

A Class III Cultural Resource Inventory of the Daneros Project, San Juan County, Utah

Prepared for

Utah Energy Corporation

Prepared by

SWCA Environmental Consultants

September 23, 2008

UT SHPO Project No. U-08-ST-0678b.

SWCA Project No. 14462

SWCA Cultural Report No. 2008-348

**A Class III Cultural Resource Inventory
of the Daneros Project,
San Juan County, Utah**

Prepared for

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ABSTRACT

SWCA Environmental Consultants (SWCA) was retained by Utah Energy Corporation to conduct an intensive pedestrian cultural resource inventory (Class III) for the expansion of an existing uranium mine in San Juan County, Utah. The proposed expansion would include development of an ore pad, air vent area, waste area, portal, and service areas and the use of two existing two-track access roads. The purpose of this inventory was to identify cultural resources that may be affected by the proposed Daneros Project. The inventory was conducted to comply with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, and the governing rules found in 36 CFR Part 800, "Protection of Historic Properties." The proposed project area is located in the central portion of the Colorado Plateau in southeastern Utah, approximately 10 miles southwest of Fry Canyon, Utah. It is located on lands administered by the Bureau of Land Management (BLM) Monticello Field Office. The proposed project area is located in Section 6, Township 37S, Range 16E.

The proposed project is divided into two separate survey areas. The eastern survey area included two vent holes to be excavated and 2,544 feet of existing two-track road. The western survey area included all of the remaining areas involved in the operation of the mine. A 100-foot-wide cultural resources buffer zone was also surveyed around all mine areas, vents, and access roads. SWCA surveyed a total of 47.21 acres for cultural resources.

The inventory resulted in the identification and documentation of one prehistoric isolated find located within the proposed project survey area. It was found adjacent to one of the two-track roads in the eastern survey area and consisted of a single gray quartzite thinning flake (Appendix A). Isolated occurrences are not, by definition, considered eligible for inclusion on the National Register of Historic Places (NRHP).

SWCA conducted the survey prior to BLM approval of the Plan of Operations and the Area of Potential Effect (APE) has been expanded since that time. The BLM will conduct any additional work and prepare an addendum report to be attached to this report. SWCA recommends the Daneros Project proceed as planned with no effect to cultural resources within the area surveyed by SWCA. Current investigations have found that no NRHP-eligible or otherwise significant cultural resources occur in the original project APE, as surveyed by SWCA. Only one isolated find was observed in the original project area and it is not eligible for inclusion on the NRHP. The proposed project complies with the provisions of the NHPA of 1966, as amended. SWCA recommends that cultural resource clearance be granted within the original project area as no historic properties will be affected by the originally proposed project.

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INTRODUCTION

SWCA Environmental Consultants (SWCA) was retained by Utah Energy Corporation to conduct a cultural resource inventory for the expansion of an existing uranium mine in San Juan County, Utah (Figures 1 and 2). The proposed expansion would include development of an ore pad, air vent area, waste area, portal, and service areas and use of two existing two-track access roads. The purpose of this inventory was to identify cultural resources that may be affected by the originally proposed Daneros Project expansion. The inventory was conducted to comply with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, and the governing rules found in 36 CFR Part 800, "Protection of Historic Properties."

SWCA archaeologist Charles Bollong is the Principal Investigator and SWCA archaeologist Mark Lowe supervised the cultural resource inventory for the proposed project under the authority of the U.S. Department of Interior, Bureau of Land Management (BLM) Statewide Cultural Resources Use Permit No. 07-UT-55126. Nancy Eisenhower and Katie Dumm performed fieldwork and resource documentation efforts. Nancy Eisenhower was the primary author of this report, while Paige Marchus edited and Michael Andres prepared the maps for the report.

SWCA conducted the survey prior to BLM approval of the Plan of Operations and the Area of Potential Effect (APE) has been expanded since that time. The BLM will conduct any additional cultural resources work and prepare an addendum report to be attached to the following report. The originally proposed project area is located on public lands administered by the Bureau of Land Management. The legal location of the project area is Section 6, Township 37S, Range 16E.

PROJECT DESCRIPTION

Utah Energy Corporation proposes to expand an existing uranium mine which will include an ore stockpile, waste area, portal area, office/shop area, two existing roads, and the excavation of two vent holes. The portal area will include a mine yard, compressor, and fuel storage. The office/shop area will include a shop, office, holding tanks, and parking. The access roads will be 10-foot wide and utilize a total of 2,544 feet of existing two-track road. The total proposed project disturbance area is 1.95 acres. A 100-foot-wide (30-meters-wide) cultural buffer zone was also surveyed around each of the proposed areas, access roads, and vent holes. As a result, approximately 10.5 acres were surveyed.

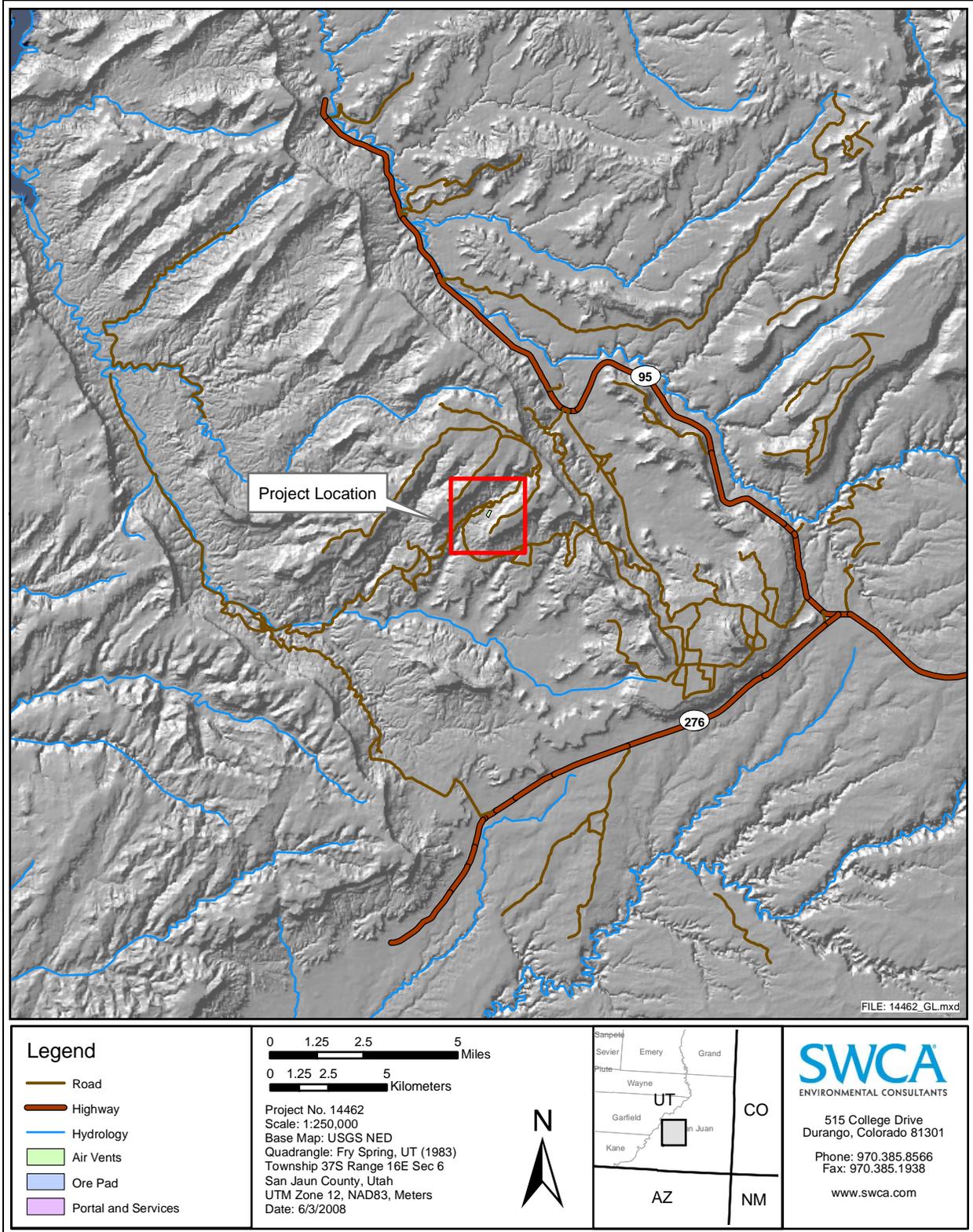


Figure 1. General Location Map

PROJECT AREA OF POTENTIAL EFFECT (APE)

The western survey area includes 1.55 acres of potential disturbance. The eastern survey area includes 0.6 acres for the roads and vent holes. A total of 1.95 acres are included in the APE for the proposed project.

ENVIRONMENT

In general, the project area is located on the Colorado Plateau in southeastern Utah. It is situated within the Monument Upwarp anticline, an upward-arching fold characterized by sharp-angled cliffs (Chronic 1990). The proposed project area is located below the Wingate Plateau, within Bullseye Canyon. The topographic pattern of the general area is varied, consisting of defined ridges and deeply incised valleys and canyons. Soils in the project area include very stony sandy clay loam and extremely bouldery loam. The most prevalent soil type is the Strych-Skos complex. The Strych component is found on slopes from 30 to 50 percent on structural benches. The parent material consists of alluvium derived from sandstone and shale and/or colluvium derived from sandstone and shale. The Skos component is also found on slopes from 30 to 50 percent on structural benches. The parent material consists of colluvium derived from interbedded sandstone and shale and/or residuum weathered from interbedded sandstone and shale (Natural Resources Conservation Service [NRCS] 2008).

Vegetation within the proposed project area is comprised mainly of piñon-juniper woodland and shrubland, at about 20 percent cover. The understory consists of patches of four-winged saltbrush (*Atriplex canescens*), shadscale saltbrush (*Atriplex confertifolia*), cliffrose (*Purshia stansburiana*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), rubber rabbitbrush (*Ericameria nauseosa*), and mountain mahogany (*Cercocarpus montanus*), with sparse cacti, forbs, and graminoids.

PREVIOUS RESEARCH

Prior to fieldwork, SWCA completed a search of relevant records and literature at the Utah State Historic Preservation Office (SHPO) and the BLM Monticello Field Office. The purpose of the file searches was to determine the presence of any known, documented cultural resources and the occurrence of any previous cultural resource projects within the project area and vicinity.

Seven previous cultural resource inventory projects have been conducted within approximately 0.5-mile of the project area (Table 1). The file search identified 11 previously recorded sites within 0.5 mile of the proposed project area, and none within the project area (Table 2). Six of these were recommended as potentially eligible to the National Register of Historic Places (NRHP). Recommended eligibility for the remaining five sites was not indicated on the site forms.

Table 1. Summary of Previously Conducted Cultural Resources Surveys Within 0.5 Mile of the Project Area

| Project Number | Report Name | Inventory Type |
|-----------------------|--|-----------------------|
| U-76-AF-0072 | An Archaeological Survey of Access Routes on the Wingate Plateau and Deer Flats Localities of San Juan County, Utah | Linear |
| U-76-AF-0079 | An Archaeological Survey of Surface Areas in the Wingate Plateau and in the Blue Canyon Locality of San Juan County, Utah (1976) | Block |
| Unknown | An Archaeological Survey of Surface Areas in the Wingate Plateau and in the Blue Canyon Locality of San Juan County, Utah (1977) | Block |
| U-77-AF-126 | An Archaeological Survey of Proposed Access Roads in the Wingate Plateau, Bell Claims, Found Mesa, and Deer Flat Plateau Localities of San Juan County, Utah | Linear |
| U-79-AF-210 | Archaeological Reconnaissance on the Wingate Plateau in San Juan County, Utah | Block/Linear |
| U-80-AF-315 | Archaeological Evaluation of Proposed Well Locations in the Wingate Plateau Locality of San Juan County, Utah | Block |
| U-81-AF-435b | Cultural Resource Evaluation in the Wingate Plateau and Deer Flat Localities of San Juan County, Utah | Block/Linear |

Table 2. Summary of Previously Recorded Sites Within 0.5 Mile of the Project Area

| Site # | Project # | Cultural Affiliation | Resource Type | NRHP Eligibility | Within APE? |
|---------------|---|-----------------------------|----------------------|-------------------------|--------------------|
| 42SA4984 | U-76-AF-0072 | Unknown | Limited Activity | Potentially Eligible | No |
| 42SA4985 | U-76-AF-0072 | BMII-BMIII | Habitation | Potentially Eligible | No |
| 42SA5921 | An Archaeological Survey of Surface Areas in the Wingate Plateau and in the Blue Canyon | BMII-BMIII | Habitation | Unknown | No |

| Site # | Project # | Cultural Affiliation | Resource Type | NRHP Eligibility | Within APE? |
|---------------|---|-----------------------------|-------------------------------|-------------------------|--------------------|
| | Locality of San Juan County, Utah. (1977) | | | | |
| 42SA5922 | An Archaeological Survey of Surface Areas in the Wingate Plateau and in the Blue Canyon Locality of San Juan County, Utah. (1977) | Unknown | Rock Shelter w/Lithic Scatter | Unknown | No |
| 42SA5923 | An Archaeological Survey of Surface Areas in the Wingate Plateau and in the Blue Canyon Locality of San Juan County, Utah. (1977) | Unknown | Lithic Scatter | Unknown | No |
| 42SA5578 | Unknown | PII | Artifact Scatter | Potentially Eligible | No |
| 42SA5579 | Unknown | Unknown | Open Camp w/Hearths | Potentially Eligible | No |
| 42SA5580 | Unknown | Unknown | Lithic Scatter | Potentially Eligible | No |
| 42SA5581 | Unknown | Unknown | Lithic Scatter | Potentially Eligible | No |
| 42SA6625 | Unknown | PII | Rock Shelter | Unknown | No |
| 42SA6626 | Unknown | PII-PIII | Habitation | Unknown | No |

METHODS

Following completion of the file searches, SWCA conducted an intensive pedestrian survey for the areas of expansion and access roads. The project area was surveyed by SWCA archaeologists Mark Lowe, Nancy Eisenhauer, and Katie Dumm on July 29, 2008.

SWCA archaeologists walked parallel transects spaced a maximum of 15 m (50 feet) apart throughout the proposed project area. The ground surface was examined for artifacts, features, and other evidence of human occupation or use. Areas of enhanced surface or subsurface visibility (e.g., eroded areas, drainage cutbanks, road cuts, anthills, rodent burrows) were closely examined when encountered. A Trimble GeoXT handheld GPS unit was used to record the limits of the survey area. Ground visibility during the project ranged from 70 to 80 percent.

If cultural materials were encountered, the surrounding areas would be closely examined by walking closer transect intervals (<5 m) (<16 feet) to identify specific elements of the resource (e.g., tools, features, concentration areas) and to delineate the site boundary based on the distribution of observed surface materials. Pin flags and flagging tape would be used to temporarily mark the location of artifacts and boundaries for easier relocation during mapping and inventory. General information about the resources would be recorded on field forms and later transferred to electronic forms. Documentation of cultural materials would consist of an artifact tally and description of chipped stone debitage and a suitable of photographs. All existing mining related infrastructure was closely examined in an effort to ascertain whether it was of historic age (50 years old or older) or not.

Project and site maps were created with a Trimble GeoXT handheld GPS unit and ArcPad software. A custom-created cultural resource data dictionary was developed for the GPS software allowing the collection of specific points, lines, and areas with descriptive attributes. After completion of the survey, Trimble Pathfinder Office software is used to post-process the GPS data in the office. These data are differentially corrected using the Trimble SOPAC base station in Cleveland, Utah. The corrected data are then exported in ESRI's ArcView shapefile format using the UTM, Zone 12, NAD83 coordinate system. A personal geodatabase was generated in ESRI's ArcGIS 9.2 software, in accordance with SWCA and Utah SHPO database requirements, and the shapefiles were loaded into the personal geodatabase and cleaned. Map symbology was assigned by attribute categories derived from the field data dictionary and personal geodatabase.

According to the Utah BLM Handbook H-8110, "the minimum criteria for defining archaeological sites, requiring the use of the IMACS site record, are that sites should contain remains of past human activity that are at least 50 years old and should consist of one or more of the following:

- At least 10 artifacts of a single class (e.g. 10 sherds) within a 10-meter diameter area, except when all pieces appear to originate from a single source (e.g., one ceramic pot, one glass bottle).

- At least 15 artifacts which include at least two classes of artifact types (e.g. sherds, nails, glass) within a 10-meter diameter area.
- One or more archaeological features in temporal association with any number of artifacts.
- Two or more temporally associated archaeological features without artifacts (2002:6).”

These criteria are rigorously applied to any cultural resource discovered in the field before deciding if it should be recorded as a site or an isolated find. Resources that do not meet the BLM-specified criteria outlined above are recorded as isolated finds. This survey located and documented only one isolated find, and no archaeological sites were observed within the project area.

INVENTORY RESULTS

The inventory of the proposed project area resulted in the identification of one prehistoric isolated find located within the survey area. It consisted of a single gray quartzite thinning flake fragment, with the distal end missing.

Several mining related features were observed, none of which appeared to be of historic age. All of the previous mining in Bullseye Canyon postdates the 1950's. The condition of features such as the timbered Bullseye decline, the Spook haulage winze and abandoned equipment near the now-reclaimed Lark decline indicate a late 1970s origin. The detailed geological map in USGS Bulletin 1125 “Geology and Ore Deposits of the White Canyon Area, San Juan and Garfield Counties, Utah” (Thaden, Trites & Finnell 1964) shows the locations of the nearby Markey and Blue Lizard Mines in Red Canyon, but shows no mines in Bullseye Canyon. Previous mining activities within the current project area were conducted by Jim Butts (now of Ucolo, UT) and Lee Sutherland (now of Naturita, CO), who are both still living (written personal communication with John Hasleby, Utah Energy Corporation).

RECOMMENDATIONS

The techniques employed as part of SWCA's investigations related to the proposed project were sufficient for locating and documenting cultural resources that may be present within the project area and that are available for visual inspection. In the event that cultural materials are discovered during construction, work should cease immediately and an archaeologist from the BLM or Utah SHPO should be immediately contacted.

SWCA recommends that the Daneros Project proceed as proposed. Current investigations have found that no NRHP-eligible or otherwise significant cultural resources occur in the project APE. Only one isolated find was observed in the project area and by definition this is not eligible for inclusion on the NRHP. The proposed project complies with the provisions of the NHPA of 1966, as amended. SWCA recommends that cultural resource clearance be granted as the project will have no effect on any historic properties.

REFERENCES CITED

Bureau of Land Management (BLM)

1998 *Handbook of Guidelines and Procedures for Identification, Evaluation, and Mitigation of Cultural Resources*. Bureau of Land Management Colorado State Office.

2002 Handbook H-811 , Guidelines for Identifying Cultural Resources

Chronic, Halka

1990 *Roadside Geology of Utah*. Mountain Press Publishing Company, Missoula, Montana.

Natural Resources Conservation Service (NRCS)

2008 Web Soil Survey 2.0. Soil map-San Juan County, New Mexico, Eastern Part. Web page accessed 7/30/2008 at <http://soils.usda.gov/>.

U.S. Geological Survey (USGS)

1964 *Geology and Ore Deposits of the White Canyon Area, San Juan and Garfield Counties, Utah*. USGS Bulletin 1125. Prepared by Thaden, Trites & Finnell.

APPENDIX A: ISOLATED FIND FORM



Project: 14462

Number: 14462-I-01

ISOLATE FORM (IO/IF)

Project Name: Daneros

County: San Juan **USGS Quad:** Fry Springs, NM

Legal: SW 1/4 of NE 1/4 of 1/4 of Section 6 T 37S R 16E

UTM: 4160990 mN 571550 mE NAD 83 Zone 12

Recorder: M. Lowe **Date:** 7/29/2008

Isolate Type: Prehistoric

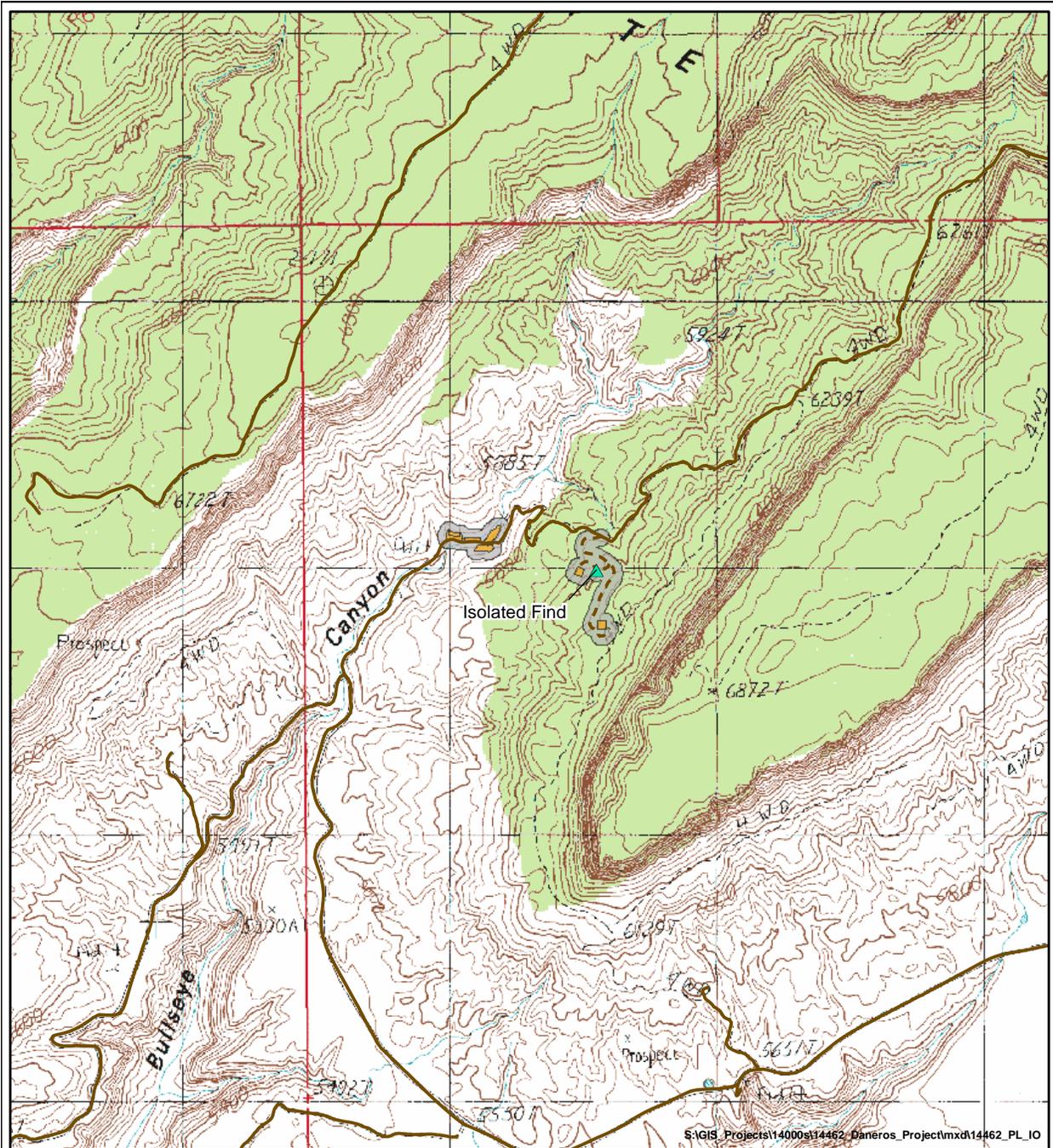
Description: One gray quartzite interior thinning flake fragment with distal end missing.

Environment: Sparse Piñon and Juniper woodland with rabbitbrush, ephedra, bunch grasses, various cacti, and forbs.

Sketch: N/A

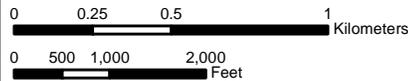
Photo:

APPENDIX B: ISOLATED FIND LOCATION



Legend

-  Isolated Find
-  Existing Road
-  Proposed Access Road
-  Proposed Project Area
-  SWCA Cultural Resources Survey Area



Client: Utah Energy Corporation
 Project No. 14662
 Scale: 1:24,000
 Base Map: USGS 7.5' Topographic Map
 Quadrangles: Fry Spring, UT (1983)
 Township 29N Range 10W
 UTM Zone 12, NAD27, Meters
 DATE: 8/1/2008



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