The vegetative community is dominated by grasses and forbs with a few scattered conifers and quaking aspen.

The overstory species were subalpine fir and quaking aspen. The most common understory species were fewflower pea, mountain brome, Kentucky bluegrass, orange sneezeweed, and common yarrow. A list of all species encountered in the sample quadrats is listed in Appendix 12.

Total living cover for this area was estimated at 69.6%, of which 54% was from understory cover and 15.6% was from overstory cover (Appendix 12). The composition of the understory cover was 55.3% grasses, 35.9% forbs and 8.8% shrubs.

The total woody species density was 29 individuals per acre (Appendix 12), with the dominant species being quaking aspen.

The estimates made for total available dry forage for this site 890 lbs/acre.

Drill Site 7

Drill site 7 is located on a northeast facing slope (Appendix 29). This area has been logged in the past as indicated by remaining stumps. The vegetative community is dominated by grasses and forbs with a few scattered conifers.

The only overstory species was subalpine fir. The most common understory species were Canada wildrye, fewflower pea, carex, common yarrow and Kentucky bluegrass. A list of all species encountered in the sample quadrats is listed in Appendix 13.

Total living cover for this area was estimated at 73.2%, of which 56% was from understory cover and 17.2% was from overstory cover (Appendix 13). The composition of the understory cover was 64.7% grasses, 33.3% forbs and 2% shrubs.

The total woody species density was 70.1 individuals per acre (Appendix 13), with the dominant species being subalpine fir.

The estimates made for total available dry forage for this site 1120 lbs/acre.

Drill Site 7 Reference Site

Drill site 7 reference site is located on a northeast facing slope (Appendix 29). This area has been logged in the past as indicated by remaining stumps. The vegetative community is dominated by grasses and forbs with a few scattered conifers.

The only overstory species was subalpine fir. The most common understory species were Canada wildrye, fewflower pea, carex, common yarrow and Fendler's meadow-rue. A list of all species encountered in the sample quadrats is listed in Appendix 14.

Total living cover for this area was estimated at 77%, of which 58% was from understory cover and 19% was from overstory cover (Appendix 14). The composition of the understory cover was 58.5% grasses, 38.1% forbs and 3.4% shrubs.

The total woody species density was 70.1 individuals per acre (Appendix 14), with the dominant species being subalpine fir (*Abies lasiocarpa*).

The estimates made for total available dry forage for this site 1090 lbs/acre.

Analysis of Similarities Between Drill Sites and Reference Sites

Specific parameters for those plant communities that would be disturbed by the proposed drilling activities were compared statistically using an unpaired t test with the correlating reference area that could be used for revegetation success standard following final reclamation of the site. When total living cover values of the proposed drill sites were compared to the corresponding reference sites there were no significant differences found at any paired site.

When total woody species density values of the same communities were compared to the corresponding reference areas there were no significant differences in drill sites 1, 2, 4, 5, 6, and 7. A significant difference was found between proposed drill site 3 and the reference area. This however may be unimportant because neither area had high density values. The reason for the significant difference is probably not due to original vegetative cover but to previous logging activity that has occurred on the proposed drill site.

Threatened, Endangered, Candidate and Sensitive Species

The following is a table of potential endangered, threatened, candidate and sensitive plant species know to occur in Sanpete and Emery counties. Next to each species name information is provided about the likelihood of occurrence for each species in the proposed drill site areas.

Federally listed endangered, threatened, candidate and sensitive species for Emery and Sanpete County.	
Endangered	
<i>Pediocactus despainii</i> (San Rafael cactus)	This species is found in open pinyon-juniper communities at 6,000-6,200 ft. elevation. The study areas are above the elevation range for this species. The vegetative types

	<p>are very different.</p> <p>The proposed project will not impact this plant species.</p>
<i>Schoenocrambe barnebyi</i> (Barnaby reed-mustard)	<p>This species is found in mixed shadscale, eriogonum and ephedra communities at 5,600-5,700 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species</p>
<i>Sclerocactus wrightiae</i> (Wright fishhook cactus)	<p>This plat is found on the Mancos Shale Formation in salt desert shrub to juniper communities at 4,790-6,120 ft. elevation.</p> <p>The study area is above the elevation range for this species. The vegetative types are very different and there is no Mancos Shale in the study area.</p> <p>The proposed project will not impact this plant species.</p>
Threatened	
<i>Astragalus montii</i> (Heliotrope milk-vetch)	<p>This species is found in alpine on windblown ridges and snowdrift sites at 10,500-11,000 ft. elevation.</p> <p>The study areas are below the elevation range for this species. The habitat is different. The know locations of this species are well South of the study area.</p> <p>The proposed project will not impact this plant species</p>
<i>Cycladenia humilis var jonesii</i> (Jones	This species is found in cool desert shrub

Cyladenia)	<p>and juniper communities at 4,400-6,000 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<i>Pediocactus despainii</i> (Despain Footcactus)	<p>This species is found in open piyon-juniper communities at 6,000-6,200 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<i>Townsendia aprica</i> (Last Chance townsendia)	<p>This species is found in salt desert shrub and pinyon-juniper communities in the Arapien and Mancos Shale formations at 6,100-8,000 ft. elevation.</p> <p>The study areas are not found in the Arapien or Mancos Shale formation. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
Candidate/Sensitive	
<i>Aster kingie var barnebyana</i> (Barneby woody aster)	<p>This species is found in mountain mahogany-oak communities in rock outcrops composed of Precambrian quartzite at 7,345-7,610 ft. elevation.</p> <p>There are not outcrops of Precambrian quartzite in the study areas. The vegetative types are very different.</p>

	<p>The proposed project will not impact this plant species.</p>
<p><i>Astragalus consobrinus</i> (Bicknell milkvetch)</p>	<p>This species is found in sagebrush-grassland and pinyon-juniper communities on the Mancos Shale formation at 5,200-9,000 ft. elevation.</p> <p>The study areas are not found in the Mancos Shale formation. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<p><i>Astragalus subcinereus</i> var. <i>basalticus</i> (Basalt milkvetch or Silver milkvetch)</p>	<p>This species is found in pinyon-juniper and ponderosa communities at 4,520-7,970 ft. elevation.</p> <p>The vegetative types of the study areas are very different and the know population of this plant are found in southern Emery County.</p> <p>The proposed project will not impact this plant species.</p>
<p><i>Cryptantha compacta</i> (Mound cryptanth)</p>	<p>This species is found in salt desert shrub and mixed desert shrub communities at 4,950-9,250 ft. elevation.</p> <p>The vegetative types of the study areas are very different.</p> <p>The proposed project will not impact this plant species.</p>
<p><i>Cryptantha creutzfeldtii</i> (Creutzfeldt-flower)</p>	<p>This species is found in mat atriplex communities on the Mancos Shale formation at 5,250-6,495 ft. elevation.</p>

	<p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<i>Cymopterus coulteri</i> (Coulter biscuitroot)	<p>This species is found in black sagebrush, shadscale, desert shrub and juniper communities at 4,955-6,000 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<i>Erigeron carringtonae</i> (Carrington daisy)	<p>This species is found in meadows and escarpment margins at 10,000-11,000 ft. elevation.</p> <p>The study areas are below the elevation range.</p> <p>The proposed project will not impact this plant species.</p>
<i>Erigonoum corymbosum</i> var. <i>smithii</i> (Big Flattop buckwheat or Smith wild buckwheat)	<p>This species is found in purple-sage matchweed, ephedra-Indian ricegrass and rabbitbrush communities at 5,200-5,610 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<i>Festuca dasyclada</i> (Sedge fescue)	<p>This species is found on open slopes and ridges in sagebrush, mountain brush, and</p>

	<p>juniper communities on the Green River Shale Formation and limestone gravels at 6,990-10,000 ft. elevation.</p> <p>The study areas are in a different formation.</p> <p>The proposed project will not impact this plant species.</p>
<i>Gilia tenuis</i> (Mussentuchit Gilia)	<p>This species is found in pinyon-juniper woodlands.</p> <p>The study sites have a very different vegetative type.</p> <p>The proposed project will not impact this plant species.</p>
<i>Hedysarum occidentale</i> var. <i>canone</i> (Canyon sweetvetch or Coal sweetvetch)	<p>This species is found in pinyon-juniper, sagebrush and wash communities at 5,000-8,000 ft. elevation.</p> <p>The study sites have a very different vegetative type.</p> <p>The proposed project will not impact this plant species.</p>
<i>Hymenoxys depressa</i> (Low hymenoxys or Depressed bitterweed)	<p>This species is found in ephedra, sagebrush, shadscale and pinyon-juniper communities at 4,400-7,100 ft. elevation.</p> <p>The study sites have a very different vegetative type.</p> <p>The proposed project will not impact this plant species.</p>
<i>Hymenoxys helenioides</i> (Helenium hymenoxys or Intermountain bitterweed)	<p>This species is found in mountain brush, sagebrush, aspen and meadow communities at 8,800-10,700 ft. elevation.</p>

	<p>Know populations of this species are found at quite a distance south and north of the study site.</p> <p>The proposed project will not impact this plant species.</p>
<i>Lygodesmia entrada</i> (Entrada rushpink)	<p>This species is found in mixed desert shrub and juniper communities at 4,400-4,800 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<i>Mentzelia argillosa</i> (Arapien stickleaf)	<p>This species is found in salt desert shrub and pinyon-juniper communities on the Arapien Shale formation at 5,000-6,200 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different. The Arapien Shale formation is not found in the study areas.</p> <p>The proposed project will not impact this plant species.</p>
<i>Mentzelia multicaulis var. librina</i> (Book Cliffs blazing star)	<p>This species is found in sagebrush, rabbitbrush, and pinyon-juniper communities at 6,200 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this</p>

	plant species.
<i>Penstemon tidestromii</i> (Tidestrom beardtongue)	<p>This species is found in desert shrub, sagebrush, and pinyon-juniper communities at 5,300-8,200 ft elevation.</p> <p>The study sites have a very different vegetative type.</p> <p>The proposed project will not impact this plant species.</p>
<i>Penstemon wardii</i> (Ward beardtongue)	<p>This species is found in desert shrub, pinyon-juniper, sagebrush, shadescale and greasewood communities on the Arapien Shale formation at 5,495-6,810 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<i>Phacelia utahensis</i> (Utah phacelia)	<p>This species is found in salt desert shrub communities on the Arapien Shale Formation at 5,500-5,700 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<i>Psoralea polydenius</i> var. <i>jonesii</i> (Jones indigo-bush or glandular indigo-bush)	<p>This species is found in salt desert shrub communities on Mancos Shale formations at 4,820 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types</p>

	<p>are very different.</p> <p>The proposed project will not impact this plant species.</p>
<p><i>Silene petersonii</i> (Maguire campion, Wasatch limestone catchfly or Peterson catchfly)</p>	<p>This species is found in ponderosa pine, rocky mountain juniper, bristlecone pine, spruce-fier, and aspen-sagebrush communities on open calcareous and igneous gravels at 6,955-11,200 ft. elevation.</p> <p>The study sites have no open calcareous and igneous gravels.</p> <p>The proposed project will not impact this plant species.</p>
<p><i>Sphaeralcea psoraloides</i> (Psoralea globemallow)</p>	<p>This species is found in zuckia ephedra communities at 4,000-6,000 ft. elevation.</p> <p>The study areas are above the elevation range for this species. The vegetative types are very different.</p> <p>The proposed project will not impact this plant species.</p>
<p><i>Talinum thompsonii</i> (Thompson talinum)</p>	<p>This species is found on silicious conglomeratic gravels in pinyon-juniper and ponderosa pine communities at 7,500 ft. elevation.</p> <p>The study sites do not contain any silicious conglomeratic gravels.</p> <p>The proposed project will not impact this plant species.</p>

Summary

Total estimated disturbance for the 2015 drilling program is 7 acres. Disturbance from drilling activity is expected to be less than 1 acre per site for a total of 7 acres.

Disturbance from access road improvements is estimated to be 3 acres. Currently four of the seven drilling locations will not require any additional surface disturbance to improve the access road or drill sites. The three remaining sites will be drilled using heliportable drill rigs and will not require the construction of access roads. Reclamation of all disturb areas will occur during the late fall of 2015.

Drilling activities will necessitate disturbance to the vegetation in the areas. The amount of disturbance will vary with drilling technique. Some of the plant communities that will be impacted have been disturbed before, or are being disturbed at the current time whereas others were present in their native condition. The plant communities where drilling is proposed were quantitatively sampled along with reference areas chosen to be used for final revegetation success standards. Additionally, endangered, threatened, candidate and sensitive plant species know to occur in Sanpete and Emery counties will not be impacted by the proposed drilling action.

Appendix 1- Data Summary Tables for Drill Site 1

Drill Site 1		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	8	0.75
UNDERSTORY		
GRASSES		
<i>Achnatherum nelsonii</i> (Columbia Needlegras)	1.49	11
<i>Bromus marginatus</i> (Mountain Brome)	1.72	10.25
<i>Carex</i> (<i>Carex</i> spp.)	7.63	31
<i>Elymus canadensis</i> (Canada Wildrye)	0.45	4.75
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	3.08	16.25
<i>Poa fendleriana</i> (Muttongrass)	0.47	3
<i>Poa pratensis</i> (Kentucky Bluegrass)	5.77	19.75
FORBS		
<i>Cirsium arvense</i> (Canada Thistle)	3.77	13.25
<i>Equisetum variegatum</i> (Variegated scouringrush)	4.19	17.25
<i>Erigeron eatonii</i> (Eaton's Fleabane)	0.51	1.75
<i>Fragaria virginiana</i> (Virginia Strawberry)	1.46	13.25
<i>Geranium richardsonii</i> (Richardson's Geranium)	0.17	1.75
<i>Hackelia floribunda</i> (Mayflower Stickseed)	2.12	10.25
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	2.98	15.75
<i>Lathyrus pauciflorus</i> (Fewflower pea)	0.4	1.25
<i>Mertensia ciliate</i> (Mountain Bluebell)	5.02	14.75
<i>Penstemon rydbergii</i> (Rydberg's Penstemon)	3.8	20.25
<i>Phacelia sericea</i> (Silky Phacelia)	0.8	5.5
<i>Potentilla gracilis</i> (Slender Cinquefoil)	2.22	14.75
<i>Rudbeckia occidentalis</i> (Western Coneflower)	0.09	0.75
<i>Veratrum californicum</i> (California False Hellebore)	0.28	0.25
<i>Vicia americana</i> (American Vetch)	1.98	12.25
TREES/SHRUBS		
<i>Ribes montigenum</i> (Gooseberry Currant)	5.73	14
<i>Sambucus racemosa</i> (Red Elderberry)	0.14	0.75
<i>Symphoricarpos oreophilus</i> (Mountain Snowberry)	0.19	0.5

Drill Site 1		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	8	
Understory Cover	56.46	
Litter	15	
Bareground	26.77	
Rock	1.77	
Total Living Cover	64.46	
% Composition		
Grasses	36.5	
Forbs	52.8	
Shrubs	10.7	

Drill Site 1		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Abies lasiocarpa</i> (Subalpine Fir)	20.3	
<i>Ribes montigenum</i> (Gooseberry Currant)	11.6	
<i>Sambucus racemosa</i> (Red Elderberry)	5.8	
<i>Symphoricarpos oreophilus</i> (Mountain Snowberry)	14.5	
TOTAL	51.9	

Appendix 2- Data Summary Tables for Drill Site 1 Reference Site

Drill Site 1 Reference Site		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	3	0.75
UNDERSTORY		
GRASSES		
<i>Achnatherum nelsonii</i> (Columbia Needlegras)	0.3	1.75
<i>Bromus marginatus</i> (Mountain Brome)	7.54	37
<i>Carex</i> (<i>Carex</i> spp.)	12.86	42.75
<i>Elymus canadensis</i> (Canada Wildrye)	1.14	4.25
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	2.06	15.25
<i>Melica spectabilis</i> (Purple Oniongrass)	0.13	0.75
<i>Muhlenbergia richardsoni</i> (Mat Muhly)	0.82	6.75
<i>Poa fendleriana</i> (Muttongrass)	1.94	8
<i>Poa pratensis</i> (Kentucky Bluegrass)	2.11	9.75
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	0.03	0.75
<i>Fragaria virginiana</i> (Virginia Strawberry)	1.86	15.5
<i>Geranium richardsonii</i> (Richardson's Geranium)	0.18	1.75
<i>Hackelia floribunda</i> (Mayflower Stickseed)	4.34	18
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	0.95	4.75
<i>Mertensia ciliate</i> (Mountain Bluebell)	11.42	35.75
<i>Penstemon rydbergii</i> (Rydberg's Penstemon)	2.76	17
<i>Phacelia sericea</i> (Silky Phacelia)	0.3	2.25
<i>Potentilla gracilis</i> (Slender Cinquefoil)	3.41	24.75
<i>Rudbeckia occidentalis</i> (Western Coneflower)	0.52	1.75
<i>Vicia americana</i> (American Vetch)	0.52	5.75
TREES/SHRUBS		
<i>Ribes montigenum</i> (Gooseberry Currant)	1.77	9
<i>Sambucus racemosa</i> (Red Elderberry)	0.04	1

Drill Site 1 Reference Site		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	3	
Understory Cover	57	
Litter	29	
Bareground	14	
Rock	0	
Total Living Cover	60	
% Composition		
Grasses	50.7	
Forbs	46.1	
Shrubs	3.2	

Drill Site 1 Reference Site		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Abies lasiocarpa</i> (Subalpine Fir)	8.7	
<i>Ribes montigenum</i> (Gooseberry Currant)	17.4	
<i>Sambucus racemosa</i> (Red Elderberry)	14.5	
TOTAL	40.6	

Appendix 3- Data Summary Tables for Drill Site 2

Drill Site 2		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	16.2	1.5
<i>Populus tremuloides</i> (Quaking Aspen)	1.2	1.75
UNDERSTORY		
GRASSES		
<i>Bromus anomalus</i> (Nodding Brome)	2.5	16.5
<i>Bromus marginatus</i> (Mountain Brome)	3.8	22.5
<i>Carex</i> (<i>Carex</i> spp.)	2.18	13
<i>Dactylis glomerata</i> (Orchardgrass)	0.3	0.75
<i>Elymus canadensis</i> (Canada Wildrye)	8.86	37
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	0.84	8.25
<i>Melica spectabilis</i> (Purple Oniongrass)	0.86	0.5
<i>Phleum pratensis</i> (Timothy)	0.69	37
<i>Poa pratensis</i> (Kentucky Bluegrass)	0.26	1.5
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	0.32	4.75
<i>Delphinium occidentale</i> (Western Larkspur)	0.22	2.25
<i>Fragaria virginiana</i> (Virginia Strawberry)	0.39	4.75
<i>Hackelia floribunda</i> (Mayflower Stickseed)	0.34	1.75
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	1.26	10.5
<i>Lathyrus pauciflorus</i> (Fewflower pea)	2.37	20.25
<i>Lupinus alpestris</i> (Great Basin Lupine)	3.85	23.5
<i>Mertensia ciliate</i> (Mountain Bluebell)	4.97	20
<i>Penstemon cyananthus</i> (Wasatch Beardtongue)	0.5	0.5
<i>Phacelia sericea</i> (Silky Phacelia)	0.31	1.75
<i>Rudbeckia occidentalis</i> (Western Coneflower)	0.26	1.25
<i>Solidago canadensis</i> (Canada Goldenrod)	0.07	0.75
<i>Taraxacum officinale</i> (Common Dandelion)	0.04	0.75
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	0.97	14.25
TREES/SHRUBS		
<i>Ribes montigenum</i> (Gooseberry Currant)	4.84	19.75
<i>Sambucus racemosa</i> (Red Elderberry)	0.3	1.5

Drill Site 2		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	17.4	
Understory Cover	41.3	
Litter	37.4	
Bareground	21.3	
Rock	0	
Total Living Cover	58.7	
% Composition		
Grasses	49.1	
Forbs	38.4	
Shrubs	12.5	

Drill Site 2		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Abies lasiocarpa</i> (Subalpine Fir)	29	
<i>Populus tremuloides</i> (Quaking Aspen)	8.7	
<i>Ribes montigenum</i> (Gooseberry Currant)	11.6	
<i>Sambucus racemosa</i> (Red Elderberry)	20.3	
TOTAL	69.6	

Appendix 4- Data Summary Tables for Drill Site 2 Reference Site

Drill Site 2 Reference Site		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	11	1
<i>Populus tremuloides</i> (Quaking Aspen)	2.4	5.5
UNDERSTORY		
GRASSES		
<i>Bromus anomalus</i> (Nodding Brome)	2	17.25
<i>Bromus marginatus</i> (Mountain Brome)	2.39	15.5
<i>Carex</i> (<i>Carex</i> spp.)	5.94	29.75
<i>Dactylis glomerata</i> (Orchardgrass)	0.86	0.25
<i>Elymus canadensis</i> (Canada Wildrye)	11.95	46.5
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	1.2	6.75
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	0.26	3.75
<i>Delphinium occidentale</i> (Western Larkspur)	0.04	0.25
<i>Fragaria virginiana</i> (Virginia Strawberry)	0.56	5
<i>Hackelia floribunda</i> (Mayflower Stickseed)	0.22	1.75
<i>Helimeris multiflora</i> (Showy Goldeneye)	0.3	1.75
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	0.34	1.5
<i>Lathyrus pauciflorus</i> (Fewflower pea)	6.79	34.75
<i>Lupinus alpestris</i> (Great Basin Lupine)	2.6	15.25
<i>Mertensia ciliate</i> (Mountain Bluebell)	4.4	27.5
<i>Penstemon cyananthus</i> (Wasatch Beardtongue)	0.17	1.5
<i>Phacelia sericea</i> (Silky Phacelia)	0.27	1.25
<i>Rudbeckia occidentalis</i> (Western Coneflower)	0.26	1
<i>Solidago canadensis</i> (Canada Goldenrod)	0.13	0.75
<i>Taraxacum officinale</i> (Common Dandelion)	0.05	1.5
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	1.39	14.25
TREES/SHRUBS		
<i>Ribes montigenum</i> (Gooseberry Currant)	3.42	14
<i>Sambucus racemosa</i> (Red Elderberry)	0.89	2.25

Drill Site 2 Reference Site		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	13.4	
Understory Cover	46.43	
Litter	32.78	
Bareground	20.79	
Rock	0	
Total Living Cover	59.83	
% Composition		
Grasses	52.4	
Forbs	38.3	
Shrubs	9.3	

Drill Site 2 Reference Site		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Abies lasiocarpa</i> (Subalpine Fir)	34.8	
<i>Populus tremuloides</i> (Quaking Aspen)	17.4	
<i>Ribes montigenum</i> (Gooseberry Currant)	20.3	
<i>Sambucus racemosa</i> (Red Elderberry)	23.2	
TOTAL	95.7	

Appendix 5- Data Summary Tables for Drill Site 3

Drill Site 3		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
UNDERSTORY		
GRASSES		
<i>Achnatherum nelsonii</i> (Columbia Needlegras)	0.23	2.5
<i>Bromus anomalus</i> (Nodding Brome)	0.77	5.75
<i>Bromus marginatus</i> (Mountain Brome)	4.72	27.25
<i>Carex</i> (<i>Carex</i> spp.)	7.69	34.5
<i>Dactylis glomerata</i> (Orchardgrass)	2.07	10.5
<i>Elymus canadensis</i> (Canada Wildrye)	14.78	57.75
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	0.49	2
<i>Muhlenbergia richardsoni</i> (Mat Muhly)	1.05	6.75
<i>Phleum alpinum</i> (Alpine Timothy)	0.04	0.5
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	1.10	16
<i>Cirsium arvense</i> (Canada Thistle)	0.15	1.5
<i>Erigeron eatonii</i> (Eaton's Fleabane)	0.35	3.5
<i>Fragaria virginiana</i> (Virginia Strawberry)	0.16	2.75
<i>Geranium richardsonii</i> (Richardson's Geranium)	0.9	6.75
<i>Hackelia floribunda</i> (Mayflower Stickseed)	2.09	7.75
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	0.57	6.25
<i>Lathyrus pauciflorus</i> (Fewflower pea)	1.39	14.25
<i>Lupinus alpestris</i> (Great Basin Lupine)	1.53	11
<i>Mertensia ciliate</i> (Mountain Bluebell)	2.17	10
<i>Phacelia sericea</i> (Silky Phacelia)	2.12	14
<i>Potentilla gracilis</i> (Slender Cinquefoil)	0.39	4
<i>Rudbeckia occidentalis</i> (Western Coneflower)	1.22	9.5
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	0.23	2.75
TREES/SHRUBS		
<i>Ribes montigenum</i> (Gooseberry Currant)	0.39	1.75

Drill Site 3		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	0	
Understory Cover	46.6	
Litter	24.1	
Bareground	28	
Rock	1.3	
Total Living Cover	46.6	
% Composition		
Grasses	68.3	
Forbs	30.7	
Shrubs	0.8	

Drill Site 3		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Ribes montigenum</i> (Gooseberry Currant)	5.8	
TOTAL	5.8	

Appendix 6- Data Summary Tables for Drill Site 3 Reference Site

Drill Site 3 Reference		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	1	0.25
<i>Populus tremuloides</i> (Quaking Aspen)	17	1.25
UNDERSTORY		
GRASSES		
<i>Achnatherum nelsonii</i> (Columbia Needlegras)	0.71	5.75
<i>Bromus marginatus</i> (Mountain Brome)	13.54	65.5
<i>Carex</i> (<i>Carex</i> spp.)	11.57	37.75
<i>Elymus canadensis</i> (Canada Wildrye)	7.53	32.5
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	0.56	6.5
<i>Melica spectabilis</i> (Purple Oniongrass)	0.15	1.75
<i>Poa pratensis</i> (Kentucky Bluegrass)	1.3	10
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	0.07	1
<i>Carduus nutans</i> (Musk Thistle)	0.07	0.5
<i>Descurainia incana</i> (Mountain Tansymstard)	0.16	3.25
<i>Erigeron eatonii</i> (Eaton's Fleabane)	0.28	3
<i>Fragaria virginiana</i> (Virginia Strawberry)	0.04	0.25
<i>Hackelia floribunda</i> (Mayflower Stickseed)	3.1	19.25
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	0.35	2.75
<i>Lathyrus pauciflorus</i> (Fewflower pea)	10.35	66.5
<i>Mertensia ciliate</i> (Mountain Bluebell)	0.39	1.25
<i>Phacelia sericea</i> (Silky Phacelia)	0.04	1
<i>Rudbeckia occidentalis</i> (Western Coneflower)	2.2	13.25
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	0.14	0.75
TREES/SHRUBS		
<i>Ribes montigenum</i> (Gooseberry Currant)	0.11	0.25
<i>Sambucus racemosa</i> (Red Elderberry)	0.51	3.25
<i>Symphoricarpos oreophilus</i> (Mountain Snowberry)	0.07	0.25

Drill Site 3 Reference Site		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	18	
Understory Cover	61	
Litter	11	
Bareground	28	
Rock	0	
Total Living Cover	79	
% Composition		
Grasses	58	
Forbs	41.8	
Shrubs	0.2	

Drill Site 3 Reference Site		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Abies lasiocarpa</i> (Subalpine Fir)	5.8	
<i>Populus tremuloides</i> (Quaking Aspen)	34.8	
<i>Ribes montigenum</i> (Gooseberry Currant)	5.8	
<i>Sambucus racemosa</i> (Red Elderberry)	31.9	
<i>Symphoricarpos oreophilus</i> (Mountain Snowberry)	2.9	
TOTAL	81.2	

Appendix 7- Data Summary Tables for Drill Site 4

Drill Site 4		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	9	0.25
UNDERSTORY		
GRASSES		
<i>Bromus marginatus</i> (Mountain Brome)	4.57	28.5
<i>Carex</i> (<i>Carex</i> spp.)	7.3	22.25
<i>Elymus canadensis</i> (Canada Wildrye)	12.93	56.75
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	1.68	13.25
<i>Melica spectabilis</i> (Purple Oniongrass)	0.03	1
<i>Muhlenbergia richardsoni</i> (Mat Muhly)	0.05	1.25
<i>Phleum pratensis</i> (Timothy)	0.61	6.25
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	0.48	8
<i>Agastache urticifolia</i> (Nettleleaf Giant Hyssop)	0.03	0.75
<i>Carduus nutans</i> (Musk Thistle)	0.16	1.25
<i>Delphinium occidentale</i> (Western Larkspur)	0.35	2.5
<i>Fragaria virginiana</i> (Virginia Strawberry)	0.41	6
<i>Hackelia floribunda</i> (Mayflower Stickseed)	0.64	8.25
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	1.61	12.75
<i>Lathyrus pauciflorus</i> (Fewflower pea)	2.54	20.25
<i>Lupinus alpestris</i> (Great Basin Lupine)	0.67	5.25
<i>Mertensia ciliate</i> (Mountain Bluebell)	0.01	0.5
<i>Penstemon cyananthus</i> (Wasatch Beardtongue)	0.04	0.75
<i>Phacelia sericea</i> (Silky Phacelia)	0.13	2.5
<i>Rudbeckia occidentalis</i> (Western Coneflower)	2.23	9.5
<i>Solidago canadensis</i> (Canada Goldenrod)	0.36	2
<i>Taraxacum officinale</i> (Common Dandelion)	0.47	6.25
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	2.09	26
<i>Utica dioica</i> (Stinging Nettle)	0.07	1.25
TREES/SHRUBS		
<i>Ribes montigenum</i> (Gooseberry Currant)	1.69	5.5
<i>Sambucus racemosa</i> (Red Elderberry)	2.9	8.5

Drill Site 4 2015	
Total Cover and Composition	
	Mean Percent cover
TOTAL COVER	
Overstory Cover	9
Understory Cover	44.65
Litter	33.35
Bareground	22
Rock	
Total Living Cover	53.65
% Composition	
Grasses	62.2
Forbs	27.5
Shrubs	10.3

Drill Site 4 2015	
Woody Species Density	
	Number/Acre
SPECIES (COMMON NAME)	
<i>Abies lasiocarpa</i> (Subalpine Fir)	17.4
<i>Ribes montigenum</i> (Gooseberry Currant)	23.6
<i>Sambucus racemosa</i> (Red Elderberry)	31.5
TOTAL	72.5

Appendix 8- Data Summary Tables for Drill Site 4 Reference Site

Drill Site 4 Reference Site		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	3	0.25
<i>Populus tremuloides</i> (Quaking Aspen)	6	0.5
UNDERSTORY		
GRASSES		
<i>Achnatherum nelsonii</i> (Columbia Needlegras)	0.04	1
<i>Bromus marginatus</i> (Mountain Brome)	8.72	50.25
<i>Carex</i> (<i>Carex</i> spp.)	3.3	13.75
<i>Elymus canadensis</i> (Canada Wildrye)	9.56	46.25
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	4.12	30.5
<i>Melica spectabilis</i> (Purple Oniongrass)	0.27	2.5
<i>Phleum pratensis</i> (Timothy)	0.23	2
<i>Poa pratensis</i> (Kentucky Bluegrass)	0.47	3.75
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	2.27	12.25
<i>Agastache urticifolia</i> (Nettleleaf Giant Hyssop)	0.11	1.75
<i>Delphinium occidentale</i> (Western Larkspur)	0.34	2.5
<i>Erigeron eatonii</i> (Eaton's Fleabane)	0.02	0.75
<i>Fragaria virginiana</i> (Virginia Strawberry)	0.21	2.75
<i>Hackelia floribunda</i> (Mayflower Stickseed)	2.41	13.25
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	2.01	17.25
<i>Lathyrus pauciflorus</i> (Fewflower pea)	2.58	18.5
<i>Lupinus alpestris</i> (Great Basin Lupine)	2.21	12
<i>Mertensia ciliate</i> (Mountain Bluebell)	0.06	1.25
<i>Penstemon cyananthus</i> (Wasatch Beardtongue)	0.06	0.5
<i>Phacelia sericea</i> (Silky Phacelia)	0.51	3.75
<i>Rudbeckia occidentalis</i> (Western Coneflower)	1.54	8.25
<i>Solidago canadensis</i> (Canada Goldenrod)	0.39	1.25
<i>Taraxacum officinale</i> (Common Dandelion)	0.07	1.5
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	1.89	23.25
TREES/SHRUBS		
<i>Ribes montigenum</i> (Gooseberry Currant)	2.15	12.25
<i>Sambucus racemosa</i> (Red Elderberry)	4.37	13.25

Drill Site 4 Reference Site		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	9	
Understory Cover	50	
Litter	29	
Bareground	21	
Rock		
Total Living Cover	59	
% Composition		
Grasses	53.4	
Forbs	33.2	
Shrubs	13.4	

Drill Site 4 Reference Site		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Abies lasiocarpa</i> (Subalpine Fir)	14.5	
<i>Populus tremuloides</i> (Quaking Aspen)	2.9	
<i>Ribes montigenum</i> (Gooseberry Currant)	36.4	
<i>Sambucus racemosa</i> (Red Elderberry)	52.5	
TOTAL	106.3	

Appendix 9- Data Summary Tables for Drill Site 5

Drill Site 5		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
UNDERSTORY		
GRASSES		
<i>Achnatherum lettermanii</i> (Letterman's Needlegrass)	1.10	22.25
<i>Bromus marginatus</i> (Mountain Brome)	0.1	3.5
<i>Carex</i> (<i>Carex</i> spp.)	2.26	31.25
<i>Elymus lanceolatus</i> (Thickspike Wheatgrass)	0.33	8.25
<i>Poa fendleriana</i> (Muttongrass)	1.1	22.25
<i>Poa pratensis</i> (Kentucky Bluegrass)	9.58	78
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	0.18	7
<i>Antennaria</i> (Pussytoes)	0.05	1
<i>Carduus nutans</i> (Musk Thistle)	0.03	0.75
<i>Equisetum arvense</i> (Field Horsetail)	0.03	1
<i>Erigeron eatonii</i> (Eaton's Fleabane)	0.03	1
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	0.51	13.25
<i>Melilotus officinalis</i> (Sweetclover)	0.06	5.75
<i>Orthocarpus tolmiei</i> (Tolmie's Owl's-clover)	0.55	14.75
<i>Penstemon rydbergii</i> (Rydberg's Penstemon)	0.68	10
<i>Phlox austromontana</i> (Mountain Phlox)	0.61	9
<i>Potentilla gracilis</i> (Slender Cinquefoil)	0.21	4.25
TREES/SHRUBS		
<i>Artemisia cana</i> (Silver Sagebrush)	0.1	0.75
<i>Artemisia tridentata vaseyana</i> (Mountain Big Sagebrush)	32.9	38
<i>Chrysothamnus viscidiflorus</i> (Yellow Rabbitbrush)	4	1.5
<i>Dasiphora fruticosa</i> (Shrubby Cinquefoil)	0.7	1.75

Drill Site 5		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	0	
Understory Cover	54	
Litter	3	
Bareground	37	
Rock	6	
Total Living Cover	54	
% Composition		
Grasses	25.8	
Forbs	4.4	
Shrubs	69.8	

Drill Site 5		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Artemisia cana</i> (Silver Sagebrush)	3.6	
<i>Artemisia tridentata vaseyana</i> (Mountain Big Sagebrush)	473.7	
<i>Chrysothamnus viscidiflorus</i> (Yellow Rabbitbrush)	7.9	
<i>Dasiphora fruticosa</i> (Shrubby Cinquefoil)	9.2	
TOTAL	494.4	

Appendix 10- Data Summary Tables for Drill Site 5 Reference Site

Drill Site 5 Reference Site		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
UNDERSTORY		
GRASSES		
<i>Achnatherum lettermanii</i> (Letterman's Needlegrass)	1.61	15.25
<i>Carex</i> (<i>Carex</i> spp.)	8.32	78.25
<i>Elymus lanceolatus</i> (Thickspike Wheatgrass)	0.34	4.5
<i>Poa fendleriana</i> (Muttongrass)	0.12	0.75
<i>Poa pratensis</i> (Kentucky Bluegrass)	10.58	79.5
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	0.56	13.25
<i>Antennaria</i> (Pussytoes)	0.2	3.25
<i>Carduus nutans</i> (Musk Thistle)	0.08	1.75
<i>Crepis acuminata</i> (TapertipHawksbeard)	0.04	0.75
<i>Erigeron eatonii</i> (Eaton's Fleabane)	0.1	1.75
<i>Fragaria virginiana</i> (Virginia Strawberry)	0.42	8
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	0.12	1.75
<i>Melilotus officinalis</i> (Sweetclover)	0.01	0.75
<i>Orthocarpus tolmiei</i> (Tolmie's Owl's-clover)	0.33	8
<i>Penstemon rydbergii</i> (Rydberg's Penstemon)	2.22	22.75
<i>Phlox austromontana</i> (Mountain Phlox)	0.57	9.25
<i>Potentilla gracilis</i> (Slender Cinquefoil)	0.56	11.25
<i>Taraxacum officinale</i> (Common Dandelion)	0.02	1
TREES/SHRUBS		
<i>Artemisia tridentata vaseyana</i> (Mountain Big Sagebrush)	28.6	29.25
<i>Dasiphora fruticosa</i> (Shrubby Cinquefoil)	1.2	0.75

Drill Site 5 Reference Site		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	0	
Understory Cover	56	
Litter	5	
Bareground	36	
Rock	3	
Total Living Cover	56	
% Composition		
Grasses	37.4	
Forbs	9.4	
Shrubs	53.2	

Drill Site 5 Reference Site		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Artemisia tridentata vaseyana</i> (Mountain Big Sagebrush)	467.5	
<i>Dasiphora fruticosa</i> (Shrubby Cinquefoil)	26.3	
TOTAL	512.8	

Appendix 11- Data Summary Tables for Drill Site 6

Drill Site 6		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	3.4	4.25
<i>Populus tremuloides</i> (Quaking Aspen)	12	2.25
UNDERSTORY		
GRASSES		
<i>Achnatherum nelsonii</i> (Columbia Needlegras)	0.04	0.75
<i>Achnatherum thurberianum</i> (Thurber's Needlegrass)	0.08	0.5
<i>Bromus marginatus</i> (Mountain Brome)	13.35	52.25
<i>Carex</i> (<i>Carex</i> spp.)	3.47	17.25
<i>Elymus canadensis</i> (Canada Wildrye)	6.48	33.5
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	1.57	14.5
<i>Melica spectabilis</i> (Purple Oniongrass)	0.61	5.5
<i>Muhlenbergia richardsoni</i> (Mat Muhly)	0.04	0.75
<i>Poa fendleriana</i> (Muttongrass)	0.04	0.5
<i>Poa pratensis</i> (Kentucky Bluegrass)	5.13	27
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	2.57	32
<i>Carduus nutans</i> (Musk Thistle)	0.14	2.5
<i>Crepis acuminata</i> (Tapertip Hawksbeard)	0.1	1.5
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	4.89	34.75
<i>Lathyrus pauciflorus</i> (Fewflower pea)	11.25	52.75
<i>Potentilla gracilis</i> (Slender Cinquefoil)	0.02	0.75
<i>Rudbeckia occidentalis</i> (Western Coneflower)	1.68	7.5
<i>Taraxacum officinale</i> (Common Dandelion)	0.37	7
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	0.17	3.5
TREES/SHRUBS		

Appendix 12- Data Summary Tables for Drill Site 6 Reference Site

Drill Site 6 Reference Site		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	0.2	0.75
<i>Populus tremuloides</i> (Quaking Aspen)	15.4	1
UNDERSTORY		
GRASSES		
<i>Achnatherum nelsonii</i> (Columbia Needlegrass)	.1	1.5
<i>Bromus marginatus</i> (Mountain Brome)	9.12	53.5
<i>Carex</i> (<i>Carex</i> spp.)	6.91	29.5
<i>Elymus canadensis</i> (Canada Wildrye)	4.97	28.25
<i>Elymus trachycaulus</i> (Slender Wheatgrass)	0.8	10.5
<i>Melica spectabilis</i> (Purple Oniongrass)	0.07	1
<i>Muhlenbergia richardsoni</i> (Mat Muhly)	0.04	0.25
<i>Poa pratensis</i> (Kentucky Bluegrass)	7.83	48.5
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	2.12	29.75
<i>Carduus nutans</i> (Musk Thistle)	0.04	0.75
<i>Crepis acuminata</i> (Tapertip Hawksbeard)	0.04	1
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	4.25	32.25
<i>Lathyrus pauciflorus</i> (Fewflower pea)	12.48	64.5
<i>Penstemon cyananthus</i> (Wasatch Beardtongue)	0.01	0.5
<i>Potentilla gracilis</i> (Slender Cinquefoil)	0.04	0.5
<i>Taraxacum officinale</i> (Common Dandelion)	0.17	5.25
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	0.24	5
TREES/SHRUBS		
<i>Abies lasiocarpa</i> (Subalpine Fir)		0.75
<i>Artemisia tridentata vaseyana</i> (Mountain Big Sagebrush)	4.73	7
<i>Populus tremuloides</i> (Quaking Aspen)		1

Drill Site 6 Reference Site		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	15.6	
Understory Cover	54	
Litter	26	
Bareground	20	
Rock		
Total Living Cover	69.6	
% Composition		
Grasses	55.3	
Forbs	35.9	
Shrubs	8.8	

Drill Site 6 Reference Site		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Abies lasiocarpa</i> (Subalpine Fir)	2.9	
<i>Artemisia tridentata vaseyana</i> (Mountain Big Sagebrush)	8.7	
<i>Populus tremuloides</i> (Quaking Aspen)	17.4	
TOTAL	17.4	

Appendix 13- Data Summary Tables for Drill Site 7

Drill Site 7		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	17.2	3.25
UNDERSTORY		
GRASSES		
<i>Bromus anomalus</i> (Nodding Brome)	1	1.75
<i>Bromus marginatus</i> (Mountain Brome)	1.1	5
<i>Carex</i> (<i>Carex</i> spp.)	7.23	29.5
<i>Elymus canadensis</i> (Canada Wildrye)	20.87	64
<i>Muhlenbergia richardsoni</i> (Mat Muhly)	0.33	3
<i>Phleum alpinum</i> (Alpine Timothy)	0.05	0.5
<i>Phleum pratensis</i> (Timothy)	1.1	5.25
<i>Poa pratensis</i> (Kentucky Bluegrass)	4.55	15.5
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	2.62	19.75
<i>Carduus nutans</i> (Musk Thistle)	0.05	0.75
<i>Fragaria virginiana</i> (Virginia Strawberry)	0.89	7.25
<i>Geranium richardsonii</i> (Richardson's Geranium)	0.25	1.75
<i>Hackelia floribunda</i> (Mayflower Stickseed)	0.1	1
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	0.52	4.5
<i>Lathyrus pauciflorus</i> (Fewflower pea)	7.87	36.5
<i>Lupinus alpestris</i> (Great Basin Lupine)	2.63	9.75
<i>Penstemon cyananthus</i> (Wasatch Beardtongue)	0.03	0.75
<i>Phacelia sericea</i> (Silky Phacelia)	0.2	0.25
<i>Rudbeckia occidentalis</i> (Western Coneflower)	1.05	4.5
<i>Solidago canadensis</i> (Canada Goldenrod)	0.2	0.75
<i>Taraxacum officinale</i> (Common Dandelion)	0.98	10.5
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	1.23	10.25
TREES/SHRUBS		
<i>Ribes montigenum</i> (Gooseberry Currant)	0.45	2.5
<i>Sambucus racemosa</i> (Red Elderberry)	0.7	2

Appendix 14- Data Summary Tables for Drill Site 7 Reference Site

Drill Site 7 Reference Site		2015
Percent Cover and Percent Frequency by Species		
Species Name (Common Name)	Mean Percent Cover	Percent Frequency
OVERSTORY		
<i>Abies lasiocarpa</i> (Subalpine Fir)	19	3.5
UNDERSTORY		
GRASSES		
<i>Achnatherum nelsonii</i> (Columbia Needlegrass)	0.04	0.75
<i>Bromus anomalus</i> (Nodding Brome)	1.92	10.25
<i>Bromus marginatus</i> (Mountain Brome)	1	4.5
<i>Carex</i> (<i>Carex</i> spp.)	6.8	33.25
<i>Elymus canadensis</i> (Canada Wildrye)	22.4	75
<i>Melica spectabilis</i> (Purple Oniongrass)	0.12	1.25
<i>Phleum pratensis</i> (Timothy)	0.16	1.5
FORBS		
<i>Achillea millefolium</i> (Common Yarrow)	2.11	26
<i>Fragaria virginiana</i> (Virginia Strawberry)	1.53	14
<i>Geranium richardsonii</i> (Richardson's Geranium)	0.29	3
<i>Hackelia floribunda</i> (Mayflower Stickseed)	0.12	2
<i>Heliomeris multiflora</i> (Showy Goldeneye)	0.2	1.25
<i>Hymenoxys hoopesii</i> (Orange Sneezeweed)	0.56	4
<i>Lathyrus pauciflorus</i> (Fewflower pea)	11.13	53.75
<i>Lupinus alpestris</i> (Great Basin Lupine)	3.69	17.5
<i>Phacelia sericea</i> (Silky Phacelia)	0.04	0.25
<i>Rudbeckia occidentalis</i> (Western Coneflower)	0.36	1.25
<i>Taraxacum officinale</i> (Common Dandelion)	0.25	4.5
<i>Thalictrum fendleri</i> (Fendler's Meadow-rue)	1.8	21.25
TREES/SHRUBS		
<i>Abies lasiocarpa</i> (Subalpine Fir)		3.5
<i>Ribes montigenum</i> (Gooseberry Currant)	1.56	4.75
<i>Sambucus racemosa</i> (Red Elderberry)	0.44	3.25

Drill Site 7 Reference Site		2015
Total Cover and Composition		
	Mean Percent cover	
TOTAL COVER		
Overstory Cover	19	
Understory Cover	58	
Litter	24	
Bareground	17	
Rock	1	
Total Living Cover	77	
% Composition		
Grasses	58.5	
Forbs	38.1	
Shrubs	3.4	

Drill Site 7 Reference Site		2015
Woody Species Density		
	Number/Acre	
SPECIES (COMMON NAME)		
<i>Abies lasiocarpa</i> (Subalpine Fir)	43.5	
<i>Ribes montigenum</i> (Gooseberry Currant)	20.3	
<i>Sambucus racemosa</i> (Red Elderberry)	6.3	
TOTAL	70.1	

Appendix 15- Photos of Drill Site 1



Drill Site 1 Belt 1



Drill Site 1 Belt 2



Drill Site 1 Belt 3



Drill Site 1 Belt 4



Drill Site 1 Belt 5

Appendix 16- Photos of Drill Site 1 Reference Site



Drill Site 1 Reference Belt 1



Drill Site 1 Reference Belt 2



Drill Site 1 Reference Belt 3



Drill Site 1 Reference Belt 4



Drill Site 1 Reference Belt 5

Appendix 17- Photos of Drill Site 2



Drill Site 2 Belt 1



Drill Site 2 Belt 2



Drill Site 2 Belt 3



Drill Site 2 Belt 4



Drill Site 2 Belt 5

Appendix 18- Photos of Drill Site 2 Reference Site



Drill Site 2 Reference Belt 1



Drill Site 2 Reference Belt 2



Drill Site 2 Reference Belt 3



Drill Site 2 Reference Belt 4



Drill Site 2 Reference Belt 5

Appendix 19- Photos of Drill Site 3



Drill Site 3 Belt 1



Drill Site 3 Belt 2



Drill Site 3 Belt 3



Drill Site 3 Belt 4



Drill Site 3 Belt 5

Appendix 20- Photos of Drill Site 3 Reference Site



Drill Site 3 Reference Belt 1



Drill Site 3 Reference Belt 2



Drill Site 3 Reference Belt 3



Drill Site 3 Reference Belt 4



Drill Site 3 Reference Belt 5

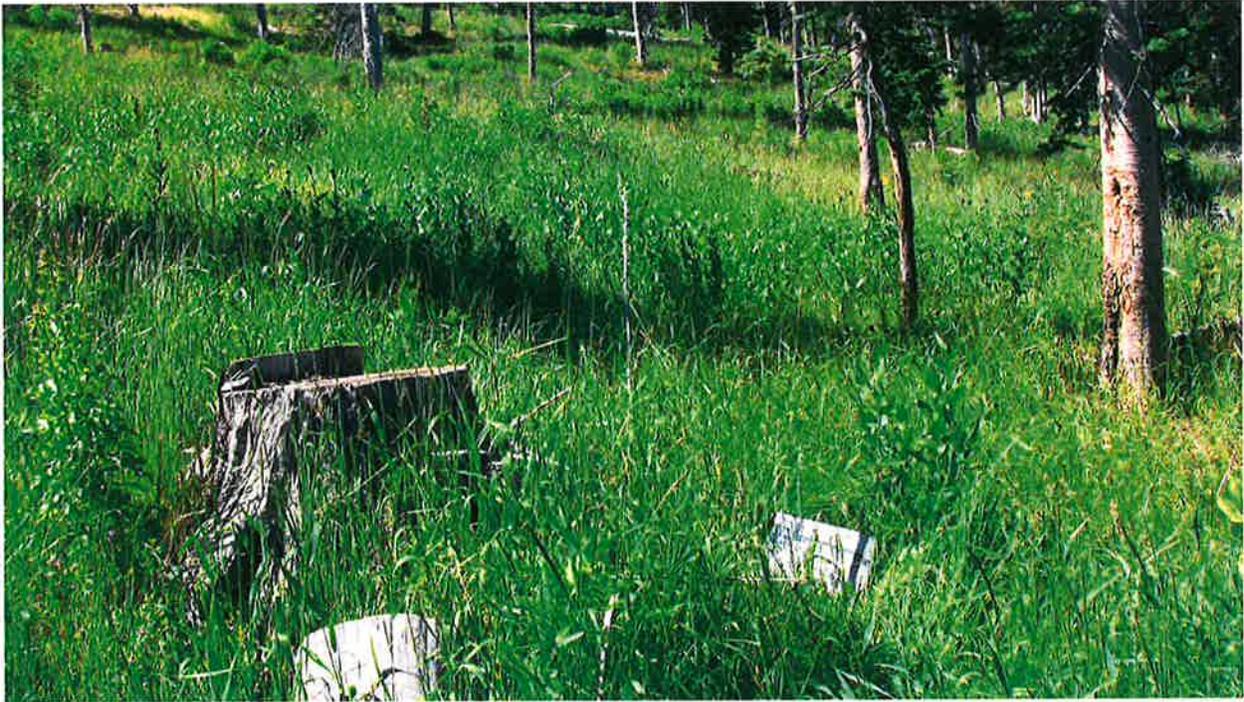
Appendix 21- Photos of Drill Site 4



Drill Site 4 Belt 1



Drill Site 4 Belt 2



Drill Site 4 Belt 3



Drill Site 4 Belt 4



Drill Site 4 Belt 5

Appendix 22- Photos of Drill Site 4 Reference Site



Drill Site 4 Reference Belt 1



Drill Site 4 Reference Belt 2



Drill Site 4 Reference Belt 3

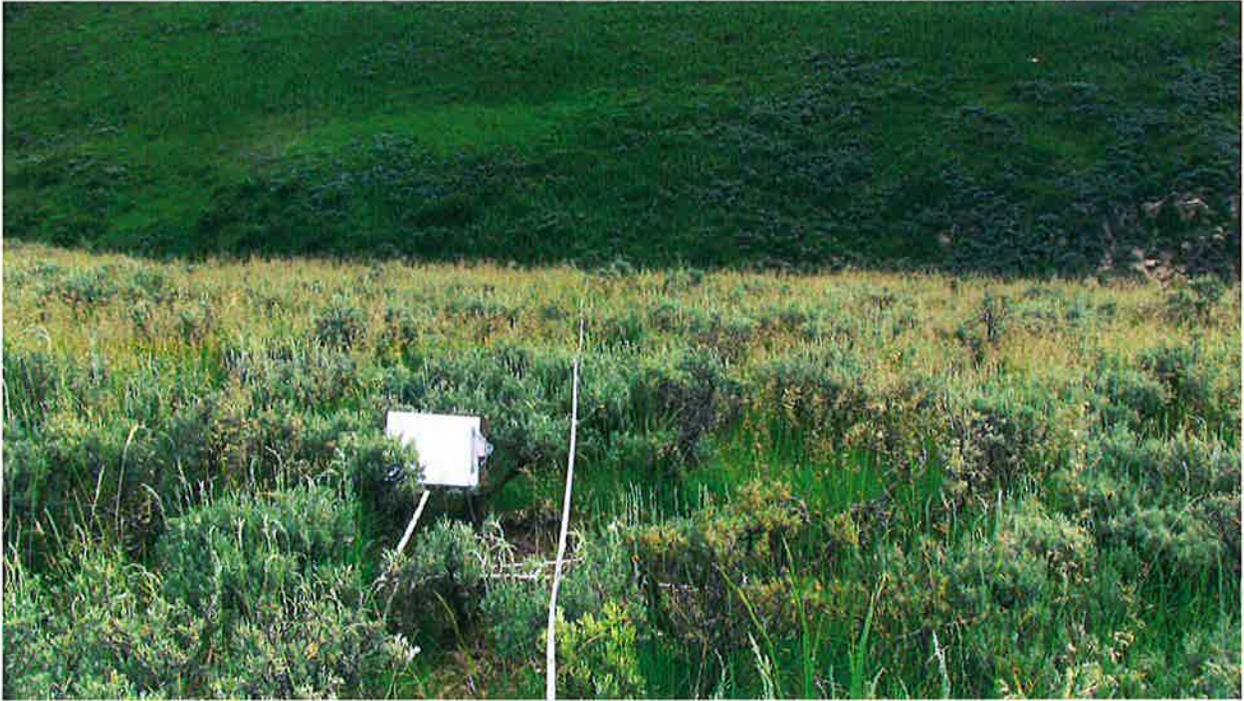


Drill Site 4 Reference Belt 4



Drill Site 4 Reference Belt 5

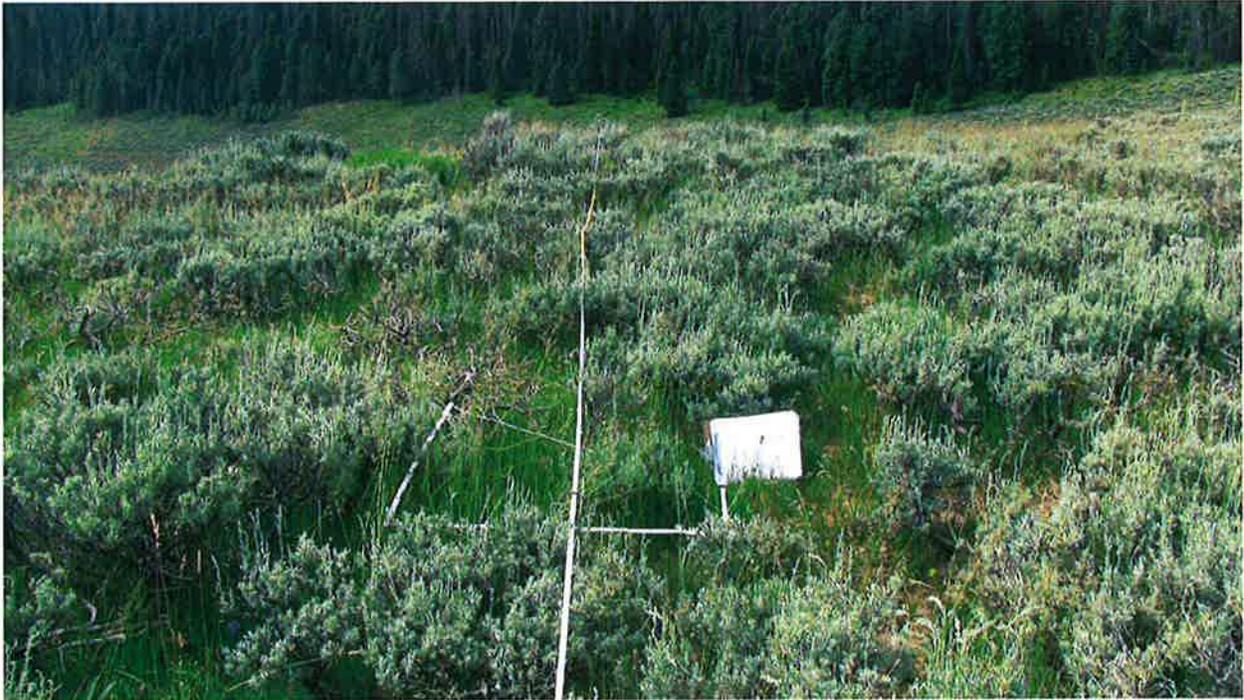
Appendix 23- Photos of Drill Site 5



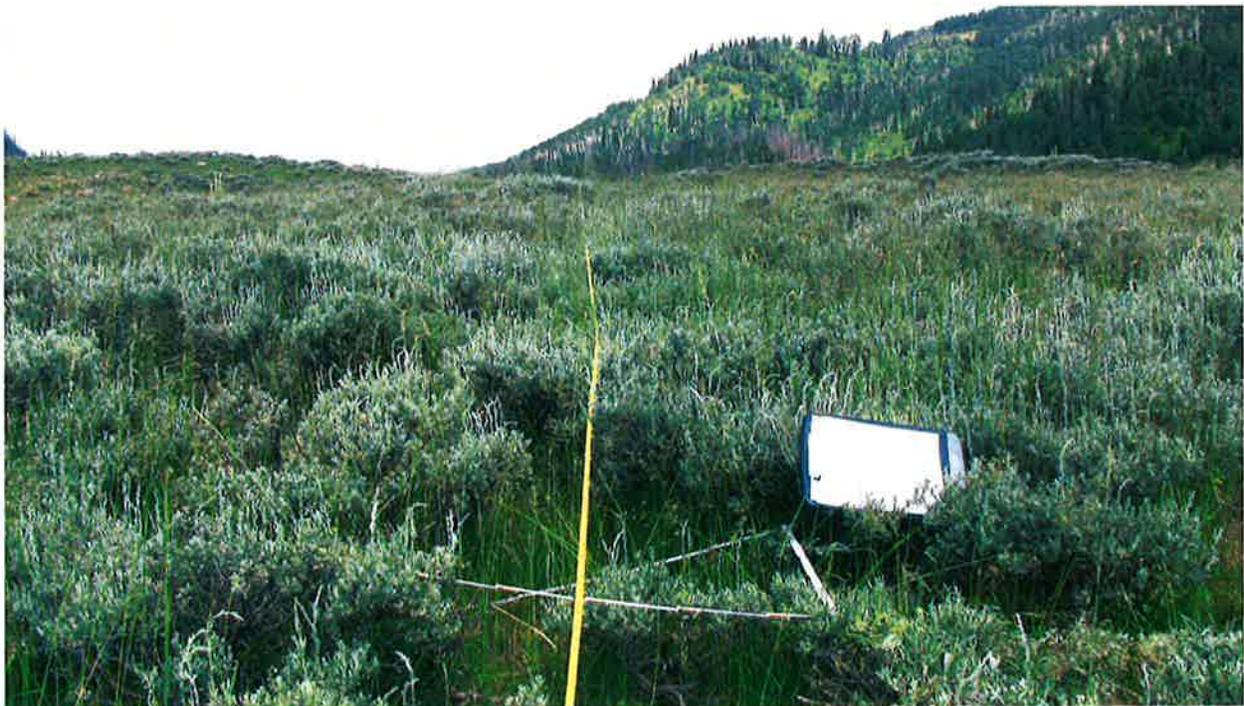
Drill Site 5 Belt 1



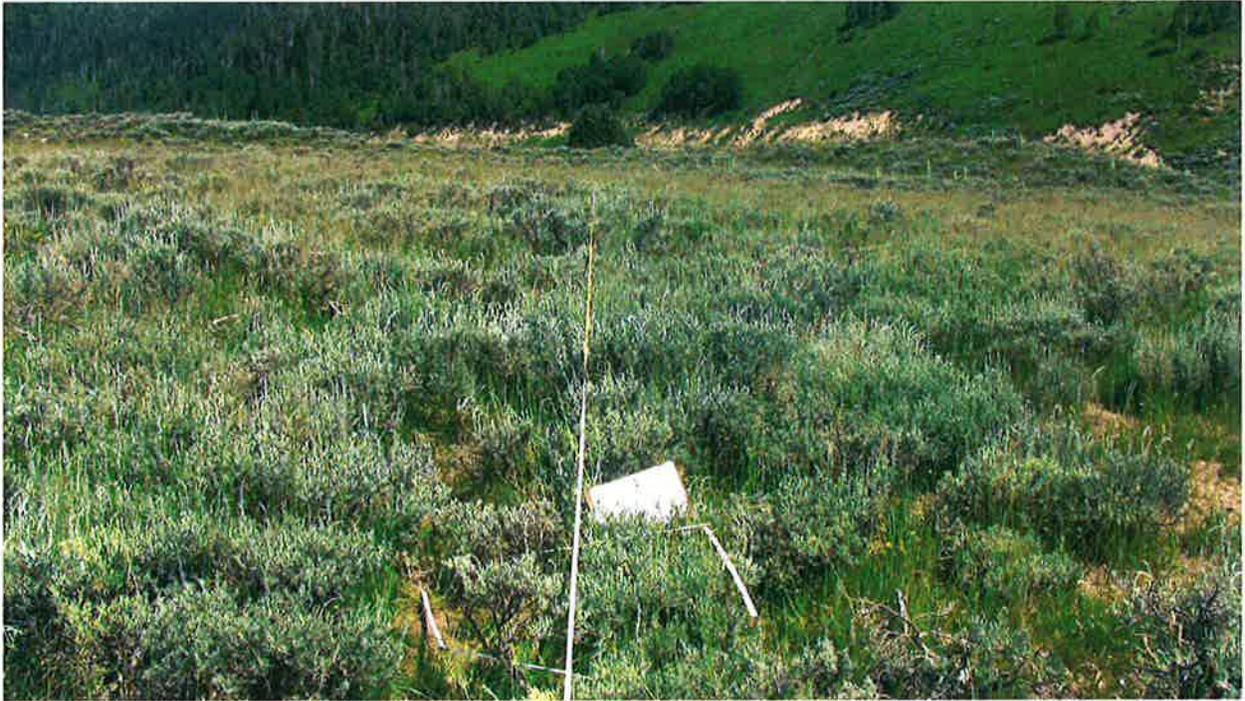
Drill Site 5 Belt 2



Drill Site 5 Belt 3



Drill Site 5 Belt 4



Drill Site 5 Belt 5

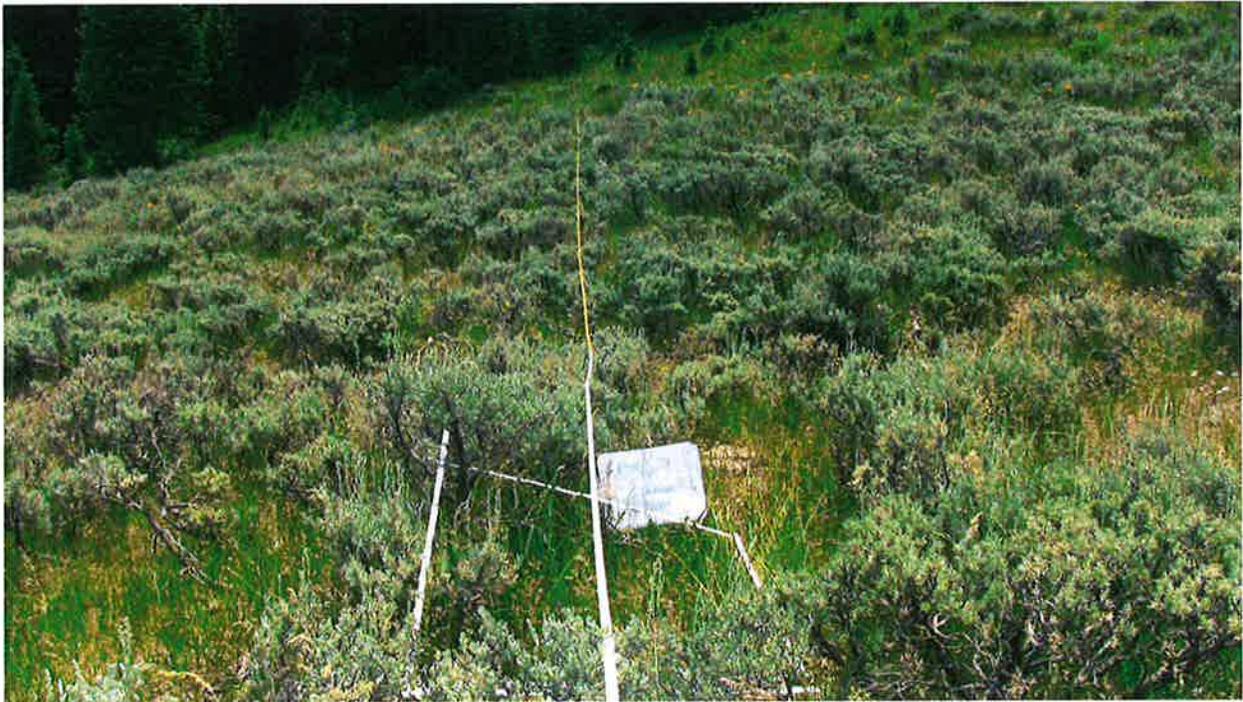
Appendix 24- Photos of Drill Site 5 Reference Site



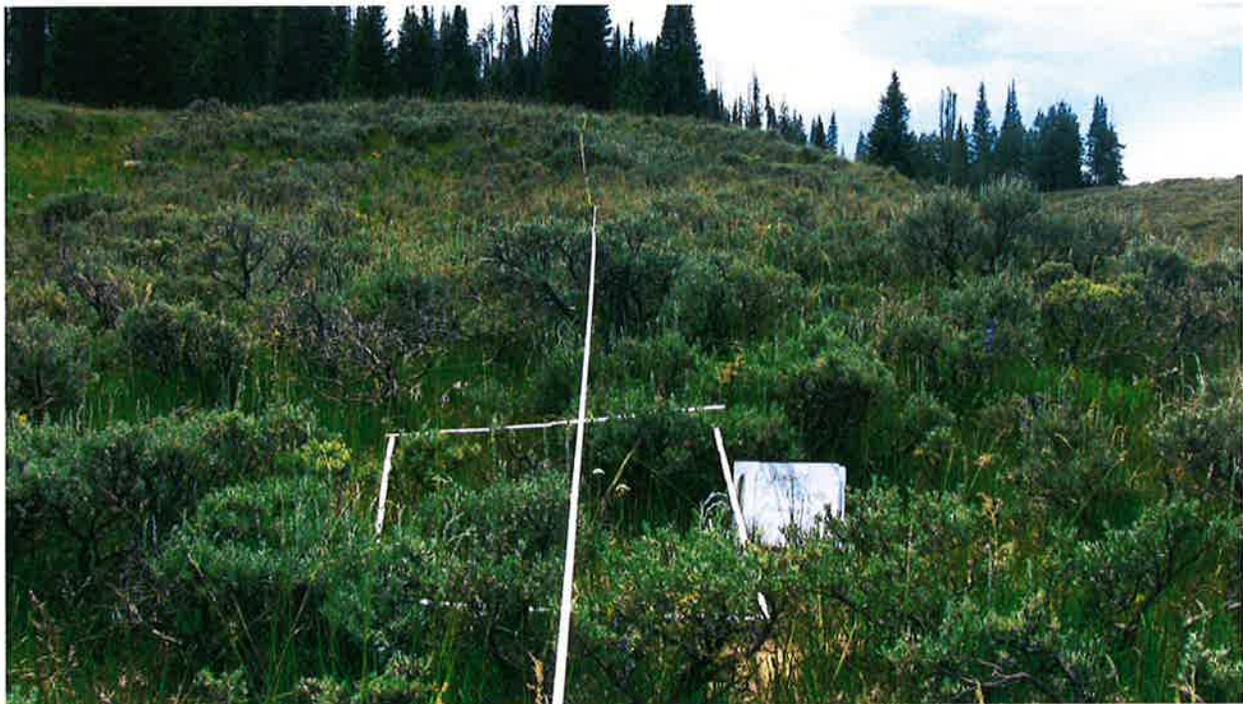
Drill Site 5 Reference Belt 1



Drill Site 5 Reference Belt 2



Drill Site 5 Reference Belt 3



Drill Site 5 Reference Belt 4



Drill Site 5 Reference Belt 5

Appendix 25- Photos of Drill Site 6



Drill Site 6 Belt 1



Drill Site 6 Belt 2



Drill Site 6 Belt 3



Drill Site 6 Belt 4

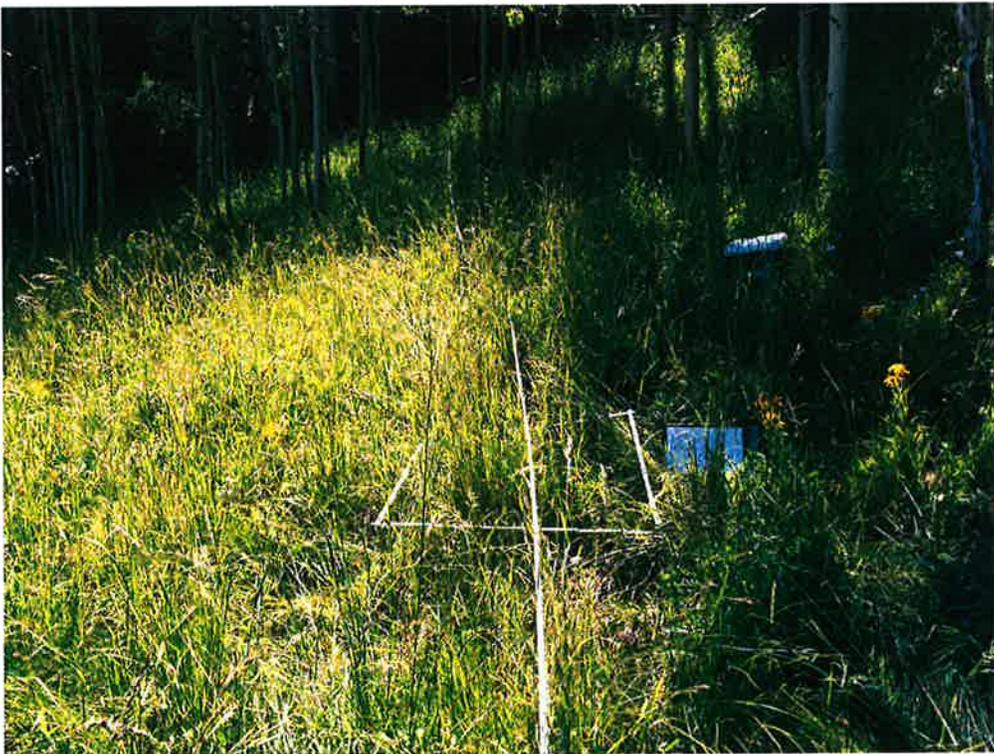


Drill Site 6 Belt 5

Appendix 26- Photos of Drill Site 6 Reference Site



Drill Site 6 Reference Belt 1



Drill Site 6 Reference Belt 2



Drill Site 6 Reference Belt 3



Drill Site 6 Reference Belt 4



Drill Site 6 Reference Belt 5

Appendix 27- Photos of Drill Site 7



Drill Site 7 Belt 1



Drill Site 7 Belt 2



Drill Site 7 Belt 3



Drill Site 7 Belt 4



Drill Site 7 Belt 5

Appendix 28- Photos of Drill Site 7 Reference Site



Drill Site 7 Reference Belt 1



Drill Site 7 Reference Belt 2

Appendix 28- Photos of Drill Site 7 Reference Site



Drill Site 7 Reference Belt 1



Drill Site 7 Reference Belt 2



Drill Site 7 Reference Belt 3



Drill Site 7 Reference Belt 4



Drill Site 7 Reference Belt 5

Appendix 29- Study Area Maps



Drill Site 1 and Drill Site 1 Reference Site



Drill Site 2 and Drill Site 2 Reference Site



Drill Site 3 and Drill Site 3 Reference Site



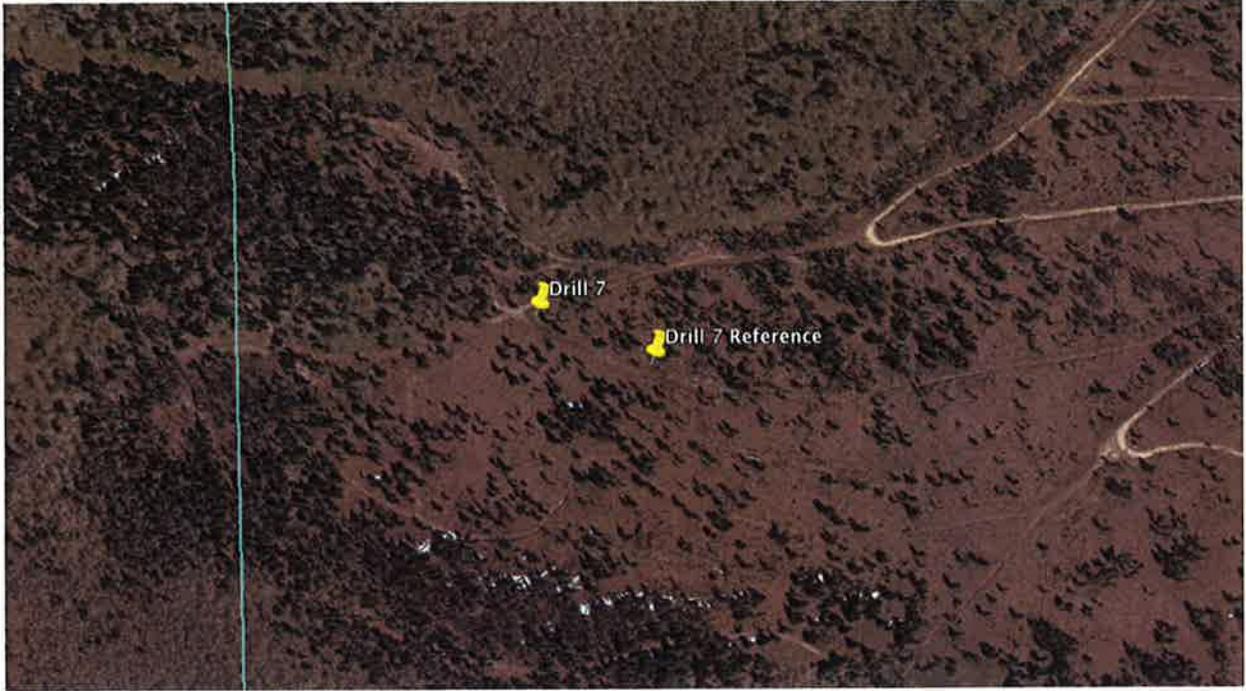
Drill Site 4 and Drill Site 4 Reference Site



Drill Site 5 and Drill Site 5 Reference Site



Drill Site 6 and Drill Site 6 Reference Site



Drill Site 7 and Drill Site 7 Reference Site

Appendix 30- UTM Coordinates of Reference Areas

Drill 1 Reference	0477575 E	4391748 N
Drill 2 Reference	0477865 E	4391526 N
Drill 3 Reference	0477529 E	4391215 N
Drill 4 Reference	0477010 E	4389991 N
Drill 5 Reference	0478707 E	4388177 N
Drill 6 Reference	0479848 E	4386360 N
Drill 7 Reference	0479055 E	4385515 N

APPENDIX C
SURFACE ACCESS AND USE AGREEMENTS

LDS CHURCH
COLLARD FAMILY TRUST
CUNNINGHAM et ux
PACIFICORP

APPENDIX D

**APPROVAL FOR MINOR COAL EXPLORATION
ON FEE MINERALS**

20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 - 1998
4, 5-14-66 dd

00065656 Bk00433 Pg00155-00167

MEMORANDUM OF LEASE REED D HATCH-SANPETE COUNTY RECORDER
1998 DEC 16 09:45 AM FEE \$48.00 BY KEH
REQUEST: CANYON FUEL COMPANY LLC

SK-03:
Dees.

This MEMORANDUM OF LEASE, is made and effective this 30th day of May, 1998 (the "Effective Date"), by and between, Collard Family Trust: Carol C. Dixon, Trustee, whose address is 2428 East 900 South Circle, Salt Lake City, Utah 84108; Rea C. Collard, Trustor, whose address is 840 South 1100 West, Provo, Utah 84601; George E. Collard Jr., Trustor, whose address is PO Box 3, Fairview, Utah 84629-0003; Kenneth W. Collard, Trustor, whose address is 5112 NW 140th Street, Vancouver, Washington 98685; Cathryn C. Veltre, Trustor, whose address is 8441 East Culver Street, Mesa, Arizona 85207; and James R. Boshard, Trustor, whose address is 77123 Calle Mazatlan, LaQuinta, California 92253 ("Lessor") and Canyon Fuel Company, LLC, whose address is 6955 South Union Park Center, Suite 550, Midvale, UT 84047 ("Lessee").

WITNESSETH:

WHEREAS, Lessor and Lessee have entered into a certain Underground Coal Lease of even date herewith (the "Lease"), and desire to provide record notice of the existence of such Lease by the execution and recording of this Memorandum.

NOW THEREFORE, for and in consideration of the agreements contained herein, and the mutual promises and covenants contained in the Lease, the parties agree as follows:

E 350405 B 0248 P 302
Date 25-NOV-1998 10:59AM
FEE: \$1.00 CHECK
DIXIE SWASEY RECORDER
BY DEE B. JOE
FOR CANYON FUEL COMPANY
ENERGY COUNTY CORPORATION

1. Grant of Lease. Lessor does hereby grant, demise, lease and let exclusively unto Lessee all coal situated in, on or under the real estate property located in Sanpete County, State of Utah, known as:

Township 13 South, Range 6 East, SLB&M

Section 20: NW1/4 NW1/4

Section 29: NE1/4; SW1/4 NW1/4; N1/2 NW1/4

and all unleased land owned or claimed by Lessor adjacent or contiguous to the land particularly described above, although not included within the boundaries of the land described above as follows:

Township 13 South, Range 6 East, SLB&M

Section 20: S1/2 NW1/4; SW1/4; S1/2 SE1/4; NE1/4 NW1/4; Less 46.33 ac. To LDS Church

Section 29: SE1/4 NW1/4; S1/2

(the "Leased Premises"). Said Leased Premises comprises approximately 1003.67 acres.

2. Rights of Lessee. The Leased Premises are hereby leased exclusively unto Lessee for the purpose of prospecting, exploring, developing, testing, mining and operating for and producing by any underground mining method or methods deemed desirable by Lessee, whether now or hereafter existing or known, all Coal (as hereinafter defined) lying and situated in, on or under the Leased Premises, with the right to store, save, remove, transport, own and market, treat, process or otherwise utilize said Coal, together with all of the mining rights and privileges appurtenant to the said Coal and incident to the ownership thereof, and (by way of

enlargement, and not by way of restriction) the following rights and privileges:

- a) The exclusive right and privilege to prospect upon and under the surface overlying the Leased Premises for Coal; to reasonably explore, survey, conduct soil and water sampling and other environmental studies, drill, bore, core and test and analyze by any other reasonable means, provided, however, that such prospecting operations shall not include stripping of the surface or surface mining.
- b) The exclusive right to enter for the purposes of coal exploration, mapping, and environmental monitoring; and the free and uninterrupted right-of-way into, upon, over, across and through the Leased Premises, at such points and in such manner as may be necessary or convenient for the purpose of mining, removing, processing and marketing all of the Coal hereby leased.
- c) The right-of-way, right of entry, access, ingress and egress and right to transport under and through the Leased Premises any Coal now or hereafter owned, leased or otherwise acquired by Lessee and located on lands comprising any portion of the General Mining Area. For purposes of the Lease, the term General Mining Area shall cover and include the Leased Premises together with the following lands located in Carbon and Emery County, State of Utah:

Range 6 East, SLB&M

Township 12 South, Sections: All of 35 and portions of 26 and 34

Township 13 South, Sections: All of 2, 3, 10, 11, 14, 15, 20, 21, 22, 23, 26, 27, 28, 29, 32, 33, 34 and 35.

Township 13 South, Sections: Portions of 13, 24, and 25.

Township 14 South, Sections: All of 2, 3, 4 and 5.

- d) The right to use so much of the surface as may be necessary or convenient in conjunction with Lessee's operations hereunder, as long as Lessee does not unreasonably interfere with the use of the surface.

- e) The right to include the Leased Premises or any portion thereof in any plan of unitization for coal or Federal logical mining unit pursuant to any such unit agreement, and so that operations or mining in any portion of the unit shall be deemed operations or mining on the Leased Premises.
- f) The right to subside, collapse, sink, lower, and alter the surface, subsurface, and superadjacent strata as a result of Lessee's permitted operations hereunder without any liability for such removal of coal where Lessee has actually caused such subsidence provided, however, that any subsidence-caused damage to surface structures such as roads or buildings will be repaired at Lessee's expense. In the event that any surface water resource is affected by diminution or interruption resulting from underground coal mining operations, Lessee shall replace such water in accordance with the Lessee's approved Mining and Reclamation Plan.

All of the rights of the Lessee under this Lease shall continue to exist after Merchantable Coal (hereinafter defined) has been mined and removed from the Leased Premises for so long as Lessee is conducting mining operations on lands comprising any portion of the General Mining Area.

For the purposes of the Lease, the term "Coal" is used in its commonly accepted meaning and shall include any seam, vein, bed, strata or deposit, from the lowest grade of lignite through the highest grade of anthracite, both inclusive, and all constituent products thereof in whatever physical state or form produced, and all impurities and other minerals of every nature and type of substance associated or commingled therewith, including methane or coal bed methane and other naturally-occurring gases contained therein.

For the purposes of the Lease, the term Merchantable Coal is defined as coal which can be sold at a reasonable profit in markets available to Lessee utilizing modern methods, procedures and accounting principles customarily used by competent operations in the region of the Leased Premises.

3. Term. This Lease shall remain in effect for a term of twenty (20) years from the Effective Date and so long thereafter as Coal is being mined, produced, processed or marketed from the Leased Premises, or so long as the Lease may be held in force and effect by some other provision of the Lease.

4. Short Form of Lease. This Memorandum is subject to the terms, conditions and restrictions contained in the Lease between Lessor and Lessee of even date herewith. It is understood and agreed between Lessor and Lessee that this Memorandum is a short form only of the Lease, and this Memorandum is executed for the purpose of causing the same to be recorded in the County Clerk's Office, Sanpete County, as record notice of the existence of the Lease. This Memorandum shall not in any way enlarge upon, restrict or otherwise affect the terms and provisions of the Lease.

IN WITNESS WHEREOF, this Memorandum was executed as of the date first above written.

LESSOR:

COLLARD FAMILY TRUST

By: Carol C. Dixon
Carol C. Dixon, Trustee

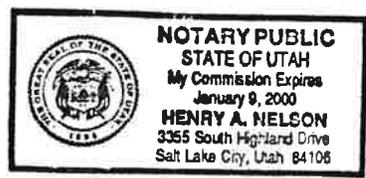
STATE OF Utah)

COUNTY OF Salt Lake)

The foregoing Memorandum of Lease was acknowledged before me this 6th day of October by Carol C. Dixon; Trustee of the Collard Family Trust.

SEAL

[Signature]
Notary Public
My commission expires: 1/9/2000



~~356405 8 0248 P 307~~

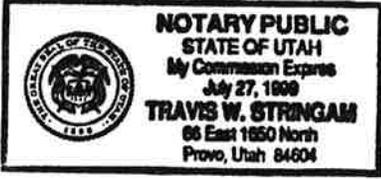
By: Rea C. Collard
Rea C. Collard, Trustor

STATE OF UTAH)
COUNTY OF UTAH)

SEAL

The foregoing Memorandum of Lease was acknowledged before me this 23rd
day of SEPTEMBER by Rea C. Collard; Trustor of the Collard Family Trust.

Travis W. Stringam
Notary Public
My commission expires: SEP 27, 2019



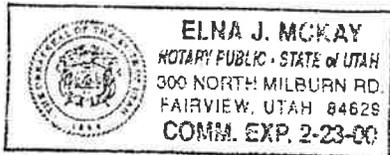
~~250405-02487 308~~

By: George E. Collard, Jr.
George E. Collard, Jr., Trustor

STATE OF Utah)
COUNTY OF Sanpete)

SEAL

The foregoing Memorandum of Lease was acknowledged before me this 28
day of October, 1998 by George E. Collard; Jr., Trustor of the Collard Family
Trust.



Elna J. McKay
Notary Public
My commission expires:

~~350405 & 0248 309~~

By: Kenneth W. Collard
Kenneth W. Collard, Trustor

STATE OF Washington
COUNTY OF Clark

SEAL

The foregoing Memorandum of Lease was acknowledged before me this 26th
day of October, 1998 by Kenneth W. Collard; Trustor of the Collard Family
Trust.

JANET M. REHR
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION EXPIRES
OCTOBER 28, 1999

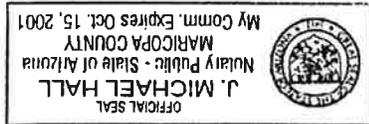
Janet M. Rehr
Notary Public
My commission expires: 10/23/99

By: Cathryn C. Veltre
Cathryn C. Veltre, Trustor

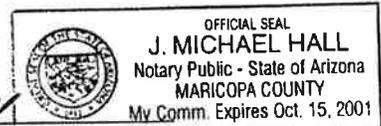
STATE OF Arizona)
COUNTY OF MARICOPA)

SEAL

The foregoing Memorandum of Lease was acknowledged before me this 27
day of October, 1998 by Cathryn C. Veltre; Trustor of the Collard Family
Trust.



J. Michael Hall
Notary Public



My commission expires: October 15, 2001

~~3504001-0248-311~~

LESSEE:

CANYON FUEL COMPANY, LLC

By: Mark A. Luszcky

Its: VICE PRESIDENT

STATE OF Missouri)

COUNTY OF St. Louis)



The foregoing Memorandum of Lease was acknowledged before me this 17th day of November by Mark A. Luszcky as Vice-President of Canyon Fuel Company, LLC, a Delaware Limited Liability Company, on behalf of said Company.

Jan L. Wooton

Notary Public

My Commission Expires:

JAN L WOOTON
NOTARY PUBLIC STATE OF MISSOURI
ST. LOUIS COUNTY
MY COMMISSION EXP. JAN. 27, 2002

350405 0248 314

RECORDING REQUESTED BY AND
WHEN RECORDED RETURN TO:

Stoel Rives LLP
Attn: Richard R. Hall
201 S. Main St., Suite 1900
Salt Lake City, Utah 83702

FIRST AMERICAN TITLE
089405 CP

(Space Above For Recorder's Use)

MEMORANDUM OF UNDERGROUND COAL LEASE

THIS MEMORANDUM OF UNDERGROUND COAL LEASE (this "*Memorandum*") is made and entered into this 5th day of June, 2015 (the "*Effective Date*") by and between **PACIFICORP**, an Oregon corporation, having a mailing address of 1407 W. North Temple, Salt Lake City, Utah-84116 ("*Lessor*"), and **CANYON FUEL COMPANY, LLC**, a Delaware limited liability company, having a mailing address of 6100 Dutchmans Lane, 9th Floor, Louisville, Kentucky 40205 ("*Lessee*"). Lessor and Lessee may be collectively referred to herein as the "*Parties*" or individually as a "*Party*."

RECITALS

A. WHEREAS, the Lessor and Lessee entered into that certain Underground Coal Lease, of even date herewith (the "*Lease*"), relating to the lease of the coal resources within certain parcels of land located in Emery County, State of Utah, as more particularly described in Exhibit A attached hereto (the "*Leased Premises*"), along with other purposes related to the Lease and the development of the coal resource on the Leased Premises. The Lease is expressly incorporated herein by reference and made a part hereof as though fully set forth herein.

B. WHEREAS, by this Memorandum, the Lessor and Lessee desire to provide public notice of the Lease.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Lessor and Lessee agree as follows:

1. Public Notice. All members of the general public are hereby placed on notice of inquiry as to the specific provisions of the Lease, all of which are incorporated herein by reference with the same force and effect as if herein set forth in full. This Memorandum shall be

recorded in the real estate records of Emery County, State of Utah, in lieu of recording the entire Lease.

2. Lease Term. The Lease will become effective on the Effective Date and shall remain in effect for a term of ten (10) years from the Effective Date hereof (the "*Term*"), unless extended or earlier terminated in accordance with the provisions of the Lease.

3. Conflicts. In the event of any conflict between the terms of this Memorandum and the terms of the Lease, the terms of the Lease shall control.

4. Captions and Capitalized Terms. Caption headings are inserted herein only as a matter of convenience of reference, and in no way serve to define, limit, or describe the scope of intent of, or in any way affect, this Memorandum. Capitalized terms not defined in this Memorandum shall have the meanings ascribed to them in the Lease.

[Signatures on Following Pages]

EXHIBIT A
to Memorandum of Underground Coal Lease

Legal Description of the Leased Premises

Township 14 South, Range 6 East, SLB&M

Section 3: Lots 1 & 2; S $\frac{1}{2}$ NE $\frac{1}{4}$;
 E $\frac{1}{2}$ SE $\frac{1}{4}$; E $\frac{1}{2}$ W $\frac{1}{2}$ SE $\frac{1}{4}$;
 NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$

(Containing 287.66 acres, more or less.)

MEMORANDUM OF LEASE

This MEMORANDUM OF LEASE, is made and effective this 22nd day of May, 1998 (the "Effective Date"), by and between, David G. Cunningham and Rene L. Cunningham, whose address is 995 East Hillside Drive, Provo, Utah 84604 ("Lessor") and Canyon Fuel Company, LLC, whose address is 6955 South Union Park Center, Suite 550, Midvale, UT 84047 ("Lessee").

WITNESSETH:

WHEREAS, Lessor and Lessee have entered into a certain Underground Coal Lease of even date herewith (the "Lease"), and desire to provide record notice of the existence of such Lease by the execution and recording of this Memorandum.

NOW THEREFORE, for and in consideration of the agreements contained herein, and the mutual promises and covenants contained in the Lease, the parties agree as follows:

1. Grant of Lease. Lessor does hereby grant, demise, lease and let exclusively unto Lessee all coal situated in, on or under the real estate property located in Emery County, State of Utah, known as:

Township 14 South, Range 6 East, SLB&M

Section 3: LOTS 3 & 4; S1/2 NW1/4; SW1/4; W1/2 SW1/4 SE1/4;
SW1/4 NW1/4 SE1/4

and all unleased land owned or claimed by Lessor adjacent or contiguous to the land particularly described above, although not included within the boundaries of the land described above (the

E 350102 B 0246 P 690
DATE 30-OCT-1998 11:46AM
FEE: 25.00 CHECK
DIXIE SWASEY, RECORDER
FILED BY DKS
FOR CANYON FUEL COMPANY
EMERY COUNTY CORPORATION

"Leased Premises"). Said Leased Premises comprises approximately 346.68 acres.

2. Rights of Lessee. The Leased Premises are hereby leased exclusively unto Lessee for the purpose of prospecting, exploring, developing, testing, mining and operating for and producing by any underground mining method or methods deemed desirable by Lessee, whether now or hereafter existing or known, all Coal (as hereinafter defined) lying and situated in, on or under the Leased Premises, with the right to store, save, remove, transport, own and market, treat, process or otherwise utilize said Coal, together with all of the mining rights and privileges appurtenant to the said Coal and incident to the ownership thereof, and (by way of enlargement, and not by way of restriction) the following rights and privileges:

- a) The exclusive right and privilege to prospect upon and under the surface overlying the Leased Premises for Coal; to reasonably explore, survey, conduct soil and water sampling and other environmental studies, drill, bore, core and test and analyze by any other reasonable means, provided, however, that such prospecting operations shall not include stripping of the surface or surface mining.
- b) The exclusive right to enter for the purposes of coal exploration, mapping, and environmental monitoring; and the free and uninterrupted right-of-way into, upon, over, across and through the Leased Premises, at such points and in such manner as may be necessary or convenient for the purpose of mining, removing, processing and marketing all of the Coal hereby leased.
- c) The right-of-way, right of entry, access, ingress and egress and right to transport under and through the Leased Premises any Coal now or hereafter owned, leased or otherwise acquired by Lessee and located on lands comprising any portion of the General Mining

Area. For purposes of the Lease, the term General Mining Area shall cover and include the Leased Premises together with the following lands located in Carbon and Emery County, State of Utah:

Range 6 East, SLB&M

Township 12 South, Sections: All of 35 and portions of 26 and 34

Township 13 South, Sections: All of 2, 3, 10, 11, 14, 15, 20, 21, 22, 23, 26, 27, 28, 29, 32, 33, 34, and 35.

Township 13 South, Sections: Portions of 13, 24, and 25.

Township 14 South, Sections: All of 2, 3, 4 and 5.

- d) The right to use so much of the surface as may be necessary or convenient in conjunction with Lessee's operations hereunder, as long as Lessee does not unreasonably interfere with the use of the surface.
- e) The right to include the Leased Premises or any portion thereof in any plan of unitization for coal or Federal logical mining unit pursuant to any such unit agreement, and so that operations or mining in any portion of the unit shall be deemed operations or mining on the Leased Premises.
- f) The right to subside, collapse, sink, lower, and alter the surface, subsurface, and superadjacent stata as a result of Lessee's permitted operations hereunder without any liability for such removal of coal where Lessee has actually caused such subsidence provided, however, that any subsidence-caused damage to surface structures such as roads or buildings will be repaired at Lessee's expense. In the event that any surface water resource is affected by diminution or interruption resulting from underground coal mining operations, Lessee shall replace such water in accordance with the Lessee's approved Mining and Reclamation Plan.

All of the rights of the Lessee under this Lease shall continue to exist after Merchantable Coal (hereinafter defined) has been mined and removed from the Leased Premises for so long as Lessee is conducting

mining operations on lands comprising any portion of the General Mining Area.

For the purposes of the Lease, the term "Coal" is used in its commonly accepted meaning and shall include any seam, vein, bed, strata or deposit, from the lowest grade of lignite through the highest grade of anthracite, both inclusive, and all constituent products thereof in whatever physical state or form produced, and all impurities and other minerals of every nature and type of substance associated or commingled therewith, including methane or coal bed methane and other naturally-occurring gases contained therein.

For the purposes of the Lease, the term Merchantable Coal is defined as coal which can be sold at a reasonable profit in markets available to Lessee utilizing modern methods, procedures and accounting principles customarily used by competent operations in the region of the Leased Premises.

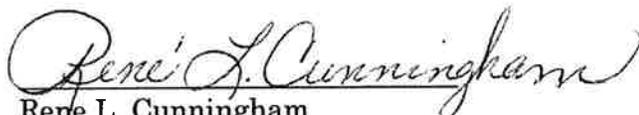
3. Term. This Lease shall remain in effect for a term of twenty (20) years from the Effective Date and so long thereafter as Coal is being mined, produced, processed or marketed from the Leased Premises, or so long as the Lease may be held in force and effect by some other provision of the Lease.

4. Short Form of Lease. This Memorandum is subject to the terms, conditions and restrictions contained in the Lease between Lessor and Lessee of even date herewith. It is understood and agreed between Lessor and Lessee that this Memorandum is a short form only of the Lease, and this Memorandum is executed for the purpose of causing the same to be recorded in the County Clerk's Office, Emery County, as record notice of the existence of the Lease. This Memorandum shall not in any way enlarge upon, restrict or otherwise affect the terms and provisions of the Lease.

IN WITNESS WHEREOF, this Memorandum was executed as of the date first above written.

LESSOR:


David G. Cunningham


Rene L. Cunningham

LESSEE:

CANYON FUEL COMPANY, LLC

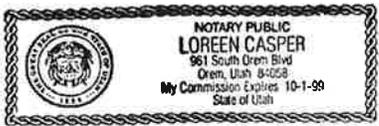
By: 

Its: VP - FINANCE

STATE OF Utah)

COUNTY OF Utah)

The foregoing Memorandum of Lease was acknowledged before me this 14th day of October, 1998 by David G. Cunningham and Rene L. Cunningham.



Loreen Casper
Notary Public
My commission expires: 10-1-98

STATE OF Missouri)

COUNTY OF St. Louis)

The foregoing Memorandum of Lease was acknowledged before me this 26th day of October by Mark A. Lursey as Vice President, Finance of Canyon Fuel Company, LLC, a Delaware Limited Liability Company, on behalf of said Company.

Jan L. Wooton
Notary Public
My Commission Expires:

JAN L. WOOTON
NOTARY PUBLIC STATE OF MISSOURI
ST. LOUIS COUNTY
MY COMMISSION EXP. JAN. 27, 2002



Emery County, Utah

P.O. Box 886

Cristó Date, Utah 84015



CANYON FUEL COMPANY
C/O ARK LAND COMPANY
CITY PLACE ONE, SUITE 300
ST LOUIS MO 63141



100
100

1



Amendment, and hereby represent that the Lease, as amended, is in full force and effect.

3. Memorandum. This Memorandum is executed for the purpose of placing of record notice of the Lease, as amended, and the terms and provisions thereof. The Lease, as amended, contains terms and conditions that are not set forth in this Memorandum, but which nevertheless are by reference made a part hereof. Nothing herein shall, nor shall it be interpreted to, amend, modify or waive any of the terms and conditions of the Lease, as amended. If there is a conflict between the terms of this Memorandum and the terms of the Lease, the terms of the Lease shall control in all respects.

4. Counterparts. This Memorandum may be executed in counterparts.

IN WITNESS WHEREOF, the Parties have executed this Memorandum effective as of the date set forth above.

LESSOR:



David G. Cunningham



Gene Cunningham

LESSEE:

Canyon Fuel Company, LLC

By: 

Its: 

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, 2015, personally appeared before me David G. Cunningham, signer of the above Memorandum of First Amendment to Underground Coal Lease, who duly acknowledged to me that he executed the same.

WITNESS my hand and official seal.

Notary Public

My Commission expires: _____



STATE OF Utah)
) ss.
COUNTY OF Utah)

On this _____ day of _____, 2015, personally appeared before me Rene L. Cunningham, signer of the above Memorandum of First Amendment to Underground Coal Lease, who duly acknowledged to me that she executed the same.

WITNESS my hand and official seal.

Notary Public

My Commission expires: _____



STATE OF COLORADO)
) ss.
COUNTY OF MESA)

On this 8th day of July, 2015, personally appeared before me Gene DiClaudio of Canyon Fuel Company, LLC, a Delaware limited liability company, and signer of the above Memorandum of First Amendment to Underground Coal Lease, who duly acknowledged to me that he executed the same on behalf of the corporation.

WITNESS my hand and official seal.

Notary Public

My Commission expires: 8-3-18



TEMPORARY
SURFACE ACCESS AND LICENSE AGREEMENT
(Property # 510-6648)

THIS TEMPORARY SURFACE ACCESS AND LICENSE AGREEMENT (this "Agreement"), is made and entered into as of the 28th day of August, 2015 (the "Effective Date"), by and between CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS, a Utah corporation sole ("Owner"), and CANYON FUEL COMPANY, a Delaware corporation ("Licensee"). Hereinafter Owner and Licensee may be referred to individually as a "Party" and collectively as the "Parties."

RECITALS

A. Owner owns certain lands situated in Sanpete County, in the State of Utah, as more specifically described on Exhibit A, which is attached hereto and made a part hereof (the "Property"), consisting of approximately 686 acres.

B. Pursuant to a Temporary Surface Access and License Agreement between Owner and Licensee dated September 29, 2014, Licensee has drilled an exploration hole on a portion of the Property to determine whether commercial quantities of coal are present.

C. Licensee desires to drill up to three additional exploration holes (the "Holes") on a portion of the Property, for the same purpose.

D. The Parties desire to enter into this Agreement setting forth the terms and conditions of Licensee's additional drilling activities on the Property.

TERMS AND CONDITIONS

NOW, THEREFORE, in consideration of the covenants and promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Permission to Access the Drill Sites and Property. Owner hereby grants Licensee and Licensee's agents, servants, officers, employees, consultants, contractors and subcontractors, or any party acting as an agent or on behalf of Licensee (collectively, "Licensee's Agents"), a nonexclusive right to enter upon and use the surface of the Drill Sites and Property. Licensee shall drill the Holes on sites up to a maximum of 0.30 acre in size, located at the approximate coordinates identified on Exhibit B, which is attached hereto and made a part hereof (the "Drill Sites"). The Parties agree that the drilling equipment may be transported to and from the Drill Sites by truck. Licensee will use existing roads on and across the Property for purposes of accessing the Drill Sites. Licensee shall have no rights to use the Drill Sites or the Property for any purpose except as described herein. Owner reserves the right to terminate this Agreement if Licensee or any of Licensee's Agents use the Drill Sites or the Property for purposes not authorized by this Agreement.

2. Reservation of Rights by Owner. The rights granted to Licensee herein are nonexclusive, and Owner specifically reserves all rights to the use of the Property, including without limitation the right to use access roads, to use the surface and subsurface of the Property, and to grant to others easements, licenses, permits and other rights in the Property; provided that such easements, licenses, and other rights may not unreasonably interfere with or obstruct Licensee's rights under this Agreement.

3. Termination. This Agreement and Licensee's rights hereunder will terminate on the earlier to occur of: (i) the date twelve (12) months after the Effective Date, (ii) completion of Licensee's operations at the Drill Sites, and the reclamation of the Drill Sites as required herein, or (iii) Licensee's decision (promptly communicated to Owner) that it will not drill the Holes; provided that Licensee's obligations under Sections 9, 10, 12, 15, 16 will continue until all of such obligations are satisfied.

4. Condition of the Property; Release. Licensee accepts the Property and the Drill Sites and all aspects thereof in "AS IS", "WHERE IS" condition, "WITH ALL FAULTS", without warranties, either express or implied, including but not limited to both latent and patent defects or conditions. Licensee hereby waives all warranties, express or implied, regarding the title, condition and use of the Drill Sites. Licensee shall obtain any and all consents, approvals, permissions, and agreements to cross, encumber or encroach upon any easements/rights-of-way, or other rights or interests of others in or related to the Property and the Drill Sites. Owner makes no representations or warranties regarding the existence or non-existence of any prior leases, rights-of-way, easements, permits, licenses and other instruments or agreements affecting the Property or the Drill Sites, whether recorded or unrecorded. All operations of Licensee and Licensee's Agents shall be conducted at the sole risk, cost, and expense of Licensee. Licensee and Licensee's Agents, and their successors and assigns, shall enter upon the Drill Sites and the Property at their sole risk and hazard, and do hereby release Owner from any claims relating to the condition of the Property or Drill Sites and the entry upon or conduct of Licensee's operations on or related to the Property or the Drill Sites.

5. Notification Upon Entry; Approval of Plan(s). (a) At least ten (10) business days prior to commencement of any operations on the Property or Drill Sites, Licensee shall consult with Owner and provide Owner with a copy of the approved permit from the Utah Division of Oil, Gas and Mining, and a site plan map reflecting the location of all proposed activities. The written consent to the site plan shall be obtained from Owner prior to the commencement of Licensee's operations, which consent shall not be unreasonably withheld; provided Licensee's plan(s) and operations on the Property or Drill Sites shall comply with the limitations, terms and conditions of this Agreement. The plan shall minimize any destruction of or disturbance to the Property.

(b) Licensee's activities shall be designed and implemented to maintain sufficient distance from any structures, facilities or water source on or under the Property to assure that the activities will have no adverse effects including, but not limited to, damage to quantity or quality of water.

(c) Licensee shall notify the Owner at least ten (10) business days prior to Licensee or Licensee's Agent's entry upon the Drill Sites or the Property, and shall coordinate all

operations so that they are conducted in a manner compatible with the operations of Owner, Owner's Facilities Manager and others having a right to use the Property.

(d) Within ten (10) business days after its becoming available, Licensee, at its sole expense, shall furnish Owner a complete report on the drilling of the Holes including, but not limited to, drilling logs, water levels, geologic information, testing, assays, chemical and BTU analysis, core analyses, engineering work, mineral resource calculations related to the Property, reports associated with the Property, and any other information applicable to the economic value of the Property obtained therefrom.

6. Fee to Enter Property. For the rights to use the Property as authorized herein, Licensee shall deliver a check in the amount of \$1,500.00 dollars prior to entering on the Property to conduct operations. The check shall be delivered to:

Steve Thompson
50 East North Temple
4th Floor – West Wing
Salt Lake City, Utah 84150

7. Gates. All gates will be kept closed at all times and, when requested by Owner, will be kept locked to restrict unauthorized entry.

8. Operating Standards. Licensee agrees to comply with all applicable standards imposed by governmental authorities having jurisdiction over Licensee's activities, and to adhere to accepted "best practice" standards, customs, and usages in the industry; provided that in the event of any conflict between governmental standards, industry standards or standards set forth herein, the stricter standard shall apply. Licensee will obtain all such permits and permissions as may be required by such governmental entities and/or private parties, as the case may be, and shall comply with the terms and conditions of such permits and permissions. Licensee agrees at all times to keep the Property and the Drill Sites in good order and repair and free of litter and debris. Any and all topsoil removed will be either stockpiled and reapplied, or replaced with equivalent topsoil upon completion of the work. No work shall be conducted on saturated ground. The Drill Sites must be either dry or frozen when Licensee conducts operations.

9. Damages. Licensee shall be strictly liable for and agrees to compensate Owner for personal injuries and loss or damage to the Property and any personal property situated thereon, including, without limitation, damage(s) to roads, fences, gates, buildings, structures, water sources, water wells, water storage ponds and reservoirs, water pipelines, trees and other vegetation, or other improvements on, or rights related to, the Property, whether or not owned by Owner, associated with Licensee's operations, or those performed on its behalf.

10. Reclamation. Whenever any portion of the Property disturbed under this Agreement ceases to be used by Licensee, Licensee shall clean up the Property and shall restore, re-contour and reseed the area after replacing the topsoil to the minimum specifications imposed by Owner. All reseeded shall be done with suitable grasses in usual and customary use in the area and selected by Owner. All clean-up and restoration requirements shall be completed by Licensee within forty-five (45) days after cessation of such use. If Licensee requires access to

the Property after termination of this Agreement in connection with inspections or further reclamation related to requirements of the Utah Division of Oil, Gas and Mining, such continued access to the Property is hereby granted; provided that Licensee shall provide Owner with fifteen (15) days advance written notice prior to Licensee's entry upon the Property, and Owner may accompany Licensee during such access.

11. Dust Control and Fire Prevention. Lessee shall employ such dust control measures as shall be necessary so as not to interfere with Owner's or others' rights to reasonable enjoyment of the Property, or to constitute a nuisance to adjacent property owners. Licensee shall take all necessary steps to prevent and to promptly extinguish fires resulting from Licensee's operations or those conducted on its behalf.

12. Encumbrances. Licensee shall not take any action, or fail to take any action, that could result in encumbrances or liens of any kind or nature whatsoever to be asserted against the Property. The assertion of any lien or encumbrance shall require Licensee, within thirty (30) days after receipt of notice of the filing or recording of such lien or encumbrance, to either remove the same from the Property as an encumbrance or to provide a corporate security or other bond acceptable to Owner, to the benefit of Owner in the sum of at least twice the amount of such encumbrance or lien. Upon the provision of satisfactory surety as to such lien amount, Licensee may litigate and contest such lien fully. If at the end of thirty (30) days no surety has been provided, Owner may pay the lien or encumbrance, and Licensee shall immediately reimburse Owner for all funds expended, including, but not limited to, reasonable attorneys' fees and recording costs.

13. Structures, Improvements. It shall be Licensee's responsibility to identify the location of any and all structures, uses, special circumstances, rights, limitations and restrictions related to the Property. Owner makes no representations or warranties with respect thereto and Licensee will be solely responsible for all damage resulting from Licensee's operations.

14. Final Inspection. Licensee shall conduct a post operations inspection with Owner's representative to identify any damage, and to assure compliance with the terms of this Agreement.

15. Indemnification. Licensee hereby releases, indemnifies, and agrees to defend and hold harmless Owner, and any entity controlling, controlled by or under control with Owner, and its and their officers, directors, employees, managers, members, agents, consultants, successors, and assigns (such indemnified individuals and parties being collectively referred to herein as the "Indemnified Parties"), from and against any and all liens, encumbrances, costs, demands, claims, judgments, and/or damages, relating to personal injury or property damage (collectively "Claims"), caused by or arising out of (i) the acts and omissions of Licensee, Licensee's Agents or their successors or assigns (collectively, the "Licensee Parties"); (ii) the use of the Property or Drill Sites by one or more of the Licensee Parties; and (iii) any work performed on the Property or Drill Sites by one or more of the Licensee Parties. The terms and conditions of this provision shall remain effective after the expiration or termination of this Agreement, so long as the event giving rise to the indemnification occurred prior to such expiration or termination.

16. **Duty to Provide Insurance.** In addition to and not in limitation of any obligation to indemnify Owner under the provisions of this Agreement, Licensee shall, at its own expense, procure and maintain the following insurance coverage:

(a) **General Liability Insurance.** General Liability insurance as follows: \$1,000,000 combined single limit per occurrence, personal injury (including death) and property damage, \$2,000,000 Aggregate, Broad Form Commercial General Liability (ISO 1993 or better), to include Products – Comp/OP, aggregate of \$1,000,000, limits to apply to each project individually.

(b) **Worker's Compensation.** Insurance adequate to fully satisfy Licensee's obligations under any applicable state or federal law.

(c) **Automobile.** Automobile liability coverage applying to bodily and property damage of not less than \$2,000,000 combined single limits.

(d) **Umbrella Coverage.** Excess or Umbrella Liability, inclusive of the above limits, with limits of not less than \$5,000,000 Combined Single Limit.

(e) **Additional Terms and Provisions.** All policies shall (a) be carried in a company or companies with a Bests' rating of no less than A-, IX , and (b) not be subject to cancellation or termination or downward revision of coverage without thirty (30) days prior written notice to Owner. Owner shall be named as additional insured on all policies of insurance (with the exception of Worker's Compensation coverage) and shall contain a waiver of subrogation in favor of Owner. The coverage shall contain no special limitations on the scope of protection afforded to the Owner as additional insured. All insurance acquired under this Insurance Section shall contain a provision for notice to Owner of any overdue or unpaid premium and thirty (30) days' advance notice to Owner of any proposed cancellation. Each policy of insurance shall be written as an "occurrence" contract unless the policy is available only on a "claims made" basis. All policies of insurance shall remain in effect during the entire term of this Agreement; provided however that if any type of insurance required by this Insurance Section is written as a "claims made" contract, Licensee shall continue such contract after termination of this Agreement for a period of five (5) years or for such longer period required by federal or state law, rule or regulation, or until final release of Lessee's environmental reclamation bonds required by any regulatory authority, whichever is the latest to occur. The insurance coverage required above shall not constitute a limitation on Licensee's obligation to indemnify the Indemnified Parties. Before entering onto the Property, Licensee shall provide Owner with a certificate of insurance evidencing compliance with the foregoing.

17. **Default.** In the event of the following: (i) a default by Licensee of its obligations stated herein; (ii) Owner has provided Licensee written notice of Licensee's default; and (iii) thirty (30) days have expired since Licensee received written notice from Owner regarding Licensee's default and Licensee has failed to cure its default within the prescribed thirty (30) day period, Owner, at its option, may: (a) pursue any remedy available at law or in equity; (b) pursue the remedy of specific performance or injunction; (c) seek declaratory relief; (d) pursue an action for damages for loss; and/or (e) terminate this Agreement.

18. Waiver. The failure of Owner to insist upon strict performance of any of the covenants or conditions of this Agreement in any one or more instances shall not be construed as a waiver or relinquishment for the future of any such covenants or conditions, but the same shall be and remain in full force and effect.

19. Notice. All notices and other communications provided for in this Agreement shall be in writing and shall be sufficient for all purposes if: (i) sent by fax to the fax number set forth below or at such other number as the respective Party may designate by notice as provided herein, and concurrently sent by 1st class U.S. mail, (ii) personally delivered, or (iii) sent by certified or registered U.S. mail, return receipt requested, postage prepaid, and addressed to the respective party at the address set forth below or at such other address as such party may hereafter designate by written notice to the other parties as herein provided. Email is not an approved means for giving notice hereunder.

If to Owner: Manti UT FM Group
Attn: Matt Christensen
295 South Main
Manti, UT 84642
Telephone: (435) 835-8887
Email: MattC@ldschurch.org

If to Licensee: Canyon Fuel Company, LLC
Attn: Ryan Wilson
225 North 5th Street, Suite 900
Grand Junction, CO 81501
Telephone: (970) 263-5144
Fax: (9701) 263-5161
Email: rwilson@bowieresources.com

Notice by mail shall be deemed effective and complete upon its actual receipt by the person to whom the notice is addressed.

20. Assignment. Licensee may not assign this Agreement, in whole or in part, without the prior written consent of Owner, which consent shall not be unreasonably withheld.

21. Non-Operational Activities. Licensee shall not permit any of Licensee's Agents to bring animals, explosive devices, weapons (of any form), alcoholic beverages or illegal drugs on the Property or to recreationally use horses, trail bikes, ATV's, or other such vehicles on the Property or Drill Sites. Licensee shall advise Licensee's Agents of the foregoing restrictions before entering the Property or Drill Sites and shall be responsible for any of Licensee's Agents' breach of this Agreement.

22. Miscellaneous Provisions. The Parties hereto agree to the following additional provisions:

22.1. No drilling by Licensee shall be performed during camp season, which extends from approximately June 1 through August 31.

22.2. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Utah.

22.3. No modification or variation of this Agreement shall be of any force or effect unless in writing executed by authorized representatives of both Parties.

22.4. It is expressly stipulated and agreed that time shall be of the essence in this Agreement.

22.5. Owner and Licensee each agree to pay and discharge all reasonable costs and expenses, including attorneys' fees, that shall be made and incurred by the prevailing Party in enforcing this Agreement.

22.6. The invalidity or unenforceability of any particular provision of this Agreement shall not affect the other provisions hereof and the Agreement shall be construed in all respects as if such invalid provision were omitted.

22.7. The Parties hereto agree to execute such additional documents as may be necessary or desirable to carry out the intent of this Agreement.

22.8. The section headings used herein are for the convenience of the Parties and shall not be deemed to modify or construe the meaning hereof. Definitions given anywhere in this Agreement apply throughout the Agreement.

22.9. The terms and provisions of this Agreement shall be binding on and inure to the benefit of the Parties, and their respective heirs, representatives, successors and assigns.

(Signatures Follow on Next Page)

Dated as of the day and year first above written.

CORPORATION OF THE PRESIDING
BISHOP OF THE CHURCH OF JESUS
CHRIST OF LATTER-DAY SAINTS

By: Terry F. Rudd
Name (Print): Terry F. Rudd
Title: AUTHORIZED AGENT

CANYON FUEL COMPANY

By: Gene E. Di Claudio
Name (Print): Gene E. Di Claudio
Title: Chief Operating Officer

Acknowledgement of Owner

STATE OF UTAH)
 §
COUNTY OF SALT LAKE)

On this 28th day of AUGUST, 2015, personally appeared before me Terry F. Rudd, personally known to me to be an Authorized Agent of Corporation Of The Presiding Bishop Of The Church Of Jesus Christ Of Latter-Day Saints, who acknowledged before me that he signed the foregoing instrument as Authorized Agent for Corporation Of The Presiding Bishop Of The Church Of Jesus Christ Of Latter-Day Saints, and that the seal impressed on the within instrument is the seal of said corporation; and that said instrument is the free and voluntary act of said corporation, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument on behalf of said corporation and that said corporation executed the same.

WITNESS my hand and official seal.

[Signature]

NOTARY PUBLIC



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EXHIBIT A

Attached to and make part of that certain

TEMPORARY SURFACE ACCESS AND LICENSE AGREEMENT

by and between Corporation Of The Presiding Bishop Of The Church Of Jesus Christ Of Latter-Day Saints and Canyon Fuel Company, dated Aug 28, 2015.

Legal Description of the Property.

Parcel 1

Tax Serial No: 21147X (part)

Beginning at the North quarter corner of Section 20, Township 13 South, Range 6 East, Salt Lake Base and Meridian; thence South 1°30' East 1803 feet, thence South 28°30' West 565 feet, thence South 18°30' West 535 feet, thence South 1°30' East 460 feet, thence South 36° East 425 feet, thence south 41°30' East 344.3 feet, thence South 1°30' East 160 feet, thence South 56°50' East 948 feet. thence South 78°35' East 655 feet, thence South 87°02' East 1237.50 feet to a point North 1°25' East 620 feet from the Southeast corner of Section 20, thence North 4660 feet, thence West 40 chains to the point of beginning. Excepting therefrom the Northeast quarter of the Northeast quarter of Section 20.

Acreage from county tax records: 246.33 acres

Oil, Gas and Mineral rights ownership: United States of America

Parcel 2

Tax Serial No: 21147X (part)

The Northeast quarter of the Northeast quarter of Section 20, Township 13 South, Range 6 East, Salt Lake Base and Meridian.

Acreage from county tax records: 40.00 acres

Oil, Gas and Mineral rights ownership: CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS, a Utah Corporation sole as to an undivided 75%; CHARLES W. HENDEL, 3rd as to an undivided 4.875%; BAPCO URANIUM & OIL, INC, a Utah Corporation as to an undivided 3.125%; and J. HIRAM MOORE, LTD. as to an undivided 17%.

Parcel 3

Tax Serial No: 21148

The Northwest quarter; and the North half of the Southwest quarter of Section 21, Township 13 South, Range 6 East, Salt Lake Base and Meridian.

Acreage from county tax records: 240.00 acres

Oil, Gas and Mineral rights ownership: CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS, a Utah Corporation sole as to an undivided 75%; CHARLES W. HENDEL, 3rd as to an undivided 4.875%; BAPCO URANIUM & OIL, INC, a Utah Corporation as to an undivided 3.125%; and J. HIRAM MOORE, LTD, as to an undivided 17%.

Parcel 4

Tax Serial No: 21149

The South half of the Southwest quarter of Section 21, Township 13 South, Range 6 East, Salt Lake Base and Meridian.

Acreage from county tax records: 80.00 acres

Oil, Gas and Mineral rights ownership: CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS, a Utah Corporation sole as to an undivided 75%; CHARLES W. HENDEL, 3rd as to an undivided 4.875%; BAPCO URANIUM & OIL, INC, a Utah Corporation as to an undivided 3.125%; and J. HIRAM MOORE, LTD, as to an undivided 17%.

Parcel 5

Tax Serial No: 21150

The North half of the Northwest quarter of Section 28, Township 13 South, Range 6 East, Salt Lake Base and Meridian.

Acreage from county tax records: 80.00 acres

Oil, Gas and Mineral rights ownership: CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS, a Utah Corporation sole as to an undivided 75%; CHARLES W. HENDEL, 3rd as to an undivided 4.875%; BAPCO URANIUM & OIL, INC, a Utah Corporation as to an undivided 3.125%; and J. HIRAM MOORE, LTD, as to an undivided 17%.

EXHIBIT B

Attached to and make part of that certain

TEMPORARY SURFACE ACCESS AND LICENSE AGREEMENT

by and between Corporation Of The Presiding Bishop Of The Church Of Jesus Christ Of Latter-Day Saints and Canyon Fuel Company, dated Aug 28, 2015.

The Drill Sites are to be situated at the following locations:

		NAD27	
Location ID	Approx Elev	LAT	LONG
1-15	9185	39.677094	-111.263802
2-15	9284	39.673363	-111.256355
3-15	9167	39.669694	-111.261354

APPENDIX E

TEMPORARY WATER CHANGE
UTAH STATE ENGINEER

ORDER OF THE STATE ENGINEER
Temporary Change Application Number
91-5010 (t40870) (*Skyline Drilling*)
Page 4

CANYON FUEL COMPANY LLC
ATTN LAND DEPARTMENT
225 NORTH 5TH STREET SUTE 900
GRAND JUNCTION CO 81504

- - - - -

BRP
JUN 29 2015
Received



GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES Division of Water Rights

MICHAEL R. STYLER KENT L. JONES
Executive Director *State Engineer/Division Director*

ORDER OF THE STATE ENGINEER

For Temporary Change Application Number 91-5010 (t40870)

Temporary Change Application Number 91-5010 (t40870) in the names of Canyon Fuel Company LLC and Price River Water User's Association was filed on June 1, 2015, to change the point of diversion, place of use, and uses of 4.00 acre-feet (af) of water as evidenced by Water Right Number 91-5010. Heretofore, the water has been diverted from a surface source located North 810 feet and West 990 feet from the SE Corner of Section 10, T12S, R7E, SLB&M, and was rediverted: (1) Surface - North 30 feet and East 465 feet from the S $\frac{1}{4}$ Corner of Section 32, T12S, R7E, SLB&M (Ex.164, Louis Gorishek-well); (2) Surface - North 430 feet and West 410 feet from the S $\frac{1}{4}$ Corner of Section 26, T12S, R9E, SLB&M (Price City Filtering Plant); (3) Surface - South 970 feet and East 60 feet from the W $\frac{1}{4}$ Corner of Section 5, T13S, R7E, SLB&M (Ex.452, Robert Radokovich-well); (4) Surface - South 560 feet and West 840 feet from the N $\frac{1}{4}$ Corner of Section 13, T13S, R9E, SLB&M (Spring Glen Canal); (5) Surface - North 1310 feet and East 1000 feet from the S $\frac{1}{4}$ Corner of Section 24, T13S, R9E, SLB&M (Gay Ditch); (6) Surface - West 730 feet from the NE Corner of Section 24, T13S, R9E, SLB&M (O'Berto Ditch); (7) Surface - South 1190 feet and West 1490 feet from the E $\frac{1}{4}$ Corner of Section 24, T13S, R9E, SLB&M (Stowell Ditch); (8) Surface - North 580 feet and West 240 feet from the S $\frac{1}{4}$ Corner of Section 36, T13S, R9E, SLB&M (Country Club-Cook Ditch); (9) Surface - North 560 feet and West 240 feet from the S $\frac{1}{4}$ Corner of Section 36, T13S, R9E, SLB&M (Price-Wellington Canal); (10) Surface - South 560 feet and East 680 feet from the N $\frac{1}{4}$ Corner of Section 1, T14S, R9E, SLB&M (Carbon Canal); (11) Surface - North 1410 feet and West 535 feet from the S $\frac{1}{4}$ Corner of Section 8, T15S, R11E, SLB&M (Coal Washing Plant); (12) Surface - North 2261 feet and West 218 feet from the SE Corner of Section 16, T15S, R11E, SLB&M (Coal Washing Plant); (13) Surface - South 1925 feet and West 811 feet from the NE Corner of Section 16, T15S, R11E, SLB&M (Coal Washing Plant); (14) Surface - South 470 feet and West 310 feet from the E $\frac{1}{4}$ Corner of Section 16, T15S, R11E, SLB&M (Farnham Ditch); (15) Surface - North 900 feet and East 100 feet from the SW Corner of Section 3, T12S, R7E, SLB&M (Ex.430, Theresa A. Phelps-well); (16) Surface - North 1285 feet and West 345 feet from the SE Corner of Section 4, T12S, R7E, SLB&M (Ex.336, Frank Marrelli-well); (17) Surface - North 1338 feet and East 655 feet from the SW Corner of Section 17, T12S, R7E, SLB&M (Ex.178, Catherine Rudman-spring); (18) Surface - North 860 feet and East 430 feet from the S $\frac{1}{4}$ Corner of Section 19, T12S, R7E, SLB&M (Ex.375, G. Pete Frandsen-spring); (19) Surface - South 1400 feet and West 20 feet from the E $\frac{1}{4}$ Corner of Section 4, T12S, R7E, SLB&M (Ex.397, Robt. or Francis Mallard-Well); (20) Surface - North 1420 feet and West 480 feet from the SE Corner of Section 4, T12S, R7E, SLB&M (Ex.175, Rudy Scartezina-well); (21) Surface - North 900 feet and East 980 feet from the SW Corner of Section 12, T13S, R9E, SLB&M (Bryner-Hansen Ditch); (22) Surface - South 480 feet and East 1440 feet from the W $\frac{1}{4}$ Corner of Section 12, T13S, R9E, SLB&M (Bryner-Ploutz Ditch); (23) Surface - South 90 feet and East 730 feet from the N $\frac{1}{4}$ Corner of Section 35, T12S, R9E, SLB&M (Power Plant & Coal Company). The water has been used for year-round industrial purposes (Coal washing plant.)

ORDER OF THE STATE ENGINEER
Temporary Change Application Number
91-5010 (t40870)
Page 2

Hereafter, it is proposed to divert 4.00 acre-feet of water from points of diversion changed to: (1) Well - North 330 feet and West 1020 feet from the SE Corner of Section 13, T13S, R6E, SLB&M; (2) Well - North 615 feet and West 200 feet from the S¼ Corner of Section 13, T13S, R6E, SLB&M. The water is to be used for exploratory drilling incidental to coal mining from June 15 to November 30. The place of use of the water is being changed to all or portion(s) of Sections 21, 29, & 34, T13S, R6E, SLB&M; and Sections 10 & 29, T14S, R6E, SLB&M.

Notice of this temporary change application was not published in a newspaper. It is the opinion of the State Engineer that it meets the criteria of Section 73-3-3 of the Utah Code for the approval of temporary change applications.

It is the opinion of the State Engineer that this temporary change application can be approved without adversely affecting existing rights.

This Change Application amends and supersedes Permanent Change Application Number 91-5010 (a21912).

It is, therefore, **ORDERED** and Temporary Change Application Number 91-5010 (t40870) is hereby **APPROVED** subject to prior rights and the following condition(s):

1) **This application shall automatically expire one year from the date of this approval.**

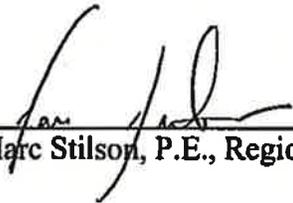
It is the applicants' responsibility to maintain a current address with this office and to update ownership of their water right. Please notify this office immediately of any change of address or for assistance in updating ownership.

Your contact with this office, should you need it, is with the Southeastern Regional Office. The telephone number is 435-613-3750.

This Order is subject to the provisions of Administrative Rule R655-6-17 of the Division of Water Rights and to Sections 63G-4-302, 63G-4-402, and 73-3-14 of the Utah Code which provide for filing either a Request for Reconsideration with the State Engineer or an appeal with the appropriate District Court. A Request for Reconsideration must be filed with the State Engineer within 20 days of the date of this Order. However, a Request for Reconsideration is not a prerequisite to filing a court appeal. A court appeal must be filed within 30 days after the date of this Order, or if a Request for Reconsideration has been filed, within 30 days after the date the Request for Reconsideration is denied. A Request for Reconsideration is considered denied when no action is taken 20 days after the Request is filed.

Dated this 26 day of JUNE, 2015.

ORDER OF THE STATE ENGINEER
Temporary Change Application Number
91-5010 (t40870)
Page 3



Marc Stilson, P.E., Regional Engineer

Mailed a copy of the foregoing Order this 20 day of June, 2015 to:

Canyon Fuel Company LLC
Attn: Land Department
225 North 5th Street Sute 900
Grand Junction CO 81504

Price River Water User's Association
375 South Carbon Avenue A-10
Price, Utah 84501

Robert Davis, River Commissioner
P.O. Box 108
Price, UT 84501

Division of Water Rights
Distribution Section
c/o Susan Odekirk
PRICE RIVER

BY: 

Michele Gabb, Regional Secretary