

0038

CONSOL Energy Inc.

Emery Mine

P.O. Box 527

Emery, Utah 84522

[Handwritten signature]
Mooney
9/15/02

FACSIMILE

DATE 9-16-02

From:

Employee:

Seth McCourt

TO:

Name:

Pamela Grubaygh-Littig

Department:

Location:

RECEIVED
SEP 15 2002

DIVISION OF
OIL, GAS AND MINING

No. of Originals

35

Special Instructions:

Emery Mine Paper line
Addressing Deficiencies

**EMERY MINE FAX #
OFFICE #**

**435-286-3516
435-286-3506**

APPLICATION FOR PERMIT PROCESS

Permit Change New Permit Renewal Exploration Bond Release

Permittee: Consolidation Coal

Mine: Emery Mine

Permit Number: ACT/015/015

Title: Construction of 7200KVA Transmission Line

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

Construction of a 7200 KVA Transmission Line to 4th East Portal Site

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

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

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.

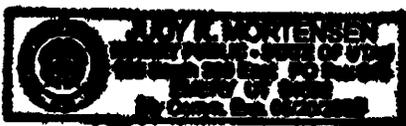
John Zachwieja
Print Name

John Zachwieja Gen. Mgr. 8-6-02
Sig. Name, Position, Date

Subscribed and sworn to before me this 6 day of Aug, 2002

Judy K. Mortensen
Notary Public

My commission expires: _____
Attest: State of Utah 5/20 2006) ss:
County of Emery



For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining
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4th East Portal Transmission Line

Map Code: Identified on Plate II-3

Status: Proposed

The proposed transmission line will start at the existing substation and extend approximately 1.4 miles northeast to the 4th East Portal Site. This line will consist of two 7200 KVA line with one feeding the surface facilities and the other for underground. There will be a Communication Line on the power poles for underground to surface communications. The transmission line will require installation of approximately 38 wood power poles at a setting depth ranging from 6.5' to 8' (depending on pole length). Raptor protection shall be installed as shown on Plate IX-4. During installation of the transmission line, only the area of the poles will be disturbed. Since the total area of all the poles is so small (approximately 0.002 acres total) , topsoil will not be removed. In the event that more topsoil or vegetation is disturbed, it will be reclaimed as specified in Chapter VIII.C.4.

The entire length of the transmission line is inside the approved Mine Permit Boundary (ACT /015/105). There are no current projections to extend the transmission line outside of the Mine Permit Boundary.

Areas that have been identified by Environmental Surveys as having the potential to include Environmentally Sensitive Species or Endangered Species or potential habitat for such (Appendix VIII-2. Threatened , Endangered and Sensitive Species, JBR Environmental Consultants, August 2002) have been identified in the field and will be avoided. These areas include wetland and riparian vegetation which will also be avoided. Much of the transmission line can be installed using existing dirt roads reducing the potential to area disturbance.

A Cultural Resource Survey was performed by Montgomery Archeological Consultants in August of 2002 (Chapter X, Appendix 5-6). An area was identified and marked in the field as having historical significance. As recommended by the report, no power poles will be within 10 feet of the site and no vehicles will be allowed to cross the site..

CHAPTER VIII VEGETATION

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- VIII-2 THREATENED, ENDANGERED, and Sensitive Species Survey Report, JBR Environmental Consultants, Inc., August 2002

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- VIII-1 VEGETATION & LAND USE MAP

APPENDIX VIII-2

**THREATENED, ENDANGERED, and Sensitive Species
Survey Report for 4th East Portal Transmission Line**

**Threatened, Endangered, and
Sensitive Species
Survey Report**

**Consol Energy- Emery Mine
Proposed Transmission Line
Emery County, Utah**

Prepared by:

**JBR Environmental Consultants, Inc.
8160 South Highland Dr.
Sandy, Utah 84093**

for:

**Consol Energy
Emery Mine
P.O. Box 527
Emery, Utah 84522**

August 2002

Introduction

Consol Energy (Consol) has proposed the construction of approximately 1.5 miles of transmission line to support the development of the Emery Mine's 4th East Portal. The line would extend west from the southwest corner of the Portal area and turn south to tie into an existing substation at the Emery Mine (See Figure). This transmission line is proposed for construction in September 2002. The power line construction project is located in Township 22 South, Range 6 East, and traverses portions of Sections 27, 28, and 33. It is generally within a quarter mile and south or east of the proposed Emery County Road #907 Extension. The proposed transmission line crosses private lands owned by Consol.

Consol requested JBR to review and survey the proposed transmission line corridor for potential impacts to threatened, endangered, and sensitive (TES) species. Surveys were conducted with the understanding that the identification of individual plant species would be limited due to the late season timing of the survey, and the extreme dry spring and summer conditions which further affect plant phenology. Some of the plant species are identifiable only when flowering, usually in April to May.

Review of Existing Information

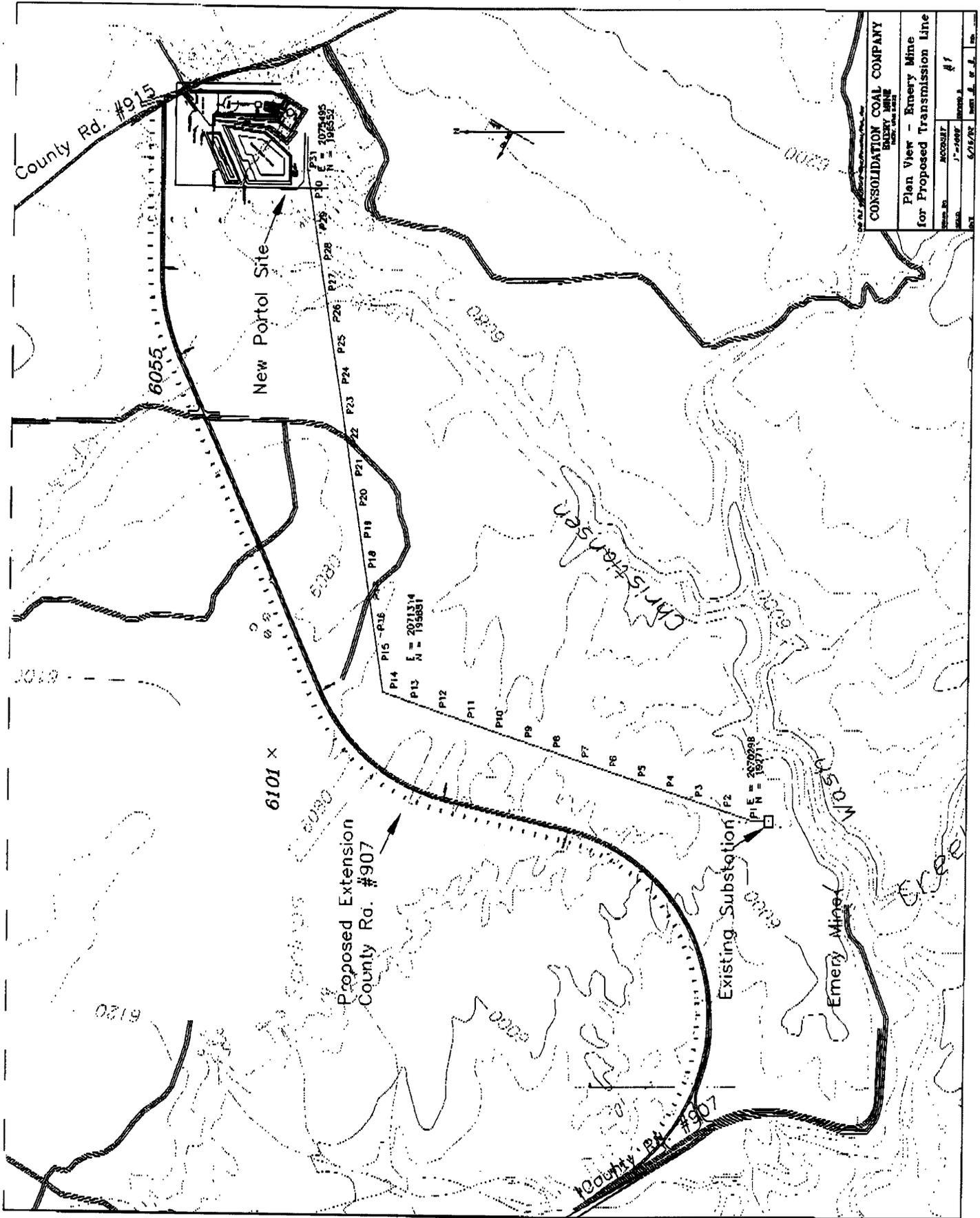
Baseline vegetation information for the lands in the Emery Deep Mine permit area was gathered in 1980 by Stoecher-Keammerer & Associates of Boulder, Colorado. Reference areas were established for the vegetation types, and detailed species lists were compiled. Baseline fish and wildlife information was gathered in 1980 by Mine Reclamation Consultants, Inc. for the 1981 permit application package. This information is reported in the Mine & Reclamation Plan (MRP) for the Emery Deep Mine.

4th East Portal Area

Surveys for the 4th East Portal Area were conducted in Spring of 2002. No TES species were recorded in the Spring 2002 surveys conducted by Mt. Nebo Scientific, Inc. (Collins, 2002).

Burrowing Owls

Surveys for burrowing owls (BLM sensitive species) were conducted by Mt. Nebo Scientific in May 2002. No burrowing owls were observed during the surveys (Collins, 2002).



CONSOLIDATION COAL COMPANY	
EMERY MINE	
Plan View - Emery Mine	
for Proposed Transmission Line	
Scale:	1" = 400'
Project No.:	41
Date:	6/16/02
Drawn by:	J. J. J.
Checked by:	J. J. J.
Approved by:	J. J. J.

2002 Raptor Survey

All raptor species are protected under authority of the Migratory Bird Treaty Act (16 U.S.C. 703-712). Consol participates in the annual raptor surveys conducted by the Utah Division of Wildlife Resources (UDWR). According to the 2002 data, no active raptor nests were recorded within one mile of the project area. One active golden eagle nest was recorded in the cliffs at least two miles south of the project area. Two active raven nests were also recorded. The U.S. Fish & Wildlife Service recommends raptor protection measures in *The Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances*.

Emery County Road #907 Extension

The corridor for the proposed extension of Emery County Road # 907 was surveyed in July 2002 for threatened, endangered, and sensitive species. A fishhook cactus was noted at one location along that corridor (JBR, 2002). Some of the same habitats are crossed by the proposed Consol power line.

Consultation

The U.S. Fish and Wildlife Service (USFWS) was contacted by the Utah Division of Oil, Gas, & Mining to identify endangered, threatened, or candidate species which may occur in the vicinity of Consol's proposed 4th East Portal development. Their response, dated May 20, 2002 (See attachments), listed seven federally protected plant species: the Barneby rood-mustard (*Schoenocrambe barnebyi*), Jones cycladenia (*Cycladenia humilis* var. *jonesii*), last chance townsendia (*Townsendia aprica*), Maguire daisy (*Erigeron maguirei*), San Rafael cactus (*Pediocactus despainii*), Winkler cactus (*P. winkleri*), and Wright fishhook cactus (*Sclerocactus wrightiae*); three federally protected wildlife species: the bald eagle (*Haliaeetus leucocephalus*), Mexican spotted owl (*Strix occidentalis lucida*), and black footed ferret (*Mustela nigripes*); four federally endangered fish species: bonytail chub (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), Humpback chub (*G. cypha*), and razorback sucker (*Xyrauchen texanus*); and one candidate species, the western yellow-billed cuckoo (*Coccyzus americanus occidentalis*).

The State of Utah Division of Wildlife Resources, Utah Natural Heritage Program (UNHP) was contacted regarding species of special concern in the County Road #907 Extension project area, directly to the north and west of the power line corridor. Their response, dated July 16, 2002 (See attachments) indicated that there are no recorded occurrences of threatened, endangered, or sensitive species on the project site. However, in the general area the following species have been recorded: rockloving milkvetch (*Astragalus*

desperatus var. *petrophilus*), Price penstemon (*Penstemon marcusii*), Bicknell milkvetch (*Astragalus consobrinus*), Wright fishhook cactus (*Sclerocactus wrightiae*), and last chance townsendia (*Townsendia aprica*). Pressed specimens of the sensitive milkvetch species and penstemon listed above were reviewed at the University of Utah Herbarium.

Field Survey

The power line corridor survey was conducted August 8, 2002. Conditions were hot and dry following a drier than normal Spring. Vegetation other than shrubs was dried; even some shrubs were in poor condition. Linda Matthews and Karla Knoop of JBR walked the power line corridor and surveyed an area approximately 50 feet either side of the stacked power line. Plant community observations were made and recorded. Representative photos were taken.

Observations

The proposed power line corridor is located predominantly in the salt desert communities of central Utah at approximately 6080 feet AMSL. Directly west of the Portal area, the proposed power line crosses some rocky outcrops with scattered juniper. After crossing an area of greasewood flats in the Christiansen Wash, the power line corridor crosses a series of dry salt shrub flats and gravelly knolls, and spring-fed wetland areas.

Juniper - Rock Outcrop

The area at the southwestern corner of the Portal is sandy, with rocky outcrops and scattered vegetation including Utah juniper (*Juniperus osteosperma*), yucca (*Yucca harrimaniae*), big sagebrush (*Artemisia tridentata*), black sagebrush (*A. nova*), horsebrush (*Tetradymia* sp.), prickly pear (*Opuntia* sp.), and buckwheat (*Eriogonum* sp.).

Greasewood

Greasewood (*Sarcobatus vermiculatus*) is common on the eastern end of the power line corridor, along the Christiansen Wash, and below the rock outcroppings near the Portal area. Ground cover is sparse and the soil surface layer is gravelly. Additional noted plants include: eriogonum, halogeton (*Halogeton glomeratus*), Castle Valley saltbush (*Atriplex cuneata*), saltgrass (*Distichlis stricta*), snakeweed (*Gutierrezia sarothrae*), and prickly pear. Also noted in this area were numerous historical and recent trash dumps, as well as scattered animal carcasses.

Salt Desert Shrub

The salt desert shrub community includes a variety of shrubs and sub-shrubs; vegetation can be locally sparse. Noted were prickly pear, mat saltbush (*Atriplex corrugata*), Castle Valley saltbush, pockets of sagebrush (*Artemisia tridentata*), *Astragalus* sp., Indian ricegrass (*Oryzopsis hymenoides*), galleta grass (*Hilaria jamesii*), low paintbrush (*Castilleja* sp.), shadscale (*Atriplex confertifolia*), snakeweed (*Gutierrezia sarothrae*), winterfat (*Eurotia lanata*), fishhook cactus (*Sclerocactus* spp. - may include Whipple fishhook and Wright fishhook), *Eriogonum inflatum*, and rabbitbrush (*Chrysothamnus* sp.). Some of the shallow, dry ephemeral watercourses contained sagebrush, greasewood, and clumped grasses. The gravelly knolls included ephedra, snakeweed, galleta grass, prickly pear, scattered shadscale, and low sage.

Fishhook cactus was first noted near the estimated location of P17, on Mancos-derived shaley soil. There appeared to be two different types of fishhook, one more densely covered with spines than the other. These two species may be Whipple fishhook and Wright fishhook. An area near P17 was flagged to avoid these cacti. As the survey progressed to the west, it was obvious that habitat for the fishhook occurred on nearly every gravelly knoll rising above the fingers of wetland.

Wetlands

The wetlands were well saturated, and thick with rush (*Juncus* sp.). Other plants included saltgrass, alkali sacaton (*Sporobolus airoides*), sedge (*Carex* sp.), paintbrush, rabbitbrush, thistle (*Cirsium* sp.), virgin-bower (*Clematis* sp.), *Aster* sp., and other grasses and forbs. The westernmost wetland area included a spring in the corridor traversed; mineral deposits were evident.

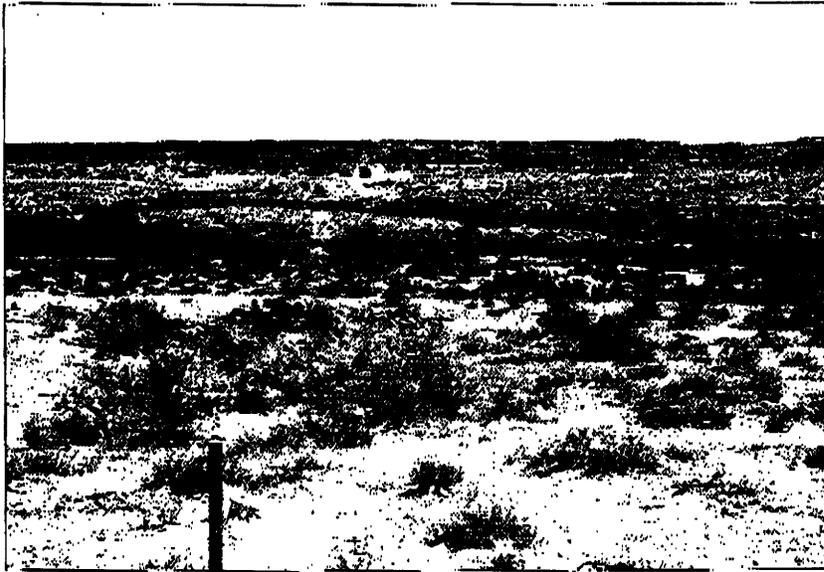
TES Species Considerations

Special Status Plant Species:

Barneby Reed-Mustard (*Schoenocrambe barnebyi*)

ENDANGERED

Welsh et al. (1987) report that the Barneby reed-mustard occurs in mixed shadscale, *Eriogonum* and *Ephedra* communities in the Chinle Formation between approximately 5,600 and 5,700 feet. Flowering occurs in May. The Chinle formation would not be crossed by the proposed power line, and the species is not expected to occur within the power line corridor.



1. View along proposed power line east across Christiansen Wash, to Portal area.



2. View west in proposed power line corridor.



3. Gravelly hillside supporting fishhook cactus.

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Wright Fishhook Cactus (*Sclerocactus wrightiae*)

ENDANGERED

Habitat for this species is salt desert shrub and shrub-grass to juniper communities on the Mancos Shale (Blue Gate, Tununk, Emery and Ferron members), Dakota, Morrison, Summerville, and Entrada formations, at elevations of between 4,800 to 6,100 feet (Welsh et al., 1987). Flowering occurs in April to May. The small yellowish (to pink or white dorsally) flowers and short spines are diagnostic. As noted above, the UDWR data base has recorded this plant in the vicinity of the project area. Fishhook cactus were observed in several locations in the proposed power line corridor during the August 2002 survey. August is well beyond the flowering period such that positive identification of this species is difficult; the spines were noted to be 16 to 18 mm long.

Last Chance Townsendia (*Townsendia aprica*)

THREATENED

This species grows in salt desert shrub and pinyon juniper habitats on clay or clay-silt exposures of the Arapien and the Blue Gate member of the Mancos Shale, at elevations between 6,100 to 8,000 feet (Welsh et al., 1987; Atwood et al., 1991). Flowering occurs in April and May. This plant is thought to have limited potential to occur in the area. It is identifiable in the field only when flowering.

Jones Cycladenia (*Cycladenia humilis* var. *jonesii*)

THREATENED

Welsh et al. (1987) refer to this species as a "gypsophile" (occurring on gypsum-derived soils), found on "semibarren tracts on geological formations with poor water relationships." The species occurs in Eriogonum-Ephedra mixed desert shrub, and juniper communities at 4,400 to 6,000 feet. As Welsh suggests, the species is found in gypsiferous, saline soils of the Cutler, Summerville and Chinle formations. Flowering occurs in May and June. The known population of this plant is approximately 40 miles east and north of the project area; it is not expected to occur along the power line corridor.

Maguire Daisy (*Erigeron maguirei*)

THREATENED

This perennial daisy grows in canyon bottoms in Wingate and Navajo formations, at elevations of 5,380 to 5,700 feet (Welsh et al., 1987). Atwood et al. (1991) cite a higher elevational range, of between 5,600 and 7,200 feet. Cronquist et al. (1994) state that the species grows in cliff crevices and the sandy bottoms of washes. Flowering occurs in June and July. The species also occurs in cool, moist mesic wash bottoms and dry, partially shaded slopes of eroded sandstone cliffs in the Wingate, Chinle, and Navajo sandstone formation or in dry, rocky, sandy canyon bottoms in the Navajo and Wingate Sandstone formations (Atwood et al., 1991). Habitat for this plant does not occur along the proposed power line corridor.

Winkler Cactus (*Pediocactus winkleri*)

THREATENED

This diminutive species is usually solitary. The species occurs in salt desert shrub communities at 4,800 to 5,200 feet, in fine textured, poor-quality saline substrates (Welsh et al., 1987). Flowering occurs in late March to mid-May. Although the habitat type occurs in the project area, elevations in the project area are above 5,900 feet. This species has limited potential to occur in the proposed power line corridor.

San Rafael Cactus (*Pediocactus despainii*)

ENDANGERED

The San Rafael cactus is generally solitary, though it may occur in colonies. Habitat for this cactus is open pinyon-juniper communities on limestone gravels, at an elevation of approximately 6,000 to 6,200 feet (Welsh et al., 1987; Atwood et al., 1991). Flowering occurs from late April to early May. This species has limited potential to occur in the project area. It is identifiable in the field only in good moisture years when it appears above ground and flowers.

Rockloving Milkvetch (*Astragalus desperatus* var. *petrophilus*)

TRACKED BY UNHP

This milkvetch occurs in pinyon-juniper and mixed desert shrub communities, dry wash bottoms, and sage flats at 4,500 to 7,000 feet in Emery County. This plant was not observed during August 2002 surveys, however there may be potential habitat at the eastern end of the power line corridor, nearest to the Portal area.

Price Penstemon (*Penstemon marcusii*)

TRACKED BY UNHP

This perennial occurs in shadscale, mat-atriplex, sagebrush, and salt desert shrub communities, usually in gravelly places on Mancos Shale derived clay at 5,575 to 6,560 feet in Carbon and Emery counties. Although this penstemon was not observed during August 2002 surveys, habitat for this plant occurs in the project area.

Bicknell Milkvetch (*Astragalus consobrinus*)

U.S. FOREST SERVICE SENSITIVE

The Bicknell milkvetch occurs in sagebrush-grassland and pinyon-juniper communities at 6,000 to 7,220 feet in Emery, Garfield, Piute, Sevier, and Wayne counties (Welsh, 1987). Due to the absence of these plant communities in the project area, this milkvetch would not be expected to occur.

Special Status Wildlife & Fisheries

No federally listed fisheries or wildlife are known to occur within the project area.

Summary and Recommendations

In addition to baseline information compiled for the original Emery Deep Mine permit application package, resource studies have recently been complete for the 4th East Portal Area. The proposed power line is within the original permit application area, and within a couple miles to the west of the 4th East Portal Area.

Of the plant species reviewed, it is possible that the Price penstemon and rock loving milkvetch occur within the project area. The types of fishhook cactus in the power line corridor may include the endangered Wright fishhook cactus. There is limited potential in the project area for the last chance townsendia, Winkler cactus, and San Rafael cactus. No TES wildlife or fisheries species are known to occur in the project area. Depletion estimates of the fish populations in Quitchupah Creek / Christiansen Wash are scheduled for Fall 2002.

The western two-thirds of the project area includes wetland areas interspersed with gravelly knolls and hillsides supporting fishhook cactus. All Wright fishhook cactus and wetland areas should be avoided during the construction of the proposed power line. It is recommended that a qualified Botanist be present during the initial layout for power pole placement, and as necessary during construction. A supplemental Spring season post-construction field visit may be warranted to positively identify these special status plants in light of the potential for future power line monitoring and maintenance.

References

- Atwood, D., J. Holland, R. Bolland, B. Franklin, D.E. House, L. Armstrong, K. Thorne and L. England. 1991. *Utah endangered, threatened and sensitive plant field guide*. United States Department of Agriculture, Forest Service, Intermountain Region.
- Collins, 2002. *Biological Impacts at the 4th East Portal Area at the Emery Deep Mine*.
- Consolidation Coal Company, 1988. *Emery Deep Mine and Reclamation Plan*. Selected Chapters.
- JBR, 2002. *Threatened, Endangered, and Sensitive Species Survey Report. Emery County Road #907 Extension. Project No. 907-02-1*.
- Taylor, Ronald J. 1992. *Sagebrush Country, A Wildflower Sanctuary*.
- Welsh, S.L., N.D. Atwood, S. Goodrich and L.C. Higgins, eds. 1987. *A Utah flora. Great Basin naturalist memoirs*. No.9. 894pp.



United States Department of the Interior
FISH AND WILDLIFE SERVICE
 UTAH FIELD OFFICE
 2369 WEST ORTON CIRCLE, SUITE 50
 WEST VALLEY CITY, UTAH 84119

In Reply Refer To
 FWS/R6
 ES/UT

May 20, 2002

RECEIVED

MAY 22 2002

Daron R. Haddock, Permit Supervisor
 Department of Natural Resources
 Division of Oil, Gas, and Mining
 1594 West North Temple, Suite 1210
 PO Box 145801
 Salt Lake City, Utah 84114-5801

DIVISION OF
 OIL, GAS AND MINING

*According
 C/O 5/015
 Copy Susan ✓*

RE: Section 7 Consultation on 4th East Portal Development, Consolidation Coal Company,
 Emery Deep Mine, C/015/015-~~002A~~, Outgoing File
 002C

Dear Mr. Haddock:

In response to your letter dated May 9, 2002, below is a list of endangered (E), threatened (T), and candidate (C) species that may occur in the area of influence of your proposed action.

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
EMERY		
Barneby Reed-mustard	<i>Schoenocrambe barnebyi</i>	E
Jones Cycladenia	<i>Cycladenia humilis</i> var. <i>jonesti</i>	T
Last Chance Townsendia	<i>Townsendia aprica</i>	T
Maguire Daisy	<i>Erigeron maguirei</i>	T
San Rafael Cactus	<i>Pediocactus despainii</i>	E
Winkler Cactus	<i>Pediocactus winkleri</i>	T
Wright Fishhook Cactus	<i>Sclerocactus wrightiae</i>	E
Bonytail ^{4,10}	<i>Gila elegans</i>	E
Colorado Pikeminnow ^{4,10}	<i>Ptychocheilus lucius</i>	E
Humpback Chub ^{4,10}	<i>Gila cypha</i>	E
Razorback Sucker ^{4,10}	<i>Xyrauchen texanus</i>	E
Bald Eagle ¹	<i>Haliaeetus leucocephalus</i>	T
Mexican Spotted Owl ⁴	<i>Strix occidentalis lucida</i>	T
Western Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	C
Black-footed Ferret ⁶	<i>Mustela nigripes</i>	E

The proposed action should be reviewed and a determination made if the action will affect any listed species or their critical habitat. If it is determined by the Federal agency, with the written concurrence of the Service, that the action is not likely to adversely affect listed species or critical habitat, the consultation process is complete, and no further action is necessary.

Formal consultation (50 CFR 402.14) is required if the Federal agency determines that an action is "likely to adversely affect" a listed species or will result in jeopardy or adverse modification of critical habitat (50 CFR 402.02). Federal agencies should also confer with the Service on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10). A written request for formal consultation or conference should be submitted to the Service with a completed biological assessment and any other relevant information (50 CFR 402.12).

Candidate species have no legal protection under the Endangered Species Act (ESA). Candidate species are those species for which we have on file sufficient information to support issuance of a proposed rule to list under the ESA. Identification of candidate species can assist environmental planning efforts by providing advance notice of potential listings, allowing resource managers to alleviate threats and, thereby, possibly remove the need to list species as endangered or threatened. Even if we subsequently list this candidate species, the early notice provided here could result in fewer restrictions on activities by prompting candidate conservation measures to alleviate threats to this species.

Only a Federal agency can enter into formal Endangered Species Act (ESA) section 7 consultation with the Service. A Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment by giving written notice to the Service of such a designation. The ultimate responsibility for compliance with ESA section 7, however, remains with the Federal agency.

Your attention is also directed to section 7(d) of the ESA, as amended, which underscores the requirement that the Federal agency or the applicant shall not make any irreversible or irretrievable commitment of resources during the consultation period which, in effect, would deny the formulation or implementation of reasonable and prudent alternatives regarding their actions on any endangered or threatened species.

Please note that the peregrine falcon which occurs in all counties of Utah was removed from the federal list of endangered and threatened species per Final Rule of August 25, 1999 (64 FR 46542). Protection is still provided for this species under authority of the Migratory Bird Treaty Act (16 U.S.C. 703-712) which makes it unlawful to take, kill, or possess migratory birds, their parts, nests, or eggs. When taking of migratory birds is determined by the applicant to be the only alternative, application for federal and state permits must be made through the appropriate authorities. For take of raptors, their nests, or eggs, Migratory Bird Permits must be obtained through the Service's Migratory Bird Permit Office in Denver at (303) 236-8171.

We recommend use of the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* which were developed in part to provide consistent application of raptor protection measures statewide and provide full compliance with environmental laws regarding raptor protection. Raptor surveys and mitigation measures are provided in the Raptor Guidelines as recommendations to ensure that proposed projects will avoid adverse impacts to raptors, including the peregrine falcon.

The following is a list of species that may occur within the project area and are managed under Conservation Agreements/Strategies. Conservation Agreements are voluntary cooperative plans among resource agencies that identify threats to a species and implement conservation measures to proactively conserve and protect species in decline. Threats that warrant a species listing as a

sensitive species by state and federal agencies and as threatened or endangered under the ESA should be significantly reduced or eliminated through implementation of the Conservation Agreement. Project plans should be designed to meet the goals and objectives of these Conservation Agreements.

Common Name

Scientific Name

EMERY

Colorado River Cutthroat Trout

Oncorhynchus clarki pleuriticus

If we can be of further assistance or if you have any questions, please feel free to contact Laura Romin of our office at (801)975-3330 extension 142.

Sincerely,



Henry R. Maddux
Utah Field Supervisor



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

Michael O. Leavitt
Governor

Robert L. Morgan
Executive Director

Kevin Conway
Division Director

1594 West North Temple, Suite 2110
PO Box 146301
Salt Lake City, Utah 84114-6301
801-538-4700 telephone
801-538-4709 fax
801-538-7458 TTY
www.nr.utah.gov

July 16, 2002

Jenni Mahoney
Environmental Analyst
JBR Environmental Consultants, Inc.
8160 South Highland Drive
Sandy, UT 84093

Dear Ms. Mahoney:

I am writing in response to your request for information regarding species of special concern proximal to the proposed Consol Loop Road Project south of Emery, Utah.

The Utah Division of Wildlife Resources (UDWR) does not have records of occurrence for any threatened, endangered, or sensitive species on the proposed project site; however, there are records of occurrence in the area of the project site for the following plant species: rockloving milkvetch, Price penstemon, Bicknell milkvetch (a plant included on the U. S. Forest Service Intermountain Region Sensitive Plant List), as well as, Wright fishhook cactus and Last Chance townsendia, both of which are federally listed. The first two plants listed above are not included on state or federal agency sensitive species lists, but they are both tracked as species of special concern by the Utah Natural Heritage Program.

The information provided in this letter is based on data existing in the Utah Division of Wildlife Resources' central database at the time of the request. It should not be regarded as a final statement on the occurrence of any species on or near the designated site, nor should it be considered a substitute for on-the-ground biological surveys. Moreover, because the Utah Division of Wildlife Resources' central database is continually updated, and because data requests are evaluated for the specific type of proposed action, any given response is only appropriate for its respective request.

In addition to the information you requested, other significant wildlife values might also be present on the designated site. Please contact UDWR's regional habitat manager, Bruce Bonebrake, at (435) 865-6100, if you have any questions.

Please contact our office at (801) 538-4759 if you require further assistance.

Sincerely,

Anne Axel
Information Manager

CHAPTER X

PART A: CULTURAL RESOURCES

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PLATES

X.A-1 PERMIT AREA CULTURAL RESOURCES.....MAP POCKET

APPENDIX 5-6

ARCHEOLOGICAL EVALUATION - MONTGOMERY
ARCHEOLOGICAL CONSULTANTS, AUGUST 2002

**CULTURAL RESOURCE INVENTORY OF
CONSOLIDATION COAL COMPANY'S
POWER LINE FOR THE EMERY MINE
EMERY COUNTY, UTAH**

**Anne E. Raney
And
Keith R. Montgomery**

**CULTURAL RESOURCE INVENTORY OF
CONSOLIDATION COAL COMPANY'S
POWER LINE FOR THE EMERY MINE
EMERY COUNTY, UTAH**

**By
Anne E. Raney
and
Keith R. Montgomery**

Prepared For:

**Division of State History
300 Rio Grande
Salt Lake City, UT 84101**

Prepared Under Contract With:

**Johansen and Tuttle Engineering, Inc.
P.O. Box 487
Castle Dale, Utah 84513**

Prepared By:

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

MOAC Report 02-115

August 19, 2002

**United States Department of Interior (FLPMA)
Permit No. 02-UT-60122**

**State of Utah Antiquities Project (Survey)
Permit No. U-02-MQ-0487p**

INTRODUCTION

A cultural resource inventory was conducted by Montgomery Archaeological Consultants (MOAC) in July and August 2002 for Consolidation Coal Company's power line for the Emery Mine in Emery County, Utah. The inventory was implemented at the request of Mr. Craig Johansen for Johansen and Tuttle Engineering, Castle Dale, Utah. The project area is located approximately 3 miles southeast of the town of Emery in Emery County, Utah. The survey area occurs on private property.

The objectives of the inventory were to locate, document, and evaluate any cultural resources within the project area in order to attain compliance with a number of federal and state mandates, including the National Historic Preservation Act of 1966 (as amended), the National Environmental Policy Act of 1969, the Archaeological and Historic Conservation Act of 1972, the Archaeological Resources Protection Act of 1979, the American Indian Religious Freedom Act of 1978, and the Utah State Antiquities Act of 1973 (amended 1992).

The fieldwork was performed by Keith R. Montgomery (Principal Investigator), assisted by Roger Stash and Anne Raney between July 30-August 6, 2002. Permits issued to MOAC entailed U.S.D.I. (FLPMA) Permit No. 02-UT-60122 and State of Utah Antiquities Project (Survey) No. U-02-MQ-0487p.

A file search for previous inventories and documented cultural resources was performed by Keith Montgomery on July 24, 2002 at the Bureau of Land Management, Price Field Office. In the immediate project area MOAC completed an inventory in T 22S, R 6E, Sec. 27 for Consolidated Coal Company's mine portal (Elkins and Montgomery 2002). The survey resulted in the documentation four prehistoric isolated artifacts consisting of a biface and pieces of lithic debitage. A number of other projects have been conducted near the project area. The Division of State History conducted an inventory for the Consolidated Coal and Kemmerer Coal Company in 1976 that resulted in the documentation of three prehistoric sites (42Em635, 42Em636 and 42Em637) (Berry 1975). In 1980, Archeological-Environmental Research Corporation performed a survey of the Emery Mine project area in T 22S, R 6E, Secs. 27, 28 and 33 (Hauck 1980). Documented cultural resources included the Browning Mine, a portion of the Spanish Trail as well as several rockshelters and lithic scatters. None of the cultural resources documented by AERC are in the survey area. The Bureau of Reclamation completed an inventory of eight irrigation canals for the Price-San Rafael Basin project (Wiens 1984). No cultural resources were found. Also in 1984, La Plata Archaeological Consultants performed a survey of 11 seismic lines in Emery and Carbon counties, finding no sites (Harden 1984). In 1995, SWCA Inc. completed an inventory of the SR-29, Straight Canyon to SR-10 project (Miller and Roberts 1995). In 1996, Montgomery Archaeological Consultants surveyed Texaco Exploration's Cottonwood Creek and Grimes Wash pipelines that resulted in the documentation of a segment of the historic Straight Canyon road (42Em2423.5) (Montgomery 1996). In 1997, MOAC completed the Cottonwood Creek water project (Montgomery and Montgomery 1997). Two cultural resources including a segment of the historic Straight Canyon road (42Em2423.6) and a portion of the Mammoth Canal (42Em2472.1) were documented. In 2002, MOAC inventoried a coal haul road for Consolidation Coal finding no cultural resources (Montgomery 2002).

DESCRIPTION OF THE PROJECT AREA

The proposed Consolidated Coal Company's power line to the Emery Mine is located north of the confluence of Quitchupah Creek and Christiansen Wash. The proposed power line measures approximately 1.5 miles long and runs between the Emery Mine portal site and an existing substation. The legal description is Township 22 South, Range 6 East, Sections 27, 28, and 33.

In general, the project 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. Common plant species include pinyon, juniper, cottonwood, sagebrush, shadscale, greasewood, rabbitbrush, mat saltbrush, yucca, prickly pear cactus, and various grasses. The elevation averages 6000 feet a.s.l.. The primary water source in the area is Cottonwood Creek which is also the largest stream in the Castle Valley area. Other smaller creeks and intermittent drainages cross the land. Modern impacts to the project area include buried pipelines, overhead power lines, grazing, paved roads and dirt roads.

Cultural Overview

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. Prehistoric occupation in the area spans the last 10,000-12,000 years. Cultural remains representing the Paleoindian, Archaic, Formative, Late Prehistoric, and Historic stages have been identified in the vicinity of the study area. The earliest known archaeological remains in central Utah are attributable to the Paleoindian stage, which emphasized the exploitation of megafauna and floral resources during the period of transition from the Pleistocene to the Holocene. Based on projectile point typologies and subsistence strategies, the Paleoindian stage is commonly divided into three cultural complexes termed the Llano (ca. 11,500-11,000 B.P.), the Folsom (ca. 11,000-10,000 B.P.) and the Plano (ca. 10,000-7500 B.P.). The Llano complex is represented by Clovis fluted projectile points, a rare find in the area. Mammoths are thought to have been the primary prey of these early big game hunters, in contrast to an apparent preference for bison exhibited by the Folsom peoples. Folsom points, among the more common Paleoindian projectile points that occur throughout the Colorado Plateau, have been found in nearby Emery country, sometimes associated with lithic debitage (Copeland and Fike 1988; Schroedl 1991). Megafauna, represented by mammoth and short-faced bear and dating to 9440 B.P., have also been found north of the project area in upper Huntington Canyon. The remains exhibit evidence of butchering, in the form of cut marks, and are associated with a Paleoindian projectile point (Gillette 1989; Madsen 2000). The Plano complex is characterized by large, lanceolate points and reliance on large game as well as plants. Projectile points found nearby that date to this complex include Lake Mohave points, Lovell Constricted points and a Medicine Lodge point style (Black and Metcalf 1986; Hauck 1977).

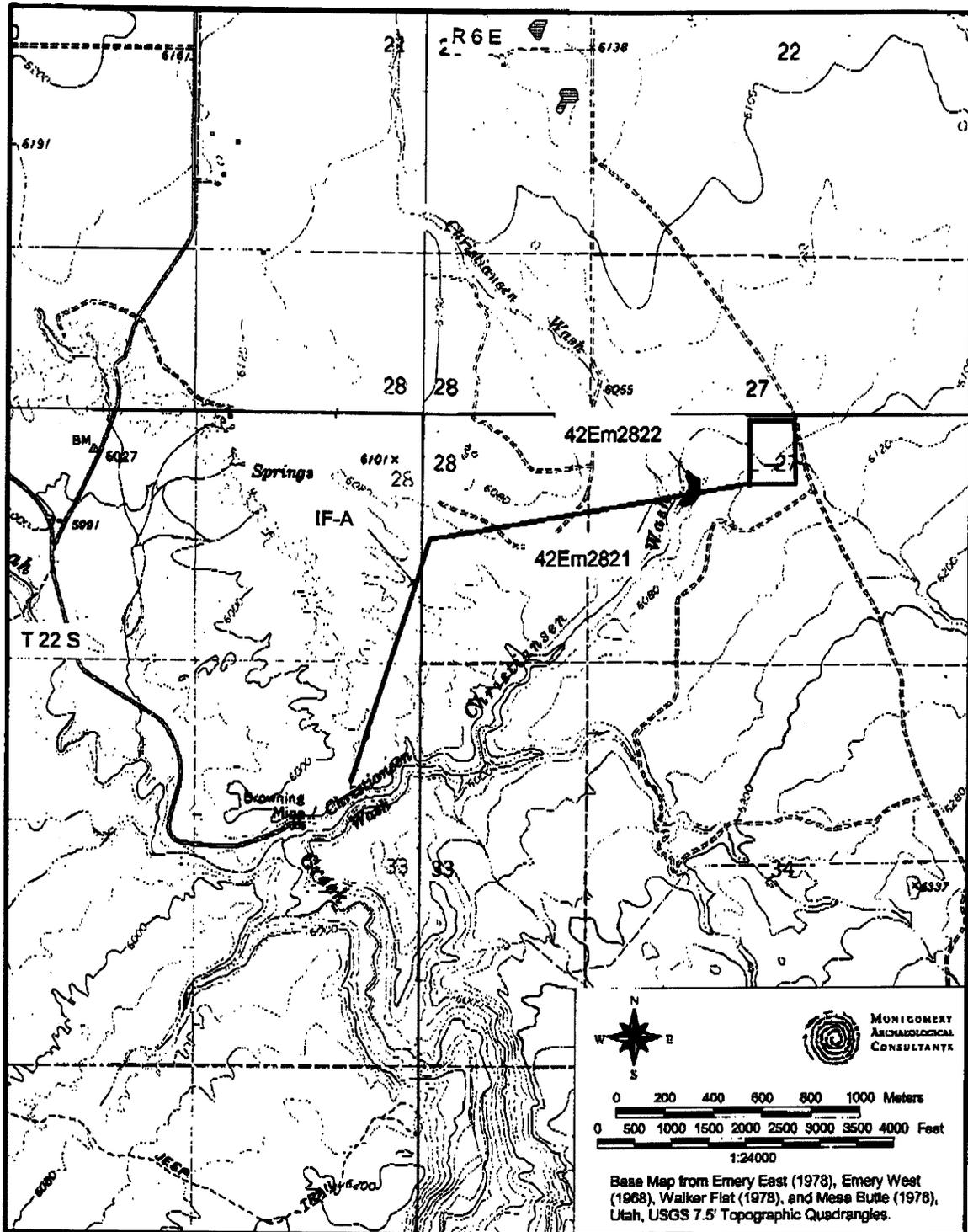


Figure 1. Inventory of the Proposed Powerline for the Emery Mine With Cultural Resources.

The termination of the Pleistocene enacted major changes in the environment of central Utah. Overall, the climate became warmer and drier, causing expansion of xeric vegetation zones and a retreat of plant communities requiring cool and moist conditions at higher elevations. The Archaic stage (7800 to 500 B.P.) is represented by subsistence patterns more labor-intensive than those practiced by Paleoindians. Large herd animals were less intensively exploited, replaced by a greater emphasis upon smaller, more dispersed fauna, in addition to plant resource processing. Archaic sites tend to cluster in areas which offer good viewsheds, proximity to outcrops of tool quality stone, as well as nearness to major topographic features (Black and Metcalf 1986; Howell 1992). Schroedl (1976) defined four phases for the Archaic stage based on technology, subsistence, and environmental change. The earliest is the Black Knoll phase (ca. 8300-6200 B.P.). Sites dating to this phase are characterized by Pinto projectile points and a contrast in subsistence between high and low elevations in which large artiodactyla are hunted in the uplands, while wild plant gathering is emphasized at lower elevations (Schroedl 1976:61-62). The Castle Valley phase (ca. 6200-4500 B.P.) is characterized by a lower aboriginal population on the Colorado Plateau, possibly attributed to a two-stage Altithermal drought (Black and Metcalf 1986:10). It was during this time period that a variety of projectile point styles were employed, including Rocker, Hawken, and Sudden Side-notched points, as well as Humboldt and McKean points. Slab-lined fire pits and an increasing reliance upon grasses and forbs as foodstuffs are also aspects of this phase (Schroedl 1976:63-64). The Green River phase (ca. 4500-3300 B.P.) is marked by the occurrence of Gypsum and San Rafael Side-notched projectile point types and split-twig figurines (Schroedl 1976). In this phase, hunting (especially for mountain sheep) becomes important and amaranths are a preferred plant resource (Black and Metcalf 1986:11). The Dirty Devil phase (ca. 3000-1500 B.P.) marks the transition into the Formative stage and is characterized by increased sedentism, the introduction of corn and bow and arrow, and Gypsum projectile points (Schroedl 1976).

The Formative stage (A.D. 700-A.D. 1200) is characterized by reliance on domesticated plants (most notably corn), substantial habitation structures often organized into hamlets or villages, production of pottery, and the use of the bow and arrow. The study area is within the occupation zone of the San Rafael Fremont variant, as defined by Marwitt (1970). Sites in this area are characterized as small isolated hamlets or single dwelling units, usually found on small ridges overlooking perennial water sources and arable land (Schroedl and Hogan 1975). Three San Rafael Fremont phases have been proposed for the study area based on chronology, settlement patterns, subsistence strategies, and material culture (Black and Metcalf 1986; Greubel 1996). The earliest phase has been termed by Black and Metcalf (1986) the "Proto-Formative" phase (A.D. 150 to 700), a transition stage from an Archaic to a Formative lifeway in which groups became more sedentary. During this phase corn horticulture increased in importance, although hunting and gathering continued to play a major role in the subsistence strategy. Common artifacts of this phase include Rose Springs Series arrow points and Emery Gray Ware (introduced between A.D. 650 and 700). More recently, investigations along Muddy Creek have better defined the earliest manifestations of the Fremont culture, termed as the Confluence Phase (Greubel 1996). The Confluence Phase is proposed to encompass preceramic, semi-sedentary, horticultural adaptations in the San Rafael Fremont area, beginning around A.D. 200 (Ibid: 516). Important aspects of this phase include the presence of a well-developed pattern of semi-sedentism, pithouse architecture, maize horticulture, large bell-shaped storage pits, use of the bow and arrow, and the presence of community or special function structures. During this preceramic Formative period, settlements occurred along the floodplain terraces above perennial streams. Recent excavations at the Confluence site (42Em1887), situated near the confluence of Muddy Creek and Ivie Creek, revealed five shallow pithouses and a variety of extramural features including bell-shaped pits and firehearths. Data from this site indicated that it is a horticulture-based community with the subsistence strategy based on the growing of maize dating from A.D. 540 to 630 (Ibid:348).

The Muddy Creek phase is marked by increased sedentism and greater reliance upon horticulture. In Castle Valley, the settlement strategy during this time is marked by small isolated hamlets or single dwelling units, usually found on small ridges overlooking perennial water sources and arable land. In the study area, the cultural material remains are dominated by Emery Gray Ware, some decorated by applique and incisions, and Rose Springs Series and Uinta Side-notched arrow points (Holmer and Weder 1980). The Bull Creek phase (A.D. 1000 to 1200) is distinguished by larger habitations composed of pit houses and surface masonry structures usually used for storage of cultigens. Diagnostic artifacts of this phase include Bull Creek and Nawthis Side-notched projectile points, decorated Fremont ceramics including Ivie Creek Black-on-white, and higher frequencies of Anasazi trade wares. Black and Metcalf (1986:157) suggest that Fremont populations aggregated during this phase most likely in response to the salubrious climatic conditions (post-A.D. 950). These favorable climatic conditions may have also enhanced the productivity of maize fields as evidenced by the increase of storage facilities in the area. Also during late Fremont times a linear settlement pattern is exhibited in areas where sites are clustered along drainage systems, such as Miller Creek. Sometime following A.D. 1200, the Fremont appear to have abandoned east-central Utah, attributed to both environmental and subsistence-related reasons (Lindsay 1986).

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. Numic expansion in the archaeological records appears at approximately A.D. 1100 based on the distribution of chronometric dates associated with brown ware sherds (Reed 1994:188). 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). On the Colorado Plateau eighteenth and nineteenth century Ute sites may also contain varying quantities of Euroamerican artifacts, such as sheet metal cone tinklers, tin cans, weaponry, and equestrian tack (Horn 1988).

The earliest recorded visit by Europeans to Utah was the Dominguez-Escalante expedition, which moved through the areas north and west of Castle Valley in 1776-1777. Throughout the first half of the nineteenth century, explorers, surveyors and trappers moved in small parties through the valley, up and down the Old Spanish Trail. The main branch of the Spanish Trail veered northwest from Green River and wound through the San Rafael Swell via Cottonwood Creek and Buckhorn Flat, emerging into Castle Valley near the Red Seeps east of Castle Dale. Beginning in the 1870's, ranchers began to herd cattle in the area, using the higher mesas for summer grazing and the valley lowlands during the winter (Geary 1996). By the census of 1895, Emery County boasted 4,390 residents. Early engineers and surveyors noted the presence of coal deposits in Castle Valley. The agricultural and mining potential of the area boomed as Augustus Ferron's township survey in the area spawned an inpouring of people ready to extract and exploit the valley's natural resources (Geary 1996). While agriculture and ranching remain viable economic pursuits in Castle Valley today, the mining boom of the late 19th century and early 20th century ended just after WW I, with a slight increase in mining activities again just prior to WWII.

SURVEY METHODOLOGY

An intensive pedestrian survey was performed for this project which is considered 100% coverage. A 200 ft wide corridor was surveyed by the archaeologist walking parallel transects spaced no more than 10 meters (30 ft) apart. A total of 35.8 acres was inventoried on private land. Ground visibility was considered good.

Cultural resources were recorded as either archaeological sites or isolated finds of artifacts. Archaeological sites were defined as spatially definable areas with features and/or ten or more artifacts. Sites were documented by the archaeologists walking across the site marking the locations of cultural materials with pinflags. This procedure allowed clear definition of site boundaries and artifact concentrations. Site maps were made using tape and compass, with artifact and feature proveniences being recorded accordingly. Archaeological sites were plotted on a 7.5' USGS quadrangle, photographed, with site data entered on an Intermountain Antiquities Computer System (IMACS, 1990 version) inventory form (Appendix C). Isolated finds are defined as individual artifacts or light scatter of items, which lack sufficient material culture to warrant IMACS forms, or to derive interpretation of human behavior in a cultural and temporal context. All isolated artifacts were plotted on a 7.5' USGS map and described in this report.

RESULTS AND RECOMMENDATIONS

The inventory for the Consolidation Coal Company's power line resulted in the documentation of two new archaeological sites (42Em2821 and 42Em2822) and one isolated find of artifact (IF-A).

Archaeological Sites

Smithsonian Site No.: 42Em2821
Temporary Site No.: MOAC 02-115-01
Eligibility: Not Eligible

Description: The site occurs on the slope of a low hill and consists of a scatter of historic trash in an area of dense modern trash. The historic items include ceramics, glass, and tin cans, as well as several miscellaneous items. Historic ceramic items included five fragments of a ceramic item with buff/fine paste and white glaze, and one fragment, possibly from a bowl, with a glaze that fades from white to blue/green. Glass artifacts included a variety of glass fragments from unknown containers, including purple and milk colored fragments; five fragments of a cobalt jar with "Vick__" and a triangle embossed on the base (pre-1960); two pieces of a purple fruit/canning jar base with "KERR GL__S MFG CO" and "SAND__" embossed on the bottom (1912-1946); a clear liquor bottle base has "Liquor Bottle" and a Brockway Glass Co. trademark (since 1925) embossed; and an aqua reinforced extract bottle finish of semi-automatic manufacture (pre-1917). Tin cans included three crushed hole in top cans and one hole in top can that measured 3 14.5/16 x 2 15/16 (1950-present). Also on site were the following miscellaneous artifacts: a blue/green "cat's-eye" glass marble; a small porcelain doll head with molded and painted features and a hole in the top for hair; a silver 10 gallon wash basin; and a white/green enameled 1 gallon basin. Out-of-period trash included shoes, metal, furniture, tires, and glass. This site is a superficial scatter of items with little potential for depth or spatial patterning. It is thus recommended not eligible to the NRHP due to its lack of potential to yield additional important information.

Smithsonian Site No.: 42Em2822
Temporary Site No.: MOAC 02-115-02
Eligibility: Eligible, Criterion D

Description: This is a multi-component site consisting of a prehistoric lithic scatter and a historic trash scatter in a gully between two hills. The prehistoric artifact assemblage consists of lithic debitage (n=106) in three concentrations with a light scatter between, chipped stone tools (n=8) and groundstone tools (n=1). Secondary core reduction and biface reduction debitage dominate the lithic scatter throughout the site, with primary core reduction flakes, tertiary flakes, and cores being uncommon (Tables 1-4). Material types for lithic debitage are primarily chert varieties as well as some siltstone. Lithic tools consist of one Desert Side-Notched projectile point, 7 fragments of biface blanks and preforms, and one fragment of a heavily ground lower ground stone. The prehistoric component probably dates to the protohistoric period.

Historic items included mostly fragmented ceramics, glass, and tin cans primarily found in the southern portion of the site. Historic ceramic items included 25+ white ceramic fragments, one white fragment with a white flower transfer print with green leaves, three fragments with buff paste and white and blue banded decoration, and 10 fragments with buff paste and white glaze. Glass artifacts included: a variety of colors of glass fragments including purple, aqua, milk, green, and brown; several bottle finishes of semi-automatic manufacture in a variety of colors; one brown glass fragment with a Clorox trademark (1916-1950?); a purple tumbler base with fluting up the sides; a brown bottle base possibly with a Diamond Glass Co. trademark (since 1924); a purple bottle base with an unknown trademark; an aqua base with an Adolphus Busch Glass Manufacturing Co. trademark (1886-1928); a piece of purple glass of a tapering conical shape; and two brown worked glass fragments, one with use-wear along two edges, and one with flaking and use-wear edges (See drawing). Most tin cans on site were fragmented and crushed. Identifiable cans included: hole in cap cans; a lard bucket fragment; a large rectangular can with a screw cap and a handle; and 4 crushed sanitary cans. Near the southwestern end of the site were two axe-cut juniper posts sticking in the ground. Both posts measured about 6 ft tall and may have once been part of a historic fence.

The site exhibits spatial patterning of artifacts and partially occurs in colluvial soils with potential for additional buried materials. The site is considered eligible for inclusion to the NRHP under Criterion D, because of its potential to yield additional important information about the prehistory and history of the area.

Isolated Finds of Artifacts

Isolated Find A (IF-A) is located in the NW/SW/SE of Section 28, T 22S, R 6E; UTM 478285E/4302053N. It is a white opaque chert secondary core reduction flake.

NATIONAL REGISTER OF HISTORIC PLACES EVALUATION

The National Register Criteria for Evaluation of Significance and procedures for nominating cultural resources to the National Register of Historic Places (NRHP) are outlined in 36 CFR 60.4 as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, material, workmanship, feeling, and association, and that they:

a)...are associated with events that have made a significant contribution to the broad patterns of our history; or

b)...are associated with the lives of persons significant to our past; or

c)...embody the distinctive characteristics of a type, period, or method of construction; or that represents the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d)...have yielded or may be likely to yield information important in prehistory or history.

The inventory of a proposed coal haul road in Emery and Sevier counties resulted in the documentation of two archaeological sites and one isolated find of artifact. The multi-component site (42Em2822) is recommended eligible for inclusion to the National Register of Historic Places (NRHP) under Criterion D. Additional investigations at this site could address such research domains as chronology, material culture, site function, land use patterns and subsistence strategy. Historic site 42Em2822 consists of a single-episode trash dump. It is a surficial scatter of items with little potential for depth or spatial patterning. It is thus recommended not eligible to the NRHP due to its lack of potential to yield additional important information.

MANAGEMENT RECOMMENDATIONS

The inventory of the Consolidation Coal power line for the Emery Mine resulted in the documentation of two archaeological sites, one of which is an eligible multi-component site (42Em2822). It is recommended that this multi-component site be avoided during this undertaking. MOAC recommends that any power poles be moved at least 10 ft west of the site boundary. No vehicles should be allowed across the site without archaeological monitoring.

Based on these findings and adherence to the recommendations, a determination of "No Historic Properties Affected" is proposed for this undertaking pursuant to Section 106, CFR 800.

REFERENCES CITED

- Berry, M.S.
1975 Archaeological, Historical and Paleontological Survey for Consolidated Coal Company and Kemmerer Coal Company in Emery County, Utah. Division of State History, Salt Lake City. Report No. 75-2.
- 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, Moab, Utah (U-02-MQ-0231p).
- 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.
- Greubel, R. A.
1996 Archaeological Investigations of 11 Sites Along Interstate 70: Castle Valley to Rattlesnake Bench. Alpine Archaeological Consultants, Inc., Montrose, Colorado.
- Harden, P.L.
1984 An Archaeological Survey of Eleven Seismograph Lines for Seis-Port Explorations, Inc. in Emery and Carbon Counties, Utah. La Plata Archaeological Consultants, Dolores, CO. Report No. 83-557.
- Hauck, F.R.
1977 Cultural Resource Evaluation in Central Utah 1977. Bureau of Land Management, Utah, *Culture Resource Series* No. 3, Salt Lake City.
- 1980 Archeological Evaluations in the Emery Mine Permit Area in Emery County, Utah. Archeological-Environmental Research Corporation, Bountiful, Utah.
- Holmer, R. and D. Weder
1980 Common Post-Archaic Projectile Points of the Fremont Area. In *Fremont Perspectives*, David B. Madsen, Ed. Antiquities Section Selected Papers 16. Utah State Historical Society, Salt Lake City.

- Horn, J. C.
1988 Euro-American Goods in the Material Culture of the Ute prior to 1882. In *Archaeology of the Eastern Ute: A Symposium*, Paul R. Nickens, Ed, pp. 54-61. Colorado Council of Professional Archaeologists Occasional Papers No. 1, Denver, Colorado.
- Howell, W. K.
1992 Cultural Resource Inventory and Evaluative Testing Program Along Utah Department of Transportation's State Route 10, Emery and Sevier Counties, Utah.
- Jennings, J. D.
1978 Prehistory of Utah and the Eastern Great Basin. *University of Utah Anthropological Papers* No. 98. Salt Lake City, Utah.
- Lindsay, L.W.
1986 Fremont Fragmentation. In *Anthropology of the Desert West*, Carol J. Condie and Don D. Fowler, Eds. University of Utah Anthropological Papers No. 110. Salt Lake City.
- Madsen, D. B.
2000 A High-Elevation Allerod-Younger Dryas Megafauna from the West-Central Rock Mountains. In *Intermountain Archaeology*, David B. Madsen and Michael C. Metcalf, Eds. Pp. 100-116. University of Utah Anthropological Papers, Number 122.
- Marwitt, J. P.
1970 Median Village and Fremont Cultural Regional Variation. *University of Utah Anthropological Papers* No. 95, Salt Lake City, Utah.
- Miller, F., and H. Roberts
1995 A Cultural Resources Inventory of SR-29, Straight Canyon to SR-10, Emery County, Utah. SWCA Inc., Environmental Consultants. Report No. 95-73.
- Montgomery, K.R.
1996 Cultural Resource Inventories of Texaco Exploration's Cottonwood Creek and Grimes Wash Pipelines, Emery County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report No. 96-697.
2002 Cultural Resource Inventory of Consolidation Coal Company's Haul Road, Emery County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report No. U-02-MQ-0421p.
- Montgomery, K.R., and J.A. Montgomery
1997 Cultural Resource Inventory of the Cottonwood Creek Water Project in Emery County, Utah. Montgomery Archaeological Consultants, Moab, Utah. Report No. 97-407.
- Reed, A.D.
1994 The Numic Occupation of Western Colorado and Eastern Utah During the Prehistoric and Protohistoric Periods. In *Across the West: Human Population Movement and the Expansion of the Numas*, D.B. Madsen and D. Rhode, Eds. Pp. 188-199. University of Utah Press, Salt Lake City.

Schroedl, A. R.

1976 *The Archaic of the Northern Colorado Plateau*. Ph.D. dissertation, Department of Anthropology, University of Utah, Salt Lake City, Utah.

1991 Paleo-Indian Occupation in the Eastern Great Basin and Northern Colorado Plateau. *Utah Archaeology* 4(1).

Schroedl, A.R., and P. Hogan

1975 Innocent Ridge and the San Rafael Fremont. *Antiquities Section Selected Papers* 1(2). Salt Lake City.

Stokes, W. L.

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

Wiens, C.

1984 Cultural Resources Survey of Portions of Eight Price-San Rafael River Basins Irrigation Canal, Carbon and Emery Counties, Utah. Bureau of Reclamation, Upper Colorado Region, Provo, Utah. Report No. 84-928.