

**CONSOL ENERGY.**

Consolidation Coal Company
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May 25, 2005

Pamela Grubaugh-Littig
Utah Division of Oil, Gas and Mining
Coal Program
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

J. Gefferth
5/15/0015

Re: Emery Deep Mine Permit C/015/015
Amendment to MRP (Additional boundary to facilitate 1st North, additional information, second round)

Dear Mrs. Grubaugh-Littig:

Please consider this additional information for the above mentioned amendment. Per the reviewers request we have made the recommended changes to Chapter XII, page 5, and have added Figure XII-2. We have also added Cultural Resources record search as Appendix XII-3.

If you have any questions concerning this information, please call me at (618) 625-6850.

Sincerely,

John Gefferth
Environmental Engineer

CC: Steve Demczak – DOGM-Price Field Office-with attachments
Attachments

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MAY 25 2005

DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change New Permit Renewal Exploration Bond Release Transfer

Permittee: Consolidation Coal Company

Mine: Emery Mine

Permit Number: 015/015

Title: 1ST North boundary addition

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

Additional boundary to facilitate 1st North mining (additional information, second round)

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

Please attach 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.

Print Name Jonathan M. Pachter

Sign Name, Position, Date Jonathan M. Pachter 5/21/05
Manager, Environmental Permitting

Subscribed and sworn to before me this 24 day of MAY, 2005

Notary Public Jane M. Young
My commission Expires: 06.20, 2005
Attest: State of PENNSYLVANIA } ss:
County of ALLEGHENY

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Jane M. Young, Notary Public
Upper St. Clair Twp., Allegheny County
My Commission Expires June 20, 2005
Member, Pennsylvania Association of Notaries

For Office Use Only:

Assigned Tracking Number:

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DIV. OF OIL, GAS & MINING

using room and pillar methods without pillar extraction (i.e., first mining only). Hence, no surface disturbance is planned.

Baseline hydrologic data have been collected from several surface and groundwater monitoring locations within the IBC and adjacent areas (see Plates VI-1 and VI-3 of the approved MRP). These data are discussed in Chapter VI of the approved MRP. Given the lack of surface disturbance planned for the IBC area and the close location of the IBC area relative to the existing permit area, the existing baseline data are considered adequate for the IBC area.

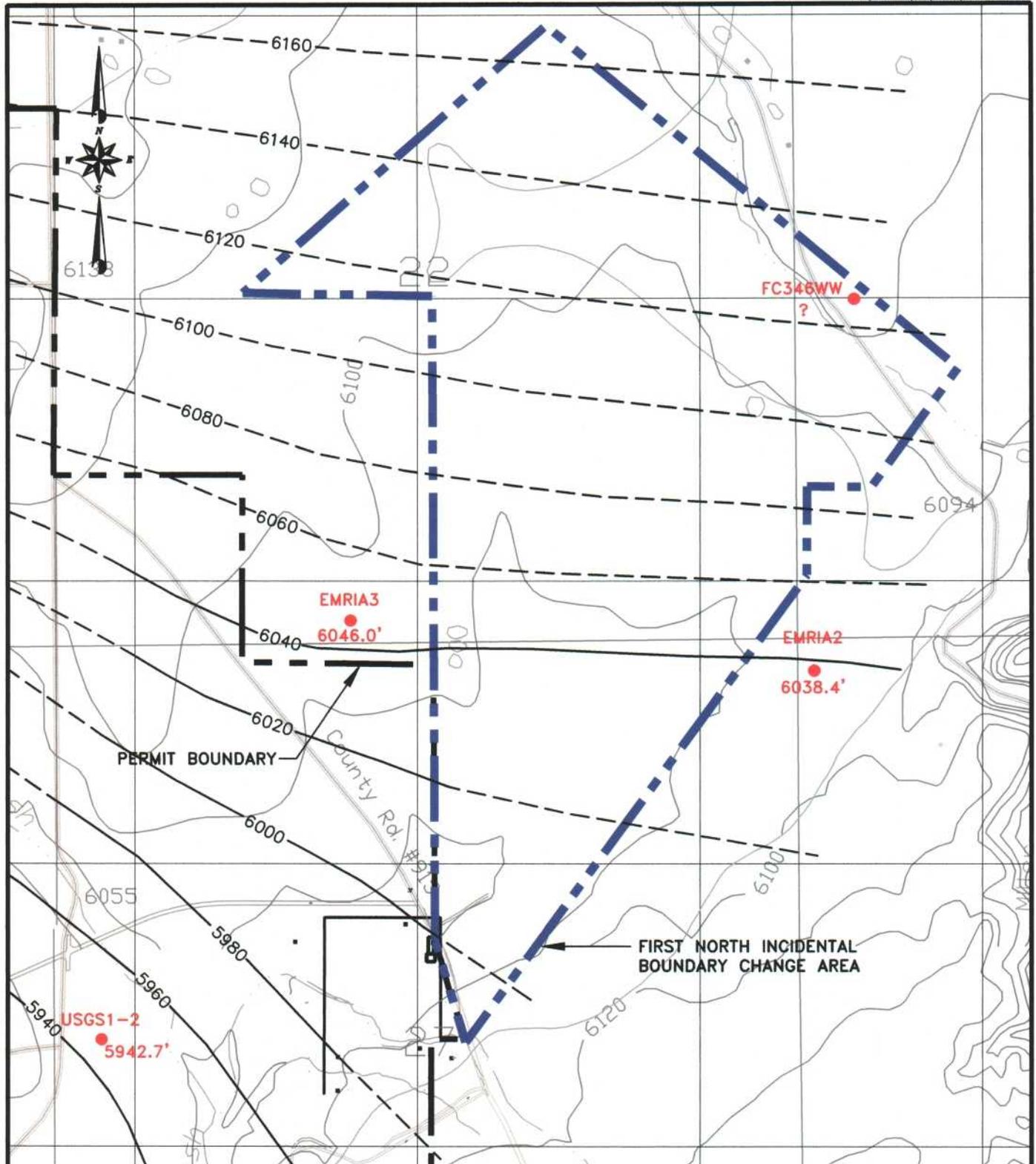
XII.C.6.2 Groundwater Information

As indicated in Chapter VI of the approved MRP, the complete thickness of the Ferron Sandstone is probably saturated within the IBC area, normally under confined conditions. Although the formation dips to the northwest (see, for instance Plate V-20), groundwater flows generally to the south or southeast (see Plates VI-5 and VI-9 *as well as Figure XII-2*) except where influenced by mining in the area (Plate V-4). The hydrostatic pressure required to force groundwater up dip in the mine area is generally believed to originate from recharge along the Joe's Valley-Paradise fault zone located at higher elevations north and west of the mine area.

Although the Ferron Sandstone is completely saturated within the existing mine area, historic inflows to the mine have been predominantly from the roof rather than the floor. This suggests that the upper and lower portions of the Ferron Sandstone are hydraulically separated. This hydraulic separation is also indicated by a comparison of Plates VI-4 and VI-5 of the approved MRP, which indicates that past impacts of mining on the potentiometric surface of the area have occurred primarily in the upper Ferron Sandstone, with no noticeable potentiometric-surface impacts in the lower Ferron Sandstone.

Groundwater discharges from the Ferron Sandstone by wells, by dewatering of the Emery Mine, by seepage into Quitchupah Creek and Christiansen Wash, and by leakage into the Bluegate and Tununk Shales. Within the immediate vicinity of the IBC area, the largest anthropogenic discharge of groundwater from the Ferron Sandstone is dewatering of the Emery Mine that, according to Chapter VI of the approved MRP, accounts for approximately 0.6 to 1.2 cubic feet per second of water being removed from the Ferron Sandstone.

Natural groundwater quality in the *upper* Ferron Sandstone is moderately saline, with total dissolved solids concentrations in monitoring well and mine roof inflow samples averaging approximately 1000 to 1300 mg/l (see Table VI-9 of the approved MRP). The total dissolved solids concentration of groundwater in the *lower* Ferron Sandstone tends to be slightly lower, averaging approximately 800 mg/l (see the previously noted table). This difference in salinity further suggests a hydraulic separation between the upper and lower Ferron Sandstone. Sodium and sulfate are the dominant ions in groundwater occurring in both the upper and lower Ferron Sandstone.



LEGEND

--- GROUNDWATER ELEVATION (FT.)
(DASHED WHERE INFERRED)



FIGURE XII-2. UPPER FERRON SANDSTONE
POENTIOMETRIC SURFACE, 2004/05



APPENDIX XII-3

CLASS I CULTURAL RESOURCE LITERATURE
REVIEW OF CONSOLIDATION COAL COMPANY'S
FIRST NORTH IBC EMERY MINE PROJECT
EMERY COUNTY, UTAH

By:

Jacki Montgomery

Prepared For:

Division of Oil, Gas and Mining
Salt Lake City, Utah

Prepared Under Contract With:

Consolidation Coal Company
P.O. Box 566
Sesser, IL 62884

Submitted By:

Keith Montgomery
Montgomery Archaeological Consultants
P.O. Box 147
Moab, Utah 84532

MOAC Report No. 05-177

May 23, 2005

United States Department of Interior (FLPMA)
Permit No. 05-UT-60122

INTRODUCTION

In May, 2005, a Class 1 cultural resource study was conducted by Montgomery Archaeological Consultants (MOAC) for Consolidation Coal Company's First North IBC mine proposal. The Class I literature review is part of a document addressed to surface effects of underground coal mining activities beneath or adjacent to the Emery Deep Mine property in Emery County, Utah. The study was implemented at the request of Mr. John Gefferth, Environmental Engineer, Consolidation Coal Company. The Class I review is for the proposed project area is 600 acres on privately owned land.

DESCRIPTION OF THE PROJECT AREA

The study area is located approximately 3 miles southeast of the town of Emery in Emery County, Utah. Consolidation Coal Company's First North IBC mine proposal area is located in the following area: NE 1/4, SE 1/4 and SE 1/4, NW 1/4 of Section 22, T 22S, R 6E; W 1/2, SW 1/4 of Section 23, T 22S, R 6E; and the NE 1/4 of Section 27, T 22S, R 6E (Figure 1).

Environment

The study area lies along the western margin of Castle Valley, in the Wasatch Plateau Basin of the Range-Colorado Plateau Transition (Stokes 1986). Castle Valley is comprised of a series of broad, shallow canyons and flat-topped mesas. Sandstones and shales ranging in age from the Pennsylvanian through the Holocene predominate in this area. The primary formation is the Cretaceous Mancos Shale, which consists of a series of thick shale layers with thinner interbeds of sandstones. Many of the areas of higher relief are capped with Quaternary gravel sediments, while the lower areas such as valley bottoms are filled in with patches of Quaternary and recent alluvium. Situated within the Upper Sonoran lifezone, the primary vegetation communities are Pinyon-Juniper Woodland, Salt Desert Shrub, and Riparian. The elevation averages 6100 feet (1865 meters). The primary water source in the area is Cottonwood Creek which is also the largest stream in the Castle Valley area. In addition, Miller Creek flows just to the east and Christensen lies to the west of the project area.

Cultural Historical Background

Prehistoric occupation of the region spans the last 10,000-12,000 years. Cultural remains representing the Paleoindian, Archaic, Formative, Late Prehistoric and Historic stages have been identified near the study area. The earliest known archaeological remains in central Utah are attributable to the Paleoindian stage, which has been divided into three complexes: the Llano (ca. 11,500-11,000 B.P.), the Folsom (ca. 11,000-10,000 B.P.) and the Plano (ca. 10,500-7500 B.P.). To date, in Emery county, Paleoindian artifacts have been found as surface isolated finds or lithic scatters (Copeland and Fike 1988). Finds of extinct fauna are also reported from the region, the nearest is the Huntington Canyon Mammoth discovered in a reservoir in 1988 (Gillette 1989).

The Archaic stage (7800-500 B.P.) represented an adaptation to essential modern environments. Subsistence practices were increasingly intensive; large herd animals were less intensively exploited, and there was a greater emphasis upon smaller, more dispersed fauna and upon plant resources. Milling stones increased in frequency, and projectile points became smaller and more variable. Common projectile point forms include corner- and side-notched varieties and certain styles of stemmed point that probably tipped lances or darts (Holmer). Archaic components are fairly common in the region.

Sometime following 500-200 B.C., a Formative stage lifeway emerged on the northern Colorado Plateau. The Formative stage is characterized by reliance upon corn and squash, increasing sedentism, and in its later period, substantial habitation structures, pottery, and bow-and-arrow weapon technology. The study area is within the cultural area of the San Rafael Fremont, as defined by Marwitt (1970). This variant is characterized by circular, stone-lined or earthen pit dwellings, and clay-rimmed, flagstone paved firepits. One of the highest San Rafael Fremont site densities is in Castle Valley, especially along Ferron Creek and Muddy Creek tributaries (Black and Metcalf 1986). Sites in the area are characterized as isolated hamlets or single dwelling units, usually found on small ridges overlooking perennial water sources and arable land.

Following the Fremont abandonment of the area, a largely nomadic hunting and gathering lifeway resumed. This occupation is attributed to the Numic-speaking peoples, a diverse group that was present throughout much of Utah upon the arrival of Europeans in the 18th century. Historic records indicate that the Ute were the primary occupants of eastern Utah and western Colorado since the late eighteenth century. The archaeological evidence of the Numic-speaking peoples consists primarily of lithic scatters, low density ceramic scatters, and the occasional wickiup. Most of the artifact scatters are in open settings, although a small number are in rockshelters. Diagnostic artifacts include Desert Side-notched, tri-notched, and Cottonwood Triangular projectile points, a fairly crude micaceous tempered pottery and distinctive rock art (Jennings 1978).

The first settlers to homestead the study area arrived on Cottonwood Creek in 1877 who brought in sheep and cattle from the Sanpete area (Emery County Historical Society 1981:80). Most notable was Orange Seely, who in 1875 moved 1,500 head of sheep and 1,400 head of cattle through Upper Joe's Valley and down Cottonwood Creek (Geary 1996:51). Based upon Seely's reconnaissance of the area, Mormon Church leader Brigham Young called for permanent settlement of the area in 1877. Settlers such as the Curtises, Jensens and Millers began establishing homesteads along Cottonwood Creek engaged in herding sheep and cattle, and trapping (Ibid 66). In 1880 the Utah Territory Legislature created Emery County with Castle Dale designated as the county seat (Emery County Historical Society 1981:29). In a pattern typical of Castle Valley communities, most families in Castle Dale established homes in town after they had proved up on their homesteads (Geary 1996:95). By the census of 1895, Emery County boasted 4,390 residents, 533 of whom lived in Castle Dale, and 672 of whom were listed as residents of Orangeville (Emery County Historical Society 1981).

CLASS I METHODOLOGY

A record search for previous projects and cultural resources was conducted by Keith R. Montgomery (Principal Investigator) at the BLM Price Field Office on May 19, 2005. In order to provide an adequate review of the study area the entire Sections 22, 23 and 27 in Township 22 South, Range 6 East were researched for previous cultural resource projects and results. Record searches conducted by MOAC involved plotting project areas and sites onto 7.5 minute USGS maps. Lastly, topographic maps were generated in ArcView showing the project area with previous cultural resource inventories and site locations (Figure 1). The existing data review was performed on approximately 1920 acres, most of which is private land.

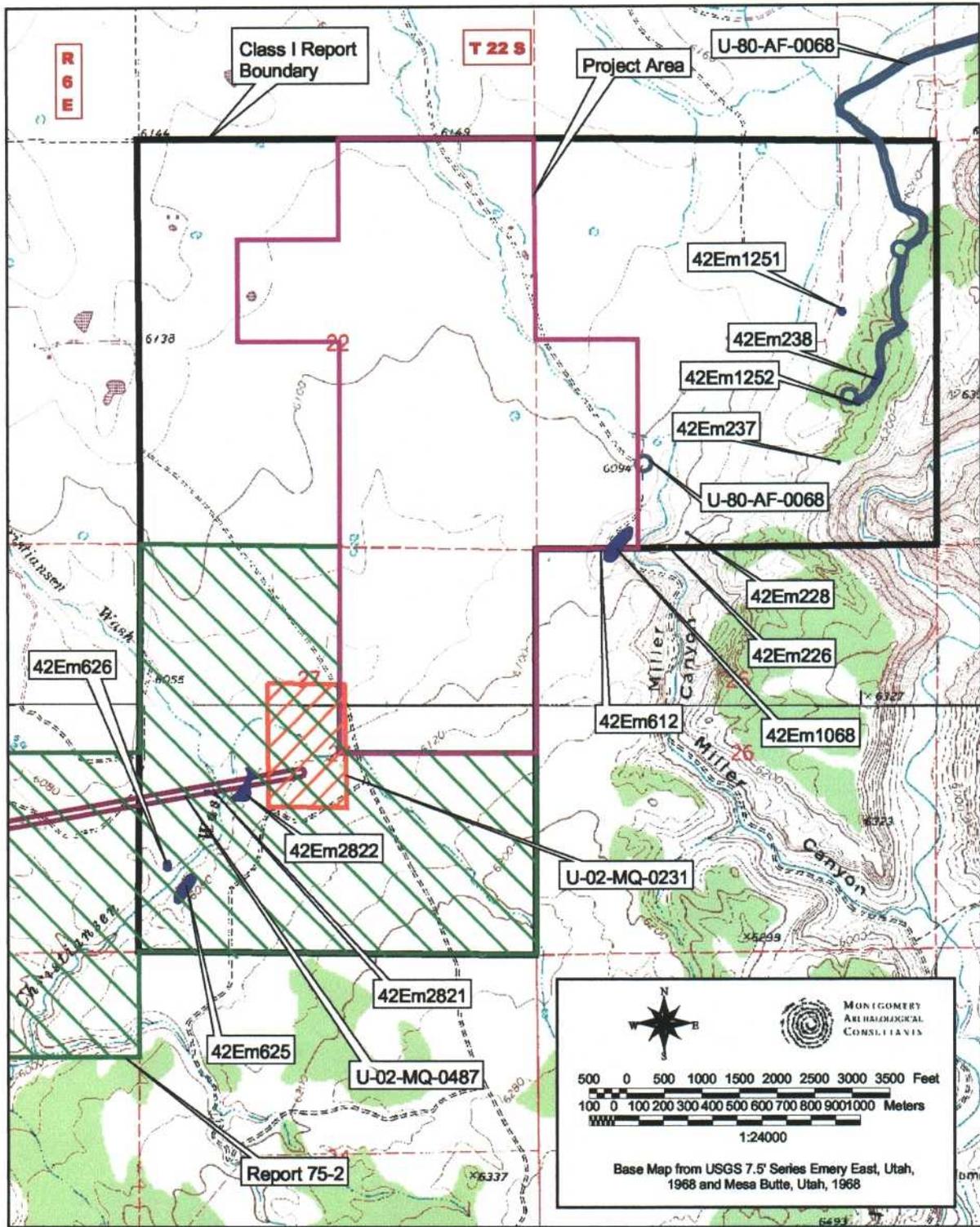


Figure 1. Class I Study Area (Green Border) and Consolidated Coal Company's Emery Mine Expansion Area (Pink Border) showing Previous Inventory Projects and Archaeological Sites.

DATA REVIEW RESULTS

The Class 1 data review of Consolidation Coal Company's First North IBC Emery Mine expansion project resulted in identification of four cultural resource inventories and 11 previously documented sites. All except one site, 42Em612/1068, occurs outside of the Emery Deep Mine property. Identified cultural resource inventories and archaeological sites are described in the following text and Table 1.

Cultural Resource Inventories and Archaeological Sites

In 1975, the Division of State History, Antiquities Section performed a cultural and paleontological inventory which included Section 27, T 22S, R 6E (Berry 1975; Project No. 75-2). Two prehistoric sites (42Em625 and 42Em626) were documented adjacent to Christensen Wash.

In 1980, Archeological-Environmental Research Corp. inventoried numerous drill locations and access routes for Consolidation Coal Company which included Section 23, T 22S, R 6E (Hauck 1980; Project No. U-80-AF-0068). Sites located in the current study area include 42Em1251 and 42Em1252.

In 2002, Montgomery Archaeological Consultants completed a survey for Consolidation Coal Company's Mine Portal Area in T 22S, R 6E, S. 27 which resulted in the documentation of four prehistoric isolated finds (Elkins and Montgomery 2002; Project No. U-02-MQ-0231).

In 2002, Montgomery Archaeological Consultants inventoried a power line for th Emery Mine for Consolidation Coal Company (Raney and Montgomery 2002; U-02-MQ-0487). Several sites (42Em2821 and 42Em2822) were documented in Section 27, T 22S, R 6E.

Table 1. Summary of Archaeological Sites in Study Area

Smithsonian Site Number	Project No.	Site Type	NRHP Eligibility	Legal Description
42Em226	NA	Lithic Scatter	Unevaluated	T22S R6E S. 23
42Em228	NA	Lithic Scatter	Unevaluated	T22S R6E S. 23
42Em237	NA	Lithic Scatter	Unevaluated	T22S R6E S. 23
42Em238	NA	Lithic Scatter	Unevaluated	T22S R6E S. 23
42Em612/ 42Em1068	U-80-AF-0068	Lithic Scatter	Not Eligible	T22S R6E S. 23 & 26
42Em625	75-2	Lithic Scatter	Unevaluated	T22S R6E S. 27
42Em626	75-2	Lithic Scatter	Unevaluated	T22S R6E S. 27
42Em1251	U-80-AF-0068	Lithic Scatter	Unevaluated	T22S R6E S. 23
42Em1252	U-80-AF-0068	Lithic Scatter	Eligible	T22S R6E S. 23
42Em2821	U-02-MQ-0487	Trash Scatter	Not Eligible	T22S R6E S. 27
42Em2822	U-02-MQ-0487	Lithic Scatter Historic Trash Scatter	Eligible	T22S R6E S. 27

CONCLUSION

This Class 1 literature review revealed that four cultural resource inventories for Consolidation Coal Company has been completed in the area resulting in the documentation of 11 documented archaeological sites. Only one of the sites, 42Em612/42Em1068, extends into the First North IBC Emery Mine expansion project area. The majority of the cultural resources in the general study area are prehistoric lithic scatters some of which exhibit temporal indicators (PaleoIndian, Fremont, and Numic). Sites documented in the 1970s and 1980s are unevaluated to the National Register of Historic Places (NRHP). Based on current NRHP assessments, most of these sites would be considered eligible to the NRHP under Criterion D because of their importance to the prehistoric research topics of the Northern Colorado Plateau. Prehistoric sites tend to cluster along the drainages in the area (Christensen Wash and Miller Canyon). In conclusion, it is predicted that similar site densities and site types would be found in the proposed First North IBC Emery Mine expansion area if cultural resource inventories were performed.

REFERENCES CITED

Berry, M.S.

- 1975 Archaeological, Historical and Paleontological Survey for Consolidation Coal Company and Kemmer Coal Company in Emery County, Utah. Division of State History Department Services, State of Utah. Project No. 72-2.

Black, K.D. and M.D. Metcalf

- 1986 The Castle Valley Archaeological Project: An Inventory and Predictive Model of Selected Tracts. *Cultural Resource Series* No. 19. Bureau of Land Management, Salt Lake City, Utah.

Copeland, J., M. and R. E. Fike

- 1988 Fluted Projectile Points of Utah. *Utah Archaeology* 1988 1(1): 5-28.

Elkins, M., and K.R. Montgomery

- 2002 Cultural Resource Inventory of Consolidation Coal Company's Mine Portal Area in T 22S, R 6E S. 27, Emery County, Utah. Montgomery Archaeological Consultants. Project No. U-02-MQ-0231.

Emery County Historical Society

- 1981 *Emery County, 1880 - 1980*. Taylor Publishing Company, Lubbock, Texas.

Geary, E. A.

- 1996 *A History of Emery County*. Utah State Historical Society and Emery County Commission.

Gillette, D.

- 1989 The Huntington Mountain Mammoth: The Last Holdout?. *Canyon Legacy* Vol. 1, No. 1. Dan O' Laurie Museum. Moab, Utah.

Hauck, F.R.

- 1980 Archaeological Reconnaissance of Proposed Well Locations in the Walker Flat - Dog Valley Localities of Emery and Sevier Counties, Utah. Archeological-Environmental Research Corporation. Project No. U-80-AF-0068.

Holmer, R. and D. Weder

1980 Common Post-Archaic Projectile Points of the Fremont Area. In Fremont Perspectives, edited by David B. Madsen. *Antiquities Section Selected Papers* 16. Utah State Historical Society, Salt Lake City.

Jennings, J. D.

1978 Prehistory of Utah and the Eastern Great Basin. *University of Utah Anthropological Papers* No. 98. Salt Lake City, Utah.

Marwitt, J. P.

1970 Median Village and Fremont Cultural Regional Variation. *University of Utah Anthropological Papers* No. 95, Salt Lake City, Utah.

Raney, A.E., and K.R. Montgomery

2002 Cultural Resource Inventory of Consolidation Coal Company's Power Line for the Emery Mine, Emery County, Utah. Montgomery Archaeological Consultants. Project No. U-02-MQ-0231.

Stokes, W. Lee

1986 *Geology of Utah*. Utah Museum of Natural History, University of Utah, Salt Lake City.

UMC 817.52

In addition to NPDES monitoring of discharge pints, a monitoring program of surface and ground water sites has been established to assess mining impacts on these resources. The current operational monitoring plan is described in Sec. VI.A.5.

UMC 817.95

Protection of air resources during operation of the mine is discussed in Part C of Chapter X. Appendix X.C-1 evaluates emissions from the proposed preparation plant. Fugitive dust (particulate) is considered the only potentially significant air pollutant generated by both facilities. Appendix X.C-2 evaluates emissions from the 4th East Portal. Appendix X.C-3, Norwest's evaluation and recommendation of engineering controls and other measures to minimize generation of dusting from the 4th East Portal, was initiated to abate NOV 03-39-11.

Control measures employed at the current operation utilize water sprays at all product transfer points, a silt fence downwind of the conical product stockpile, a water truck to wet down unpaved roads, and revegetation of topsoil and subsoil stockpiles. Measures to be used at the proposed coal preparation plant will include fully hooded conveyor belts, totally enclosed transfer points with water sprays, stacking tubes with water sprays at storage pile loading points, revegetation of topsoil and subsoil stockpiles, and water spraying of unpaved roads.

All control equipment will be properly installed, maintained, and operated such that visible emissions from the facilities will not exceed opacity limits established by Utah Division of Environmental Health and applicable requirements of the Clean Air Act. Operator will perform opacity readings as required by the modified approval order.

UMC 817.97

Refer to page 25a for a discussion on the Windy Gap Process

Protection of fish and wildlife during operation of the mine is discussed in Chapter IX. The discussion addresses mining impacts on these resources and mitigative measures that will be

Revised 10/2002
Revised 10/2003
Revised 1/2004
Revised 2/2004
Revised 5/2004
Revised 5/2005

The Emery mine pumps approximately 137,000,000 gallons of water per year from the mine. The water that is used for dust suppression is accounted for in the ventilation calculation and the coal moisture consumption calculation. Portions of the water sprayed on the coal are either evaporated by the ventilation process, drain back into the mine drainage system, or is carried out in the product. The consumed volume is accounted for in the ventilation evaporation calculation and the coal moisture consumption calculation.

Mining consumption: See above explanation, and coal moisture consumption calculation

Ventilation consumption: See Ventilation evaporation calculation

Coal producing consumption: See coal moisture calculation

Ventilation evaporation: There is no data currently available to calculate the loss due to ventilation. With the fan returning approximately 218,000 CFM, this could evaporate approximately 25 ac-ft per year. This amount will vary based on the volume of air returned from the mine, the barometric conditions of the mine air and the barometric conditions of the outside air, as well as temperature of both.

Sediment pond evaporation: Water entering the sediment ponds is stored long enough to allow the accumulated sediment to drop out. The water is allowed to discharge into the receiving stream. This would not be considered a consumptive mechanism.

Springs and seep effects from subsidence: There have been no reports of seeps from subsidence.

Alluvial aquifer abstractions into mines: There are no water infiltrations from alluvial systems into the mine.

Alluvial well pumpage: There is zero pumpage from alluvial wells.

Deep aquifer pumpage: There is zero pumpage from deep aquifer wells.

Post mining inflow to old workings: There is zero post mining inflow to the old workings

Coal moisture consumption: The inherent moisture in the Emery coal is approximately 4 %. The as received moisture of the coal is approximately 6 %. The Emery Mine produced 243,153 tons of coal in 2003. Using these values, the consumption was approximately 3.6 ac-ft in 2002.

Direct diversion: There are no direct diversions at the Emery mine therefore zero consumption.

Adding the two approximate losses together equals 26.6 ac-ft. The mine pumps and discharges approximately 137,000,000 million gallons (420 ac-ft) of water per year. Doing the math, you arrive at a 394 ac-ft. per year enhancement to the Colorado River Basin. Water consumption by the Emery mine will not jeopardize the existence of or adversely modify the critical habitat of the Colorado River endangered fish species.

Inserted 5/05