

Skyline Mine

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February 25, 2020

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

RE: Removal of NOG Shaft, Canyon Fuel Company, LLC, Skyline Mine, C/007/005, Task #6054

Dear Mr. Christensen:

Attached is a 'Removal of NOG Shaft' document outlining responses to the deficiencies cited in Task #6054. Note that most of the responses required only minor revisions. I'd like to commend your staff on the thoroughness of finding additional citations to the North of Graben (NOG) Shaft in the M&RP that I had not noticed. In addition, the C2 form will be providing instructions to remove studies related to the permitting of the NOG site.

Attached to this cover letter are completed C1 and C2 forms, and .pdf files of the information to be incorporated into the M&RP. The information is being submitted electronically. Two (2) hard copies will be sent upon Division approval.

If you have any questions, please call me at (435) 448-2636.

Sincerely,



Gregg A. Galecki
Sr. Environmental Engineer, Skyline Mine
Canyon Fuel Company, LLC

Removal of NOG Shaft

Response to Task ID #6054

Below are responses to deficiencies by DOGM staff during the Removal of the North of Graben (NOG) shaft from the permit review. The regulation and deficiency is cited, followed by the reviewer (in **bold**). The Skyline response is identified with [blue text](#).

R645-301-114.100: Section 26 should be removed from the legal description of the permit area (p. 1-38) – **pburton**

[Reference to Section 26 on Chapter 1, page 1-38 has been removed. This removes all disturbance from Township 12 South, Range 6 East.](#)

R645-301-121.200: 1) correct acreage figure in first paragraph on p. 1-37; 2) Table 2.12.2-1 on p. 2-128 does not include NOG; 3) Remove NOG from Plate 1.6-3 table in legend; 4) TOC lists NOG shaft hydrology report in Appendix 5, Volume3 – remove? **pburton**

- 1) [Paragraph 1 has been changed from 139.81 to 136.45 \(with the 136.45 acreage checked for accuracy; 2\) the revised Table 2.12.2-1 has been submitted; 3\) Removed NOG 3.0 acres from table in Plate 1.6-3, reduced acreage to 136.45 in same table, added table modification to revision description; 4\) All supporting reports for the NOG will be removed from the M&RP.](#)

R645-301-411; justify or remove NOG in Section 2.1 9p. 2-4c2. **tmiller**

[References to the NOG have been removed from Chapter 2, Section 2.1, page 2-4c2.](#)

R645-301-322: remove or justify NOG portion in Section 2.1.2 (p. 2-4e). **tmiller**

[References to the NOG have been removed from Chapter 2, Section 2.1, page 2-4e.](#)

R645-301-411: remove or justify NOG portions in Chapter 2, (p. 2-131), Section 4.12.8 (p. 4-81) **tmiller**

[Reference to NOG in Chapter 2, Section 2.12, page 2-131 was removed from the M&RP. Section 4.12.8 information was removed from the text. An explanation was placed for Section 4.12.8 in the event there are other references to section 4.12.9 in the M&RP.](#)

R645-521.141, -521.162: remove NOG from Plate 1.6-3 acreage table. **jeatchel**

[Removed NOG 3.0 acres from table in Plate 1.6-3, reduced acreage to 136.45 in same table, added table modification to revision description.](#)

R645-301-242.100: Table 4.6-4 (p. 4-34(d)) table should total 134,275. **Pburton**

[Table 4.6-4 now totals 134,275 cubic yards of topsoil estimated for reclamation. Significant time was spend confirming numbers in the M&RP. An additional column was added to the table to illustrate/clarify available material at the sites. The footnotes have also been modified for clarity.](#)

R645-301-353: remove or justify NOG in Section 4.1.3 (p. 4-3(a)). **tmiller**

[Information in Section 4.1.3 was modified to indicated the site was never constructed.](#)

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: Removal of North of Graben Shaft

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

Removal of the North of Graben Shaft from the permit - construction never took place Task# 6054

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

Please attach 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.

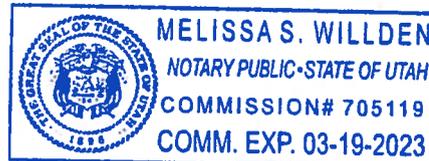
Dewey TANNLA
Print Name

Dewey Tannla 02/24/2020
Sign Name, Position, Date
G.M.

Subscribed and sworn to before me this 24 day of Feb, 2020

Melissa S. Willden
Notary Public

My commission Expires: _____
Attest: State of Utah 03-19, 2023 } ss:
County of Carbon



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: North of Graben Shaft removal from permit Task #6054

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	DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 1, pages 1-37, 1-38
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 1, Plate 1.6-3 Rev.13 1-2-2020
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 2, Section 2.1, 2-4c2. 2-4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 2, Section 2.7 page 2-63a,
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 2,Section 2.9 page 2-104k,
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 2,Section 2.10 page 2-111b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 2, Section 2.11 page 2-120l,
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Section 2.12 page 2-128, page 2-131
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 2, Plate 2.7.1-2 Rev 2 1-2-2020
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 3, Section 3.2 pages 3-31(b). 3-72(c)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Chapter 3, Remove Plate 3.2.4-5A through Plate 3.2.4-5D
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 4, Section 4.1, page 4-3(a)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 4, Section 4.2 Table 4.2-1, Section 4.4 page 4-28,
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 4,Section 4.6 page 4-34(b), 4-38(c),4-38(d), 4-41(e)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 4, Section 4.7 page4-50(a),
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 4,Section 4.9 page 4-62(a)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Chapter 4, Section 4.9 remove Figure 4.9-D
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 4, Section 4.11 page 4-72, page 4-84
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 4,Section 4.12 Table 4.12-1,
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Section 4.18 page 4-103B
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Chapter 4, Section 4.20 page 4-114(a)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Chapter 4, Remove Plate 4.4.2-5A, Plate 4.4.2-5B
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Appendix A-2, Vol.2, 2014 Wildlife Survey Report - NOG Graben Bleeder Shaft, Alpine Ecological.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Appendix A-2, Vol. 2, Order 2 Soil Survey of the NOG Bleeder Shaft, Long Resources
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Appendix A-2, Vol. 2, Vegetation of the NOG Ventilation Site 2014, Mt. Nebo Scientific
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Appendix A-5, Vol.2, Report #25, NOG Bleeder Shaft Hydro Design Report, Earthfax 2015
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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

Submitted electronically. Hard copies will be shipped for incorporation following approval.

Received by Oil, Gas & Mining

Vertical Extent of Mine Workings Workings (Life of Mine)	Surface to 1,500' max	Surface to 2,300' max	Surface to 1,500' max
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The anticipated number of total surface land acres to be affected (life of mines) is less than the combined total of the affected acreages for each of the three mines due to the overlapping of mining operations which is inherent to this multi-seam mining operation. The total surface acreage to be disturbed by surface facilities associated with underground mining is ~~439.81~~136.45 acres.

The following information was based on projection for the next five years (2012-2016).

	<u>Mine No. 1</u>	<u>Mine No. 2</u>	<u>Mine No. 3</u>
Extent of Horizontal Workings	240 acres	375 acres	1,400 acres
Extent of Vertical Workings	Surface to 1,250'	Surface to 2,250'	Surface to 2,125'

Permit Area

The construction/installation of surface facilities at the mine site, loading area, conveyor belt route, well houses, water tank pad, waste rock disposal site, and South Fork Breakout, and Winter Quarters Ventilation Facility comprise the Permit Area. The permit area acreage listed adequately accommodate areas of disturbance.

PERMIT AREAS TO BE RECLAIMED

<u>AREA</u>	<u>ACREAGE</u>
Loadout	13.86
Portal Yard	42.55
Water tanks, water lines, and Well pads (water lines not reclaimed)	0.60
Conveyor Bench	14.18
Waste Rock Disposal Site and Road	32.48
South Fork Breakout	0.60
James Canyon Buried Power Line	0.30
James Canyon Buried Pipeline	1.60
James Canyon Water Wells and Road	2.95
Winter Quarters Ventilation Facility	7.93
Winter Quarters Road (not reclaimed)	4.90
North of Graben (NOG) Shaft	3.00
Swens Power line (not reclaimed)	4.80
Swens Canyon Pad	9.70
TOTAL	139.45 <u>136.45</u>

Legal Description of Permit Area

Township 12 South, Range 6 East, SLBM

Section 26: Portions of SW1/4SW1/4

Section 34: Portions of NE1/4NE1/4

Township 12 South, Range 7 East, SLBM

Section 32: Portion SE1/4SE1/4

Township 13 South, Range 6 East, SLBM

Section 1: Portions of S1/2NW1/4, S1/2NE1/4

Section 13: Portions of S1/2S1/2

Section 23: Portions of E1/2E1/2, SW1/4SE1/4

Section 24: Portions of N1/2

Section 25: Portions of S1/2S1/2

Section 26: Portions of NW1/4NE1/4, N1/2NW1/4, SW1/4NW1/4

Section 27: Portions of the S1/2NE1/4, S1/2NW1/4

Section 35: Portions of NE1/4, S1/2

Section 36: Portions of N1/2NW1/4

Township 13 South, Range 7 East, SLBM

Section 4: Portions of SW1/4NW1/4, NW1/4SW1/4

Section 5: Portions of E1/2NE1/4

Section 6: Portions of S1/2N1/2

Section 17: Portions of S1/2S1/2

Section 18: Portions of S1/2S1/2

Section 19: Portions of N1/2N1/2

Township 14 South, Range 6 East, SLBM

Section 2: Portions of W1/2NW1/4

Section 3: Portions of SE1/4NE1/4

See Plate 1.6-3 for graphic illustration of Permit Area

Revised 6-27-161-2-2020



~~North of Graben (NOG) Bleeder Shaft~~

~~Preliminary studies for permitting construction of the NOG Bleeder Shaft was conducted in 2014. The bonded permit area is approximately 3.00 acres, with approximately 1.7 acres being disturbed with construction activities. The area surveyed for cultural resource was significantly larger than the area to be disturbed. Both Class I and Class III cultural resource inventories were conducted in the area. Two(2) isolated occurrences and one (1) new cultural resources sites were identified in the vicinity of the site, but none of the sites will be impacted. In addition, the sites were documented and evaluated for eligibility for inclusion in the National Register of Historic Places, but determined not to be eligible. See CONFIDENTIAL FILE for Environmental Planning Group (EPG) report, "A Cultural Resources Inventory for the Skyline Mine Expansion and Transmission Line Construction Project, Carbon and Emery Counties, Utah."~~

Swens Canyon Ventilation Facility (SCVF)

In 2014 preliminary studies for permitting construction of the Swens Canyon Ventilation Facility and power line were initiated. An area of approximately 9.7 acres was proposed for addition into the permit area for the SCVF pad site. A power line corridor of approximately 15-foot by 2.6 miles, totaling 4.8 acres was proposed for addition into the permit area. A Cultural Resource survey was conducted by Environmental Planning Group, LLC (EPG) covered areas of approximately 13 acres for the pad area and a 200-foot wide corridor for the power line respectively. A Class I cultural resource file search and Class III cultural resource inventory was conducted in the area. A total of five (5) isolated occurrences and three (3) new cultural resources sites were identified, documented, and evaluated for inclusion in the National Register of Historic Places (NRHP). None of the sites were recommended for eligibility in the NRHP. Therefore, the project will have no adverse effect on those sites. See Confidential File for EPG report (A CULTURAL RESOURCES INVENTORY FOR THE SKYLINE MINE EXPANSION AND TRANSMISSION LINE CONSTRUCTION PROJECT, CARBON AND EMERY COUNTIES, UTAH)

~~North of Graben (NOG) Bleeder Shaft~~

~~The NOG Bleeder Shaft consists of approximately 3.00 acre permit area located on a south facing slope approximately 200 feet below the existing Granger Ridge USFS road. The total watershed area contributing to the pad is approximately 0.8 acres. The site includes a 0.19 acre topsoil stockpile area, a short access road, the pad, and a minor re-routing of the existing road to utilize flat ground on top of the ridge to minimize the disturbance associated with the pad. Surveys were conducted to identify T&E species of both plants and animals. Surveys (provided in Appendix A 2) did not note any such species. Although habitat for the three toed woodpecker exists in the area, none were identified.~~

Flat Canyon Lease

Statements regarding cultural and historical resources found within

The Flat Canyon Lease area are addressed within the USDA January 2002 Flat Canyon Coal Lease Tract Final Environmental Impact Statement (EIS). A minimum of ten (10) Class I inventories have been complete in the leasing area, with additional reconnaissance being conducted for the EIS (Elkins and Montgomery, 2001). Of six (6) historic sites inventoried, only one site was recommended as eligible for the National Registry. This site is located on private lands within the project area. A copy of the EIS is included in Appendix A-4 Volume 2.

According to the Record of Decision (ROD) issued for the Flat Canyon Coal Lease Tract EIS, "No effects to cultural resources are anticipated." Potential effects to historic resources on private lands would be mitigated in accordance with the National Historic Preservation Act in consultation with the State Historic Preservation Office." In addition, "No effects to significant paleontological resources are expected. Prior to conducting surface operation disturbance surveys are required."

Additional SHPO concurrence was confirmed in 2016 during an Environmental Assessment conducted by Office of Surface Mining (OSM). See Appendix A-4 for concurrence letter.

Revised ~~12-30-16~~ 161-2-20

2-4e

~~2.7.9 North of Graben (NOG) Bleeder Shaft~~

~~The NOG Bleeder Shaft is constructed to provide adequate ventilation for completion of the North of Graben mining district. The shaft was necessary due to encountered geologic conditions that required turning two (2) separate mining districts into one (1). The facility will include one (1) 5-foot diameter, unlined shaft. The area permitted for the bleeder shaft is approximately 3.0 acres, with a disturbed area of approximately 1.7 acres. Both soils and vegetation information specific to the site were collected in 2014 prior to construction. In general the NOG Bleeder Shaft site encompasses a mix of musk thistle, cheatgrass, bluebunch wheatgrass, and aspen on south-facing hillside located approximately 200 feet downhill from the existing Granger Ridge USFS road. A portion of the new access road will be constructed is located in an aspen area that had been disturbed previously by other activities, and appears to have been later re-seeded. Attempts were made to minimize the size of the pad utilizing the existing flat areas adjacent to the USFS road, but geologic conditions prohibited placing the shaft on the road. No threatened or endangered species were identified. The vegetation report is located in Appendix A-2, Volume 2 (Vegetation of the NOG Ventilation Site 2014, Mt. Nebo Scientific).~~

2.7.9 Swens Canyon Ventilation Facility

The Swens Canyon Ventilation Facility (SCVF) was necessary to provide both ventilation and power for underground mining in the Flat Canyon Lease – Southwest Reserves portion of the mine. Both soils and vegetation information specific to the SCVF site were collected in 2014 prior to construction. In general, the SCVF pad site encompasses a sagebrush and mountain brush south-facing hillside. The existing access road up Swens Canyon was modified slightly, moving it closer to the creek to better utilize a generally flat portion of the valley upland area to minimize the disturbance of constructing the SCVF access road. No riparian vegetation was disturbed. No threatened or endangered species were identified. The vegetation report is located in Appendix A-2, Volume 2 (Vegetation of the Powerline Corridor & Swens Canyon Pad 2014, Mt. Nebo Scientific).

2.7.10 Flat Canyon Lease Area

The Flat Canyon Environmental Impact Statement (EIS) prepared by the US Forest Service (USFS) and the Bureau of Land Management (BLM) in 2002 determined there were no threatened and endangered, or sensitive species present in the lease area. In February 2013, Allen Rowley, Acting Forest Supervisor for the Manti LaSal National Forest determined the 2002 EIS was current and did not need additional updating. As described in the EIS the area is comprised of approximately 2.5% grasslands, 2% meadows/wetlands, 24% sagebrush/grass, 27.5% conifer-timber, and 44% aspen (Flat Canyon Coal Lease Tract – Final Environmental Impact Statement (FEIS), January 2002, (Section 3.17 pg. 3-25. Included as Figure 2.7.9-1 (pg. 2-63b) is FEIS Figure 3.5 Vegetation Types which illustrates and broadly defines the location of vegetation communities. The EIS considered surface disturbance, there is no surface disturbance currently proposed in the Southwest Reserve Flat Canyon lease area and no impacts to the existing vegetation are Mine Vegetative Analysis of Seven Proposed Drill Sites and Seven Reference Site” is included in Appendix A-2, Volume 2. The report not only provides reference areas spread throughout the area, it also includes federally listed threatened, endangered, Candidate, and Sensitive Species for Emery and Sanpete County indicating none of the species listed are found within the project area.

Habitat Loss

The amount of habitat loss due to surface disturbance is minimal when considering the extent of similar surrounding habitat, and areas of contemporaneous reclamation that were previously disturbed prior to the current mining activities. Disturbed areas will be minimized to approximately 3 acres as the area is contemporaneously reclaimed. Noise and human activity in the expansion area is consistent with the historic mining activities. Also, wildlife studies indicates the surrounding area is used as a migratory route between summer and winter ranges. Enhancement measures at reclamation will include the planting of seeds and woody species seedlings that are diverse and palatable to wildlife, and a pond to be used by both wildlife and livestock. The pond is being left intact at the landowner=s request - historically the pond has only periodically retained a very limited water supply.

~~2.9.7 WILDLIFE OF THE NORTH OF GRABEN (NOG) BLEEDER SHAFT~~

~~The NOG Bleeder Shaft is within the North Lease where multiple wildlife surveys have been conducted. Tables 2.9-1 through 2.9-3 provide a historic species list of mammals, amphibians, and reptiles whose published ranges exist in the general area of the Skyline Mine. Tables 2.9-4 and 2.9-5 have been updated (2015) to include the federally listed threatened, endangered, candidate, and sensitive species in Carbon, Emery, and Sanpete Counties. In addition, Figure 2.9.3-A has been modified and updated and Figures 2.9.3-B, 2.9.3-C, & 2.9.3-D have been added to illustrate the endangered mammalian species in relation to the Skyline Mine lease areas. Table 2.9-4, Threatened, Endangered, and Candidate species list has been updated. Table 2.9-5, Utah Sensitive Species List has been updated. Table 2.9-7, has been added which summarized the Threatened, Endangered, and Candidate species likely to occur in the entire lease area. This table was generated from data included in the US Fish & Wildlife Service Information Planning and Conservation (IPaC) Trust Resource Report for Skyline Mine Lease area. (See IPaC Report in Appendix A-2, Volume 2). The Yellow-billed cuckoo has recently been listed at Threatened. Although the IPaC report and county list indicates the possibility of their presence, the project area is above the known elevation range of the species, and there is no suitable habitat in the area. (See Appendix A-2, Volume 2 for Alpine memo dated July 2015).~~

July 1, 2005. Details of the method of the survey are outlined in Appendix A-2, "Biological Studies in Winter Quarters Canyon Creek and Woods Canyon Creek - A Study Plan". Results of the survey will be provided in Appendix A-2, Volume 2 when completed.

Raptor surveys were conducted in 2005, 2007, 2008, 2009, 2011, and 2013 in the Winter Quarters area associated with drilling programs. Those surveys and the presence or lack of presence of raptors has not prohibited our work in the area. The raptor surveys are located with the respective exploration permits for each year. A summary report addressing the effects on raptors with the addition of the Winter Quarters Ventilation Facility is included in Appendix A-3, Volume 2. In 2009, an additional survey of the Northern goshawk, flammulated owl, and other comprehensive wildlife was conducted with similar results. No long term detrimental effects associated with the ventilation facility are anticipated. The 2011 survey identified a newly established goshawk nest in the lease modification area. This nest will continue to be monitored in future annual surveys, with additional lands to be monitored as mining advances in the North Lease modification area.

~~The North of Graben (NOG) Bleeder Shaft area is within the North Lease area and has been monitored for raptors on an annual basis. Based on the 2014 survey, no raptors will be affected by the proposed construction of the shaft. A specific raptor survey was conducted in 2014 specifically for the NOG Bleeder Shaft area with no nests being found. See Appendix A-2, Volume 2 for Alpine Ecological report.~~

THREATENED & ENDANGERED SPECIES

No threatened or endangered species have been documented in studies surrounding the Winter Quarters Ventilation Facility that would prohibit construction. See Appendix A-2, Volume 2 and Appendix A-3, Volume 2 for reports.

Because no surface disturbance is planned for the North Lease Tract Area, no impact to endangered, threatened, or otherwise sensitive species should occur.

Revised: ~~7/23/2015~~ 1-2-2020

2-111b

~~North of Graben (NOG) Bleeder Shaft~~

~~A detailed description of the soils associated with the NOG Bleeder Shaft is available in Appendix A 2, Volume 2, titled, "Order 2 Soil Survey of the North of Graben (NOG) Bleeder Shaft Area" (January 16, 2015). The survey conducted by Long Resources Consultants, Inc. provides a comprehensive assessment of the various soils within the area. The permit area encompasses approximately 3.0 acres. The soil type is represented by the McCadden Family, with shallow soil depths overlying shallow sandstone bedrock. It is considered to have good to fair available water capacity, and fair to good reclamation material with pH values ranging 6.2 - 7.0 and a saturation range of 44.1 - 72 percent. The soil pit (146KY07) sampled at the site location identified a rich A horizon of approximately 4 inches. The entire A horizon will be salvaged. Where there is less than six inches in the A horizon, up to 4 inches of the subsoil (Bw1 horizon) will be collected and stockpiled for reclamation. Quality control for the salvage of the topsoil will be primarily by color conducted under the guidance of trained personnel. To confirm the nutrient status of the topsoil, an analysis of the available nitrogen, phosphorus, and potassium will be conducted once the material is placed in the topsoil pile. At post-construction of the site, an as-built survey of the site will be conducted to confirm the amount of topsoil salvaged.~~

Swens Canyon Ventilation Facility (SCVF)

A detailed description of the soils associated with the Swens Canyon Ventilation Facility (SCVF) and associated power line is available in Appendix A-2, Volume 2, titled, "Order 2 Soil Survey of the Powerline Corridor Swens Pad Ventilation and Escape Shafts Coal Pile Expansion at the Skyline Mine" (December 2014). The survey conducted by Long

Revised: 1-2-2020~~5-27-16~~

2-120 (1)

TABLE 2.12.2-1
GRAZING POTENTIAL FOR THE AREA TO BE AFFECTED BY MINING SURFACE OPERATIONS AND FACILITIES
(Does not include State Highway SR-264)

Surface Facilities Area	General Area Classification	Land Area (Acres)	Average Forage Production (lbs/ac)	Total Animal Unit Month (AUM)	Grazing Potential-Animal Unit Month (AUM) with 25% Harvest Efficiency for proper grazing utilization
1 Portal Yard Area	Spruce Fir	16.47	0	0.0	0.00
	Aspen	7.93	586	5.9	1.47
	Sagebrush	2.50	917	2.9	0.73
	Disturbed	8.50	0	0.0	0.00
	Riparian	1.00	182	0.2	0.06
Subtotal		36.40		9.0	2.25
2 Conveyor Corridor	Aspen	3.20	586	2.4	0.59
	Sagebrush	5.77	917	6.7	1.67
Subtotal		8.97		9.1	2.27
3 Railroad Loadout Area	Grass-Forb	10.32	746	9.7	2.44
	Spruce Fir	3.50	0	0.0	0.00
	Riparian	0.04	182	0.01	0.00
Subtotal		13.86		9.8	2.44
4 Waste Rock Disposal Area	Disturbed	12.81	0	0.0	0.00
Subtotal		12.81		0.0	0.00
5 Water Tank & Well Pads	Aspen	0.26	586	0.2	0.05
	South Fork Breakout Spruce-Fir	0.96	0	0.0	0.00
Subtotal		1.22		0.2	0.05
6 WQ Vent Pad	Sagebrush	2.36	1300	3.9	0.97
Subtotal		2.36		3.9	0.97
				0.0	0.00
7 Swens Vent Pad	Sagebrush	9.7	917	11.3	2.81
Subtotal		9.7		11.3	2.81
8 Powerline	Aspen	6.3	586	4.7	1.17
Subtotal		6.3		4.7	1.17
TOTAL		91.62		47.93	11.96
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TBR (Timber) Management Unit - Emphasis is on management for production and use of wood - fiber for a variety of wood products.

UC (Utility Corridor) Management Unit - Emphasis is on providing transportation corridors for major cross-country pipelines, electrical transmission lines and telephone lines. This unit currently contains a gas transmission pipeline constructed and operated under a Forest Service special-use permit issued to Questar Pipeline Company (main line 41). The USFS was consulted on the Swens Canyon Ventilation Facility and determined the burying of the associated power line through Huntington Canyon was the primary mitigation measure implemented.

RPN (Riparian) Management Unit - Emphasis is on management of riparian areas and all the component ecosystems. The units consist of a zone approximately 100 feet measured horizontally from the edge of all perennial streams and springs, and from the shores of lakes and other still water bodies.

MMA (Minerals Management Area) Management Unit - Emphasis is on making land surface available for existing and potential major mineral developments.

In the "Land and Resource Management Plan" the Forest Service lists specific objectives pertaining to management of resources and resource uses on National Forest System lands. The Forest Service portion of the disturbed area (portal area) is currently identified as a Minerals Management (MMA) Unit. After completion of coal mining activity, the area will revert to a Range (RNG) Management unit. ~~Similarly, the 3.0 acres permitted by the NOG Bleeder shaft will revert to a Range (RNG) Management unit once mining is complete.~~

COMPATIBILITY OF MINING OPERATION WITH FOREST SERVICE MANAGEMENT EMPHASIS AND OBJECTIVES

All mining activities related to the Forest Service "Land and Resource Management Plan" will be coordinated with the appropriate Forest Service personnel prior to implementation. While the mine is located on the Forest Service land boundary, creating primarily visual and traffic pattern related impacts, these effects are considered to be rather short term and will be essentially eliminated upon mine closure.

North of Graben (NOG) Bleeder Shaft

The NOG Bleeder Shaft is constructed to provide adequate ventilation for completion of the North of Graben mining district. The shaft was necessary due to encountered geologic conditions that required turning two (2) separate mining districts into one (1). An associated fan will be powered from within the mine, with the exception of during startup of the fan where a diesel-powered generator will be used to start the fan. The approximately 3.0-acre permitted area will include an access road, a 50-foot by 80-foot pad housing a fan, and a topsoil storage area. On the existing road located approximately 200 ft uphill from the pad, a second smaller fenced area approximately 25-foot by 40-foot will include a generator housed in a shed and a 300-gallon fuel tank housed in a secondary containment for spills. There is no associated sediment pond due to the small nature of the site, and a sediment collection area located on the pad that is designed to let water leave the site through a culvert once sediment has been retained. Total acreage draining to the pad is 0.8 acres. The peak flow in the road ditch resulting from a 10-year, 24-hour event is estimated at 1.86 cfs, with a maximum velocity of 4.87 fps. The ditch will be lined with D50 riprap of 3-inch rock. The site is considered an Alternate Sediment Control Area (ASCA). Plates 3.2.4-5A through 3.2.4-5C illustrate the pad and road designs, cross sections, and watersheds of the site. Located in Appendix A-5, Section 25 are two (2) reports outlining both the hydrologic design and slope stability of the pad, topsoil pile, and road.

Sediment control structures used during construction such as silt fencing and straw bales will remain in place for one year after construction and will be removed anytime thereafter. Erosion control blankets, wattles, or straw bales will be used to control erosion during interim vegetation establishment.

During both construction and during any operational use of the roads, dust will be controlled to comply with the existing Air Quality permit. Section II.B.1.i of said permit indicates visible emissions will not exceed 20% opacity, and shall be treated using water or chemically treated for dust control (Section II.B.1.k). See Appendix A-1 for complete Air Quality permit DAQE-AN100920001-15. Road access to USFS road 0221 — Granger Ridge road will be uninterrupted during construction as the road will be diverted slightly to the north of its original location prior to construction and while facilities are adjacent to the road. Road 0221 has very little traffic as it terminates approximately ¼ mile east of the facility. The minimal footprint of the facility that is immediately adjacent to the road will be secured with a chain-link fence. The road will be returned to the original location at reclamation.

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3-31(b)

Swens Canyon Ventilation Facility

The Swens Canyon Ventilation Facility (SCVF) and Power Line project are needed for the future of the Skyline Mine for multiple reasons. The 3-phase, 12.5 kV, single pole power line, with compact construction is necessary to supply the power needs as mining moves southwest. Attempts to supply the power through

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Division of Oil, Gas & Mining

Area 39. This 1.01 acre area addresses both the undisturbed area between the upper undisturbed ditch (UDW-4 from Earth Fax report) and the primary portion of the WQVF access road (DW-5 from Earth Fax report). Sediment from the area is controlled by a catch basin that incorporates a wattle to trap sediment prior entering a culvert taking water under the road (Plate 3.2.4-3A). The ditch has been widened in the vicinity of catch basin to accommodate the installation of the wattles. The outfall of the culvert, although not having a erosive velocity, is armored with riprap to further reduce any sediment loading.

~~**Area 40:** The NOG Bleeder Shaft pad is an area that addresses runoff from both small undisturbed area UW1, and disturbed areas DW3, DW5, and DW6 that include the cutbank/highwall, road, and pad. The area contributing runoff to the pad is approximately 0.8 acres. The pad is designed to slope back (or north) into the northwest section of the pad. Water will be able to collect and drop out sediment prior to being discharge off the site via a culvert. Sediment can reach a height of 0.40 feet prior to needing cleaning which will accommodate approximately 160 cu-ft of sediment storage. See Appendix A-5, Section 25 for the Earthfax Hydrology Design report.~~

Area 40: The Swens Canyon Ventilation Facility pad is an area that addresses both a small undisturbed area (UW3) and the pad (DW3) totaling 1.5 acres (Plate 3.2.4-4D). Storm water runoff and sediment from the area flows to the east-southeast area of the pad. Water and sediment reaching the east side of the pad will either be treated by a silt fence or directed to the south portion of the pad using a berm. Water and sediment reaching the south end of the pad is controlled by a swale and small catch basin located at the southern portion of the pad. At that location, the small amount of water will collect to a maximum depth of 1.28-inches and eventually evaporate. The maximum design velocity is 1.02 ft/sec which is not considered erosive. See Attachment A of Earthfax Swens Canyon Design Report in Appendix Volume 5, Engineering Calculations, Section 24 for details.

Area 41: The Swens Canyon Ventilation Facility Topsoil Pile is designed to safely retain runoff from a 100-year, 24-hour storm event (176 cu-yds.) and one year of predicted sediment yield (195 cu-yds.) Topsoil will be collected/contained in the sediment basin and will either be retained in-place or re-deposited on the pile. Once vegetation is established on the Topsoil Pile, the sediment yield will be significantly reduced. Plate 3.2.4-4D illustrates the area.

On all areas not reporting to a sediment pond, and classified as Alternate Sediment Control Areas, the alternate sediment control measure such as straw bales, silt fences, catch basins, excelsior mats, etc. will be maintained until there is adequate vegetative cover to properly filter any surface runoff (see Sec. 20, Vol. 5 for design). When this can be demonstrated, the alternate control measures will be removed and the area reclassified as an "Exempt area". (See Sec. 21, Vol. 5 for Demonstrations) On all areas classified as Exempt Areas, if they should become redisturbed they will be reclassified as ASCA areas and will have the runoff treated with a designed treatment.

4.1.1 Reclamation Plan - Rock Disposal Site

Reclamation activities will be conducted on portions of the affected areas as twenty foot lifts are filled to design capacity. The final contours of the rock disposal site are presented in Drawing 4.16.1-1B. Part of diversion ditch DD-16 will be removed during final reclamation as needed. Diversion ditch UD-6 will remain after final reclamation. Part of the disturbed are affected by the disposal operation will, at the request of the property owner's representative, be leveled off and reclaimed to native rangeland for subsequent use as a corral. The access road to the site will not be reclaimed except for the removal of the guard rail (Exhibit 4.1.1-1).

4.1.2 Reclamation Plan - Winter Quarters Ventilation Facility

Reclamation activities will include removing any existing structures such as the fan structure, retaining walls, a mobile field office for emergency evacuation, substation with associated pad, fencing, etc. Compliant to both State Regulations R645-301-551 and MSHA 30 CFR 1711, both the vent shaft and emergency escape shaft will be sealed and backfilled with an engineered fill. The shafts will be backfilled above the pad surface with the excess fill allowed to settle for approximately one year prior to removing the pad (See Section 4.9 for details) closed with a six-inch thick concrete cap or other equivalent means and vented with a two-inch diameter or larger pipe extending a minimum of 15-feet above the surface of the shaft(s). Consistent with the same regulations, the slope will be sealed with solid, substantial, incombustible material such as concrete blocks, bricks or tile, or shall be completely filled with incombustible material for a distance of at least 25-feet into the opening. Once all structures are removed and openings sealed, the slopes will be reclaimed to the approximate original contours (AOC) using extreme surface roughening (pocking) as the primary form of sediment control. The site will be reseeded as outlined in Section 4.7 of the M&RP, and the sediment pond removed. In the event the extreme surface roughening shows signs of failure, additional work will be conducted to insure sediment is controlled on site. Improvements that were made to the preexisting Winter Quarters Canyon road while the WQVF was operational will remain intact for the landowner as outlined in the easement of the lease.

4.1.3 Reclamation Plan – North of Graben (NOG) Bleeder Shaft: Removed from plan as site was never built.

~~Reclamation activities will include removing any structures such as the fan structure, diesel engine, fuel tanks, etc. Compliant to both State Regulations R645-301-551 and MSHA 30 CFR 1711, the shaft will be backfilled with an engineered fill. The shaft will be backfilled above the pad surface with excess fill, allowed to settle for approximately one year prior to removing the pad (See Section 4.9 for details), closed with a six-inch concrete cap or other equivalent means and vented with a two-inch diameter or larger pipe extending a minimum of 15-feet above the surface of the shaft. Once all structures are removed and the shaft sealed, the slopes will be reclaimed to the approximately original contour (AOC) using extreme surface roughening as the primary form of sediment control. The site will be reseeded as outlined in Section 4.7 of the M&RP. In the event of re-vegetation not achieving reclamation standards, additional work will be conducted to insure sediment control on the site.~~

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TABLE 4.2-1

RECLAMATION TIMETABLE

Task	Phase I	Phase II	Phase III	Phase IV
Recovery of Underground Equipment				
Seal Mine Portals				
Remove Winter Quarters Fan and housing				
Remove Swens Canyon Shaft and housing				
Demolition				
Mine Site - Lower Bench				
Winter Quarters Ventilation Facility				
Mine Site - Middle Bench				
Mine Site - Upper Bench				
Overland Conveyor				
Rail Loadout Facilities				
Remaining Facilities (pump houses, wells, water tanks)				
Earth Work				
Seal and Backfill Winter Quarters Mine Openings				
Install Interim Sediment Control				
Backfill and Compact				
Remove Sedimentation Ponds				
Topsoil Replacement				
Back fill and compact Swens Canyon Shaft				
Revegetation				

4.4.2 Grading and Final Contour

All highwalls and cutslopes will be reclaimed using geotechnically stable fill slopes with surfaces that have been sufficiently roughened with deep gouging. The operational bench slopes will be graded back to the approximate original contour at a two horizontal to one vertical slope (2h:1v) or shallower upon abandonment, utilizing a bulldozer working along the slopes. A geotechnical analysis will be made of this slope at the time of reclamation and design adjustment made as necessary to insure slope stability. The sediment pond at the portal area will be removed during the initial reclamation phase.

The reclamation plan is shown on in maps 4.4.2-1A, 4.4.2-1AA, 4.4.2-1B, 4.4.2-1BA, 4.4.2-1B1 and 4.4.2-1AC. Costs and mass balance data associated with reclamation may be found in the Engineering Calculations, Volume 5.

Grading operations will be possible at the railroad load-out site which will be returned to the approximate original contour and shown on Maps 4.4.2-1C and 4.4.2-1D. Water Tank final reclamation contours are shown on Maps 4.4.2-1E and 4.4.2-1F. The waste rock disposal site final reclamation contours are shown on Map 4.16.1-1B.

The Winter Quarters Ventilation Facility grading and final contour plan will be similar to the sites listed above. Once excess material has been used in sealing the slope and shaft as outlined in Sections 4.1.2 and 4.9, any retaining walls, highwalls or cutslopes will be reclaimed using geotechnically stable fill slopes with the final surface being roughened with deep gouging. The pad will be graded back to the approximate original contour, unless the post-mining land use changes. The sedimentation pond will be removed once sufficient re-contouring of the pad has taken place. See Plates 4.4.2-3A and 4.4.2-3B for the reclaimed site configuration.

~~The North of Graben (NOG) Bleeder Shaft is similar to all previously listed sites. Once the shaft has been filled as outlined in 4.1.2 and 4.9, any cut slopes will be reclaimed with the final surface being roughened with deep gouging. The pad will be graded back to the original contour. Plates 4.4.2-5A and 5B illustrate the reclaimed surface.~~

The Swens Canyon Ventilation Facility will continue with the grading and contour plans listed above, using geotechnically stable fill slopes. Material generated during construction of the shafts and stored in the cuttings pond area, will be used as backfill for the shafts following the backfill designs located in Section 4.9 and Figure 4.9-B. The pad will be graded back to the approximate original contour. The small section of the USFS road that was rerouted for access to the pad will be re-established in its former location. Plates 4.4.2-4A and 4.4.2-4B illustrate the proposed final reclamation designs.

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~~Topsoil to be removed from the North of Graben (NOG) Bleeder Shaft area will be collected from the disturbed area as construction advances. Based on the Order 2 Soil survey (See Appendix A-2, Long Resources Consultants, Inc.) the depth of suitable topsoil will be approximately 4-inches from the A-horizon and up to 4-inches of the B-horizon if necessary. Construction will take place predominantly on the south-facing slope (Soil Profile 14SKY07) dominated by quaking aspen, mountain big sagebrush and grasses. Brush and topsoil will be salvaged simultaneously and stored in the designated topsoil storage area. Larger trees will be placed in a brush pile within the disturbed area to be redistributed at reclamation. A small portion of the existing US Forest service road will be re-routed to utilize flat, previously disturbed areas adjacent to the road. The northslope is dominated by Englemann spruce, and other conifers.~~

~~The soils identified in the survey are classified as loam and sandy-loam. The slope is 41 percent. The taxonomic classification is McCadden family, lithic Haplocryolls loamy-skeletal, mixed superactive. At site 14SKY07, which is most representative of the site, the EC values range from 0.23-0.37ds/m, Sodium Absorption Ration (SAR) 0.14-0.21, and an estimated Available Water Capacity range of 0.76-1.35 in/ft. - all acceptable ranges to use the available material. The topsoil stockpile is designed to store approximately 1,129 cu-yds of material, and an as-built survey of the pile and site will be conducted at post-construction to confirm the amount of material salvaged. The topsoil stockpile will be located at the west end of the disturbed area where the pad access road leaves the USFS road (See Plates 3.2.4-5A through -5C). Prior to re-distribution, a sampling of the nutrient content (N:P:K) will be conducted to determine the need for fertilizer application when compared to the baseline information. See Section 4.6.3 for Topsoil Protection measures.~~

The topsoil and subsoil from the Swens Canyon Ventilation Facility (SCVF) area will be collected from the disturbed area as construction advances. Prior to construction, soil samples will be collected from the A and B horizon at sample locations 14SKY14 and 14SKY15 and analyzed for available nutrients nitrogen, phosphorus, and potassium per DOGM 2008 guidelines. The associated soil survey (see Appendix A-2, Volume 2) the depth of topsoil ranges from approximately 0.83 to 1.3 feet. It is estimated approximately 8,750 cu-yds of topsoil and 6,350 cu-yds of subsoil will be collected and stored. The total topsoil, subsoil removal will store approximately 15,100

TABLE 4.6-4
TOPSOIL REDISTRIBUTION

	Acreage	Planned Depth Inches	Needed	Cubic Yds	Est.
<u>Storage</u>					
<u>Loadout Area</u>					
South Slopes	10.52	18	25,458 (Private)		
North Slopes	3.30	12	5,324 (Private)		
Riparian	.04	18	97 (Private)		
Sub-Total	13.86		30,879		27,787
<u>Portal Yard Area</u>					
South Slopes	20.03	18	48,473 (USFS)		
North Slopes	16.37	12	26,410 (USFS)		
Sub-Total	36.40		74,883		91,586
<u>Water Tank and Well Pads</u>					
Well Pads	.19	12	306 (USFS)		
	.07	12	113 (Private)		
Sub-Total	.26		419		
<u>Waste Rock Disposal Site</u>					
Site	7.68	12	10,147 (Private)		
			2,198 (Private)		
			12,345 (Private)		3,739
<u>South Fork Breakout Area</u>					
South Slope	.30	30	1,210 (USFS)		
North Slope	.66	12	1,065 (USFS)		
Sub-Total	.96		2,275		2,990
<u>Winter Quarters Ventilation Facility</u>					
North Slope	1.69 ^{1.1}	1812	4090 ^{2,6627} (Private)		4,421
<i>1.69 acres does not include acreage of topsoil pile; total disturbed area including topsoil pile area equal 2.36 acres</i>					
Sub-Total	1.69		4090		

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Table 4.6-4 Page 4-38(c)	Table 4.6-4 Page 4-38(c) Date 08/10/2020

TABLE 4.6-4 (Continued)
TOPSOIL REDISTRIBUTION

	<u>Acreage</u>	<u>Planned Depth Inches</u>	<u>Cubic Yds</u>
<u>Overland Conveyor</u>			
Route	.39	12	629 (Private) 15,295 ¹
<u>NOG Bleeder Shaft 1.7²</u>			
		19	4,388 (USFS)
¹ 1.7 acres is only the disturbed area. The permit area encompasses approximately 3.0 acres.			
<u>Swens Canyon Ventilation Facility</u>			
North Slope	5.4 ³	12	8755 (USFS)
			48,056 (Private) 51,242
			90,60786,219 (USFS) 79,281
GRAND TOTAL	65.7064.0		130,663134,245 ¹

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¹Both of these areas are located on National Forest lands and 70,59379,281 cubic yards of National Forest topsoil was removed and stored from these area. The topsoil over and above that planned for redistribution that came from National Forest lands will be redistributed on National Forest lands, as directed by the Manti-LaSal National. A total of 15,295 cubic yards located on the Portal topsoil pile came from private land and will be used where needed.

²2,198 cubic yards were available on the Waste Rock disposal site prior to the reclamation of the Belina Mine. Approximately 1,541 cubic yards of topsoil and 1,388 cubic yards of subsoil were retrieved from the site as the Division reclaimed the site. The remainder of topsoil will come from the Portal Yard stockpile or other outside source.

³Acreage for both the Winter Quarters and Swens Canyon ventilation facilities do not include the area occupied by the stockpiles are areas not disturbed inside the designated permit area.

~~4~~ ~~**86,21981,852~~ cubic yards are need for revegetation on National Forest lands and ~~48,0563,966~~ cubic yards are needed for revegetation on private lands. As indicated in Section 2.11, there is ~~79,28176,291~~ cubic yards of topsoil available for revegetation on National Forest Lands and ~~44,52651,242~~ cubic yards of topsoil available for revegetation on private lands. There is also approximately 1,388 cubic yards and 6,349 cubic yards of subsoil available at the Waste Rock and Swens Canyon sites, respectively.

~~***2,198 cubic yards are available at the Scofield site. The remainder of the topsoil will come from the portal yard stockpile or other outside source.~~

~~***5.4 acres does not include the acreage of the topsoil pile and areas not disturbed in the permit area. Plate 3.2.4-4F illustrates topsoil (~8,755 cu-yds.) and subsoil removal area. Only topsoil is included in the table although approximately 6,345 cu-yds of subsoil will be stored in the pile as well.~~

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4.6.6 Winter Quarters Ventilation Facility Topsoil Redistribution

Topsoil redistribution will commence once removal of all facilities and modification of the pad site to achieve the approximate original contours (AOC) is completed. Distribution of the topsoil will take place immediately prior to re-vegetation activities to minimize erosion. Topsoil will be placed with a bulldozer or comparable machinery to approximate grade. Following topsoil placement to approximate grade, a trackhoe or comparable machinery will deep-gouge or roughen the surface prior to commencement of re-vegetation activities.

~~4.6.7 NOG Bleeder Shaft Topsoil Redistribution~~

~~The topsoil redistribution will start one-year after the shaft has been backfilled to allow for settling, any facilities have been removed, and the earthwork has regarded the road and pad to the approximate original contours (AOC). Re-vegetation activities will immediately follow the distribution of topsoil to minimize erosion. Topsoil will be placed with a bulldozer or comparable machinery to approximate grade, followed by deep-gouging of the surface. Mulch, matting or other best technology currently available (BTCA) will be used as a top-dressing once seed has been distributed.~~

4.6.8 Swens Canyon Ventilation Facility Topsoil and subsoil Redistribution

As with previous sites, both subsoil and topsoil redistribution will commence once the shafts have been adequately backfilled, and the area of the pad site has been roughly re-graded, subsoil will be re-distributed to achieve approximate original contours (AOC). Prior to topsoil placement, any highly-compacted areas such as roads will be ripped prior to topsoil placement. Topsoil will then be placed with a bulldozer or comparable machinery to achieve approximate grade. Once topsoil is placed, a trackhoe or comparable machinery will deep-gouge or roughen the surface. Prior to commencement of re-vegetation activities, the topsoil will be analyzed for available nutrients nitrogen, phosphorus, and potassium per DOGM 2008 guidelines to evaluate whether any soil treatment is necessary. Following seed distribution, and any remedial soil treatments, topsoil and seed will be retained using a hydro-mulch, certified weed-free straw, erosion control blankets, a combination or other best technology currently available at the time. These procedures apply to both areas associated with the vent facility and any disturbance associated with the power line installation.

4.7.9 Winter Quarters Ventilation Facility (WQVF)

Refer to both Section 2.7 and the Mt. Nebo Vegetation report located in Appendix A-2, Volume 2 for a discussion of the vegetation for the WQVF. The interim and final revegetation seed mixes for the WQVF area are listed in Tables 4.7-8A through 4.7-8C. Reclamation success standards are based on the reference area(s) identified in the Mt. Nebo report. Noxious plants invading the WQVF permit area will be controlled by hand-grubbing, and/or approved herbicides. Surveillance will be monitored annually during the liability period.

4.7.10 ~~NOG Bleeder Shaft~~

~~Refer to both Section 2.7 and the Mt. Nebo Vegetation report located in Appendix A-2 Volume 2 for a discussion of the vegetation of the NOG Bleeder Shaft site. Portions of the area were previously disturbed and re-vegetated, while other portions are undisturbed. Both the interim and final re-vegetation seed mixes are listed in Tables 4.7-10A and -10B, with the areas seeded being top-dressed mulch, straw, or matting when the seed is distributed. Reclamation success standards are based on the reference areas identified in the Mt. Nebo report. Noxious weeds will be controlled during the liability period. Sediment control structures used during construction such as silt fencing and straw bales will remain in place for one year after construction and will be removed anytime thereafter. Erosion control blankets, wattles, or straw bales will be used to control erosion during interim vegetation establishment.~~

4.7.11 Swens Canyon Ventilation Facility (SCVF)

Refer to both Section 2.7 and the Mt. Nebo Vegetation report located in Appendix A-2, Volume 2 for a discussion of the vegetation for the SCVF. The interim and final revegetation seed mixes for the SCVF area are listed in Tables 4.7-11A, and 4.7-11B, respectively. Following topsoil and subsoil handling outlined in Section 4.6, seed distribution, and any remedial soil treatments, seed will be retained using a hydro-mulch, certified weed-free straw, erosion control blankets, a combination or other best technology currently available at the time. Reclamation standards are based on a combination of the reference area identified in the Mt. Nebo report, and the recommendations within the report. The area has been mapped as crucial summer range for deer and elk by the Utah Division of Wildlife Resources (DWR). Consequently, a pre-set woody species value of 2,500 plants per acre is currently proposed for a revegetation success standard at the proposed disturbed Sagebrush/Grass area. However, that may be re-evaluated at bond release if an increased percentage of forbs and grasses is determined more desirable for the post-mining land uses. A modification in the woody-species will be based on consultation with USFS, DWR, DOGM, and mine personnel. Noxious plants invading the SCVF permit area will be controlled by hand-grubbing, and/or approved herbicides. Surveillance will be monitored annually during the liability period.

discharged from this location when discharge parameters are met. A Utah Pollution Discharge Elimination System (UPDES) water discharge point was added to the Skyline Mine water discharge permit in December 2009 to accommodate discharging water to Winter Quarters Creek both from the sedimentation pond and potentially future mine water discharge.

The Winter Quarters decline slope portal is at an elevation of 8120 feet which is down dip and at a lower elevation than portions of the Mine workings. To safeguard against a gravity discharge at reclamation, should the mine flood to the portal level, both the shafts and slope have been sealed and backfilled to prevent any discharge at reclamation (See Section 4.9).

4.11.10 North of Graben (NOG) Bleeder Shaft

~~The NOG Bleeder shaft includes a 3.0-acre bonded permit area, with approximately 1.7 acres of disturbance with a 50-ft by 80-ft pad, 784-ft road, topsoil pile, diesel storage tanks, generator, and a 5-ft diameter shaft. The site is adjacent to an existing USFS road located at the top of Granger Ridge. No pond is necessary for sediment control due to minimal disturbance. The shaft opening is located approximately 1,400 feet above the mine workings eliminating concern of any gravity discharge during the operation of the shaft.~~

4.11.11 Swens Canyon Ventilation Facility (SCVF)

The Swens Canyon Ventilation Facility included the designs of an exhaust shaft and an emergency escapeway shaft, and a drainage plan for both the disturbed and undisturbed drainage. The majority of undisturbed drainage has been diverted around the site, while the disturbed area drainage has been minimized with a number of Alternate Sediment Control Areas (ASCAs) that eliminate the need for a sedimentation pond. The shafts are located significantly higher than the flow in Swens Canyon eliminating any chance of water from the creek entering the shaft. Similarly, the shaft is approximately 900 feet above and up dip of the majority mine workings, eliminating concern of gravity discharge during the operation of the mine. See Section 4.9 for the detailed reclamation of the shafts.

TABLE 4.12-1
PROPOSED POSTMINING LANDUSE

Area	Present Ownership	Premining Landuse	Proposed Postmining Use	Alternative Use	Capacity To Support Proposed Use	Relationship To Existing Landuse Policies
Mine Site and Exploratory Excavations	USFS	Wildlife/ Grazing Habitat	Wildlife/ Grazing Habitat	Picnic Grazing Habitat	Adequate Area	Compatible
Conveyor and Pipeline	Private	Grazing/ Wildlife Habitat	Grazing/ Wildlife Habitat	Wildlife Habitat	Adequate	Compatible
Main Access Road	State	Forest Compatible Access and Service Road	State Road	None	Adequate	
Loadout	Private	Grazing, Picnic and Stock Pens*	Grazing/ Wildlife Habitat	Wildlife Habitat	Adequate	Compatible
Waste Rock Disposal	Private	Grazing/ Wildlife Habitat	Grazing/ Wildlife Habitat	Wildlife Habitat	Adequate	Compatible
South Fork Breakout	USFS	Wildlife/ Grazing Habitat	Wildlife/ Grazing Habitat	Wildlife/ Grazing Habitat/ Forestry	Adequate Habitat	Compatible
James Canyon	USFS/Private	Wildlife/ Grazing Habitat	Wildlife/ Grazing Habitat	Wildlife/ Grazing Habitat	Adequate Habitat	Compatible
Winter Quarters	Private	Grazing	Grazing		Adequate Compatible	Adequate
Ventilation Facility		Mining Wildlife	Wildlife			
NOG Bleeder Shaft	USFS	Wildlife	Wildlife	Adequate	Adequate	Compatible
Swens Canyon Ventilation Facility	USFS	Wildlife/ Grazing	Wildlife/ Grazing		Adequate	Adequate Compatible

Revised: ~~10-13-2017~~ 1-2-2020

The owner's representative requests that the pit fill be leveled off so that it can be used for corrals. The leveled-off fill will be reclaimed to native rangeland per the Reclamation Plan.

4.12.7 Winter Quarters Ventilation Facility (WQVF)

The pre-mining land use was native rangeland providing habitat for grazing and wildlife, with associated impacts from mining and timber harvesting. The WQVF pad site and access are all on private land. The pre-existing road will not be reclaimed and any associated road improvements will remain. At reclamation, the mine openings will be sealed and/or backfilled, the pad, pad-access road, and associated facilities will be removed and the Approximate Original Contour (AOC) be returned. Once the reclamation commitments have been achieved, the pre-mining land uses will be adequately re-established.

4.12.8 ~~NOG Bleeder Shaft~~ This section was removed from the permit as the site was never constructed.

~~The pre-mining land use provided habitat for grazing and wildlife with associated impacts from timber harvesting. At reclamation, the mine opening will be backfilled, capped, the pad, access road, and associated facilities will be removed and the approximate original contours (AOC) will be returned. At the completion of reclamation activities, the pre-mining land uses will be adequately re-established prior to liabilities being released.~~

4.12.9 South Fork Breakout

The pre-mining land use provided habitat for wildlife, wildlife grazing, and forestry. A portion of the 0.96 acre disturbed and permit area boundary was approved for full bond release in 2017, and released from the disturbed and permit area boundary. 0.36 acres, including the road and topsoil area, were approved for full bond release while 0.60 acres remains within the disturbed and permit area boundary and will be reclaimed by Skyline Mine. See plate 3.2.11-1 for details.

Revised: ~~1-2-2020~~ 10-13-2017

Waste Rock Site

Fish and Wildlife Enhancement Measures:

- § Species to be planted and the rates per acre will follow the specifications in Table 4.7-6A.
- § Seeds and seedlings planted during reclamation will include diverse palatable species.
- § See Section 2.9 for additional discussion of Wildlife at the Waste Rock site.

Winter Quarters Ventilation Facility (WQVF)

Fish and Wildlife Enhancement Measures:

§ Species to be planted and seeded and rates per acre are outlined in Mt Nebo Report (Appendix A-2, Volume 2).

will be used in reclamation as outlined by Dr. Shiozawa (Appendix A-3, Volume 2)

- Photo documentation of the pre-disturbed stream wcollected for re-construction of the stream bank morphology
 - The WQVF was specifically designed to be constructed a minimum of two (2) stream widths from the stream channel, thus providing a buffer zone of riparian and other upland vegetation to minimize impacts and maintain appropriate habitat.
- During construction, operation, and reclamation of the WQVF site, noxious plants invading the permit area will be controlled by hand-grubbing, and/or approved herbicides. Surveillance will be monitored annually during the liability period.

NOG Bleeder Shaft

Fish and Wildlife Enhancement Measures:

- ~~— Species will be planted and seeded as outlined in Section 4.7~~
- ~~— During construction, operation, and reclamation of the site, noxious plants invading the site will be controlled by approved herbicides. Monitoring and treatment will continue annually during the liability period.~~

Swens Canyon Ventilation Facility (SCVF)

Fish and Wildlife Enhancement Measures:

Species to be planted and seeded at the prescribed rates per acre are outlined in Section 4.7, Tables 4.7-11A and -11B. This will provide better wildlife habitat in the future. Any areas disturbed along the pipe line corridor needing repair after the first growing season after construction will be reclaimed in a similar manner.

No enhancement measures are necessary along Swens Canyon Creek.

During construction, operation, and reclamation of the SCVF site, noxious plants invading the permit area will be controlled by hand-grubbing, and/or approved herbicides. The areas will be monitored annually throughout the liability period

4.20.5 Winter Quarters Ventilation Facility Road

The pre-existing road in Winter Quarters Canyon is classified as an ancillary road based on the following criteria: it is not used to transport coal or spoil; it is not used for access or other purposes for a period in excess of six months; and it will not be retained for a specifically approved postmining land use. The access is primarily across private land. Although improvements to the road were made by the Mine, the improvements were included in the easement of the lease and will not be altered during reclamation.

The approximately 450 foot access road built for the Winter Quarters Ventilation Facility pad will be removed during reclamation. See Plates 3.2.4-3b and -3e for detailed road illustrations and Plates 4.4.2-3A and 4.4.2-3B for reclamation details.

~~4.20.6 North of Graben (NOG) Bleeder Shaft Road.~~

~~The NOG Bleeder Shaft access road is classified as an ancillary road since 1) it is not used to transport coal or spoil; 2) it is not used for access or other purposes for a period in excess of six (6) months; and 3) it will not be retained for a specifically approved post-mining land use. The access is located on land exclusively managed by the US Forest Service. The approximately 780-foot road built for the NOG Bleeder Shaft will be removed during reclamation. See Plates 3.2.4-5A through -5D for detailed road illustrations and Plates 4.4.2-5A and -5B for reclamation details.~~

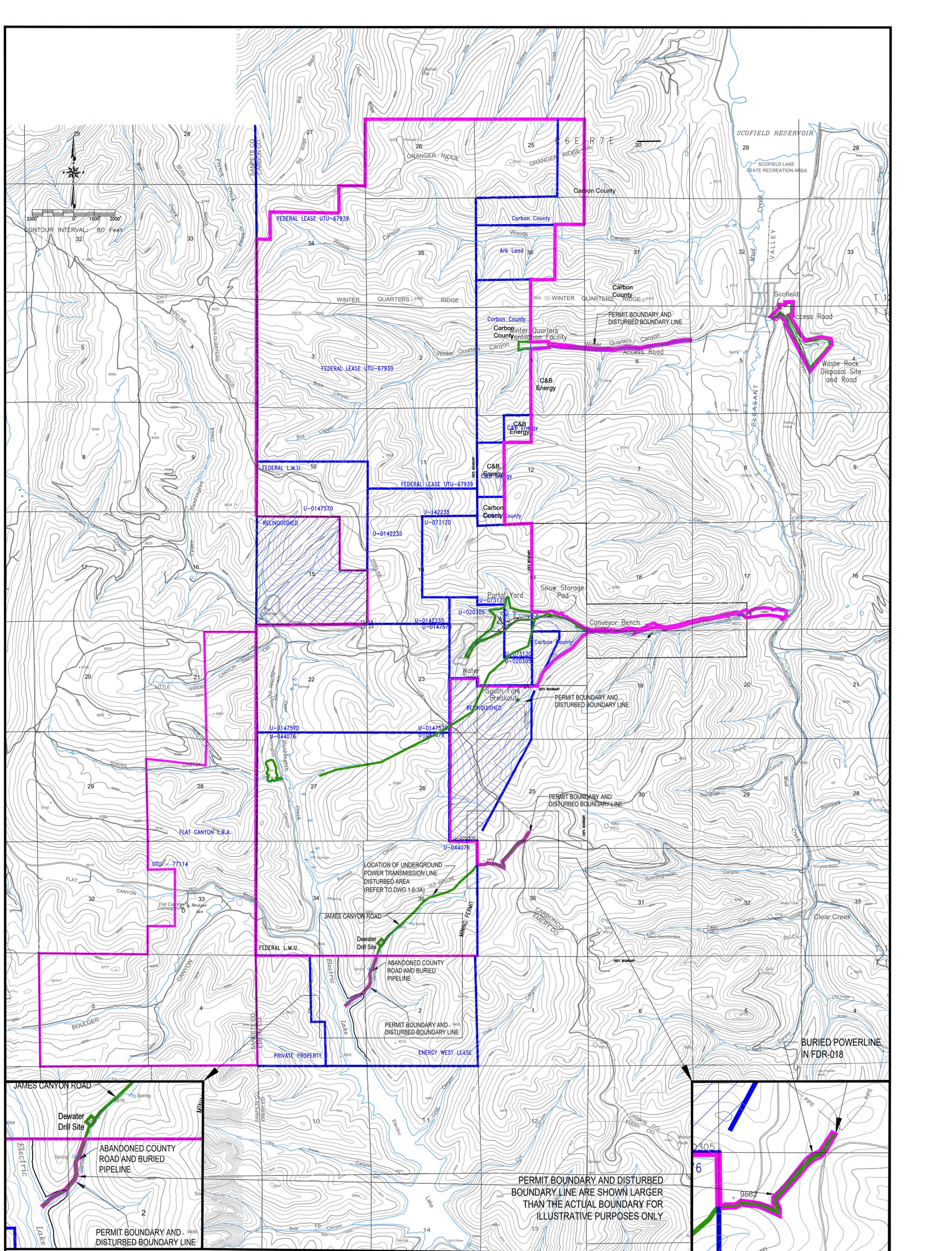
4.20.7 Swens Canyon Ventilation Facility (SCVF) Road

Both the pre-existing and new access road in the SCVF area are classified as ancillary roads. The pre-existing road will be slightly rerouted while the SCVF is functional, but will be re-established in its original location at reclamation. The approximately 900 foot access road built for the SCVF pad will be removed during reclamation. See Plates 3.2.4-4A, and -4B for detailed road illustrations, and Plates 4.4.2-4A and -4B for reclamation details.

Revised: 5-27-161-2-2020

4-114(a)

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PERMIT BOUNDARY AND DISTURBED BOUNDARY LINE ARE SHOWN LARGER THAN THE ACTUAL BOUNDARY FOR ILLUSTRATIVE PURPOSES ONLY

PERMIT AREA	SITE DESCRIPTION	LEGEND
13.86	RAIL LOADOUT	ADJACENT AREA: Areas Authorized for Coal Mining and Reclamation Activities (SEE GHA FOR HYDROLOGIC ADJACENT AREA)
42.55	PORTAL YARD	PERMIT BOUNDARY
0.60	WATER TANKS & WELL PADS	LEASE BOUNDARY
0.60	SOUTH FORK PORTALS	
14.18	CONVEYOR BENCH	
32.48	WASTE ROCK DISPOSAL SITE	
7.83	WINTER QUARTERS VENTILATION FACILITY	
4.90	WINTER QUARTERS ROAD (not reclaimed)	
1.60	JAMES CANYON BURIED PIPELINE	
0.30	JAMES CANYON BURIED POWER LINE	
2.95	JAMES CANYON WATER WELLS AND ROAD	
14.50	Swens Shaft and Power line (power line not reclaimed)	
136.45		

LEASE ACRES	ADJACENT AREA SITE DESCRIPTION:
FEDERAL COAL	Active Lease Areas, Permit Boundary, and 1/2 Mile beyond Waste Rock Disposal Site
U-014750	1532.70
U-014235	500.0
U-073120	240.00
U-044076	2483.32
U-020305	279.40
UTU-67939	4061.52
UTU-77114	2892.16
TOTAL	12132.32

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

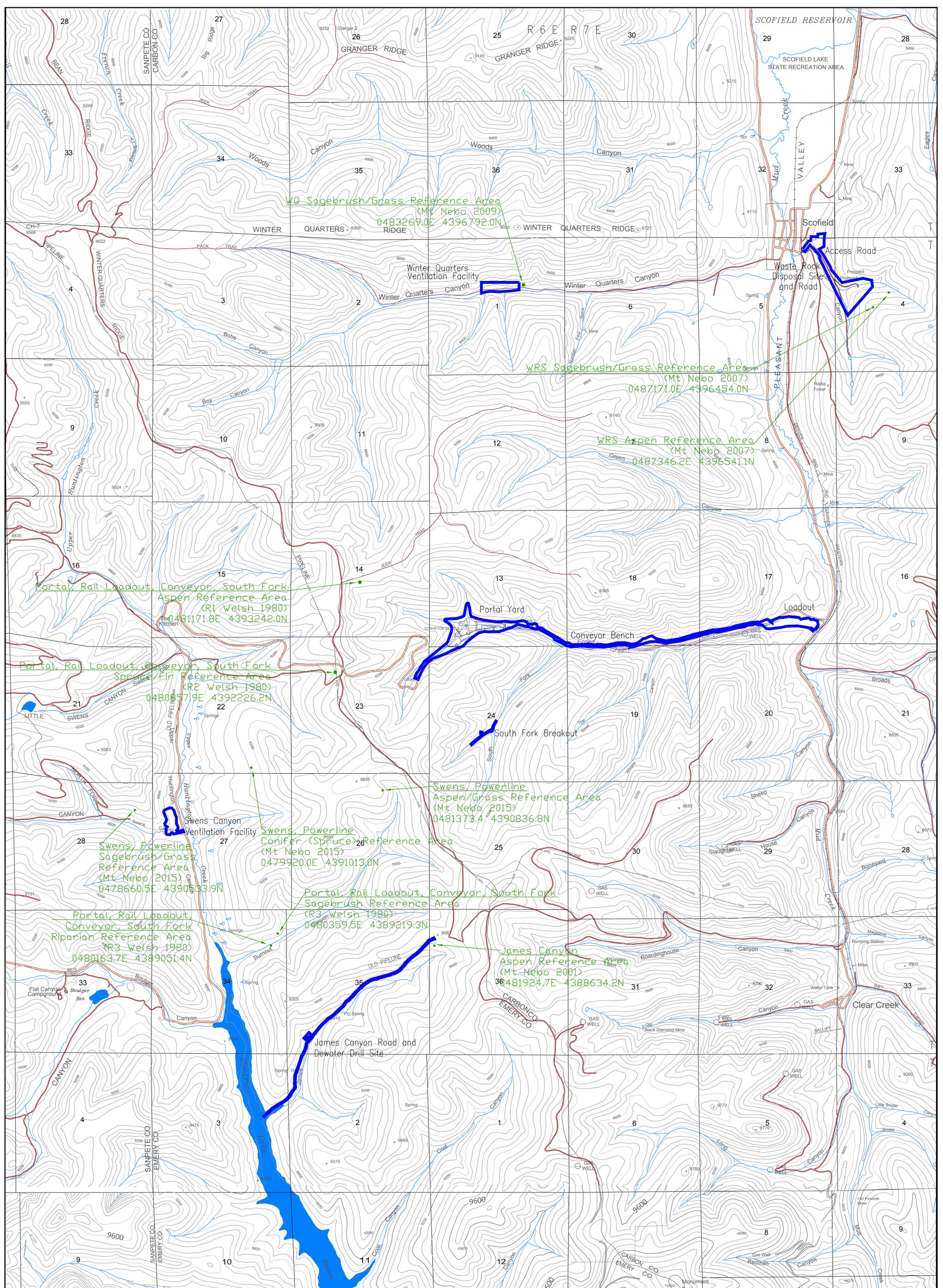
DATE	No.	REVISIONS	BY	DATE	No.	REVISIONS	BY
AUG 02	1		SM	Oct 17	12	Removed South Fork Road	TE
NOV 02	2		SM	1/2/20	13	Removed NOC shaft from drawing and legend	TE
JUNE 07	3	MODIFIED PERMIT BOUNDARY (IBC & WASTE ROCK) SKYLINE MINES PERMIT AREA, LEASE AREAS.	BR				GG
MAR 2010	4	ADDED ADJACENT AREA, MODIFIED PERMIT AND LEASE BOUNDARIES	AB				GG
JUL 2010	5	ADDED WINTER QUARTERS ACCESS ROAD	AB				GG
AUG 2010	6	MODIFIED ADJACENT AREA	AB				GG
OCT 2012	7	Modified Adjacent Area with Lease Mod. and Relinquishments	GG				GG
July 2014	8	Corrected permit boundary to include water line from Tanks	GG				GG
April 2015	9	Added the NOC shaft pad	TE				GG
May 2016	10	Added Swens shaft pad and power line	JA				GG
Dec. 2016	11	Added Flat Canyon Lease - UTU-77114	JA				GG

SKYLINE MINE PERMIT AREA

Canyon Fuel Company, LLC
Skyline Mines

HC35 BOX 380, HELPER, UTAH 84526
435-448-6463

SCALE: 1" = 2000'	DATE: 9/24/01	CK.BY: G. Galecki	REVISION:
DWG. NO.: 1.6-3		DR.BY: JCA	13
CAD FILE: 1.6-3REV12			1-2-20



WQ Sagebrush/Grass Reference Area
(Mt Nebo 2009)
0483269.0E 4396792.0N

WRS Sagebrush/Grass Reference Area
(Mt Nebo 2007)
0487171.0E 4396454.0N

WRS Aspen Reference Area
(Mt Nebo 2007)
0487346.2E 4396541.1N

Portal, Rail Loadout, Conveyor, South Fork
Aspen Reference Area
(R1 Welsh 1980)
0481171.8E 4393242.0N

Portal, Rail Loadout, Conveyor, South Fork
Spruce/Fir Reference Area
(R2 Welsh 1980)
0480057.9E 4392226.2N

Swens Powerline
Aspen/Grass Reference Area
(Mt Nebo 2015)
0481373.4E 4390836.8N

Swens Powerline
Conifer (Spruce) Reference Area
(Mt Nebo 2015)
0479920.0E 4391013.0N

Portal, Rail Loadout, Conveyor, South Fork
Sagebrush Reference Area
(R3 Welsh 1980)
0480359.5E 4389219.3N

James Canyon
Aspen Reference Area
(Mt Nebo 2001)
0481924.7E 4388634.2N

Swens Powerline
Sagebrush/Grass
Reference Area
(Mt Nebo 2015)
0478660.5E 4390533.9N

Portal, Rail Loadout,
Conveyor, South Fork
Riparian Reference Area
(R3 Welsh 1980)
0480163.7E 4389051.4N

SEE PLATE 1.6-3 FOR PERMIT
AND ADJACENT AREAS

LEGEND
● REFERENCE AREA*
— PERMIT AREA

- NOTES:
1. COORDINATE BASE ON MINE GRID DATA.
 2. MAP DIGITIZED FROM 1:24000 USGS QUADRANGLE MAPS, SCOTFIELD, 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.

DATE	No.	REVISIONS	DR./GC
5/4/2016	1	Correct reference sites from all areas	JA/GC
12/20/2019	2	Correct reference sites GPS coordinates	TE/GC
1/2/2020	3	Removed NOG shaft	TE/GC

VEGETATIVE REFERENCE AREAS

Canyon Fuel Company, LLC
Skyline Mines

*For detailed information on reference area locations and boundaries, see studies in Appendix A-2; Volumes 1 & 2

DATE: 5/02/2016
SCALE: FULL
DR. BY: J.ARMSTRONG
REVISION: 3
1/2/2020