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

Jeremiah Armstrong, Environmental Eng.
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Helper, Utah 84526
(435) 448-2645
Fax (435) 448-2632

May 12, 2016

Mr. Daron R. Haddock
Division of Oil, Gas, and Mining
1594 West North Temple
Salt Lake City, Utah 84114-5801

RE: Vegetation updates - Canyon Fuel Company, LLC, Skyline Mine, C/007/0005
Task ID 5178

Attached to this letter is pertinent information addressing modifications to the Skyline Mine M&RP to include updates and clarification of baseline vegetative inventories and reference area mapping. Plate 2.7.1-2 originally had four "reference areas" mapped. These "reference areas" were actually the baseline vegetation inventories from Welsh's 1980 report in Appendix A-2. Maps A, B and C of this report shows the "validation" areas, which were the baseline inventories of the planned disturbances, and associated reference areas. Updates to plate 2.7.1-2 clarify locations of baseline (validation) areas and reference areas from the original pre-disturbance report, and adds relevant baseline and reference areas from subsequent reports for projects to date. See Appendix A-2 for these reports. Per direction from division staff, a single reference area for each plant community was chosen from Welsh 1980 using aerial imagery. Skyline commits to field verify these reference areas during the summer of 2016 using qualitative ocular methods. Plate 2.7.1-1a is updated to show vegetation types in Eccles Canyon, east to the rail load out. Data from Welsh's 1980 inventory were used to expand this plate. The permit modification consists of: 1) update to text in sections 2.7 and 4.7 and 2) updates to plates 2.7.1-2 and 2.7.1-1a.

Attached to this cover letter are completed C1 and C2 forms, redline-strikeout versions of M&RP modifications in Section 2.7 and 4.7 and two (2) plates. Two (2) hard copies of the information will be submitted at final approval.

If you have any questions regarding this information, please give me a call at (435) 448 – 2645.

Sincerely,

Jeremiah Armstrong

Jeremiah Armstrong
Canyon Fuel Company, LLC.
Environmental Engineer – Skyline Mines

Enclosure

APPLICATION FOR COAL PERMIT PROCESSING

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

Permittee: Canyon Fuel Company, LLC
Mine: Skyline Mine **Permit Number:** C/007/005
Title: Vegetation Updates
Description, Include reason for application and timing required to implement:
Update of vegetation maps and text Task ID:5178

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

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

Information submitted electronically in Adobe Acrobat .pdf format. (This number includes 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, 5-12-16
Sign Name, Position, Date

Subscribed and sworn to before me this 12 day of May, 20 16

Melissa S Willden
Notary Public

My commission Expires: 3-19, 20 19 }
Attest: State of UTAH } } ss:
County of carbon

MELISSA S WILLDEN
Notary Public - State of Utah
My Commission Expires
March 19, 2019
Commission #682454

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining

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

Permittee: Canyon Fuel Company, LLC
Mine: Skyline Mine **Permit Number:** C/007/005
Title: Vegetation Updates Task ID:5178

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

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☐ Add	☒ Replace	☐ Remove	Chapter 2 Text, page 2-58a
☐ Add	☒ Replace	☐ Remove	Chapter 2 plates 2.7.1-1a and 2.7.1-2
☐ Add	☒ Replace	☐ Remove	Chapter 4 text, pages 4-46 and 4-47
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Information has been submitted electronically. Two (2) paper copies will be submitted at final approval. Plates requiring professional certification will be done at final approval.

SECTION 2.7

browse species are common. Some of the slopes above riparian areas are covered by the upland sedge-grass community with Carx geyeri. The ridge tops also contain the sagebrush-grass community in some areas. The dominant species are Vasey sagebrush (Artemisia tridentata var. vaseyana), slender wheatgrass, and subalpine needlegrass (Stipa columbiana). Other common species in the sagebrush-grass community are low rabbitbrush (Chrysothamnus viscidiflorus), Louisiana sagewort (Artemisia ludioviciana), aster (Aster spp.), yarrow (Achillea millefolium), and Indian paintbrush (Castilleia spp.).

A few small meadows occur in the canyon. they are generally dominated by species of Poa with some sedges and carex intermixed. They are generally productive.

Riparian areas exist along streams and at seeps and springs. the vegetation along the water edge consists of species of Carex, Poa, and to a lesser extent sedges. Some willow is present along the streams."

Eccles Canyon is vegetated by similar plant communities as described for the rest of the project.

Plates 2.7.1-1 and 2.7.1-1a shows the locations of the various plant communities of the areas to be mined. The plant communities for the portal yard, train loadout area, the waste rock disposal area and, overland conveyor area, and winter quarters ventilation facility are in the soil and vegetation section of Volume A-2 along with other vegetative studies and maps. Plate 2.7.1-2 shows the location of the various vegetative pre-disturbance baseline ("validation" - Welsh) and reference areas. The reference areas are marked at each corner with a steel post. GPS coordinates are included on plate 2.7.1-2 to simplify navigation to each area for division personnel. Per request from division staff, a single reference area was chosen from Welsh 1980 to represent each plant community. This was done using aerial imagery, and will be field verified by qualitative ocular methods during the summer of 2016. Should any of these reference areas prove unsatisfactory in the future, one of the original reference areas from Welsh 1980, or subsequent studies, will be evaluated by the mine and submitted for division approval as a new reference area for the affected plant community. The limits of the surface disturbance are shown on Plates 3.2.1-1, 3.2.1-3, 3.2.3-3a thru 3.2.3-3h and 4.16.1-1B. A species list by plant community with a discussion of the methods used in the community analysis are presented in the Appendix Volume A-2.

2.7.2 Community Analysis - Results and Discussion

Greatest diversity of species was observed in the reference area transects occupied by aspen, and by the grass-forb-elderberry with which it is intergraded. Those two types includes from 23 to 32 plant species in transects and in the productivity plots. Spruce-fir transects yielded from 17 to 26 species of plants and the riparian communities 15 to 26 species. The community type with least diversity in the reference areas was the sagebrush community, ranging from 10 to 14 species.

SECTION 4.7

additional water will not be needed. If irrigation is needed, an irrigation plan will be developed at that time and submitted to the Division of Oil, Gas and Mining for approval. The special revegetation plan (see Section 4.7.3) for the conveyor route does include some drip irrigation for establishment.

4.7.5 Monitoring Procedures, Portal, Train Loadout, Waste Rock Disposal Site, South Fork Breakout Areas and Other Small Areas

All areas of final revegetation will be qualitatively evaluated on an annual basis. In addition, shrub survival will be quantified using permanent transects for the first three years after planting. Woody plant density and total living cover will be estimated during the third year (and fifth year on areas with 10 year liability). **Woody plant success standards will meet the requirement of R645-301-356.232. Shrub density will be a minimum of 1500 woody plants per acre at bond release.**

For bond release, data will be collected and submitted using a monitoring method designed to give empirical values sufficient to detect a 10 percent change in vegetative cover at a 90 percent statistical confidence interval. These data will be from those communities disturbed and for established reference areas which will be used for comparison (aspen & sagebrush, reference area for south slopes; spruce-fir, reference area for north slopes; riparian, reference areas for the riparian zone and the Reference Area for the waste rock disposal site). Vegetative parameters to be measured are: cover, density, productivity and species composition. Sampling of the approved reference area and revegetated area will occur for the last two years of the liability period and will meet sample adequacy tests for 90 percent confidence level with a 10 percent change in the mean. If reference areas do not meet required parameters at this time, new reference areas will be selected and submitted to the regulatory authority for approval.

A minimum of the following data will be provided: 1) canopy cover by species and total canopy cover excluding trees, 2) productivity by life form, and 3) density of woody species by life form (trees and shrubs). The Permittee will provide results

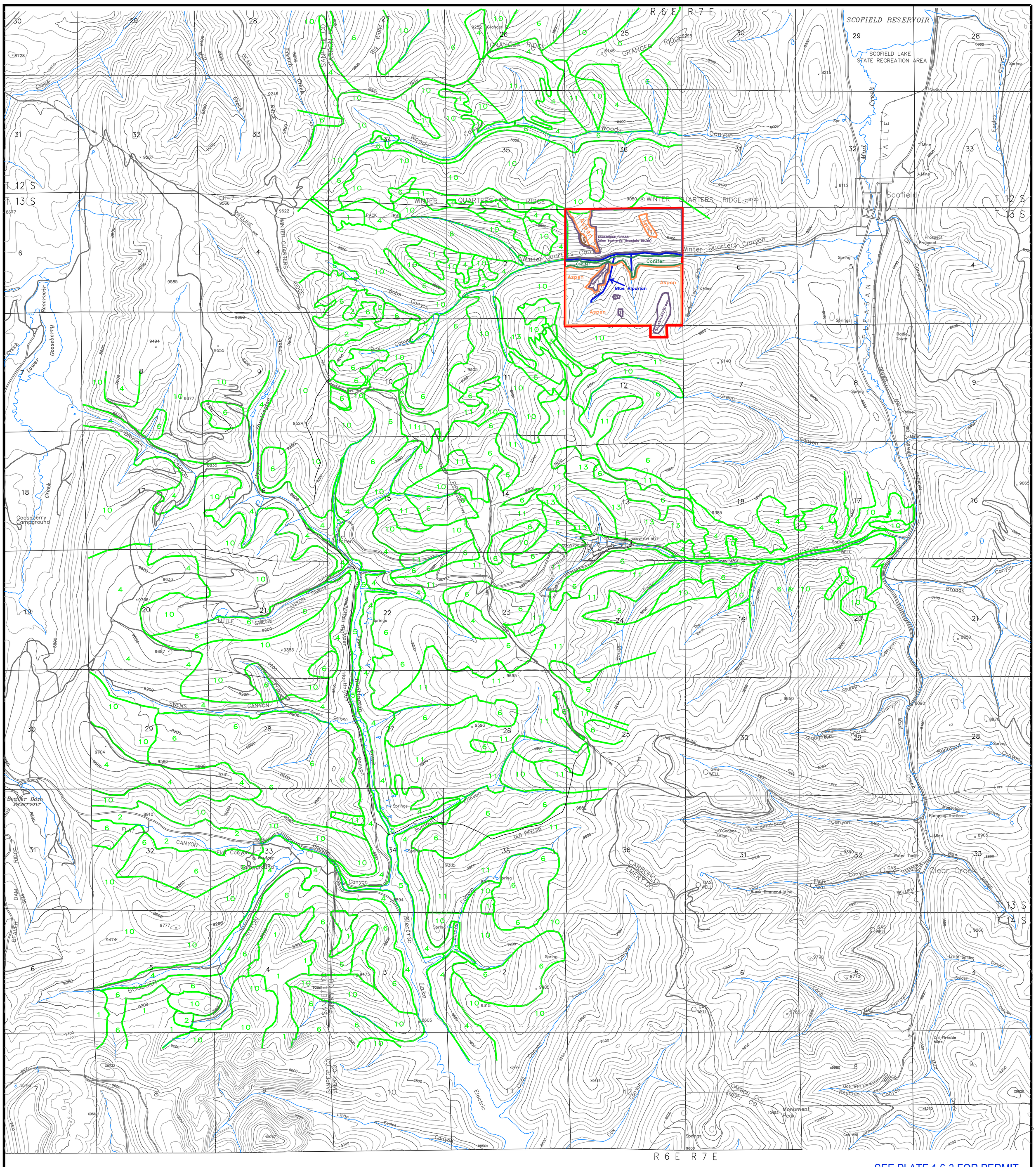
of statistical analyses showing similarity between disturbance areas and reference areas.

The Permittee has inspected all seeded areas at the end of each growing season to determine the success of the seeding program for a period of at least five years (reclamation years 1-5).

Any area not achieving 90 percent original cover in the first five years are investigated to determine the possible failure cause(s) so steps can be taken to establish the desired permanent vegetation.

The Permittee has monitored the vegetative reference area to determine if the reference areas have been subjected to heavy animal use or have been significantly altered by subsidence or other man-induced degradation. Reference areas were analyzed by SCS in 1987 after initial revegetation efforts to substantiate viability for comparison to revegetation standards. During the last two years of liability, prior to final restoration, reference areas will be sampled to determine the adequacy of the reference area vegetative parameters. ~~If the reference areas are subsided or subject to subsidence the Permittee will quantitatively monitor the reference areas.~~ If damage is such that the reference area is no longer viable, an additional reference area proposal will be submitted to the regulatory authority for approval. ~~The reference areas will be surveyed by the S.C.S. at five year intervals to determine their condition class.~~

The Permittee understands that the extended period of liability is ten years, unless site-specific data can be submitted which justifies a five-year period, beginning after the last period of augmented seeding, fertilizing or other mechanical practice and that the revegetated areas will be monitored the last years of liability and comparisons made with reference areas. On-site climatological data will be evaluated at the beginning of final reclamation to determine the liability period. The length of the liability period will be established based on the conditions outlined in R614-301-820.310.



SEE PLATE 1.6-3 FOR PERMIT AND ADJACENT AREAS

LEGEND

NOTES: 1. Field Checked Vegetation Mapping October 2007, Eccles data from Welsh 1980

1 GRASSLANDS
2 MEADOWS
4 SAGEBRUSH
5 RIPARIAN
6 CONIFER TIMBER
10 ASPEN
11 ASPEN GRASS FORB ELDERBERRY
12 SANDSTONE LEDGES
13 SAGEBRUSH SNOWBERRY

VEGETATION BOUNDARY

INFERRED VEGETATION BOUNDARY EXTENDED TO ADJACENT AREA

NOTES:
1. COORDINATE BASE ON MINE GRID DATA.
2. MAP DIGITIZED FROM 1:24000 USGS QUADRANGLE MAPS, SCOFIELD, UTAH AND FAIRVIEW LAKES, UTAH.
3. MINE FACILITY, CONVEYOR, AND NEW ECCLES CANYON ROAD LOCATIONS FROM EXISTING RECORD DATA AND INCORPORATED TO MAP IN BEST FIT LOCATIONS.
4. UTM GRID TICK VALUES SHOWN ARE IN METERS.

BASE PREPARED BY INTERMOUNTAIN AERIAL SURVEYS, SALT LAKE CITY, UTAH – M96147

N W E S

2000' 0' 1000' 2000'

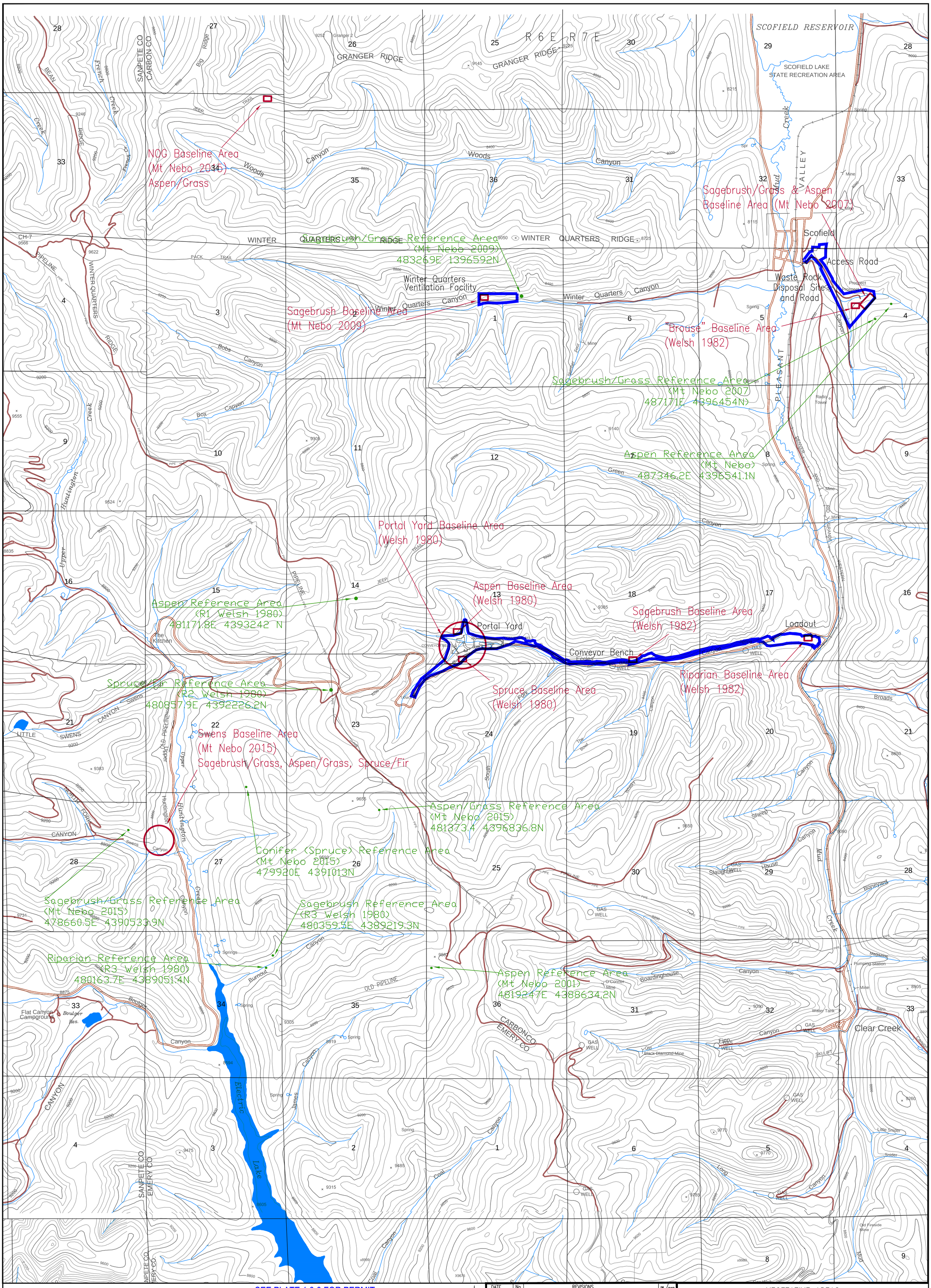
CONTOUR INTERVAL: 80 Feet

DATE	No.	REVISIONS	DR. / CHKD.
AUG 02	1		/ CDH
OCT. 02	2		/ CDH
OCT 07	3	MODIFIED PERMIT BOUNDARY (IBC & WASTE ROCK) ADDED WQ1-1; INACTIVATED MC SITES	BR RVS / GG
DEC 09	4	MODIFIED PERMIT BOUNDARY	AB / GG
JULY 10	5	REMOVED PERMIT BOUNDARY, ADDED LOCATION NOTE	JH / GG
MAY 2016	6	REMOVED REF AREAS, SEE PLATE 2.7.1-2 REV1. ADDED VEG TYPES FROM (WELSH) ALONG ECCLES CREEK	JA / GG
			/
			/

VEGETATION TYPES

Canyon Fuel Company, LLC
HC35 BOX 380, HELPER, UTAH 84526
435-448-6463
Skyline Mines

SCALE: 1" = 2000'	DATE: 7/01/02	CK.BY:DRB\VSM	REVISION: 6
DWG. NO.: 2.7.1-1a		DR.BY:DRB\VSM	05/04/2016
CAD FILE: 2.7.1-1aREV6			



LEGEND

- BASELINE (VALIDATION) AREA
- REFERENCE AREA
- PERMIT AREA

Locations from studies found in Appendix A-2; Volumes 1 & 2

SEE PLATE 1.6-3 FOR PERMIT AND ADJACENT AREAS

NOTES:
1. COORDINATE BASE ON MINE GRID DATA.
2. MAP DIGITIZED FROM 1:24000 USGS QUADRANGLE MAPS, SCOFIELD, UTAH AND FAIRVIEW LAKES, UTAH.
3. MINE FACILITY, CONVEYOR, AND NEW ECCLES CANYON ROAD LOCATIONS FROM EXISTING RECORD DATA AND INCORPORATED TO MAP IN BEST FIT LOCATIONS.
4. UTM GRID TICK VALUES SHOWN ARE IN METERS.

BASE PREPARED BY INTERMOUNTAIN AERIAL SURVEYS, SALT LAKE CITY, UTAH – M96147

DATE	No.	REVISIONS	DR. / CHKD.
5/4/2016	1	Correct "Reference" to Baseline; add true reference sites from all areas	JA / GG

VEGETATIVE AREAS
BASELINE AND REFERENCE

Canyon Fuel Company, LLC
Skyline Mines

HCR 35 BOX380, HELPER, UT, 84526
435-448-2632

CAD FILE:

DATE: 5/02/2016 | CK.BY: G.GALECKI | REVISION: 1

SCALE: FULL | DR.BY: J.ARMSTRONG | 5/4/2016

DWG. NO.: 2.7.1-2